Part-time jobs while studying: struggle or success?

A quantitative study on the effects of part-time employment on academic performance, academic involvement and stress.

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Abstract

Since the changes in the student finance system for higher education, part-time employment became an important factor in the lives of students. Combining these part-time jobs with a full-time academic study may have consequences for students. This study tries to find an explanation for the possible effects of part-time employment in the JD-R model, ERI model and the Zero-Sum model. Based on these models, this study theorized that when students spend many hours working, this leads to negative outcomes such as lower academic performance, being less involved in academic courses and having a higher stress level. However, literature suggested that part-time jobs that are related to the academic program of students could have positive effects. Therefore, this study hypothesized that students with study related jobs have certain advantages compared to students with non-related jobs. A survey was developed and conducted among Dutch students in higher education (n=311). Hypotheses were tested by using multiple regression and mediation analysis. No relationship between the number of hours a student works and their academic performance, academic involvement or stress level was found. However, this study found that students who have a part-time job related to their study have a better performance and are more involved with their studies than students with a non-related job. There was also tested for a moderation effect. Study related job did not act as a moderator in the relation between work hours and academic performance, involvement and stress. The results of this study can guide students in finding a suitable part-time job that could enhance their academics instead of influencing it negatively.

Keywords: part-time jobs, academic performance, academic involvement, stress, study related jobs, quantitative research

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1. Introduction

On November 11th in 2014 the law was passed that led to a major change in the student finance system for higher education in The Netherlands (Regeerakkoord, 2012). The basic grant was abolished, and the student loan system was introduced. This law was introduced from the perspective that students and parents should also invest in education themselves, because they are the ones who ultimately have the benefits on the labour market. In addition, the abolition of the basic grant would ensure that more money remained which could in turn be invested to improve the quality of education (Regeerakkoord, 2012). For students, this means that they do not receive a monthly budget from the government. Therefore, it is no longer possible for all students to fully dedicate themselves to their study without some form of financial support such as a student loan or parental support (Curtis & Shani, 2002). Robotham (2012) suggests that a decrease in governmental funding causes a growing number of students to name financial pressure as one of the main reasons to take on a part-time job next to their study. Due to the disappearance of the basic grant and the increased pressure on student incomes as a result, it is likely that a part-time job has become an ordinary part of student life.

Although a part-time job in addition to one's full-time study may be financially beneficial, there are also possible disadvantages to this so-called "double workload". The aim of this research is to find out what the benefits and consequences of part-time employment are for students. There have been concerns about the effects of part-time paid employment on academic performance and involvement (Curtis & Shani, 2002). A part-time job can lead to students having less time for their study than desired (Manthei & Gilmore, 2005). Besides problems due to a lack of time which may affect their academic performance and involvement, students also perceive issues related to their mental and physical health. In many cases, students have jobs in the retailing or catering industry. The jobs within these sectors usually demand working late hours such as in restaurants and pubs. This can lead to students being unable to actively follow their classes the next day or even not attending them at all (Curtis & Shani, 2002). In addition, some studies have shown that balancing a full-time academic study program while working part-time can lead to stress (Jogaratnam & Buchanan, 2004).

While many studies discuss the negative consequences of a double workload, there may also be potential benefits to having a part-time job as a student. For example, a job next to one's study might lead to enhanced time management skills, improved employability, increased confidence in the working world and the ability to deal with other people (Watts & Pickering, 2000; Curtis & Shani, 2002). Therefore, one may ask; could it be that if a student's part-time

job is related to their studies, this can actually have positive effects? Spending more hours on work tends to make students become less involved in their study and less likely to stand out academically. However, it is important to investigate how students' part-time jobs can be relevant to their studies, so that employment actually adds value to their studies instead of negatively influencing it. Part-time jobs related to a students' academic program can give them opportunities to apply their theoretical knowledge in practice and vice versa. Furthermore, this may lead to more curiosity in their study courses, increase their academic involvement and increase their academic performance (Bella & Huba, 1982; Huang, 2007; Larkin et al., 2007).

The main question of this study is as follows: *"What are the effects of combining a part-time job with a full-time academic study on students?"* In addition, this thesis has a focus on the effects of a part-time job when this job is related to the academic program of the student.

1.1 Scientific relevance

There are various theories describing how a double workload can have negative effects on well-being, health and performance. A study by Lindsay and Paton-Saltzberg (1996) found that the students who worked part-time while studying achieved poorer grades than those who did not work. Similar to these findings, Caney et al. (2005) also concluded that a majority of their sample found their academics had been affected negatively. In contrast to these findings, Huang (2007) theorized that part-time jobs while studying are positively associated with learning, when the job is related to a student's major. These studies provide conflicting explanations for the relationship between part-time employment and academic performance and involvement, making this an interesting topic. In addition, a systematic understanding of how study related jobs contribute to academic performance and involvement is still lacking. The majority of studies on this topic is not recent and the methods used for testing this relationship are mixed. Bella and Huba (1982) found that students who had a job related to their study did not achieve higher grades. Van de Water and Augenblick (1987) found that students with a related job did achieve a higher GPA's than students with non-related jobs. Both studies focused solely on academic performance and did not take into account academic involvement. The fact that these findings are conflicting, and these studies are not recent calls for retesting of the effects of part-time employment. This study will contribute to the literature on the effects of part-time employment by testing this relationship taking into account both academic performance and involvement and focus on Dutch students.

1.2 Societal relevance

With the recent political debates about the effects of the loan system on students and the possible reversal of this system this research can add more insights in what effects financial pressures has on Dutch students. With improved insight into this theme, the adverse effects of working and studying can be addressed more concretely by, for example, politicians and interest groups. The results may also be valuable to students because it gives more insight in what the possible effects of their part-time jobs can have on their academic performance and well-being. Students can take this information with them in their search for a suitable part-time job. In addition, with the help of these results, universities can take an advisory role with regard to suitable part-time jobs for students.

1.3 Structure

In this first chapter the reason for the research and its relevance were discussed. In the next chapter, the literature is presented and a theoretical framework is developed. Chapter 3 describes the methodology that is used in this research. In Chapter 4 the results are presented and discussed. The last Chapter is the discussion and conclusion, which includes a reflection on the results, practical implications, limitations and directions for future research.

2. Theoretical Framework

The goal of this chapter is to develop a theoretical framework in order to explain the relationship between the key concepts of this research. First the key concepts academic performance, academic involvement and stress are conceptualized. Thereafter, various models and theories that provide an explanation for the possible relationship are evaluated. In the last section, the formulated hypotheses based on the literature are presented in a conceptual model.

2.1 Academic performance and academic involvement

In this research proposal both academic performance and academic involvement are included as factors in the relationship of part-time employment and possible consequences. A study by Manthei & Gilmore (2005) found that part-time employment could result in students not having enough time to spend on their study. In addition, a study by Green & Jaquess (1987) found that non-employed students score significantly higher on ACT's (American College Test) than students who did have a part-time job. These studies indicate that part-time employment might have consequences for a students' performance and involvement in their study. Since both academic performance and involvement are included in this research, it is of importance to further explain these definitions and emphasize how they differ from each other. Academic performance refers to the results achieved by students. Most studies measure these results by using students' Grade Point Average (Bella & Huba, 1982; Tessema et al., 2014; Van de Water & Augenblick, 1987; Wang et al., 2010). Academic engagement and academic involvement relate to time and effort that students spend on learning activities and academic work (Huang, 2007). Important to note here is that, even though academic performance and involvement refer to different definitions, they are closely linked to each other. If students spend many hours a week on work, there is a good chance that their involvement in school is less. This in turn can lead to poorer academic performance (Singh, 1998). Although these definitions are linked, it is important to measure both factors because grading standards tend to vary between departments and courses (Stern & Nakata, 1991). Furthermore, grades mainly show how students have performed compared to other students and not necessarily what has been learned. By including both GPA and academic involvement, a more complete picture can be obtained.

2.2 Stress

In addition to academic performance and involvement, stress could also be a possible outcome of working while following a full-time study. There are many reasons why students may experience stress during their academic studies. One of these reasons could be combining part-time employment with their full-time studies, in order to cover their expenses such as rent, college tuition and other monthly costs. Robotham (2008) conducted a quantitative study among 1,827 students and found that more than half of the students indicated that their part-time employment increased their stress level and 28% felt that their ability to cope with stress was reduced by their part-time employment. A study by Carney et al. (2005) reported that attempting to combine a part-time job with a full-time study lead to a worrying state of health for these students. They rate themselves lower in terms of their mental health than the general population of the same age and sex. In addition, Roberts et al. (1999) stated that a poor mental health among students was related to part-time employment and working a high number of hours. From these studies it appears that part-time jobs could have an effect on the level of stress that students experience.

Besides part-time employment, stress is also related to other factors. Previous studies stated that there were differences in stress levels between men and women (Gefen & Fish, 2019; Hicks & Miller, 2006) Female students are more worried about meeting academic demands and expectations than their fellow male students. Hicks and Miller (2006) found that a larger number of female students, compared to male students, reported that they felt stressed due to struggles in keeping up academically. Controlling for gender differences in further analysis is therefore of importance.

2.3 Double workload

The previous section discussed the key concepts of this study that could be possible outcomes of part-time employment among students. In order to find an explanation for this potential relationship, it is important to discuss the theories that may apply to this research. This paragraph presents important models that have their origins in work and organizational psychology and medical sociology.

2.3.1 Effort-Reward Imbalance Model

The Effort Reward Imbalance (ERI) model was introduced by Siegrist (1996). This ERI model assumes that work-related benefits depend on a mutual relationship between efforts and

rewards. Efforts refer to job demands or commitments that employees have to deal with. Rewards refer to salary, appreciation, career opportunities and security. The ERI model assumes that employees who have to exert high effort and receive low rewards have an unequal balance between *costs* and *gains*. This uneven balance can have negative consequences, such as persistent stress reactions. This is especially the case when people have little choice, for example when there are few alternative options (Siegrist et al., 2004). This could be applicable to this research as students need an income to pay for their education, rent and other monthly costs. Students need to have a study loan and/or a part-time job. There are not many alternative options for them, which could create an uneven balance and this could eventually lead to stress.

