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## **RUC students' academic motivation during the covid-19 quarantine**



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## Introduction

The Coronavirus Disease of 2019 (COVID-19) had its first outbreak in Wuhan, China in December 2019 wherein this disease started in a local seafood market and has grown substantially in China. By January 2020, the disease has spread to 18 other countries (Zhou et al., 2020; WHO, 2020). The World Health Organization (WHO) assessed that COVID-19 can be characterized as a pandemic and declared it on the 11th of March 2020 (WHO, 2020). The definition of a pandemic can be viewed as a widespread epidemic of a contagious disease throughout the whole country or one or more continents at the same time since the word pandemic comes from the Greek word "pan" and "demos" whereas "pan" means all and "demos" means the people (Qiu et al., 2017; Honigsbaum, 2009). Due to the rapid increase of spreading through China and other countries, most countries implemented precautionary measures to prevent the spread of the virus. These measures include closed borders, meaning, the borders of nations are closed, for entrance and exit. School closures refer to when schools are physically closed and implemented online schooling. Quarantines are implemented wherein people were recommended to stay at home, work from home if possible and only supermarkets and essential stores (pharmacies and such) were open. Lockdown orders are also implemented in which there are orders for the other businesses to close. Restriction of social interactions which the Danish government-enforced multiple restrictions on social life such as the use of masks in public areas, restrictions on the number of people that were allowed to be together at the same time, the use of covid-pas to enter places such as restaurants (Kumar and Andersen, 2021). The impact of this outbreak is huge where it does not only affect the global economy but also affects education where the students' learning is being hampered (Tan, 2021). Around 1.5 billion students were restricted from physical schooling in 2020 and transferred to distant online learning due to the COVID-19 outbreak which caused them to face a massive disruption in their learning process (OECD, 2021).

Educational institutions used different virtual learning platforms while considering different learning designs that facilitate learning opportunities for all students (Carter et al., 2020). During an unfortunate circumstance, such as a pandemic, as the educational institutions need to make a virtual learning opportunity easy to access, it will take a toll on some students because some of them might not be in their right state to be motivated to focus and learn (Ibid). Furthermore, a student's individual motivation for learning plays a huge role in the engagement of

their academic career (Linnenbrink and Pintrich, 2002). The shift to virtual learning by educational institutions during the COVID-19 pandemic has impacted students, teachers, and learning performance (Ustun, 2021). Moreover, many educational institutions, students and teachers were not ready for this new experience (Ibid). A student's motivation varies depending on their situation and/or the context in the classroom or school (Linnenbrink and Pintrich, 2002). Specifically, in the situation at Danish universities, like Roskilde university, students experienced a change in their usual learning structure, meaning that there may have been an impact on student's motivation.

## Problem Formulation

The same day WHO declared that COVID-19 is considered a pandemic, the Prime Minister in Denmark announced the temporary closure of educational institutions and all day-care facilities, in line with other public organizations (OECD, 2020; Ministry of Health, 2020). With the imposed precautionary measure by the authorities, students and faculty personnel were required to stay home which meant shifting the lectures and other activities from face-to-face class to a virtual learning environment (Guldager et al., 2021). Students and teachers had to adapt to drastic changes in their learning and teaching process in a short amount of time and with this precautionary measure, it also puts a strain on students', peers', and teachers' interaction during education (Ibid). Consequences regarding students' academic motivation have become more well known, such as demotivation and mental struggle. Some students may find it challenging to keep up with their studies. This has the potential to be seen with those who prefer interactive and physical education with their peers and teacher (Rahardjo and Pertiwi, 2020).

Mortensen (2021) reflected that the lockdown has shown that large-scale virtual learning and teaching is no longer in our imaginary scenario of the future, but it is capable of becoming actual in our present time. The lockdown during the pandemic was an eye-opening experience for the students and teachers and a “game-changer” in the development of virtual learning and teaching in Denmark. However, at the time of the pandemic, it was an undesirable substitute for face-to-face learning and teaching due to the fact that it takes time to learn in a technologically mediated environment. To date, there are few studies of the effects of sudden virtual learning during the pandemic on university students' motivation.

Therefore, we thought that focusing on Denmark in the Scandinavian and northern European region would allow us to get a more varying view of students' motivation during the COVID-19 quarantines. Furthermore, we decided to target students who currently study at the Danish University, Roskilde University (RUC) as this university has implemented project work as half of their student's education. The structure of project work at RUC begins at the start of every semester with idea-generating and the making of groups. Once ideas and groups have been established the groups are given supervisors to help guide and assist the group through their project. The projects then unfold through the research of the group's choice, primary or secondary,

and the group hands in their final project at the end of the semester where they have had a whole month of focused writing with no other classes. During the exam period, the project group defends their project in an oral exam where they are given a grade by their supervisor and a censor. RUC is one of the only universities in the world that performs their education in this manner and to this extent which makes it valid to research, also since group work, which project work is, often requires human interaction, which was lacking during the COVID-19 quarantines.

Furthermore, this research aims to explore the effects of the COVID-19 pandemic on university students' motivation in relation to their academic performances. We present our research question below:

**How did the COVID-19 pandemic affect higher-level students' academic motivation at Roskilde University?**

Additionally, we have created three sub-questions to guide us through our analysis in a manner which is organized through our choice of theory, the self-determination theory.

- How is the dimension of competence of motivation affected during the covid pandemic?
- How is the dimension of relatedness of motivation affected during the covid pandemic?
- How is the dimension of autonomy of motivation affected during the covid pandemic?

## Literature Review

Upon the beginning of our project, we researched previously performed studies in order to prevent replication of another study, so ours would remain significant. We divided the studies depending on their results, hereby meaning positive, negative and somewhat relevant to our problem formulation. In regard to understanding the theme of positive, it reflects the results of the studies where students experience a positive effect from online learning. In the same sense the theme, negative, thereby gathers an overview of the studies where the students expressed a negative effect related to not having physical teaching. On the other hand, for the theme of somewhat relevant, it showcases studies with elements, such as theories, which can be considered compatible with our problem formulation.

In the studies in which positive outcomes were found, it was clear that the students in question continued to do well, and some even improved under the new online learning conditions (Campillo-Ferrer and Miralles-Martínez, 2021). This was seen in the comparative study of a school from Germany and one from Austria, where the students had their own time to explore while learning, leading to them achieving a greater gain of knowledge and an advantage in their education (Holzer et al., 2021). Additionally, a study of 166 students from a psychology bachelor program in a Dutch research university found that good working facilities at home may be a necessity for thriving in online classes as it correlates with good academic motivation (Meeter et al., 2021). On the other hand, those with no quiet place or the like to work could find demotivation in their education (ibid). Furthermore, the study of an English department at Sriwijaya Polytechnics found that the new online learning environment worked well due to internal factors for the students, such as enhancing their technological skills (Gustiani, 2020). Throughout multiple of these studies, we found that self-determination theory has been used (Schnerer and Hopkins, 2021). Overall, studies with positive results found that the pandemic does not cause the motivation of students to decrease noticeably and in some cases even improves the students' academic motivation.

Some negative results were amongst others found in the study of 166 students from a psychology bachelor program in a Dutch research university where some responses related to demotivating rather than motivating factors were visible. Some of the mentioned causes for lack of academic motivation were distractions at home, the more freedom the students were given with

online learning less structure was maintained, and that in general students saw their peers not actively participate in class due to these factors (Meeter et al., 2021). Furthermore, external obstacles for the students were seen as hurdles in the results of other studies. On the technological level, although the students at Sriwijaya Polytechnics valued training their skills, it still appeared to be a challenge to deal with hardships such as bad signals or missing connections. Additionally, these students found that they seemed to avoid extra schoolwork during the semester breaks (Gustiani, 2020). Beyond these results, there was showcased a lack of intention regarding virtual learning due to the aforementioned external factors while directly impacting the student's ability to understand their academic materials (ibid).

There were several studies which were somewhat related to the theme of motivation of students during the COVID-19 pandemic such as the study of Orchestra students' motivation in learning and maintaining their instrumental skills. It was found that the mindset of student was essential in order to improve and stay motivated (Schnerer and Hopkins, 2021). The growth mindset was preferred compared to the fixed mindset which allows space to learn and adapt to the new situation, additionally it is the mindset of believing that one's own skills and abilities are capable of being further developed, which showcases motivation (Renaissance, n.d.). On the other hand, the fixed mindset orientates to a mental state where one may have convinced themselves that they are unable to improve their knowledge or skills and instead are fixed at the level they currently are (Ibid). On top of this the self-image of the students has also largely impacted their motivation to learn (Schnerer and Hopkins, 2021). The self-image views mentioned were performance avoidance, mastery orientation, and performance approach. Performance avoidance refers to the mental goal of avoiding a situation of failure in front of others (*Www.sfu.ca, 2005*). Whereas mastery orientation presents when someone has their focus on improving and learning in order to gain more knowledge or skill (Donald, 2012). While performance approach identifies focusing to be better than others or impressing others within a certain area competing with others for the top spot (Simon Fraser University, 2005).

These reflect how the efforts of students are heavily influenced by their goals and image of oneself according to Zimmerman (1998) (Ibid). Other previously done research presented general background regarding elements of the COVID-19 pandemic such as the new electronic exams, less available jobs, the end of many exchange programs and of course virtual learning



(Berg-Beckhoff et al., 2021). These new implementations created by the government were generally followed by most people, which suggests high levels of trust in the authorities and governing state in Scandinavia (*Ibid*).

Upon an overview of the studies, we found that they mainly look at Central Europe and Asia, with only one study looking specifically at Denmark (Berg-Beckhoff et al., 2021). Moreover, we found studies that comparatively analyzed the students' academic motivation and performance before and during the COVID-19 quarantines and to not recreate other studies we chose to create a thematic analysis of our results. After careful consideration, we decided to focus on students' motivation in Denmark during only the COVID-19 quarantines. The studies also look greatly at higher education students, those in secondary school and university, we will be doing the same in order to avoid having to interview children since that would cause more trouble regarding research ethics than working with those past the age of 18. This is because older students have authority over themselves, and we do not need their parents' or legal guardians' approval to conduct research (Flick, 2018). Most of the research studies are performed through both qualitative and quantitative surveys which we will steer clear off, as we will focus on individual interviews which are primarily qualitative (*Ibid*). However, the study of the English department at Sriwijaya Polytechnics also performs individual interviews through snowball sampling and a focus group. We considered having a focus group as well but due to our limited time for this project and the lack of additional input it would give our research, we decided against it.

# Methodology

## Research design

In this section, we will give an overview of our approach on how we choose our focus for this study.

When deciding our project, our thoughts were to study the impact of COVID-19 on people's emotional health. However, it was initially a broad topic. Therefore, we decided to change it to "the impact of COVID-19 on students' motivation", specifically on their academic aspect. We chose students as our focus because they are one of the most affected groups of people during the pandemic. The students that are chosen for this study are specifically in higher education.

Normally, classes are physically in classrooms at school and not online. However, the COVID-19 pandemic was an exception where students were not interacting with each other as they used to, and most academic work was completed online. During the pandemic, students needed to attend classes online and through this fast and unexpected change the ways of learning were forced to change. It is interesting for us to study and understand whether these changes have negative or positive effects and to know the effects of not being together socially or actively meeting each other in person while attending class. Therefore, we are interested in looking at how it affects the students on their motivation to study without personal interactions.

Furthermore, deciding the countries to focus on, we choose Denmark, specifically student the students at Roskilde University (RUC). It was important for us to choose Denmark to be able to perform the interview without unnecessary difficulties (time difference, distance, etc.). Originally, we were thinking of interviewing people whom we have no connection with at all because we thought it would avoid biases. However, we realized that it could be rather challenging for us to find interviewees who were willing to participate. Therefore, we decided to contact friends of friends (mutual friends) or a connection of our friends. There are several reasons for choosing a friend of a friend of interviewees. First, it would provide us with a connection to someone who fits our criteria, which consist of being a student currently attending RUC and currently living without family members. We choose to focus on RUC students as we are in close proximity to them and due to the additional element of them having group projects which often are associated with physical interactions and there is a need to self-motivation within their academic field.

The criteria of living without family members are motivated by how children, siblings and parents can be a distraction to a student's academic learning especially when they have other responsibilities to others in their household, which is especially seen in family households. Furthermore, they are also more likely to agree to be interviewed, this is as the middleman (the friend) can vouch for us and the interviewee will be more likely to trust us because of this. This would save us time from sending or posting online about participating in the interviews, where the possibility of people not responding to our request is rather high. Although this in theory would be more effective, the members of our project group do not know too many who lived alone during the COVID-19 quarantines. Therefore, we also made a post on a Facebook group for RUC students, where it is common to post regarding seeking participants for project research. From this post we also gained a few participants.

### Methods

For methods, we have chosen to apply the qualitative approach. This approach is beneficial to our research area as it will provide us with the opportunity of collecting and analyzing non-quantitative data. Furthermore, the qualitative approach seeks an in-depth understanding of the experience students who live without family had during quarantine. Inevitably this leads us to generate new ideas and find conclusions based on our study. We will do this through primary data in the form of semi-structured individual interviews with 5 higher-level students from which we will make a thematic analysis (Crosley, 2021). Higher education refers to senior high school (gymnasium) or university students (college) therefore higher-level students attend one of these forms of education. Moreover, we will complement our findings from our individual interviews by making use of secondary data. In the interviews, we asked our interviewees if they preferred to be named by their name or be anonymous. 3 out of the 5 participants preferred to be named while the rest wished to be anonymous. Therefore, we respect the choice of the two participants who wanted to be anonymous. However, we have chosen to name the other participants by their given names to maintain the personal factor of the interviews. When we include their names, it is not only easier to differentiate the interviewees it also becomes easier to identify with their comments. When we use their names we showcase them as individuals with experiences, hardships and characters

making them seem more human and relatable than when they are named as anonymous participant number x.

### Data collection

To answer our research question, our group found that the most effective form of primary qualitative data collection is semi-structured individual interviews (Flick, 2018). We gain aspects of the personal experiences of the interviewees, allowing us to understand the individual's academic motivation, who lives/lived without close family during the COVID-19 quarantine (Ibid). We will be using the semi-structured format as we can cover the topics of our choice without a fixed order, meaning the conversation can flow more naturally. We shortly discussed creating a focus group but realized that nothing valuable would be added to the equation in doing so. One reason is that we are not studying the social understanding of how students' motivation has been impacted by COVID-19, but rather its impact individually. Therefore, it is not a public issue (Ibid). Additionally, our group imagined that some participants may be influenced by others in the group and downplay their own experiences as they feel that others struggled more and thereby invalidate themselves (Ibid). To avoid this, we all agreed that semi-structured individual interviews would be the best choice to perform our study.