This model focuses mainly on the occupational field, but it can be integrated with the educational context that this thesis is focused on. A study by Li et al., (2010) applied the ERI model to a school setting with the aim to measure psychosocial stress among students. This study emphasized how efforts and rewards are different in the workplace as compared to an educational setting. Efforts in an educational context relate to expectations from the school institution/university or even from parents. Rewards in an educational context relate to good academic performance, appreciation/esteem and increasing prospects for the future because of their education (Li et al., 2010). This cross-sectional study was conducted among approximately a thousand Chinese students in grades 7 through 12. The results showed that a demanding school that offers little control was associated with a risk of feelings of being stressed. With this study they found that the ERI model is a valid instrument for identifying perceived stress, in terms of effort–reward imbalance, in an educational setting (Li et al., 2010). This study did not specifically focus on higher education and did not take into account the combination of a full-time study with a part-time job. However, it still indicates that the ERI model may provide an explanation for why part-time employment could potentially affect the stress level of students.

2.3.2 Job Demands-Resources Model

After the ERI model, another well-known model in explaining the relationship between demands and consequences was introduced by Demerouti et al. (2001): The Job Demands-Resources Model (JD-R model). This model is a theoretical framework which attempts to combine two, often independently investigated factors: stress and motivation. In addition, studies have also shown that the JD-R model offers more insights into the development of burnouts and work engagement. The JD-R model assumes that every profession has its own

risk factors. If these factors persist for a long time, negative psychological processes can occur, resulting in stress (Demerouti et al., 2001).

The JD-R model makes a distinction between job demands and job resources. *Job demands* include the psychological, physical, social or organizational factors of an occupation that call for continuous effort or skills, both physical and mental, and are therefore associated with particular physical or mental costs (Demerouti et al., 2001). Examples of job demands are a high workload and emotional demands. *Job resources* include the psychological, physical, social or organizational factors of an occupation that; reduce job demands, stimulate individual growth and learning or offer support in achieving work-oriented objectives (Demerouti et al., 2001). Examples of job resources are support, autonomy and feedback (Bakker & Demerouti, 2011). The JD-R model is based on two processes that are parallel to each other. The first process is an energetic process of *health impairment*. Stressors affect energy reserves, which in the long term leads to mental exhaustion and health problems. The second process is a *motivational process*. Job resources ensure that high job demands can be dealt with more effectively. This in turn leads to higher engagement, higher performance and lower levels of cynicism (Demerouti et al., 2001; Schaufeli & Bakker 2004).

Although, similar to the ERI model, most studies and most of the evidence supporting the JD-R model originate from the occupational field, it is also possible to use this model in an academic context. A full-time study in higher education has many demands. Students must invest their time and effort in attending lectures, studying teaching materials, writing essays and taking exams. In addition to these demands that arise from their studies, many students also have to deal with demands as a result of their part-time job. They must invest their time and effort in working for a certain number of hours per week. This combination could therefore lead to a high number of demands, resulting in a higher stress level. However, a link can also be made with possible resources that arise from part-time employment. Having a part-time job, especially if it is related to one's studies, could lead to personal development and personal growth. This can therefore be seen as a resource. Although it is possible to link the JD-R model to an educational context, this has not been widely used yet in the past and there is less empirical evidence supporting this (Wolff et al., 2014). However, a recent study by Lesener et al. (2020) introduced the study demands-resources framework, based on the JD-R model. In this framework they emphasize how students have to deal with many demands such as attending lectures, invest time in self-studying but also social and developmental demands such as working activities (Lesener et al., 2020). 5660 students from German universities participated in this research by completing the questionnaire. In this study they found that study demands

were positively associated with stress and burnout. This shows that the JD-R model can also be applied in an academic setting, as a Study Demands-Resources model. This model is used to develop hypotheses based on the relationship between part-time employment and stress among students.

2.3.3. Zero-Sum Model

The zero-sum model of time allocation was founded by Coleman (1961). He argued that commitment to extracurricular activities causes a loss in academic commitment. His model was originally aimed at high school students who participated in extracurricular activities such as sports. This model theorized that participation in extracurricular activities negatively affects students' academic performance and commitment as students devote more time on these activities at the expense of their studies (Coleman, 1961). In addition to a high school setting and extracurricular activities, this zero-sum model was applied in various studies about the relationship between working and studying (Byun et al., 2014; Tessema et al., 2014; Wang et al., 2010). Bruyn et al., (2014) argued that allocating time towards a job reduces the number of hours available for attending classes, studying and resting. In their study about the relationship of student employment and academic performance they found that student employment had negative consequences for their performance, supporting the zero-sum model. Another study that used to zero-sum model to explain this relationship was conducted by Tessema et al., (2014). They argued that time spent on part-time jobs could lead to less time for studying, academic activities and social activities. They found that work had a negative effect on the academic performance and satisfaction of students. This implies that the zero-sum model could provide a possible explanation for the relation between part-time employment and negative outcomes.

2.4 Size of the job

One of the possible outcomes of combining part-time employment with a full-time study could be that a student has difficulties with finding the time to study and therefore receives lower grades. However, most studies have shown that this is only the case from a certain number of hours (Muluk, 2017). Part-time jobs among students are of different sizes in terms of hours per week. It is suggested that a part-time job does not necessarily have negative consequences, especially if the number of hours can be combined with the course load of a study (Manthei & Gilmore, 2005). The question in this case is, where can we draw a line between hours that can

be properly managed and too many hours? A study by Salamonson and Andrew (2006) among 267 nursing students found that part-time employment had a negative effect on students when they worked over sixteen hours per week. In their research they concluded that the number of hours that students spent in paid employment is the strongest predictor of their academic performance. Curtis and Shani (2002) conducted a study among 359 university students and found that for students who worked fewer than ten hours per week there were no negative effects on their academic achievements. A study by Hay et al. (1970) indicated that having a part-time job for one to fifteen hours does not have adverse effects on academic performance. These studies do not show the exact same results, but in general they all conclude that working part-time does not have a detrimental impact on academic performance if the number of hours is manageable. Therefore, it is important to pay attention to the number of hours a student works when conducting research on the effect of part-time employment on students. It is expected that, when the number of working hours is high, the student's study results are lower. The following hypothesis is formulated:

H1a: "There is a negative relationship between the number of hours a student works per week and his or her academic performance."

In addition to a student's academic performance, this research also pays attention to their academic involvement. The zero-time model (Coleman, 1961) theorizes that working activities have a negative impact on academic commitment as students have to spend time on work, at the expense of their study. It is likely that when students work many hours, they spend less time at their university campus or in the library and more often miss their lectures compared to students who work a small number of hours or don't work at all. Therefore, the expectation of this study is that the more hours a student works, the less involved they are with their studies and university. This leads to the formulation of the following hypothesis:

H2a: "There is a negative relationship between the number of hours a student works per week and his or her academic involvement."

A double workload could cause high demands from both university and part-time employment. As assumed by the JD-R model (Demerouti et al., 2001), these high demands are likely to cause reduced health and energy and in the long run can lead to increased feelings of stress or even cause a burn-out. For students with a part-time job next to their full-time academic program, the demands are assumably higher than for students who do not have a part-time job. This in

turn could lead to increased feelings of stress for students who have a part-time job. As with academic performance and academic involvement, it is expected that the level of stress is higher when a student works a high number of hours compared to a low number of hours. The ERI model (Siegrist et al., 2004; Vegchel et al., 2005;) assumes that when someone has to put in a high amount of effort for something and gets little reward for it, this can lead to feelings of stress. This could also applicable to this research. If students have a part-time job in addition to their full-time studies, they will have to put in more effort because they simply have more obligations that are placed on them. Combining the demands of a full-time academic program with a part-time job may therefore have detrimental effects on student's health. When a student works a high number of hours, the efforts are higher than when a student only works a few hours per week or does not work at all. This will be tested by following hypothesis:

H3a: "There is a positive relationship between the number of hours a student works per week and his or her stress level."

2.5 Study Related Job

As illustrated in the introduction, there have been only a few studies to date that took the influence of a study-related part-time job into account. These studies will be briefly discussed in this paragraph. Contrasting with the aforementioned theories, some studies did find positive effects of part-time employment on academic performance. These results were mainly found when the jobs were perceived as relevant to the student's field of study (Curtis & Shani 2002; Sorensen & Winn 1993;). The idea that a part-time job related to the student's academic program can reduce negative or even increase positive effects stems from the idea that students recognize their practical knowledge in their studies and that they can apply their learned theory at their part-time jobs. In addition, part-time jobs in which students use skills learned in their study enhance career development and enable students to decide from their personal experiences whether they desire a long-term career in the field of their current employment (Larkin et al., 2007).

Hay et al. (1970) conducted a study where they surveyed approximately 900 students in which they were also asked to give a short description of their part-time jobs. The researchers then identified which part-time jobs were relevant and non-relevant to the student's majors. This was based on if the jobs where broadly about the same subject as their academic curriculum or in a field that they may enter in their future career because of their study. They found that students with a related job achieved a higher GPA than students with non-related jobs. Despite

these interesting insights, this study also presented a number of limitations because the analysis only included freshman males. This was likely because the study was conducted in 1970 when women were not studying as much as man yet. Still, this research illustrates that there seem to be benefits to having a study-related part-time job.

Another study on relatedness of student jobs was done by Bella and Huba (1982). This study focused on different types of jobs; work-study, university employment and food service. Bella and Huba (1982) found no significant GPA differences between students who worked in the three different types of jobs and students who did not work at all. A job in one of the three job types did not lead to a higher GPA, but also didn't negatively influence GPA.

A more recent study on part-time employment related to academic majors was conducted by Huang (2007). In this study he examined whether relatedness between part-time jobs and majors was associated with the academic involvement of college students. As participants they chose to use approximately 10 thousand college students, drawn from a third-year college survey among students, conducted in 2003. In this study only students that had a part-time job were included. The results of this study showed that students with related jobs were more academically involved than their fellow students without a non-related job (Huang, 2007). Most of the studies described in this paragraph indicate that a part-time job related to a student's academic program has at least some influence on the relationship between part-time employment and academic performance. Hence, this relationship is further tested in this thesis. In order to do this, a similar definition to Hay et al. (1970) is used. Study related jobs in this research will contain part-time jobs that have broad similarities with the courses in the student's academic program or that are related to the field in which the student wishes to develop in his further career because of their study.

The following hypothesis focuses on testing the expectations regarding relevant part-time jobs. Huang (2007) suggests that jobs related to academic majors cultivate the student's interest in their studies. This in turn helps them become more involved in their academic courses. It is known that academic involvement is closely linked to academic performance (Singh, 1998). Hence, both factors will be included in this research. To further investigate this relationship, the following hypothesis will be tested:

H1b: "Students with a study related job have a better academic performance than students with a non-related part-time job."

H2b: "Students with a study related job are more involved in their academics than students with a non-related part-time job."