The interview topics will be identical for each of the 5 interviews, as this number participants will give us a slight overview and is manageable within our project's timeframe, to have a variety of views to compare, and we want the interviewees to be higher education students between 18-30 years old. This age is favorable as most students fit within this age-frame; therefore, we will have a bigger variety to choose from. All the interviewees will have been living alone during the COVID-19 quarantines, due to the fact that this will give us the ability to analyze and compare the results and maintain this independent variable. From these interviews, we will be able to see how their academic motivation was affected. We will recruit our interviewees through acquaintances and online connections, but we will actively make sure that we do not know any of the interviewees ourselves. This will make it easier to find people who will participate, and they will most likely be in similar social circles as this project group consists of similar people, gender and age, and therefore our social groups will as well. This must be considered, as that affects our results by giving less ability to generalize to all higher levels of students. However, it will make it

possible to modify the students within this specific social circle. Moreover, we will conduct the interviews in either English or Danish, depending on which language the interviewee prefers. If the interview is conducted in any other language than English, it will be translated into English.

Before we conduct the interviews, we will categorize our themes through our theory of self-determination in our interview guide, which also will create the structure for our sub questions, and pre-test them on our peers or others who had the same living situation during the lockdowns as the respective interviewees (Flick, 2018). From this, we will receive feedback to improve our topics to ensure the interview will be as smooth an experience for the interviewees as possible. In this process, there will be a focus on making sure our topics are simple and understandable (Ibid). Preferably, the interview will be in person, so it becomes more personal, and the possibility of technical difficulty is minimal.

After we have completed our interviews, we will create a transcription from the recordings which we will then analyze for our study (Flick, 2018). However, before we begin to analyze in depth, we will send the transcript to the interviewees so they can approve of the interview of final time. Once it has been accepted by the interviewees, our in-depth analysis begins.

### Limitation of data collection

Semi-structured interview (SSI) is one of the essential tools to conduct qualitative research. This is usually used in order to dig deep into the knowledge about the topic through interacting and conversing about their different subjects of life experiences. However, every data collection has its limitations. Conducting an SSI can be limited due to interviewing people with language barriers (Marshall and While, 1994). Communicating with a person who thinks and speaks another language can jeopardize the accuracy and reliability of the data (Ibid). A language barrier may be a limitation as if the language spoken in the interview is not the mother tongue or well trained by the researchers some elements may be lost in translation (Flick, 2018). This may cause misunderstandings by having hidden assumptions over the meanings of the words or concepts. The sample size could also be limited due to the reason that the area and other requirements could not fit the qualification to conduct an interview. We are aware that our study does not have the data

quantity to create a generalization of all RUC students. It does however provide the ability to view the individual participants perception of their academic motivation during the quarantine.

### Data analysis

Thematic analysis is the method we have chosen to employ to analysis our gathered qualitative data from the semi-structured individual interviews. The main goal of thematic analysis is to find themes and thereby identify similarities and the relations of the data (Crosley, 2021). We will follow the deductive method within our analysis as we will set certain boundaries regarding the themes in order to focus our study (Braun, n.d.). To best create the thematic analysis, we will follow the 6 steps used to analyze qualitative data through thematic analysis, created by Virginia Brown and Victoria Clarke (2006).

The first step is familiarization where we will work in-depth with the raw data including transcribing the interviews from vocal recording to written text (Caulfield, 2019). This will make it easier to manage the raw data and give us the opportunity to visualize. Next, we will code the data by noting which main trends are found in the data. Here, we begin our visualization by highlighting the themes in the written transcript where each color of highlight represents one theme or one sub question (Ibid). Once these themes are identified and the data is categorized, we review the themes to ensure that the thematic analysis continuously moves the correct way. It is important that the appropriate themes are identified as they must be sufficient for the objective of our project otherwise now is the time to make those final changes (Ibid). When all changes are complete the themes will be defined and named. This helps to organize the analysis and has the objective of preventing confusion within the analysis of themes and data (Ibid). Finally, we will write up our project analysis and report which can be seen below.

### Limitations of data Analysis

Although thematic analysis is the best fit for our project structure there of course are some limitations, as there are with all methods which must be taken into consideration. One limitation which can be seen is that it may be difficult to focus on themes as it may differ from person to person which themes would be chosen (Barkley, 2021). When choosing themes some

valuable data may be lost in the process, and this diverts the researchers from their project's focus. Additionally, in some cases the focus of the study can be interfered with the research own experience, hereby meaning reflexivity, which can pull away from the theoretical framework (Ibid). This can result in the study being insignificant if the personal view of the researcher does not match with the theoretical framework. However, it must be kept in mind that thematic analysis does motivate the researcher to make use of their own experience – to a certain extent. Furthermore, valuable data can be lost completely. Lastly, there can be questions as to whether an analysis is in-depth enough. In these cases, the researchers' individual views might not have been applied, which is necessary for an in-depth analysis (Barkley, 2021). Moreover, the amount of data can be overwhelming to the researchers causing them to only focus on the themes which are relevant to their specific study. This takes away from the further in-depth aspect of the study (Ibid).

### Interview set up

Once the interviewee arrives, the interviewer from the project group will introduce themselves and the others in the group, and then explain the purpose of the study and allow the interviewee to ask any questions regarding the study. Then the interviewee will be asked for their consent to be recorded and to sign a consent agreement. In this agreement, we will also have included that the interview is anonymous, the interviewee prefers that. Once consent has been given, everyone will be seated. The interviewee and interviewer will be sitting in front of each other at a table with the recorder. This is because the interviewer can read the facial expressions of the interviewee better when sitting in front of them than next to them and thereby can ask further follow-up questions or take a break from the interview if deemed necessary (Flick, 2018). One additional member of the group will be attending the interview to observe body language. They will be the only group members who take notes during the interview which allows the interviewer to be more present in the conversation. The interviewer must focus on active listening throughout the entire interview to make the interviewee feel that they are being listened to (Ibid). Additionally, it is relevant for the interviewer to ask questions about what is said and rephrase the information to enforce a correct understanding of the interviewee's points.

### Process of analysis

To answer our problem formulation (the research questions and the sub-questions), we will be dividing the analysis into three parts. We found it relevant to use the three elements of Self-determination theory, this means that we will match the answers of the interviewees to the three elements of self-determination theory. Each interview question will be placed accordingly into the three different themes of autonomy, competence, and relatedness. These themes will then be analyzed according to our applied theory (elaborated in the theory section). We have decided to complete our analysis in this manner, to avoid confusion, and jumping back and forth between the five interviewees. Moreover, there will be a better chance to check our work when the analysis is completed, and for this reason, we can easily find the differences and similarities in their answers.

In this research, it is important to be aware of how we interpret the data. We will make sure that we are aware of our approach regarding analyzing the primary data since every researcher has their own understanding and interpretation. We understand that the theorists have done plenty of research before publishing and are coming to their own conclusion. Furthermore, we understand that the individual experiences of these interviews are subjective. Thereby when analyzing these interviews, we will attempt to be objective, to the best degree possible.