In addition to testing if students with a study related job perform better academically and are more involved than students with non-related jobs, it will also be tested if students with study related jobs have lower stress levels. The JD-R model expects a high level of stress when students have many demands. However, when their jobs are related to their study this could have all kinds of positive effects like personal growth and development. Therefore, study related jobs may be resources rather than just demands in the JD-R model. To test this expectation, the following hypothesis is formulated:

H3b: "Students with a study related job have a lower stress level than students with a non-related part-time job."

Lastly, it is also valuable to test whether study related job may be a moderator in the relationship between work hours and the different outcomes. It is expected that work hours has a negative relationship with academic performance and academic involvement. In addition, it is expected that students with jobs that are related to their academic program have a better academic performance and involvement than students with non-related jobs. The same difference is expected for students with study related jobs and their stress level compared to students with non-related jobs. Therefore, the ideal combination seems to be a job of a small number of hours per week that is related to a student's academic program. These interaction effects will be tested with the following hypotheses:

H1c: "There is a negative relationship between the number of working hours and the academic performance of students, moderated by whether a job is study related or not"

H2c: "There is a negative relationship between the number of working hours and the academic involvement of students, moderated by whether a job is study related or not"

H3c: "There is a positive relationship between the number of working hours and the level of stress students experience, moderated by whether a job is study related or not"

All hypotheses are illustrated in the conceptual model presented on the following page in Figure 1.
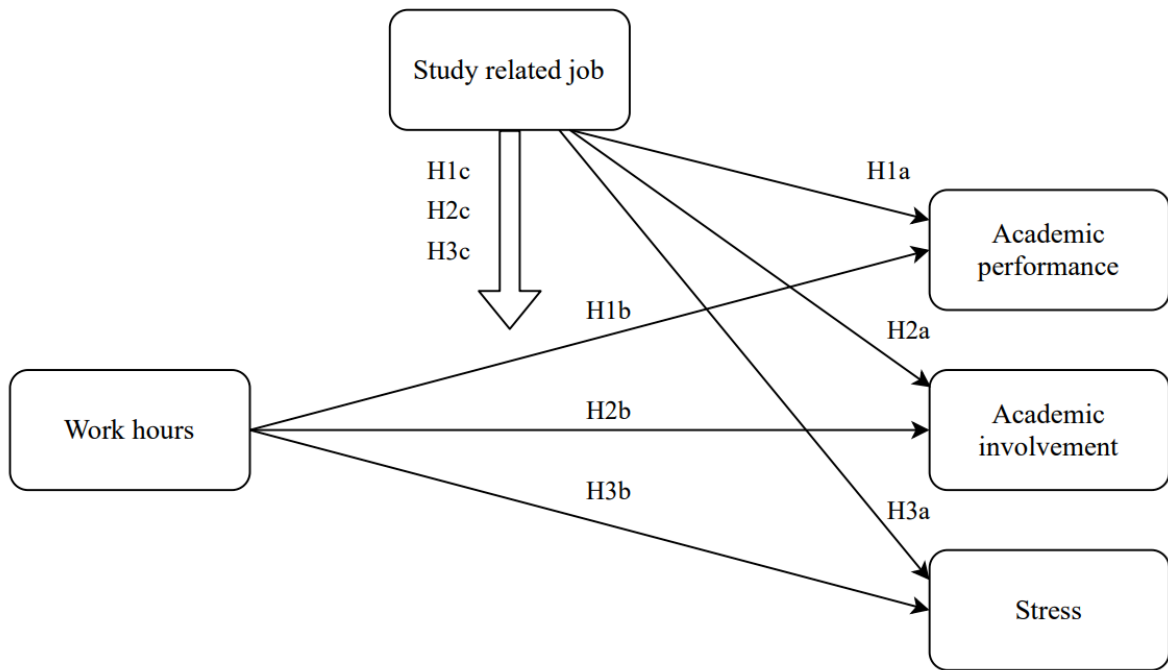
Figure 1, Conceptual model

3. Methodology

In this chapter the research methods will be addressed. Firstly, the research approach will be discussed. Secondly the data collection methods will be discussed. In the third section, the variables that are included in this research will be operationalized. The fourth section will give an explanation of the data analysis procedure. Lastly the research ethics will be addressed.

3.1 Research approach

To find out what the effects of part-time employment are among students, a quantitative research was executed. In the theoretical framework, hypotheses have been developed based on the expectations derived from the discussed theories. Quantitative research was conducted because this method allows for hypothesis testing. In addition, with quantitative research a large amount of data can be gathered in a short amount of time (Field, 2013). Quantitative methods are especially valuable in making generalizations from the studied sample to groups outside this sample. This is because quantitative research allows to study large groups of people (Swanson and Holton, 2005). In this way, the results of this research can be used to give advice to students outside the sample of this research.

3.2 Data collection

The research unit of this study are students. This research included individuals who study at a University or University of Applied Sciences and included both students who have a part-time job and students without a part-time job.

For this study primary data was collected by means of a questionnaire. The questionnaire was designed in the online survey program Qualtrics. This way, the questionnaire could be completed via a digital link. There was chosen to conduct the questionnaire online because the survey could be easily distributed in this way. A trade-off was made between putting out the survey online or putting it out in person by handing out the questionnaire on the university campus. Although this also appears to be a suitable method to reach the target group, this data collection method was impeded due to the current COVID-19 crisis. As a result few students are present on the university campus because most departments are closed. In addition, the physical distribution of the questionnaire due to the COVID-19 social distancing measures was also difficult. To make the questions as clear as possible for the respondents, the entire questionnaire was translated from English to Dutch. The complete survey can be found in Appendix 1.

The literature makes a distinction in probability sampling and non-probability sampling. Probability sampling indicates that the samples are selected according to a probability theory, commonly involving some type of mechanism for random selection. Non-probability sampling includes all sampling techniques where selection is not based on probability (Vennix, 2019). For this research a form of non-probability sampling was used, namely; snowball sampling, also referred to as chain referral sampling. With this sampling technique one or few people are initially sampled and then the sample spreads out on the basis of links to acquaintances of the initially sampled individuals (Neuman, 2005). As the sample group grows, enough data is gathered to use for this research. This sampling technique makes it possible to gather many participants because individuals are more likely to complete a survey if someone they know personally asks them to do so. Since the sampling methods were limited due to the Covid-19 crisis, snowball sampling was an effective method to gather many respondents via online platforms. The survey was shared in Facebook Groups, Instagram, LinkedIn, WhatsApp group chats and direct WhatsApp messages. A total of 308 students filled in the survey.

3.3 Operationalization of variables

In this paragraph the variables that are included in the hypotheses as stated in the theoretical framework are operationalized. First the dependent variables are discussed, followed by the independent variables and the control variables.

3.3.1. Dependent variables

In this research multiple dependent variables were used for the analysis. After all, the aim was to measure the level of stress, academic performance and the extent to which students are academically involved.

The first dependent variable: **stress**, was measured with a four items scale from the Copenhagen Psychosocial Questionnaire (Pejtersen et al., 2010). This item scale is used because it includes not only direct questions about stress but also factors associated with stress such as not being able to relax, feeling irritated and feeling tense. The four items of this scale were: *"How often have you had problems relaxing?"*, *"How often have you been irritable?"*, *"How often have you been tense?"* and *"How often have you been stressed?"*. The answer options of these questions were a five-point Likert scale with the options: (1) never, (2) sometimes, (3) regularly, (4) often, (5) always. These for items were computed into a scale which reported a Cronbach's alfa of .84.

For the second dependent variable: **academic performance**, the student's average grade, also referred to as the GPA, was asked in the survey. This was chosen because it gives a good indication of what the student has achieved on average during his or her studies. In addition, GPA is also easily accessible for students because they could find it online via their mobile phone or laptop in the student portal of their university institution.

For the last dependent variable: **academic involvement**, an earlier developed measurement scale by Huang (2007) was used. This scale provides a complete picture of whether a student is involved through a combination of questions. These questions not only focus on attendance in classes but also to what extent a student is committed to his or her study, which fits the definition of academic involvement of this research. The five questions used to measure academic involvement were: *"How often have you completed readings before coming to class?", "How often have you listened attentively to lecture, contributed to class discussions, or asked questions?", "How often have you read scholarly books", "How often have you discussed coursework with teachers outside of class"* and *"How often have you used school libraries?".* The answer options of these questions were a five-point Likert scale with the options: (1) never, (2) sometimes, (3) regularly, (4) often, (5) always. These five items were computed into a scale which reported a Cronbach's alfa of .62.

3.3.2. Independent variables

In addition to the dependent variable, multiple independent variables were used to test the hypotheses as well.

The first independent variable included in this research is the number of **hours** of the part-time job. This variable was measured using an open question: "How many hours do you work on average per week at your part-time job? If you have more than one part-time job, add up the number of hours". Respondents filled in the number of hours they work per week, which makes this a ratio variable.

The second independent variable is **study related job**. Respondents were first given a short definition of what a study related job is: "A study related part-time job has broad similarities with the courses in your academic program or is related to the field in which you wish to develop in your further career because of your study". This was followed by the question "Is your part-time job study related?". The answer categories for this question were (1) yes and (2) no. In addition to study related job being an independent variable, it will also be used as a moderator for working hours.

3.3.3. Control variables

In addition to the dependent and independent variables, a number of control variables were measured. Adding these control variables in regression analysis will help with increasing the internal validity of this study because they limit the influence of confounding variables. The control variables that were added to the model are contact hours, study hours, study level and gender.

Contact hours was measured by asking respondents how many fixed contact hours they have per week. Respondents were asked to fill in the hours in numbers, making this a continuous variable. Contact hours is included as a control variable because it may influence the number of hours a student can work next to their studies.

The second control variable, **study hours** was measured by asking respondents an open question: "How many hours per week do you spend on average on your studies?". Respondents answered this question by filling in the number of hours in an open question box. Study hours is included as a control variable because it could influence the dependent variables academic performance and academic involvement. When a student spends more hours on studying it is assumable that they are more involved and achieve higher grades.

The third control variable, **study level** was measured by asking respondents the following question: "what is your current study level?". The answer options for this question were: (1) Associate Degree (2) Hbo Bachelor (3) Hbo Master (4) Wo Bachelor (5) Wo Master (6) Pre-Master. Study level is included as a control variable as it may have an effect on stress, academic performance or academic involvement. Hbo studies and wo studies have different styles of teaching. Hbo studies are often more practical and lectures are more often given in a classroom setting, where university programs often give more lectures to a large group of students. Differences between these two study levels could influence the performance, involvement or stress level of students.