## Theory

When looking at theory/theories, it is relevant for us to choose the most related to our topic. We found the Self-Determination theory generated by Richard M. Ryan and his co-author Edward L. Deci (Ryan and Deci, 2000). According to Ryan and Deci, Self-Determination theory is the study of human motivation, it is also concerning how the individual interacts, depending on the social environment. In this research, we have a focus on the effect of students' academic motivation during the pandemic, and therefore it is important for us to look at the theory (theories) that fall into the study of human motivation. Apparently, during the pandemic the social contact of people worked differently therefore, we consider the three elements of Self-determination theory: *autonomy, competence, and relatedness*. Additionally, we found that many researchers used the Self-Determination theory in their studies of motivation in academics, as mentioned in the literature review section.

In choosing the theory, we would like to know some information about the background of the theorist, which we think is essential for us to keep in mind. Richard M. Ryan, a professor at the University of Rochester in the field of Psychology, is a clinical psychologist and known to be the leading theorist of *human motivation*. The co-author of the Self-Determination theory is Edward L. Deci, a professor at the University of Rochester in the field of social sciences. Deci shows great interest in *human motivation*, specifically the nature and development of self-determination (University of Rochester, 2022).

In this project, we have chosen the topic; “the impact of COVID-19 pandemic on student’s motivation”. As mentioned in the problem formulation above, we would like to focus on “students in relation to their academic performances”, as this theory will help us to understand more on how the pandemic affected a student’s motivation and this theory together with its three dimensions, will also help us to get more in-depth in analyzing our findings from the conducted interviews. The elaboration of the self-determination theory can be found below this section.

## Self-Determination Theory (SDT)

According to Ryan and Deci (2017), self-determination theory examines the biological, social, and cultural conditions that may either enhance or weaken the existing human capacities for psychological growth, engagement, and wellness. It is a theory that describes the intrinsic and extrinsic sources of motivation in cognitive and social development and one way of assessing, studying, exploring an interest, and ability (Ryan and Deci, 2000). This theory describes intrinsic and extrinsic motivation, and the three innate and universal psychological needs which are autonomy, competence and relatedness. These three categories will be explored further in the sections below.

People do not only have different extents of motivation, but they do also have different kinds of motivation. That means that it is not only the level of motivation (i.e., how much motivation) that matters but also their orientation of motivation (i.e., type of motivation) (Ryan and Deci, 2000). Orientation motivation refers to the person's underlying attitudes and goals that give rise to their actions. In SDT, the authors distinguish the different types of motivation based on the different reasons and/or goals that might give rise to every action. The most basic distinction is between intrinsic and extrinsic motivation.

Intrinsic motivation refers to a type of motivation where a person is doing an activity for its inherent satisfaction or interests (Ryan and Deci, 2000). When a person is intrinsically motivated, he/she is moved to act for the challenge and interest entailed rather than acting because of the external environment like pressures or rewards. This type of motivation is not just a form of motivation, but it is also a pervasive and valuable one. From a person's birth onward, they are active and inquisitive and display a readiness to learn and explore. This type of motivation is an essential element in cognitive, physical and social development, as a person acts on their inherent interest, their knowledge and skills also grow.

Extrinsic motivation is the opposite of intrinsic motivation. Extrinsic motivation refers to the type of motivation that a person has when depicting external activities in order to attain a separable outcome. A person is extrinsically motivated if he/she receives any reward or under pressure or compulsion (Ryan and Deci, 2000). This kind of motivation requires a high level of engagement and willpower. However, it would not last longer than intrinsic motivation. If a person

is continually motivated for the sake of external rewards, it could be just an action only to gain rewards and not for the sake of mastering their skills and knowledge.

As mentioned above, SDT's three basic psychological needs are autonomy, competence and relatedness. These needs are said to be an objective phenomenon that can measure the functional effects that can acquire regardless of one's subjective goals or values. These have shown that they play an important role and are considered essential nutrients in a person's motivation, satisfaction, well-being and vitality on both general and daily levels.

The first basic need under SDT is *autonomy* or the need to self-regulate one's experience and action. It is a form of the function relating to a person's willingness to be engaged and to act in ways that are congruent with his or her values and interests. In simpler words, autonomy is defined as the need to experience oneself as being the author of one's actions that are aligned with one's personal values and goals, whereas a person may experience an incongruence and conflict when doing what is contrary to one's willingness. In the view of this theory, not all intentional actions are truly autonomous or self-regulated -- others may be influenced by external factors or by non-integrated aspects of one's personality, as this may result in a person behaving without any sense of willingness or self-endorsement of his or her actions.

The second basic need is *competence* which refers to one's feeling of mastery and efficacy in activities. People need to feel that they can act effectively in their daily life -- the feeling that a person is capable of what they can do and can accomplish and achieve one's goal. Inherent striving, actions manifested in curiosity, manipulation, and a wide range of one's desire to have a deep and thorough understanding are evidence of the need for competence. However, competence is readily thwarted. Competence can be weakened due to challenges that are too difficult, lots of negative feedback or the feeling of one's mastery or efficacy are undermined by interpersonal factors such as self-focused criticism and social comparisons.

The third basic need in this theory is *relatedness* which is more about the interpersonal dimension which concerns the feeling of being connected socially. People tend to feel relatedness mostly when they feel cared for by other people. Relatedness is also about the feeling of belonging and significance among others. Another important thing to relatedness is experiencing the giving

and receiving relationship. Relatedness pertains to a sense of being an integral part of a social organization or community beyond oneself which involves unity.

## Analysis

This section, we will use the three elements of Self- Determination theory. As mentioned in our methodology, we will match the answers of our participants accordingly into three different themes which are competence, relatedness, and autonomy. In this research, we have found five interviewees, namely Hiva, Carla, Ana, and two anonymous participants 3 and 5.

All three dimensions are interrelated with each other. However, the meaning of competence and autonomy might give a slight confusion between those two. Competence is where a person can be capable of finishing one's tasks or has the ability to achieve one's goals. On the other hand, autonomy is about a person's intrinsic behavior in which a person's interests and/or values are one of the factors why a person is engaged in what he/she is doing.

All the interviewees were asked to rate their academic motivation before the pandemic happened, and they rated it an average of 8 out of 10. With their level of competence in school, the reason why Hiva gave the highest rate because "*...there were no problems...*". Our anonymous 3rd participant and Ana both gave 8, where it appears that both had the same rate of academic motivation prior to the pandemic. In addition, Carla and our 5<sup>th</sup> participant were motivated to go to class every day wherein they claimed "*...I really love my studies, my bachelor's is in the same subjects as my master's...*". The 5th anonymous participant expressed that they were having the time of their life at that time, and they really thrived in their studies. All the interviewees' answers show that they have the drive to achieve their own goals and have the capability to deal with their studies.

## Presentation of Interviewees

### **Introduction of Hiva**

Our first interview was with Hiva who is currently a student at RUC studying his fourth semester of HumTek with a focus on informatic and health. He is 22 years old and grew up in Greve, south of Copenhagen, but now lives alone in Trekroner. He has been living by himself since July 2020. Hiva's family lives in Lolland, a southern island of Sjælland, he does however have friends in Greve and Roskilde since he went to gymnasium in both cities for a year each. In his free time, he enjoys spending time outdoors playing football and training.