The last control variable included in this research is **gender**. This variable was measured by asking respondents the question: "What is your gender?", followed by the answer options: (1) male, (2) female, (3) other. Gender is included as a control variable because the literature suggests that women generally experience more stress than man (Gefen & Fish, 2019; Hicks & Miller, 2006). It could therefore have an effect on the dependent variable stress.

3.4 Data analysis

The gathered data from the survey was exported to SPSS (Statistical Package for the Social Sciences). First, the dataset was checked for missing data and the data was cleaned. Variables were given names with a maximum of eight characters to make the further analysis easier. After preparing the data, the analysis started with analysing the descriptive statistics. The means and correlations of relevant variables were analysed and reported.

In order to test the hypotheses of this study, further data was analysed using multiple regression analysis. To perform a multiple regression analysis, all independent variables and the dependent variable need to be of a continuous measurement level. This means that they are either of ratio or interval level. This criterion was not met for the independent variable study related job and the control variables study level and gender. Study related job and gender were both dichotomous variables, which were recoded into dummy variables by assigning a 0 to the reference group and a 1 to the other group. For the variable study level, a new variable was computed were the answer options (1) Associate Degree (2) HBO Bachelor (3) HBO Master were recoded into a new category: HBO and the answer options (4) WO Bachelor (5) WO Master (6) Pre-Master were recoded into a new category: WO. Thereafter, the scales for the variables stress and academic involvement were computed. Both of these scales reported a Cronbach's alpha bigger than .60, which indicates that these scales were reliable and could therefore be used in further analysis. Before conducting the analysis, tests were performed in order to find out if all assumptions for multiple regression were met. These include linearity, normal distribution of residuals, homoscedasticity and independence of error items (Field, 2013).

A total of nine hypotheses were tested in the analysis. Since these nine hypotheses have three different dependent variables, separate regression analyses needed to be performed. For each dependent variable, two models were analysed. The first model included the two independent variables work hours and study related job. In the second model, the control variables were added. With these multiple regression models, the hypotheses H1a/b, H2a/b and H3a/b were tested. For the remaining hypotheses (H1c, H2c and H3c) an interaction effect was tested to find out if study related job acted as a moderator in the relationship between the independent variable work hours and the dependent variables academic performance, academic involvement and stress. To test this interaction effect, the Process macro for moderation by Hayes (2015) was used.

In the regression and moderation analyses, it was first checked whether the overall model fit was of an acceptable significant level. In this study, a limit of .05 was rated as an

acceptable level of statistical significance. Next, there was evaluated how much variance of the dependent variables could be explained by study related job, work hours and the interaction effect by looking at the R square statistic. Subsequently, the regression coefficient was examined, which indicates how strong an effect is and whether it is a negative or positive effect. With this regression coefficient the hypotheses were tested and accepted or rejected.

3.5 Research ethics

Measures were taken to make sure that this research is in line with research ethics. The research goals were included in the introduction of the survey in order to be transparent to respondents. The participation of respondents in this research was anonymous. The intention was to give respondents the opportunity to view the results of the survey later. Therefore, participants were asked if they would like to receive a brief report of the results at the end of the questionnaire. In order to be able to send these results afterwards, participants were asked for their e-mail addresses. These e-mail addresses were immediately disconnected from the respondent's data after completing the questionnaire, in order to keep the survey anonymous. Furthermore, the collected data was treated confidentially in order to guarantee the privacy of the participants.

4. Results

In this chapter the analysis is performed in order to test the various hypotheses. Firstly, an overview of the sample of this study is presented. This is followed by an overview of the correlations between relevant variables. The third section will elaborate on the assumptions for regression analysis. In the last section the hypotheses are tested with linear regression analysis and moderation analysis using Process by Hayes (2015).

4.1 Descriptive statistics

The means and percentages of relevant variables are summarized and presented in Table 4.1. The means and percentages are broken down by field of study. Although the field of study is not a variable that is tested in the hypotheses of this study, it is an interesting variable to help shape the means.

The percentage of women (68%) in this sample is higher than men (32%). There is a significant difference between study fields. The study fields Communication & Culture and Law & Public Management report a high percentage of women. The study field Exact sciences reports a low percentage of women compared to other study fields. The average age reported by students is 22.4. 60% of the respondents study at a University and 40% at a University of Applied Sciences. The table presents a high number of students with a part-time job (79%), which is notable. The average number of working hours of students with a part-time job is 9.4 hours per week and the average salary is 446 euros. In this sample, 38% of the students with a part-time job have a study-related job. The number of mandatory contact hours is on average 10.5 hours, whereby it is noticeable that students in the Healthcare field of study report a higher number of mandatory contact hours (18,2) than the other fields of study ($F = 4,305$, $p < .01$). The average number of self-study hours is 26.4. There is a significant difference between the different study fields. Students in the exact study field report a higher number of self-study hours (33.1 hours) than students from other fields of study ($F = 3.005$, $p < .05$). Lastly, the means of the three dependent variables of this study are presented in Table 4.1. Students report an average stress level of 2,7 on a five-point Likert scale, which is approximately in the middle of the scale. This indicates that the stress level is not necessarily high but also not low. Students report an average GPA of 7,2 on a scale of 1 to 10. Lastly, the average academic involvement is 2,5 on a five-point Likert scale. This is the slightly below the middle of the scale, indicating that their involvement is not high but not very low as well.

Table 4.1: Means and Percentages per field of study

	Eco & Business n=131	Behaviour & Education n=51	Healthcare n=42	Exact Sciences n=30	Law & Public Management n=23	Communication & Culture n=34	Total n=311	F-value or Chi^2
Women (%)	62%	68%	76%	43%	87%	88%	68%	22.119**
Age	22,3	22,8	22,3	22,6	22,3	22,5	22,4	.493
WO (%)	55%	63%	50%	70%	91%	56%	60%	14.150*
Part-time Job (%) N=247	79%	78%	86%	70%	78%	82%	79%	2.875
Working hours	10,4	9,0	8,8	7,1	10,5	9,9	9,6	1.128
Salary	€504	€448	€355	€346	€486	€391	€446	1.319
Related Job (%) N=93	37%	40%	50%	24%	39%	32%	38%	4.575
Mandatory contact hours	9,3	9,8	18,2	9,2	7,3	10,6	10,5	4.305**
Self-study hours	26,8	22,4	27,1	33,1	26,4	23,6	26,4	3.005*
Stress	2,7	2,8	2,5	2,9	2,8	2,7	2,7	.833
GPA	7,3	7,2	7,1	7,3	7,2	7,3	7,2	.778
Academic Involvement	2,4	2,6	2,5	2,5	2,8	2,3	2,5	1.818

** = Significant at the 0.01 level, * = Significant at the 0.05 level

4.2 Correlations

The correlations are presented in Table 4.2. This table includes the dependent variables, independent variables and control variables that are of a metric measurement level. There is a positive correlation between age and work hours ($r = .13$, $p < .05$). This indicates that older students work more hours. There is no correlation between work hours and GPA. Age correlates positively with stress, meaning that older students have a higher stress level ($r = .14$, $p < .05$). Age also correlates positively with academic involvement ($r = .17$, $p < .01$). This indicates that older students are more involved in their study. Academic involvement is also positively associated with academic performance ($r = .29$, $p < .01$) and stress ($r = .12$, $p < .05$), indicating that students with a higher level of academic involvement also have a higher academic performance and a higher stress level. Study hours and work hours are negatively related ($r = -.16$, $p < .01$). This indicates that students who report a high number of study hours report a lower number of work hours. In addition, study hours is positively associated with academic performance ($r = .16$, $p < .01$), stress ($r = .26$, $p < .01$), academic involvement ($r = .26$, $p < .01$) and contact hours ($r = .16$, $p < .01$).

Table 4.2: correlation matrix with variables work hours, GPA, stress, involvement, contact hours and study hours

	Work hours	Academic performance	Stress	Academic Involvement	Contact hours	Study hours
Age	,13*	-,09	,14*	,17**	-,02	,02
Work hours		-,10	-,04	-,01	-,08	-,16**
GPA			,06	,29**	,04	,16**
Stress				,12*	-,04	,26**
Involvement					-,07	,26**
Contact hours						,16**

** = Correlation is significant at the 0.01 level, * = Correlation is significant at the 0.05 level

4.3 Testing hypotheses

First the hypotheses about the relationship between the independent variables work hours and study related job and the dependent variables will be tested using multiple regression. After this, the moderation effect of study related job will be tested using process (Hayes, 2015).

4.3.1. Assumption testing

Before conducting the multiple regression and moderation analyses, the four assumptions for regression are checked. The first assumption is linearity, indicating that the predictors are

linearly related to the dependent variables (Field, 2013). In order to check this assumption, scatter plots are examined. The scatter plots indicate that there is a linear relationship between the predictors and the dependent variables academic performance, academic involvement and stress. These plots are included in Appendix 2. The second assumption is normality; the errors need to be normally distributed in the sample (Field, 2013). For the dependent variables academic performance and academic involvement this assumption is met since the Normal P-Plot and histogram show that the residuals are normally distributed. For an extra check, the One-Sample Kolmogorov-Smirnov Test is conducted. This test reports a significance level of .20, indicating that the distribution is normal. For the dependent variable stress however, the histogram does not indicate a normal distribution. Therefore, this assumption is met for the dependent variables academic performance and academic involvement, but not for stress. However, violation of the normality assumption is not a problem in many cases. This is especially when the number of observations is bigger than 100. In this case the central limit theorem will apply which means that the true relationship will come out when you have enough observations. The third assumption is homoscedasticity, which is tested by examining the scatterplots. These plots indicate that for all dependent variables, the residuals are somewhat randomly scattered among the x-as. Therefore, the assumption for homoscedasticity is met. The last assumption that is checked before conducting the analysis is multicollinearity, which refers to possible high correlations between predictors (Field, 2013). To check this assumption, the VIF (Variance Inflation Factors) scores and the values of Tolerance are assessed. The VIF score should not be higher than 10 as it suggests a high level of multicollinearity. The Tolerance values should be higher than .1 since a lower level indicates multicollinearity. This assumption is met as all VIF scores are far below 10 and the Tolerance values are higher than .1.