### **Introduction of Carla**

The second interviewee we had the opportunity to interview was Carla. Carla is 18 years old and is in the second semester at RUC. She studies the International Bachelor of Social Science where she has yet to decide her focus. Carla started living on her own when she moved from Spain to Denmark in August of 2021. Her family also lives in Denmark but are a three-hour trip away in Jylland. In her spare time, she is out with her friends and values her schoolwork and her job.

### **Introduction of Anonymous Participant 3**

The third interviewee prefers to be anonymous. This person is a 23-year-old student at RUC and is currently in the third semester. This participant is taking an International Bachelor of Social Science focusing on International and Communication Studies. The participant began living on their own when they moved from the Philippines to Denmark last August 2020. Their family and most of their friends are in the Philippines. This person usually spends their free time playing online games, watching movies, or catching up with their family and friends online.

## **Introduction of Ana**

The fourth interview was with Ana, she is a student at RUC and is currently in her second semester. Ana is taking an International Bachelor of Social Sciences. Ana started living on her own when she moved from Bolivia to Denmark in September 2021, to start her studies at RUC. Most of her family and friends are in Bolivia, which is about 6524 miles from Denmark. In her spare time, she likes to exercise, watch movies, and catch up online with her family and friends from other countries.

## **Introduction of Anonymous Participant 5**

The last interviewee also prefers to be anonymous. This participant is a 27-year-old second-semester student at RUC, taking a master's degree in Visual Culture and Performance Design. This person began living on her/his own in 2016 and lived on his/her own until January 2021 and then again from September until December 2021. This person, the family, and friends live around 10-12 kilometers (about 7.46 miles) away from the participants' home in Rødovre. This interviewee decluttered, cooked, watched movies, and painted during spare time.

## Competence

*How is the dimension of competence of motivation affected during the covid pandemic?*

As mentioned in the theoretical framework above, one of the basic needs in self-determination theory is competence. Competence refers to how a person can have sufficient qualities to perform a given task or has strength in dealing with the environment. During the COVID-19 pandemic online learning, which was implemented relatively quickly, was a version of learning that most people were not yet regulated to, which may have resulted in some students feeling incompetent. This subchapter examines how students' academic competence was affected during the pandemic and we will discuss how it was different prior to the pandemic and when the restrictions loosened up. Lastly, this subchapter will be completely based on the empirical evidence we gathered from the interviews, as well as having theoretical considerations.

## **Academic motivation prior and during the pandemic**

When the pandemic happened and the government implemented restrictions on the people to prevent the spreading of the virus, some people experienced a negative impact on their learning, while others showed the opposite. 4 out of 5 interviewees had a negative impact wherein their academic motivation was decreased, such as Hiva, who responds, *"I would say you didn't really want to follow along in the lessons. It was completely off..."*, he explained that the first couple of online lectures were fun with the fact that you can just sit back and not be active, but as time went by, it got worse. Ana mentioned, *"...when we talk about online classes, I feel like I don't really learn as much as I do while I am in class."* She pointed out that being in an actual class gives her the opportunity to engage more with the topic that the professor is discussing. However, the fifth anonymous interviewee, who claims to be an introvert who does not do well in crowds and sometimes had a tough time focusing whenever there are a lot of people and noise, said: *"...so the point where everything was moved home and do distance learning, I had the easiest time in focusing on the material during classes..."*.

## **Perception of online learning**

Two of the interviewees appear to have a positive perception of online learning. The 5th anonymous participant mentioned that online learning gave them the freedom to be in the comfort of their home and still be able to participate in class and added *"...the amount of work I did that time was doubled than usual because I don't have to do other things like travel (going to school, etc.)..."*, but on the other hand, they also found it difficult when the professor asked something, and the students did not respond or when there was a problem with the internet connection which cause a struggle when focusing on class. Carla thinks of the online class as *"...really useful for when you are sick with COVID or something else. I think it was really useful to have some classes online because then you were still able to participate, not verbal, but at least you could hear what the teacher was saying..."*. However, Carla and other interviewees shared that they had a challenging experience with online learning wherein they struggle with absorbing the lectures in every class and they in the end prefer a regular class over an online class. Despite the fact that they

were going to class during the pandemic, from the interviewees' answers, it seems like they do not fully understand what the professors were teaching as these challenged the skills they need to enable them to learn efficiently, like taking notes, actively listening and participating in class discussions, etc.

### **Effects of online learning**

All the interviewees had an impact on their academic motivation, in one way or another, during the quarantine. Most of them had a negative impact in which Ana mentioned that *"...I don't feel like I am really learning and not being engaged with the classes, I felt drained"* and so is Carla, who said that *"...my motivation obviously decreased, but it was more the attention span and the time of work that my brain had to put in the different subjects, it was really crazy..."*. The students felt frustrated with the fact that they felt like they understood the lectures during the class, but the taught information was not retained in their mind. This causes them to feel less motivated to learn, to be attentive and to take their lectures seriously. Meanwhile, the 5th anonymous participant stated, *"...so my academic motivation, I wouldn't actually say it suffered because it allowed me to go figure out what I really wanted and thought it was interesting..."* they added details about their experience in online classes wherein it was easier to pay no attention to a particular lecture that were not interesting. On the other hand, it was easier to focus on the topics that caught their attention, and they were able to go back to the recorded lectures without risking losing anything.

Three out of five interviewees claimed that distance learning did not affect the results of their grades. Granting the fact that their motivation decreased, they spent more time working on their studies such as listening to their recorded lectures and exerting more effort in their studies. This shows that the students continue their efforts to understand the lessons although their academic motivation was not the same as before the quarantine. Furthermore, 2 of the interviewees claimed that they had a negative outcome on their results. Ignore the lectures that they should have paid more attention to, just because they do not find them interesting, and their decreased motivation caused them to not go in-depth of the texts and to not take notes of the class. Almost all of the interviewees are not satisfied with their outcome during the pandemic, as Hiva has mentioned *"...looking back, it could have been done a lot better if you had followed the course and attended class physically, talked it through with other students..."*, this comment illustrates



how students' competence were challenged and how they were able to fight those negative impacts for them not to fail their classes.

The majority of the interviewees claim that they have always attended their classes prior to the pandemic. However, when the quarantine was instated, it affected their attendance and performance in class. For instance, the 3<sup>rd</sup> anonymous participant mentioned "*...I am not paying attention (in class) because I sometimes fell asleep...*", and Hiva also draws upon his experience in this regard by stating that as the time goes by, his commitment to attending and focusing on class continuously declined to the point where he did not attend his lectures at all. He also mentioned that he noticed that the number of his classmates became fewer. On the contrary, the 5<sup>th</sup> anonymous participant attended most of the classes during the pandemic which they stated "*...usually, I was present during the online classes because of the convenience, you just turn on the laptop. It was so easy...*", but they also admitted that the level of their attention varied on how much they stayed up the night before and their level of interest in the particular topic of the lecture.

To put it succinctly, there are negative impacts on some of the participants who have weakened their competence due to being shifted to distance learning, which was not their preferred teaching method. They are also not used to having their classes online which causes them to have little to no desire in understanding the lectures in as much depth as before. They appear to have poor concentration during the class and some of the participants admitted that they do not think they were learning at all during that time. Furthermore, it shows that they still put effort to pass their exams and classes just to get through the semester. However, there is one participant who appreciates the idea of distance learning. This participant has an almost opposite in their impact on their academic motivation at that time, whereby they were able to deal more with their studies due to the reason that they had more time during the quarantine. This participant's competence during the quarantine was startlingly high, having the fact that they were more engaged in their studies and had lesser difficulty in focusing on classes.

## Relatedness

*How is the dimension of relatedness of motivation affected during the covid pandemic?*

Relatedness in terms of the theory of self-determination is centered around the sense of belonging in a social group or with people in order to have determination for oneself (Lopez-Garrido, 2021). Self-determination is motivated and improved in an environment where one is met with respect and is appreciated by those around them. This creates a strong sense of support which drives the individual to go further and believe in themselves. However, with a lack of help and support from the individuals surrounding network it becomes more difficult for them to achieve their goals as the physical support system is absent (Ibid). This was displayed during the covid-19 pandemic quarantines where many physical interactions were lost and instead made online and therefore less personal. Also, the educational format was impacted as most academic facilities in Denmark switched to online learning. Roskilde University found themselves forced to introduce online learning which affected their students in several ways. The scale of impact varied from participant to participant ranging from positive, neutral and negative. Anonymous participant 5 had primarily positive experiences in terms of relatedness whereas Carla and Hiva were found mostly negative. In the middle of the spectrum was Ana and anonymous participant 3 who seemed indifferent and unbothered by the quarantine's restrictions.

### **Educational impact of lack of physical interactions**

Upon viewing the educational impact that followed by online learning, when physical teaching was temporarily eliminated, both positive and negative reactions are visible from the interviews of RUC students when recalling their time away from classmates and professors in quarantine. For instance, Hiva describes how he and his classmates unfortunately were not allowed on their intro-trip, which is one of the first elements of creating strong and lasting connections with one's peers at RUC. *"We arrived at the worst time. We first really met each other this semester (4<sup>th</sup> semester) I think."* Hiva explains, which shows how challenging it has been for him to connect with his classmates on a personal level rather than just as acquaintances. Without physically meeting in class or attending social events at RUC, which includes parties, RUC bar, and other university related events, it can be difficult to find motivation to continue the study. Hiva expressed

this concern as noticeable; *“there were also many who dropped out then (during quarantine). I think my team, HUMTEK, was almost half if not worse.”*

Another reason for students to drop out at a greater rate than usual, during the covid-19 pandemic, could be the lost connection and proximity between students and professors. Carla saw that *“the restrictions were hard. But for the teaching part I think it was a little bit sad that we didn’t get that relationship between teacher and student which we, I feel like everyone likes that type of relationship, when you are actually close to your teachers. Especially when you are in really small groups.”* and therefore since the proximity of students and the teaching staff declined it may have further demotivated the students in their self-determination. Dysfunctionality within project groups may have been less detectable to professors as they do not necessarily pick up on the strain elements within the groups such as rough communication. Our anonymous participant 5 voiced that *“you also don’t have the opportunity to arrive early and raise a concern to your supervisor or ask for help to talk about a certain topic because of having a difficulty to talk about it with your groupmate, because you can’t do that in a zoom call.”* Although it may not seem to be much trouble to convey issues, it might have become more challenging during the pandemic as some social skills become less practiced and therefore giving critique or issue concerns can be rather uncomfortable and even intimidating.

The phenomenon of informal time spent before meetings has been removed as online meetings advanced. Informal time is characterized by the possibility for students to seek guidance from their professor outside of the formal set up of a meeting where everyone is attentive to everyone's questions, answers and feedback. Many students profit by informal communication with their professors where they can be vulnerable and be coached to improve their academic learning. In physical meetings, body language and tonality contributes to the spoken word providing further understanding of social cues demonstrating dysfunctionality within the group. In online meetings these elements are challenging to identify. With increased use of online meetings, it became evident that the majority of the time was formally structured allowing less informal time. Additionally, the fact that only one person can speak at a time in an effective online meeting increases the focus of topics discussed, again another contribution to the elimination of informal time.

Supplementarily, Carla reflects on the structure of RUCs semester as she views it as possibly isolating. This is a result of the project's time-management schedule, where RUC students are given approximately one month of no classes to have time to focus on their research and writing their projects. Although this should eliminate stress from having both classes and project to focus on, some may view it as *“something similar to the quarantine”* because of how *“you are like out of contact with other people that you usually in the same class with or close with and it's kind of, um, makes you isolate a little bit in yourself.”*. From this, as Carla expresses as well, it may feel to the students as though they are disassociated with their university peers during this period of each semester, if they are not involved in other activities on campus.

Regardless of negative aspects, as the aforementioned, it does not rule out some positive influences of less physical interaction with one another. With no physical classes or interactions there was less travel between home and university. This provided time and the feeling of freedom to prioritize activities, which some spent studying, as anonymous participant 5 explains, *“I didn't have to be anywhere, so I had a lot more time to make through it (studying) and it made it easier to keep up at consistent momentum, so I got more out of the days.”*. For some, the new liberty motivated academically while others would be either overwhelmed with the new amount of spare time or completely demotivated to focus on studies. For those who value this new freedom benefit to explore their education in depth. *“It gave me the freedom to deal with the things that I really like immediately, like I didn't have to wait until I got home, ... I could look it up immediately without the risk of losing anything because I can go back to the lectures anytime with the PowerPoints and some recorded lectures through zoom from my phone.”*. Anonymous participant 5 illustrates some of the educational benefits of not having physical learning as an introvert, who managed to manipulate online teaching to an advantage. *“The freedom of lockdown was amazing!”* the participant expressed extremely positively.

### **Impact of lack of physical interaction outside of education**

The lack of private interactions of students with their family and friends affects their self-motivation. This can be seen through the interview with Hiva who expresses that living alone *“was awful. It was really, really awful. You feel completely alone. It was kind of both (lonely and boring), it is boring to be alone”* while he was in quarantine. As fears of Corona, long-lasting effects of

covid and negative views of those who disobeyed the quarantine guidelines spread, many cut all interactions with friends and family in order to completely isolate themselves. Although this may have seemed the responsible response during the time it took place, it may have caused harm to the individual who reacted in a depressive and anxious manner.

As mentioned above, the newly gained freedom of additional time was not always put towards studying as the usage of social media, such as TikTok, became more time consuming and popular. The users between 15 and 25 years old on TikTok grew from 10% before covid-19 to 28% during the covid-19 quarantines (Ceci, 2022). Carla describes TikTok as *“it distracts you from reality for quite a bit, you can really get addicted to it.”*. The increased number of consumers on TikTok created a platform for people to become famous overnight as influencers. However, influencers did not always have a positive impact on their audience because *“when you were on TikTok there is no limit to what you can say or what you can do. ... People were promoting really unhealthy habits. Not just about food but also about the way you look at your body, the way you think about yourself.”*. While struggling with being isolated from peers and family, students also began an unhealthy comparison of themselves to one another on social media. As this clearly indicates toxic mental traits one would assume that most people would attempt to steer clear of social media. However, this was primarily not the case because *“all wanted to be active somewhere since we couldn’t be physically.”* as Carla explains from her views on TikTok addictions, where she also herself was addicted for a while.

### **Physical and mental health during the quarantine.**

The impact of the covid-19 quarantines could be seen not only through visible restrictions of society, but also in people's mental health. Students at RUC experienced both positive and negative reactions to being physically separated from their friends, family and peers. From our interviews we gathered that to some extent several people suffered from depressive tendencies since *“generally, people really suffered. They really did not really do well, like they could not focus.”* according to anonymous participant 5.