4.3.2. Multiple regression analysis

In this study hypotheses are tested with different dependent variables. Only one dependent variable can be tested at a time in regression analysis. Therefore, three multiple regression analysis are conducted and discussed separately. Table 4.3 presents the multiple regression with academic performance as the dependent variable. First, the effects of the independent variables work hours and study related job were tested in model 1. This model can be used because of the significant F-ratio (F = 5,596, p <.01). 4.4% of the variance in academic performance could be explained with work hours and study related job. To be able to use study related job as a variable in multiple regression, a dummy variable is created in which a 0 is assigned to students with non-related jobs and a 1 to students with study-related jobs. The dummy variable study

related job has a significant positive relationship with academic performance (b = .227, p <.01). This means that students with study-related jobs have a higher academic performance than students with non-related jobs. Work hours has a negative relationship with academic performance (b = -.012, p <.05). The correlation matrix in Table 4.2 showed that there was no correlation between work hours and academic performance. However, by adding study-related job in the same regression model, the predictive validity of work hours is increased, making it significant.

In model 2 the control variables gender (dummy), study level, contact hours and study hours are added. Model 2 can also be used (F = 4,256, p <.01). Adding the control variables significantly increases the R² to .100. Adding these variables leads to a change in the significance of the effect of the independent variables on academic performance. Work hours in no longer significant, indicating that hypothesis H1a: "There is a negative relationship between the number of hours a student works per week and their academic performance" is rejected. The positive relationship of the dummy variable study related job with academic performance is still significant after adding the control variables (b = .243, p <.01). Hypothesis H1b: "Students with a study related job have a better academic performance than students with non-related jobs", is therefore accepted.

Table 4.3: Multiple regression predicting academic performance from the independent variables work hours and related job and the control variables.

	Academic performance			
	Model 1		Model 2	
Variable	**B**	**β**	**B**	**β**
Constant	7,271**		7,125**	
Work hours	-.012*	-.136	-.011	-.124
Related job	.227**	.178	.243**	.188
Gender			-.206*	-154
Study level			.079	.062
Contact hours			.001	.020
Study hours			.005	.110
Model Summary				
R²	.044		.100	
Adj R²	.036		.077	
F	5,596**		4,256**	

** = Significant at the 0.01 level, * = Significant at the 0.05 level

Table 4.4 presents the multiple regression with academic involvement as the dependent variable. Like Table 4.3, the first model includes the independent variables and in the second model the control variables are added. 3.0% of the variance in academic involvement could be explained with the variables work hours and study related job. The dummy variable study related job has a significant positive relationship with academic involvement (b = .255, p <.01). This indicates that students with study-related jobs are more academically involved than students with non-related jobs. There is no significant relationship between work hours and academic involvement.

Model 2 can also be used (F = 4,935, p <.01). Adding the control variables significantly increases the R² to .114. Work hours has no significant relationship with academic performance and therefore H2a: "There is a negative relationship between the number of hours a student works per week and their academic involvement" is rejected. The positive relationship of the dummy variable study related job with academic involvement remained significant after adding the control variables (b = .271, p < .01). Hypothesis H2b: "Students with a study related job are more involved in their academics than students with a non-related part-time job" is therefore accepted.

Table 4.4: Multiple regression predicting academic involvement from the independent variables work hours and related job and the control variables.

	Academic involvement			
	Model 1		Model 2	
Variable	**B**	**β**	**B**	**β**
Constant	2,394**		2,115**	
Work hours	-.002	-.020	.000	.002
Related job	.255**	.174	.271**	.183
Gender			-.124	-.081
Study level			-.023	-.016
Contact hours			-.007	-.114
Study hours			.015**	.265
Model Summary				
R²	.030		.114	
Adj R²	.022		.091	
F	3,712*		4,935**	

** = Significant at the 0.01 level, * = Significant at the 0.05 level

The last multiple regression includes the dependent variable stress and is presented in Table 4.5. To use this model, the F-ratio needs to be significant. Model 1 is not significant and can therefore not be interpreted (F = .014, p >.05). When the control variables are added in model 2, the model has a significant F-ratio and can therefore be used (F = 5,403, p < .01). 12.4% of the variance in stress is explained with the variables included in model 2. In this model there is no significant relationship between work hours and stress, hence H3a: "There is a positive relationship between the number of hours a student works per week and their stress level" is rejected. Likewise, there is no significant effect of study related jobs on stress. Therefore H3b: "Students with a study related job have a lower stress level than students with a non-related part-time job" is rejected as well. Important to note here is that the dummy variable gender is significant, indicating that women have a higher stress level than men (b = - .367, p < .01).

Table 4.5: Multiple regression predicting stress from the independent variables work hours and related job and the control variables.

	Stress			
	Model 1		Model 2	
Variable	**B**	**β**	**B**	**β**
Constant	2,687**		2,478**	
Work hours	.000	-.002	.005	-.048
Related job	.016	-.011	-.065	-.043
Gender			-.367**	-.236
Study level			-.039	-.026
Contact hours			-.006	-.096
Study hours			.014**	.245
Model Summary				
R²	.000		.124	
Adj R²	-.008		.101	
F	.014		5,403**	

** = Significant at the 0.01 level, * = Significant at the 0.05 level

4.3.3. Moderation

H1c, H2c and H3c are hypotheses about moderation effects, where work hours is the independent variable and related job the moderator. Testing for moderation effects is done using the tool 'Process' for SPSS, by Andre Hayes (2015). The tests for moderation effects are executed separately, since only one dependent variable can be added at a time in the Process tool. Table 4.6 summarizes the outcomes of these moderation analyses. Since the effects of work hours and study related job have already been tested and presented in the multiple

regression models with control variables, only the moderation effects will be discussed in this paragraph. The first moderation analysis tests the relationship between work hours and academic performance, moderated by study related job. This model is significant (F = 3,720, p < .05) and has an R² of .044. The interaction effect between work hours and study related job is not significant, meaning that study related job does not act as a moderator in the relationship between work hours and academic performance. Hence, hypotheses H1c: "There is a negative relationship between the number of working hours and the academic performance of students, moderated by whether a job is study related or not" is rejected.

The second moderation analysis tests the relationship between work hours and academic involvement with study related job as a moderator. This model can also be used since the F-ratio is significant (F = 2,946, p < .05). This model has an R² of .036, meaning that the model explains 3.6% of the variance. The interaction effect between work hours and study related job is not significant again, indicating that study related job does not act as a moderator in the relationship between work hours and academic involvement. Hypothesis H2c stated: "There is a negative relationship between the number of working hours and the academic involvement of students, moderated by whether a job is study related or not". This hypothesis is rejected.

The last moderation model tested in Process regards the dependent variable stress. This model does not have a significant F-ratio (F = .092, p > .05). Hence, this model can not be interpreted. The non-significant F value means that the model of independent variables and the interaction effect explains nearly nothing about the variation of the dependent variable. Therefore, hypothesis H3c: "There is a positive relationship between the number of working hours and the level of stress students experience, moderated by whether a job is study related or not" is rejected.

Table 4.6 Summary of moderation effects tested with the tool process.

	B	SE	t	p	LLCI	ULCI
Academic performance						
Work hours	-.012	.006	.-2.138	.034	-.024	-.001
Related job	.227	.081	2.786	.006	.066	.387
Interaction term (work hours * related job)	.001	.012	.118	.906	-.022	.025
Academic involvement						
Work hours	-.002	.007	-.361	.719	-.016	.0435
Related job	.249	.094	2.657	.008	.064	.434
Interaction term (work hours * related job)	.016	.014	1.184	.238	-.011	.043

Stress

Work hours	.000	.007	-.006	.995	-.014	.014
Related job	.019	.098	.193	.847	-.175	.213
Interaction term (work hours * related job)	-.007	.014	-.499	.619	-.036	.021

After testing all hypotheses, it can be concluded that two out of the nine hypotheses have been accepted. An overview of these results can be seen in Table 4.7. In the discussion these results are further discussed and linked to the literature.

Table 4.7 Summary of results

	Hypothesis	**Result**
Academic performance	H1a	✕
	H1b	✓
	H1c	✕
Academic involvement	H2a	✕
	H2b	✓
	H2c	✕
Stress	H3a	✕
	H3b	✕
	H3c	✕

5. Discussion and conclusion

In this final chapter a reflection on the outcomes is given in order to answer the research question of this study. Subsequently, the practical implications of this research are discussed. Finally, the limitations and directions for future research are discussed.

5.1 Discussion

This study focused on the main research question: *"What are the effects of combining a part-time job with a full-time academic study on students?"* Several studies and theories were discussed in Chapter 2 in order to explain the effects of this possible double workload. In this thesis three possible consequences of having a part-time job combined with a full-time study were investigated: lower academic performance lower academic involvement and high stress levels.

The first hypothesis regards the relationship between work hours and academic performance. The literature suggests that the number of hours a student works influences their performance and involvement (Hay et al., 1970; Curtis & Shani, 2002; Muluk, 2017; Manthei & Gilmore, 2005; Salamonson & Andrew, 2006). The zero-sum model (Coleman, 1961) theorized that participation in extracurricular activities such as a part-time job has negative effects as students devote more time work at the expense of their studies. In addition to Coleman's model (1961), previous studies found that this negative effect only appeared when students worked more than a certain number of hours (Hay et al., 1970; Curtis & Shani, 2002; Salamonson & Andrew, 2006;). The number of hours differentiated slightly between studies, but this number lies somewhere around sixteen hours per week. However, in this study no significant relationship between work hours and performance was found at all. This indicates that combining a part-time job with a full-time study does not have any negative consequences for a student's academic performance. This finding is contrary to previous studies which have suggested that working less than sixteen hours has no detrimental effects on a students' academic performance but working more than sixteen hours does influence their academic performance negatively.

In addition to academic performance it was also expected that the number of hours a student works would have a negative effect on their academic involvement as it was assumed that students who work many hours have less time to spend on their academic work and are less present on their university campus. This hypothesis in turn was not supported. This study found

no evidence that combining a part-time job with a full-time academic study has an effect on how involved students are in their study.

The last hypothesis regarding working hours stated that there is a positive relationship between the number of hours a student works per week and the amount of stress they experience. This study was not able to confirm this hypothesis, meaning that the number of hours a student works has no effect on the stress they perceive. Based on the JD-R model (Demerouti et al., 2001) and the ERI model (Siegrist et al., 2004; Vegchel et al., 2005;), it was expected that more work hours would lead to higher levels of stress since the demands are assumable higher when a student has to work a high number of hours in combination with a full-time academic study. However, the results showed that there were no significant differences in stress between students worked a high number of hours and students who worked a small number of hours or did not work at all.