An example of a student who felt they suffered in isolation was Hiva who expressed that *“I would say that is the closest I have been to having depression. ... Just looking and thinking*

*about what I am doing tomorrow – I'm doing the same thing*". The depressive and demotivating symptoms Hiva describes are sleeplessness, restlessness, difficulty in focusing and loss of interest in education, which previously was a great interest of his (Bruce, n.d.). Instead, he *"felt very stressed."* With these signs of depression there seems to be a correlation between lack of physical interaction and depression.

To further confirm, Carla communicates how her body image experienced some issues due to the quarantine's new addiction to social media and her reflecting upon her physique leading her to be being *"obsessed with um calories and ... like... exercise everyday but a lot. And it was like unhealthy goals I was trying to achieve, and it was all because we were all starting to get obsessed with ourselves. ... I lost a lot of weight during quarantine"*. This is a minor sign of low self-worth as dramatically changing eating and exercising behavior demonstrates obsessive behavior which can be self-destructive. Moreover, Carlas's example clearly indicates that eating and body dysmorphia disorders can be affected by absence of being in physical contact with others. It can become enslaving when in isolation and the focus of social media is on how to improve oneself and match unrealistic standards of influences. However, it strongly depends on the mentality of the individual and their surrounding environment. If they are motivated by social media, like TikTok, displaying negative habits and ideals, it can impact the views of the individual to be highly critical towards themselves.

For participants who were in a safe space empowering their natural being and promoting healthy changes, it is positive for the individual. As conveyed by anonymous participant 5 *"I did a lot of examining myself, like my life on what I wanted to do."* They evaluated themselves and their goals in life leading to self-enlightenment as they were in a safe space to do this and followed responsible regulations. The main reason for anonymous participant 5 identified as introvert and therefore found the environment suitable for self-evaluation due to the lack of search for contact. This provides a lower need for physical interaction.

Despite it seemingly is an advantage to be an introvert in quarantine, there can occur other abnormalities which affect the physical health rather than the mental, such as skin hunger. Skin hunger develops when a person is exposed to less, if any, physical touch and contact with other humans or animals. Through positive touch on the skin the brain reinstates pleasure and thereby decreases anxiety and stress levels (Benisek, n.d.). This unfortunate illness was experienced by

anonymous participant 5 during the quarantine: *“I realized that I was physically sick, which was a terrifying discovery. During the pandemic, I was mentally fit, but I was sick physically... The living alone thing I don’t really mind. But my physical sickness has been resolved, with the help of my friends.”*. As this sickness can occur for any individual isolated from human touch it is important to have a social network to counteract the illness.

### Autonomy

*How is the dimension of autonomy of motivation affected during the covid pandemic?*

In Self- Determination theory, autonomy is the type of people that has independent behavior. Having autonomous behavior, these individuals tend to base it on herself/himself instead of other people's standards. Moreover, these people have a motivation by an internal desire to be experts and knowledgeable (Ackerman, 2022). In e-learning, during the COVID-19 pandemic, students were left to learn alone at home for most of their education. During these times, students would have had a wide number of chances to explore their capabilities which were inhibited due to restrictions. When it comes to learning, people who primarily have autonomous behavior have a big possibility of achieving their goals as they can focus better outside of crowds. Therefore, e-learning is an advantage for the student that has autonomous behavior as they are taken out of the traditional classrooms, whereas those who prefer and may even need the social aspect of regular education find themselves at a disadvantage. Looking at the interviews of our five participants, we found that two participants have autonomous behavior, those are anonymous participants 3 and 5. However, the three participants, Carla, Hiva, and Ana exhibited less autonomous behavior. After analyzing the interview, we found that these three participants are less autonomous because it was hard for them to learn during the online classes, hence their motivation to study was affected.

### **Anonymous participant 3 and 5’s views of online learning**

In the interview with some of the RUC students that are living alone during the pandemic, there are some students that are quite positive about it when it comes to academic aspects. For instance, our 3<sup>rd</sup> anonymous participant described that there was no impact on the results of the

study and said *“it did not. It was quite okay and the same with the face-to-face classes”*. It is evident that online classes did not impact the results since there is a big opportunity of having more time to learn and explore by his/her own time and strategy. Participant 3 also added, *“I was able to watch the recorded video of the lecture, that’s why I can listen to the lecture and study again.”* Our 5<sup>th</sup> anonymous participant described that there is no impact on the results academically and said *“Not much to be honest, I’m very introverted, and I don’t do well with humongous crowds. and I had a lot of big lecture classes and stuff where we are in the giant lecture halls at RUC and a lot of noise and a lot of people make it difficult for me to focus sometimes so the point where everything was moved home and do a distance learning, I had the easiest time in focusing on the material during classes.”* Evidently, this participant prefers a quiet environment to be more focused. It is easy for this student to get distracted when there is lots of noise, for instance during classroom classes at school. For anonymous participants 3 and 5, studying online for them is better because they can just access the materials anytime they want.

In addition, anonymous participant 5 said, *“Online classes made it easier to zone out if you’re not interested in a particular lecture or subject that’s brought up during the lecture so I wasn’t forced to deal with the things that I didn’t want to in the same way because I can just mute and ignore what’s going on.”* It was an advantage for anonymous participant 5 because of the easy access to muting the teacher's discussion when it is not interesting. However, the participants said that it is easy to look up the interesting points because of recorded videos. *“If the teacher said something interesting, I could look it up immediately without the risk of losing anything because I can go back to the lectures anytime”*. Anonymous Participant 5 expressed that online class is better because of their flexibility. The interviewee thereby could identify what they found interesting. If they missed something during the lecture, it was easy to review it online in their own time. Therefore, anonymous participant 5 found out what to give most of their attention. Anonymous participant 5 added, *“It allowed me to go figure out what I really wanted and thought it was interesting”*.

As mentioned above, the interviewees are students from RUC. Our participants mentioned that most of the students in RUC have a project work subject every semester. The system where the students need to work with classmates or groupmates. Our anonymous participant 5 described that it was difficult for them because it was not easy to communicate with groupmates. There was



no chance for them to see each other in person. Anonymous participant 5 said, *“the group project on our semester during the lockdown was horrible due to the fact that we had a hard time communicating and also had a hard time communicating with our supervisor in a way he could help us.”* Anonymous participant 5 explains that communication is necessary when it comes to this subject to have a clear conversation with groupmates. In addition, it would be great if they could meet the supervisor in person. Anonymous participant 5 added that *“That was very strange, my project grades that time were trended downwards, but my classes grades were trended upwards, I got better grades there than I expected”*. Since the project work subject is working with the group, our anonymous participant 5 got a lower score than the normal subjects. It is clear that working with groupmates during the pandemic was not so progressive since it was restricted to seeing each other in person. However, with the individual subject or normal subjects, our 5<sup>th</sup> anonymous participant was just very satisfied with the outcomes.

### **Motivation in online teaching**

Despite that, the online teaching was a positive result for some of our interviewees academically, however, the feeling of not seeing the classmates and professors physically may affect their attention on listening to the classes online. Additionally, the effect of their motivation and time management may be affected, which was the case with our two participants. Our anonymous 3rd participant said, *“It was boring, more difficult to absorb their teachings because I often fall asleep during the online class”*. Anonymous participant 3 expressed that listening through the computer made her feel less motivated, and it was easy to get bored. Additionally, participant 3 said that *“I felt sad, because it was a struggle to get to know my classmates better”*. Anonymous Participant 3 explained that being able to see the classmates and professors physically is still important. Moving on to anonymous participant 5, she explained that it was strange and weird not seeing the people physically. *“That was very strange”* Anonymous participant 5 still misses the atmosphere of having people around. She/he felt an unusual feeling since it was not like that before. Another statement from anonymous participant 5 said *“I had to rely on my own, my own discipline, and my own motivation to get stuff done.”* Anonymous participant 5 has difficulties balancing the time because of the change in routine than normal (as physical classes). This situation has the same case with participant 3. Therefore, they need to find a balance just to get the time to

study. Looking at the participants' 3 and 5 statements, both were less motivated on listening to the online classes.

### **Impact on academic motivation – changed**

During the interview, the participants were asked about the rate of their academic motivation during the quarantine period with online learning on a scale of 1-10. Participant 3 gives the rate of 7, and anonymous participant 5 gives the rate of 8. For anonymous participants 3 and 5, it was evident that they worked well academically. The effect of being less motivated to listen to the class while it was online (live zoom or online platform) never affected their grades. In addition, the participants themselves were motivated by their internal desire to get the grades that they wanted. Furthermore, the rate of academic motivation after the quarantine was also part of our interview questions. Participant 3 gave the rate of 7, we could see that during and after the online classes never really impacted the grades because this person got more time to study. Our 5<sup>th</sup> anonymous participant gave a rate of 9 and she/he added some statements that without the quarantine or lockdown, the participant could not think of how to figure out what he/she really wanted. On the other hand, our three participants, Hiva, Carla, and Ana gave a rate of below 6. For Hiva was 0 and the reason was ...” *simply because just had to get it over with*”. It appears that Hiva was not motivated at all. For our next participant, Carla gave 5, and she mentioned that “*It was just really challenging for the attention*”. She pointed out that it is difficult to focus and learn the lesson while it was online. For Ana, she gave 6, where she mentioned that “*I felt like I don’t really learn as much as I do*”. Ana had a hard time learning the lesson during an online class. After analyzing their answers, these three participants were less motivated than our two anonymous participants 3 and 5.

Both anonymous participants 3 and 5 like the idea of making their own choice, where they can choose their own time to study. During online classes, there are some moments when they could not focus and were not listening to the classes. However, during the preferred time of their day, they can just open the recorded lecture for them to start studying. Apparently, the motivation to study for anonymous participants 3 and 5 remained even though it was locked down where it was not easy to socialize in person. Moreover, it has resulted that finding their own time to study

is an advantage since they can do another thing once the lecture was not useful or interesting for them. Therefore, the results of their grades according to anonymous participants 3 and 5 were not affected, whereas anonymous participant 5 even got a higher grade than usual. On the other hand, the group work was not successful since the grade depends on the progress of the team. During the lockdown period, seeing each other was restricted, therefore, the students had difficulties working together. Apparently, one of the crucial ideas of working with other people is when you can work together and can easily get a guide from the supervisors. However, during locked down was not the case. Furthermore, the motivation to join the class online for anonymous participants 3 and 5 was poor. One of the reasons is because of the accessibility to open it again and listen. However, it never affects their results and motivation to study. It resulted in an advantage for anonymous participants 3 and 5 academically during the locked down with online classes.

## Conclusion

Motivation has a huge influence on a student's learning process. From our results, it appears that the interviewees have high academic motivation prior to the COVID-19 pandemic. However, when this unfortunate event happened, the Danish Higher Education Institutions, like Roskilde University, have been affected by the pandemic and some of their students have expressed negative opinions about virtual learning. We found that some of these students experienced a positive effect and a negative effect regarding their motivation due to their learning environment and time being altered by external factors. Four out of five of our interviewees appreciate the usual face-to-face lectures more than virtual education. This is because they feel demotivated and struggle to focus during online lectures compared to when attending traditional classes. The visible decrease in some students' motivation could also be linked with having a lack of social interaction.

We identified social media as an addictive replacement for physical interaction that also promoted unhealthy lifestyles and goals. Social media, like TikTok, grew in popularity as it could provide the Endorphins, from likes and attention, which people were lacking since their physical contact with others was limited. Thereby, the addiction can be viewed as an emotional response when in quarantine. Furthermore, relatedness from the self-determination theory is crucial for some students, especially those who identify as extroverts, as they otherwise are not motivated to study or complete other tasks in their everyday life. We found that being an individual with autonomous behavior can make you one of the most effective students when attending online classes. Even though some with autonomous behavior were less motivated to listen during the online classes, which did not show signs of inhibiting their motivation to study. Furthermore, they had the opportunity to practice their sense of choice and realization during the pandemic. Therefore, autonomous students were given an advantage in the academic aspects. It has seemed like some students have weakened their competence during the pandemic because they are not used to and prepared for a sudden change of learning method, and some had strengthened their competence when having an online class. However, with them striving to not fail in their class, their autonomous behavior helped them in getting it through their study.

We can thereby conclude that the COVID-19 pandemic has had an impact on highly motivated students differentiating on the student and which elements of the self-determination

theory's concepts motivate them the most. We found that those who are sociable and in need of relatedness are more likely to become demotivated in their studies and have a tough time academically and mentally. Meanwhile, those who have autonomous behaviors showed more motivation in their studies as they are not as dependent on the social and physical element of education to focus and remain academically focused.

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# Appendix

## Interview guide

- Research question:
  - o **How does the COVID-19 pandemic affect the higher-level students' academic motivation at Roskilde University?**
- RUC students who live alone
- Would you like to be anonymous or named?
- Any questions? -- or request/s?

### About the interviewee:

- What do you study?
  - o Do you enjoy it?
- When did you start living alone?
  - o How far away are you from your friends and family?

### Before quarantine:

- On a scale of 1-10, how would you describe your academic motivation prior to the pandemic?
- How often do you usually see your family and friends?

### During quarantine:

- How did the restrictions impact your learning?
  - o What did you think about online learning?
    - How did you feel about not seeing your classmates and professors physically?
      - Do you believe this impacted your academic motivation?
- In what ways, if any, did online classes change your academic motivation?
  - o Did it impact your results, if so, in which ways and to what degree?
    - Were you satisfied with your outcomes?

- What do you feel you studied during the quarantines? Well, not well, hardly, never etc.?
- Did you usually attend class during the pandemic? And what about before the pandemic?
- How was living alone during the pandemic/ How was it not seeing people physically?
  - How did you spend your time? - what activities did you do?
    - Did you work during the pandemic?
  - In what way did you mostly interact with people during the pandemic? (Physical, online, not at all etc.)
- How often did you physically see friends and family?
  - How did you feel when seeing your friends and family after being isolated?
  - Did the pandemic and quarantine restrictions affect any of your close relations?
- Did you see any impact on your mental health because of online learning?
  - How has your mental health been since online learning was mostly abandoned?
  - How did you see others' mental health affected during the online classes (if at all)?
- To summarize from this interview how would you rate your academic motivation during the quarantines with online learning on a scale of 1-10?

#### After quarantine:

- With an overall view, on a scale of 1-10, how would you rate your academic motivation now?

#### Conclusion of interview:

- Thank you so much for the interview and your time, we really appreciate it.