One of the models used to explain the possible relationship between part-time employment and its consequences was the JD-R model (Demerouti et al., 2001). It was assumed that a part-time job is a demand. It was however expected that a part-time job that had similarities to a student's academic program could be a resource and therefore have positive outcomes. Study related jobs can lead to personal growth and development by putting theory learned at their study into practice at work and vice versa. The first hypothesis regarding this theory stated: Students with a part-time job have a better academic performance than student with non-related jobs. This study found that a study related job has advantages over a non-related job. Students with a study related job have a higher grade point average, which indicates that they generally achieve higher grades than students with non-related part-time jobs. These results suggest the possibility that these types of jobs cultivate the student's interest in their studies and that combining theory and practice helps them achieve better results. These findings support earlier studies by Hay (1970) and Van de Water & Augenblick (1987). The same results were found for the hypothesis regarding students' academic involvement. The hypothesis expecting that students with a study related job are more involved in their studies than students with non-related jobs was accepted. This result indicates that these kinds of part-time jobs could make students more involved in their academic coursework compared to fellow students with a non-related job. This is also a possible effect of the combination of theory from the university and practice through the related part-time job. These findings support the earlier study by Huang (2007) who found that a job related to a student's academic program is positively associated with learning.

Based on the JD-R model, a hypothesis was included to find out whether having a study-related job also leads to less stress compared to students with a non-related job. This was reasoned from the point of view that a study-related job could be seen as a resource rather than just a demand as students receive certain benefits in return such as personal growth and more practical knowledge, which may make their courses easier and less stressful. According to the JD-R model, resources lead to a decrease in stress. The hypothesis regarding this expectation stated: students with study-related part-time jobs have less stress than students with non-related part-time jobs. This study could not accept this hypothesis, indicating that a study-related job has no influence on the stress level of students. The JD-R model mainly focuses on the outcome stress. Since having a study-related job does result in a lower stress level, the JD-R model does not explain a possible relationship and it can therefore not be assumed that a study-related job is a resource in this model.

The expectation of this study was that the number of working hours and a study-related part-time job would influence the outcomes of having a part-time job. In addition to testing these effects, interaction effects were included in this study as well. The expectation was that the ideal combination for a part-time job would be a study-related job with a low number of working hours per week. However, no hypothesis about this interaction effect could be accepted, which indicates that this predicted 'best combination' has no effect on a student's stress, academic performance or academic involvement.

There is no evidence found for the expected double workload with additional negative outcomes. It is, however, of added value for students to have a part-time job in the direction of their studies. Therefore, this study contributes to the literature on part-time employment among students by finding recent evidence for the positive effects of having a study-related job.

In addition to the tested hypotheses, a few other interesting insights have emerged from the data that are worth mentioning. The starting point of this study was the abolition of the basic grant, which means that it is likely that many more students now have a part-time job than in the past. According to the Dutch Central Office of Statistics figures, 66.3% of students with a high level of education were employed in 2013 (Centraal Bureau voor de Statistiek, 2013). Within the sample of this study, 79% of the students have a part-time job, which is considerably higher. This may be a result of the introduction of the loan system in 2015. Finally, it is interesting to mention that the analysis showed that the degree of stress experienced by students differs between man and women, where women generally experience more stress than man in this study. These findings support previous studies by Gefen & Fish (2019) and Hicks & Miller (2006) who found that female students felt more stressed than their fellow male students.

5.2 Practical implications

The insights of this research are valuable for students since it can help them in their search for a suitable part-time job. Evidence was found that it is of added value for a student to have a part-time job that matches their academic program. It is therefore advisable that students look for a part-time job in the field of their study. It is likely that it is easier for students in certain study fields to find a part-time job in the direction of their studies. An example of this are healthcare students who often have a part-time job in the field of nursing, hospitals or other forms of caring. This was also reported in this research, which showed that half of the healthcare students have a study-related part-time job. This number was lower for other fields of study such as exact sciences and communication & culture. It is therefore important to consider what type of jobs would be suitable for students in study fields where it is less obvious which jobs are related to their studies or where less study related jobs are available. This could be a focus point for universities, especially study advisors. They could help students by advising them on suitable part-time jobs that can positively influence their study results as much as possible. In addition to advising, they could even take an active role in creating study-related jobs by offering more part-time jobs such as tutoring, being a student assistant or research assistant. A part-time job has become an increasingly important part of student life. This increase in part-time employment for students and the results of this research offer a great opportunity to make these jobs as valuable as possible for students so that they can not only generate an extra income, but also improve their study performance and academic involvement.

5.3 Limitations and directions for future research

This study has some limitations that need to be addressed. The first limitation has to do with the chosen sampling method for this research. One of the strengths of quantitative research is that the results can be generalized to a group outside the sample. However, the chosen sampling method, snowball sampling, makes this difficult. The chances of sampling bias increase when the survey is sent to individuals in the researchers own network. As a result, the chance of selection for participation may be smaller for certain groups than for other groups. For this study, the survey was composed with four other students who worked on a research in the same area. Four of us are women, and one is a man. The sample included more women than man which is likely to be a result of the group composition of our thesis cycle. In addition, the sample included many students from the Radboud University who follow a study in the field of business and economics which is a possible result of the fact that all five researchers in the thesis cycle

study Business Administration at the Radboud University. Both of these examples may be a consequence of the sampling method, which indicates that there might have been sampling bias. This could have been avoided by distributing the survey to random students on campus. Unfortunately, this was not possible due to the current Covid-19 situation, which resulted in very few students that were present on campus. For future research it would be interesting to conduct the survey at several universities throughout the Netherlands in order to obtain a diverse sample with less sample bias.

A second limitation has to do with establishing whether a part-time job is related to a student's academic program. In the study by Hay et al. (1970) students were asked to provide a description of the job and then the researchers determined whether or not it was relevant to their academic major. However, in this study it was decided to let students determine this themselves. This has advantages because the student has the best idea of the content of his or her part-time job and the extent to which this relates to their studies. However, having students determine this classification themselves also has possible disadvantages. Some students with jobs that have some common ground with their studies may have doubts as to whether this really counts as being related to the academic program. To prevent this as much as possible, the survey included a clear description of what exactly is meant by a study-related part-time job, but it is still not certain that all students had the same idea in mind when they think of a study related job.

A third limitation is the presence of the Covid-19 virus and the associated crisis. It is plausible that this crisis has had an effect on the part-time jobs of students. Many students work in Hospitality and Retail jobs and they may have lost their part-time job due to the crisis. This may have had effects on the results. It was expected that students who work few or no hours have less stress than students who work a lot. However, it could be that students who have been fired because of the Covid-19 crisis experience more stress. The consequences of the Covid-19 crisis have not been included in this study. Therefore, it would be interesting for future research to gain more insight in the effects of the Covid-19 crisis on students and their part-time jobs, school performances and the potential stress that comes with it.

A fourth limitation has to do with the measurement of academic performance. In this study academic performance was measured by GPA (Grade Point Average). However, this is not always a good indication of someone's performance. At universities students have to get a pass for every subject, otherwise they have to retake it. This affects the GPA of students because this only shows the passing marks and it is not known in this study how many chances a student had in order to receive their final grade. One other option was to use ECTs. These were included

in the questionnaire, but during the cleaning of the data, many strange values were found. That is why it was decided to use GPA.

The last limitation of this study is that, although statistical significances were found, the explanatory power of these models was rather weak. This indicates that the variables included in the model only explain a small part of the variance in the dependent variables. Although control variables were added, there may be variables that could explain more variance that were not included in the model. One of these variables could be the personality of a student since it is a likely factor that could influence academic performance and how much stress a person experiences. For future research it would be interesting to investigate how certain personality traits influence a student's performance, involvement and stress.

5.4 Conclusion

This study focused on what the effects of part-time jobs are on the lives of students when it comes to their academic performance, involvement and stress. The overall conclusion of this study is that jobs can enhance a students' performance and involvement in their study. No evidence was found for the expected double workload with additional negative outcomes. This indicates that students do not experience negative outcomes due to their part-time employment. A question that comes to mind here is: are the so-called full-time studies really full-time? In other words, do these studies actually take up 40 hours a week? Maybe not, since students can work alongside their studies without negative consequences. This study therefore leaves some room for thought and maybe even for future research.

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Appendices

Appendix 1: Survey

Het leven van een student met een voltijd studie op hbo of wo niveau en een eventuele bijbaan

Survey Master Thesis voor studenten van hbo/wo niveau

Beste student,

Alvast heel erg bedankt dat je tijd wil vrijmaken om de vragenlijst in te vullen en wil deelnemen aan ons onderzoek. De vragenlijst is onderdeel van vijf master scripties die worden geschreven voor de master Strategic Human Resources Leadership aan de Radboud Universiteit. De scripties hebben een gezamenlijk hoofdonderwerp, namelijk het leven van een student met een voltijd studie op hbo of wo niveau en een eventuele bijbaan.

Het invullen van de vragenlijst duurt ongeveer 10 minuten. Deelname aan de vragenlijst is geheel vrijwillig en de door jou verstrekte antwoorden worden zorgvuldig behandeld. Dat betekent dat de gegevens anoniem worden verwerkt en dat de gegevens op geen enkele manier door derden herleidbaar zijn naar respondenten. Je kan te allen tijde je deelname stoppen door de vragenlijst niet verder in te vullen en deze browser af te sluiten. Jouw persoonlijke informatie zal dan niet worden opgeslagen.

Een leuke bijkomstigheid is dat er drie bol.com cadeaubonnen worden verloot onder de deelnemers van het onderzoek. Als je de vragenlijst volledig invult, maak je kans op één van deze drie cadeaubonnen.

Als je vragen, opmerkingen of klachten hebt, kan je contact opnemen met femke.dings@student.ru.nl

Groet,

Sam Kremers, Inge van Wijk, Veerle Karsdorp, Bob Kamp & Femke Dings

Ik heb de informatie over het doel van het onderzoek gelezen en ben me ervan bewust dat mijn gegevens anoniem gebruikt worden. Door onderstaande aan te vinken, stem ik in met deelname aan het onderzoek.

[0 Ik geef toestemming]

Algemene vragen

- Wat is je leeftijd? [Open vraag]
- Wat is je geslacht? [Man, vrouw, anders]
- Ben je thuis- of uitwonend? [Thuiswonend of uitwonend]
- Hoeveel geld ontvang je van je ouders per maand? [Open vraag]
- Onder welke categorie valt jouw studie het beste?
    - Aarde en Milieu
    - Economie en Business
    - Exact en Informatica
    - Gedrag en Maatschappij
    - Gezondheid
    - Interdisciplinair
    - Kunst en Cultuur
    - Onderwijs en Opvoeding
    - Recht en Bestuur
    - Taal en Communicatie
    - Techniek
- Op welk niveau studeer je?
    - Associate Degree
    - HBO Bachelor
    - HBO Master
    - WO Bachelor
    - WO Master
    - Pre-Master

Studiejaar

- Is je huidige studie de eerste studie die je volgt? [Ja of nee]
- Hoeveel jaar studeer je op dit moment? [1, 2, 3, 4, 5+]
- Als je een Bachelor student bent, in welk studiejaar van je huidige studie zit je dan momenteel? [1, 2, 3, 4, 5+)
- Op welke hogeschool studeer je als je een HBO Bachelor of Master volgt?
    - Aeres Hogeschool
    - Amsterdamse Hogeschool voor de Kunsten
    - Hogeschool van Amsterdam
    - Hogeschool van Arnhem en Nijmegen
    - ArtEZ Hogeschool voor de kunsten
    - Avans Hogeschool
    - Breda University of Applied Sciences
    - Christelijke Hogeschool Ede
    - Hogeschool Windesheim
    - Codarts Hogeschool voor de Kunsten
    - Design Academy Eindhoven
    - Driestar Hogeschool
    - Fontys Hogescholen
    - Hogeschool Viaa

- o Gerrit Rietveld Academie
- o De Haagse Hogeschool
- o Hanzehogeschool Groningen
- o HAS Hogeschool
- o HKU
- o Hogeschool De Kempel
- o Hogeschool Inholland
- o Hogeschool IPABO
- o HZ University of Applied Sciences
- o Iselinge Hogeschool
- o Hogeschool Leiden
- o Hotelschool The Hague
- o Katholieke Pabo Zwolle
- o Koninklijke Academie van Beeldende Kunsten/Koninklijk Conservatorium
- o Marnix Academie
- o NHL Stenden Hogeschool
- o Hogeschool Rotterdam
- o Saxion
- o Thomas More Hogeschool
- o Hogeschool Utrecht
- o Hogeschool Van Hall-Larenstein
- o Zuyd Hogeschool

- Op welke universiteit studeer je als je een WO Bachelor of Master volgt?
  - o Rijksuniversiteit Groningen
  - o Radboud Universiteit Nijmegen
  - o Wageningen Universiteit
  - o Universiteit Maastricht
  - o Technische Universiteit Eindhoven
  - o Universiteit van Tilburg
  - o Universiteit van Amsterdam
  - o Vrije Universiteit
  - o Universiteit van Twente
  - o Universiteit van Utrecht
  - o Nyenrode Business Universiteit
  - o Technische Universiteit Delft
  - o Universiteit Leiden
  - o Erasmus Universiteit Rotterdam

Studentenlening

- Maak je gebruik van een studentenlening via DUO? [Ja of Nee]
- Wat is het bedrag van jouw studentenlening per maand? (open vraag, nummer)
- Wat is (bij benadering) jouw huidige studieschuld op dit moment? (exclusief reisproduct/prestatiebeurs) (open vraag, nummer)

De bijbaan

Bijbaan

- Heb je een bijbaan naast je studie? Een bijbaan is een baan waarvoor je betaald krijgt, die je hebt naast je voltijd studie. [Ja of nee]
- Hoeveel uur werk je gemiddeld **per week** bij je bijbaan? Als je meer dan één bijbaan hebt, tel dan het aantal uren bij elkaar op. [Open vraag]
- In welke categorie valt je bijbaan het beste? [Horeca, bezorging, retail, logistiek, sales, zorg, kantoorbaan, bijles, anders, namelijk …] + meerdere antwoordopties mogelijk (i.v.m. verschillende bijbanen)
- Hoeveel verdien je **per maand** met je bijbaan? [Open vraag + niet verplichte vraag)

Studie gerelateerde bijbaan

Studie gerelateerde bijbanen zijn bijbanen die enige overeenkomsten hebben met de inhoud van je studievakken of die gerelateerd zijn aan het vakgebied waarin je je wilt ontwikkelen in je verdere loopbaan.

- Is jouw bijbaan aan je studie gerelateerd? [Ja of Nee]

Werkuren

Non-reguliere werktijden zijn: Avonden/nachten na 20.00 uur, en de weekenden.

- Werk je tijdens non-reguliere werktijden? [Ja of Nee]
- Hoeveel non-reguliere werkuren heb je **per week**? [Open vraag]

Studeer tijd

De volgende drie vragen gaan over contacturen en de tijd en moeite die je in je studie steekt.

- Hoeveel (verplichte) contacturen heb je gemiddeld **per week**? [Open vraag; aantal in uren]
- Hoeveel uur spendeer je gemiddeld aan je studie **per week**? [Open vraag; aantal in uren]
- Hoeveel moeite kost het je om (goed) te studeren?
  - Likertschaal: 1. Heel weinig, 2. Weinig, 3. Niet weinig, niet veel, 4. Veel, 5. Heel veel

Uitkomsten

Stress

De volgende vier vragen worden gevraagd om je mate van stress te meten. Geef voor elke vraag aan in hoeverre dit van toepassing is op jou.

- Hoe vaak heb je problemen gehad om te ontspannen?
- Hoe vaak ben je geïrriteerd?

- Hoe vaak ben je gespannen?
- Hoe vaak ben je gestrest?

Antwoord mogelijkheden: 1 Nooit, 2 soms, 3 regelmatig, 4 vaak, 5 altijd

Studieprestaties

De volgende vragen gaan over je studieprestaties. Vaak zijn de antwoorden op de volgende vragen gemakkelijk terug te vinden in je studenten app.

- Wat is (bij benadering) je gemiddelde cijfer?
- Hoeveel studiepunten heb je tot nu toe behaald in het huidige studiejaar? [Open question; number]
- Hoeveel studiepunten had je kunnen behalen in het huidige studiejaar? [Open question; number]

Studiebetrokkenheid

De volgende vijf vragen gaan over hoe betrokken je bent bij je studie. Geef voor elke vraag aan hoe vaak deze gebeurtenis voorkomt.

- Hoe vaak verdiep je je in de stof voordat je naar het college komt?
- Hoe vaak luister je aandachtig naar het college, draag je bij aan klassikale discussies of stel je vragen?
- Hoe vaak lees je je studieboeken?
- Hoe vaak spreek je buiten het college met docenten over een vak?
- Hoe vaak maak je gebruik van schoolbibliotheken?

Likertschaal: 1 Nooit, 2 soms, 3 regelmatig, 4 vaak, 5 altijd

Support

De volgende vragen gaan over de support, ofwel steun, die je op je werk en van je medestudenten ontvangt. Als je meer dan één bijbaan hebt, ga dan bij het beantwoorden van de volgende vragen uit van de bijbaan waar je de meeste uren per week werkt.

Ervaren steun van de leidinggevende

De volgende drie stellingen worden gevraagd om te meten in hoeverre je door je leidinggevende van je bijbaan wordt gesteund. Geef aan in hoeverre je het met de volgende stellingen eens bent.

- Mijn leidinggevende begrijpt mijn studiebehoeften
- Mijn leidinggevende luistert naar me wanneer ik over mijn studie praat
- Mijn leidinggevende erkent dat ik verplichtingen heb als student

Antwoord mogelijkheden: 1 (sterk mee oneens), 2 (mee oneens), 3 (neutraal), 4 (mee eens), 5 (sterk mee eens).

Ervaren steun van de collega's

De volgende drie stellingen worden gevraagd om te meten in hoeverre je door je collega's bij je bijbaan wordt gesteund. Geef aan in hoeverre je het met de volgende stellingen eens bent.

- Ik heb het gevoel dat ik met mijn collega's kan praten over persoonlijke problemen
- Mijn collega's zijn persoonlijk geïnteresseerd in mij
- Als het moeilijk wordt, zijn er collega's op het werk bij wie ik kan aankloppen voor hulp

Antwoord mogelijkheden: 1 (sterk mee oneens), 2 (mee oneens), 3 (neutraal), 4 (mee eens), 5 (sterk mee eens).

Ervaren steun van de organisatie

De volgende drie stellingen worden gevraagd om te meten in hoeverre je door de organisatie van je bijbaan wordt gesteund. Geef aan in hoeverre je het met de volgende stellingen eens bent.

- Over het algemeen zijn de managers in de organisatie erg meegaand met studie- en persoonlijke verantwoordelijkheden.
- Over het algemeen moedigen de managers in de organisatie anderen aan om gevoelig te zijn voor de opleiding en persoonlijke zorgen van werknemers

Antwoord mogelijkheden: 1 (sterk mee oneens), 2 (mee oneens), 3 (neutraal), 4 (mee eens), 5 (sterk mee eens).

Ervaren steun van medestudenten

De volgende stellingen worden gevraagd om te meten in hoeverre je door je medestudenten wordt gesteund. Geef aan in hoeverre de volgende gebeurtenissen in de afgelopen maand bij jou zijn voorgekomen.

- Een andere student legde aan mij uit hoe je een specifiek probleem moet oplossen
- Een andere student legde aan mij uit hoe een bepaalde opdracht moet worden uitgevoerd
- Een andere student heeft mij geholpen om de lesstof beter te begrijpen
- Een andere student legde mij iets van het college uit
- Een andere student luisterde naar mij toen ik mijn frustraties over een college uitte
- Een andere student luisterde naar mij toen ik mijn frustraties over een docent uitte

Antwoord mogelijkheden: 1 (helemaal niet), 2 (één of twee keer per maand), 3 (ongeveer één keer per week), 4 (enkele keren per week) tot 5 (zo goed als iedere dag)

Time management vaardigheden

Korte termijn planning

Geef aan hoe vaak de onderstaande activiteiten zijn voorgekomen in de **afgelopen week**
- Ik maak een lijst van de dingen die ik op een dag moet doen
- Ik plan mijn dag voordat ik eraan begin
- Ik maak een schema van de taken die ik op werkdagen moet doen
- Ik creëer dagelijkse doelen voor mijzelf
- Ik besteed tijd aan het plannen van activiteiten op een dag
- Ik heb een duidelijk idee van wat ik de komende week wil bereiken
- Ik houd mij aan mijn planning

Antwoordmogelijkheden: 1 Nooit, 2 soms, 3 regelmatig, 4 vaak, 5 altijd

Time attitudes
- Ik heb het gevoel dat ik de baas ben over mijn eigen tijd
- Er is ruimte voor verbetering in de manier waarop ik mijn tijd beheer
- Ik gebruik de tijd die ik heb effectief
- Ik besteed op een gemiddelde lesdag meer tijd aan mijn part-time baan dan aan mijn studie
- Ik ga door met activiteiten/werk wanneer deze mijn studieproces negatief beïnvloeden
- Ik doe dingen die mijn studieplanning verstoren, simpelweg omdat ik er een hekel aan heb om 'nee' te zeggen tegen mensen

Antwoordmogelijkheden: 1 Nooit, 2 soms, 3 regelmatig, 4 vaak, 5 altijd

Bedankt voor je tijd om aan deze enquête deel te nemen.

Als je graag op de hoogte wil worden gebracht van de resultaten en als je kans wil maken op één van de drie cadeaubonnen, dan kan je hier je emailadres invullen. Bij de verwerking van de gegevens zal je emailadres worden verwijderd, zodat het niet mogelijk is om je antwoorden te herleiden naar jou.
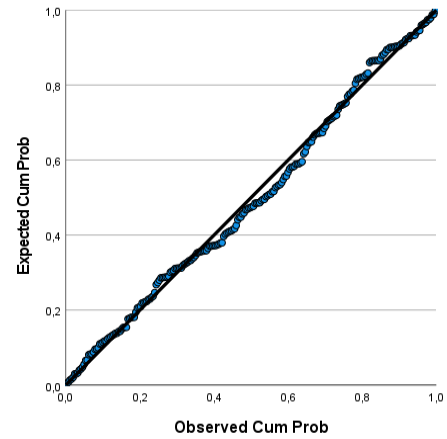
[………………………….]

Appendix 2. Assumptions for regression analysis

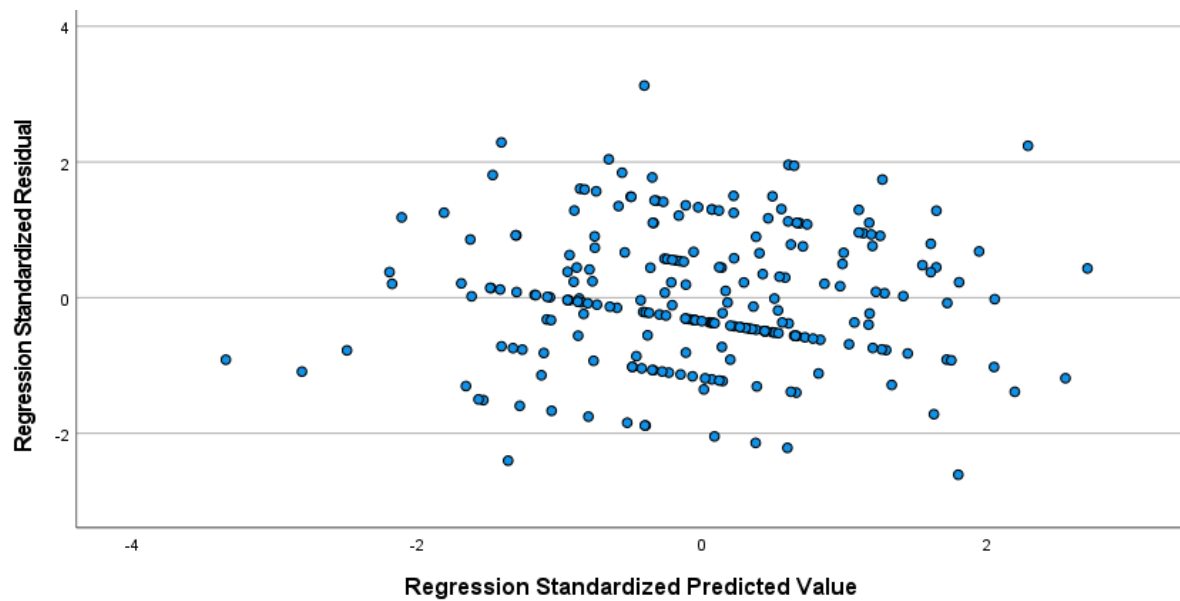2.1. Assumptions for dependent variable academic performance
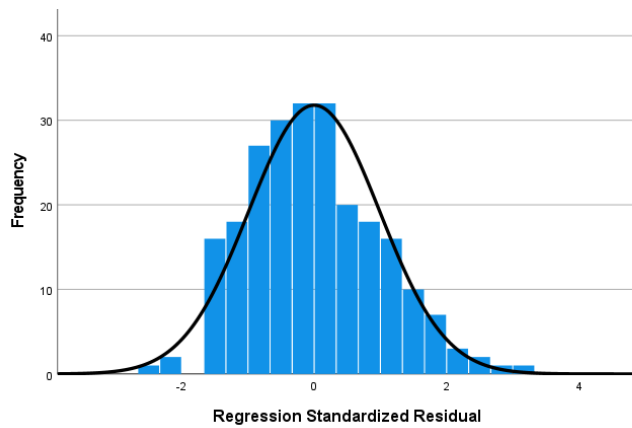
2.1.1 Histogram
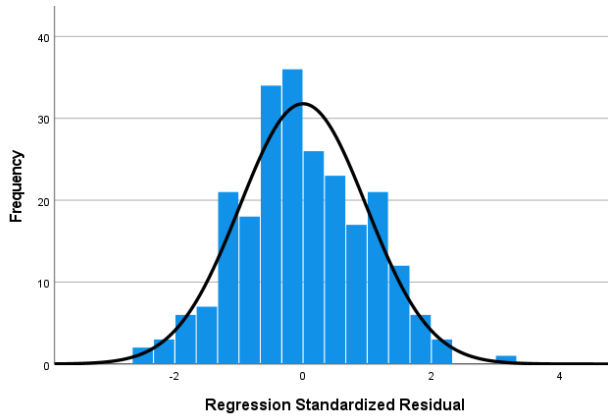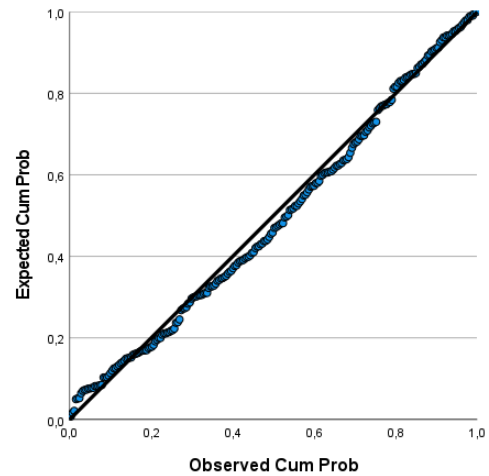

2.1.2 Normal P-P Plot

2.1.3 Scatterplot

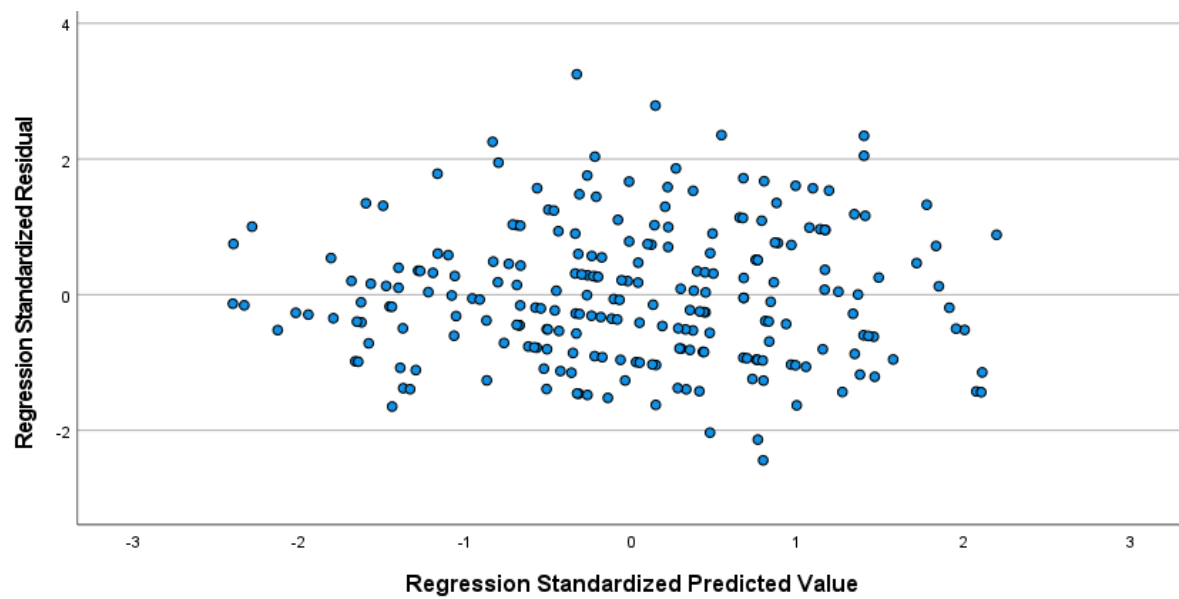## 2.2. Assumptions for dependent variable academic involvement

2.2.1 Histogram

2.2.2 Normal P-P Plot

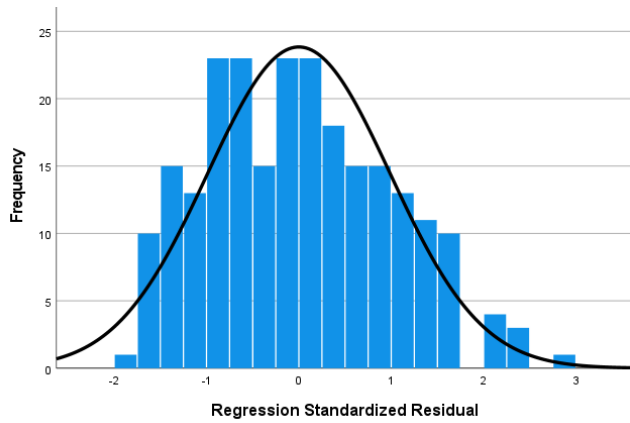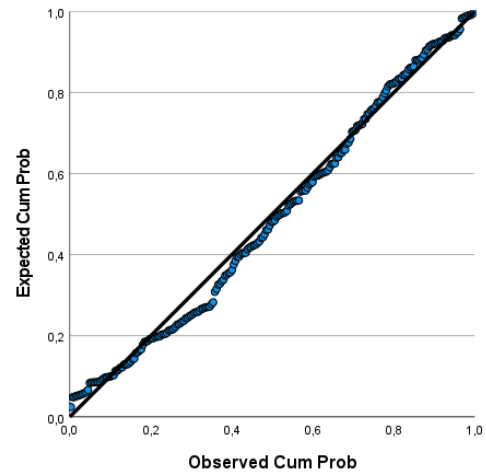### 2.2.3 Scatterplot

2.3. Assumptions for dependent variable stress

2.3.1 Histogram

2.3.2 Normal P-P Plot

2.3.3 Scatterplot