The Relationship Between Students' Experience with Summative Assessment, Emotional Regulation, and Trait Self-Esteem

A Cross-Sectional Survey

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Master of Philosophy in Higher Education

120 credits

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June 2022

Abstract

This study aims to look at the relationship between students' experience with summative assessment, emotional regulation, and trait self-esteem. The area of assessment is a constant part of students' lives and understanding more about the relationships it has to students' well-being and mental health is critical. Assessment is an emotion provoking area and students' experiences with assessment are likely to be related to the way they regulate their emotions and their self-esteem. Student trait self-esteem and emotional regulation relate to student well-being and mental health. Since summative assessment is also known to produce various emotions in students, this study embarked to present relationships between these areas in order to address this issue. A quantitative approach was taken, through the usage of an online questionnaire that was distributed to students and organized into three main themes. Trait self-esteem was looked at through the usage of the Rosenberg Self-Esteem Scale (1965), emotional regulation was looked at through the usage of Gross and John's (2003) emotional regulation questionnaire, and students' experience through the usage of new developed scales that addressed students' emotional state throughout four various phases of the summative assessment. The findings of this study were four-fold: 1- there was a relationship between trait self-esteem and emotional regulation, 2- there was a relationship between students' trait self-esteem and their experience before, during and after the summative assessment, including after receiving the grade, 3- there was no relationship between students' emotional regulation and their experience with summative assessment, 4- there were no significant differences between students' trait self-esteem, emotional regulation, and background characteristics. Along with these findings, the study has contributed to a better understanding of what further work needs to be done in order to better aid student learning. This study has also contributed methodologically by constructing four new internally reliable scales that address students' emotional state during, before, directly after and after receiving the grade in a summative assessment experience. This study concludes that there is an importance in studying relationships between students' experience with summative assessment and their trait self-esteem in order to enhance student learning in higher education.

Keywords: summative assessment, trait self-esteem, emotional regulation

Acknowledgements

I would like to express my gratitude to my supervisor, Rachelle Esterhazy, who guided me throughout this project. Without her wise guidance and advisory this thesis would not be completed. I would also like to thank my boyfriend, family, and friends who have been a constant support to me throughout these past two years and in the completion of this final project. I am forever grateful for everyone's time, patience, and belief that this project would be completed.

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List of Abbreviations

ASES	After Summative Assessment Emotional State
ASES_grade	After Summative Assessment Emotional State Regarding Grade
BSES	Before Summative Assessment Emotional State
CSE	Contingent Self-Esteem
DSES	During Summative Assessment Emotional State
ERQ	Emotional Regulation Questionnaire
ERQ_R	Emotional Regulation Questionnaire Reappraisal
ERQ_S	Emotional Regulation Questionnaire Suppression
HE	Higher Education
RSES	Rosenberg Self-Esteem Scale

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1 Introduction

The desire to understand how students learn and perform has become of great importance to researchers (Baumeister et al., 2003). For students to succeed throughout the higher education (HE) system it is pertinent that they have goals and reach their achievements (Fairlamb, 2020). These goals and achievements are often related to assessments. Students in HE are constantly being evaluated through assessments and it is an area that is important to study. Assessment's role is a constant and crucial part of the education system. Assessment encompasses a variety of aspects and yet the one that determines the grade, level, or achievement a student receives is mostly accomplished through summative assessment (Broadbent et al., 2018). Summative assessment does not focus on the feedback or necessarily the overall learning of the student as formative assessment does (Broadbent et al., 2018). Thus, it is important to look at how it relates to students over all well-being (Boud, 2000; Nicol & Macfarlane-Dick, 2006). Assessment in general is known to be an emotion provoking area (Christie & Morris, 2021) and summative assessment is known to affect students' more negatively than any other form of assessment (Sambell et al., 1997; Pereira et al., 2016). Not only is assessment an important part of the HE system, but so are well-being and achievement (Fairlamb, 2020). If a student is not well, how will they be able to learn? That is why self-esteem will be looked closer at in this study.

The term self-esteem has been discussed and researched in relation to education, psychology, social sciences, and other various areas (Baumeister et al., 2003; Greenberg, 2008). For this study, self-esteem will be defined as "one's evaluation of the self" (Fairlamb, 2020, p. 2) including how oneself feels they are worthy (Rosenberg, 1965; Greenberg, 2008; Fairlamb, 2020). Specifically in the academic HE context, self-esteem has been researched in relation to assessment and how specific areas (i.e., grade, assessment type) effect an individual's self-esteem (Crocker & Luhtanen, 2003). Since self-esteem can cause an individual to react or respond a certain way in an experience it is justifiable that self-esteem will be looked closer at in this thesis (Gross & John, 2003). Assessment is an emotion provoking area; therefore, one cannot solely look at the emotions that are present during an experience, but how an individual copes with these emotions. Emotional regulation is how an individual uses two various techniques to cope with emotions in emotion inducing experiences (Gross & John, 2003). In consideration of summative assessment being a constant in the HE system, looking at the relationship it has to self-esteem and emotional regulation is compelling for self-esteem and

education research. If a student is struggling with their well-being, it can hinder student learning. Thus, looking at the relationships between students' summative assessment experience, trait self-esteem and emotional regulation can help bring better understanding and insight into how HE can enhance student well-being and simultaneously their learning.

1.1 Background of the Problem

Two areas will be addressed further in looking at the background of the problem. First, self-esteem and its contribution to student well-being. Secondly, emotions and its contribution to student well-being. First, an individual's self-esteem has been researched in its relation to well-being (Crocker & Wolfe, 2001; Holopainen et al., 2020). The higher or lower an individual's self-esteem the higher or lower their individual well-being (Holopainen et al., 2020). Self-esteem has been said to contribute to one's life satisfaction, anxiety, and mood (Crocker & Wolfe, 2001; Rosenberg, 1965). Students are constantly being assessed in their studies and it can often lead students to having a contingency with their self-esteem. When the self-esteem becomes contingent onto academic achievements, it is called contingent self-esteem (CSE). CSE has been growing in HE and its impact is great on students (Fairlamb, 2020). It is often seen as a negative component that impacts students' overall well-being (Fairlamb, 2020; Hallsten et al., 2012). Secondly, as has been previously stated, there are many emotions associated with assessment (Pekrun et al., 2002; Christie & Morris, 2021). To be able to understand these emotions better, emotional regulation is used. Individuals tend to cope with emotions differently. Two different ways that an individual does this is by using either the cognitive reappraisal or the expressive suppression technique (Gross & John, 2003). Individuals who use the expressive suppression technique tend to feel more negative emotions, cope with situations less effectively and tend to exhibit more depressive symptoms (Gross & John, 2003). These individuals also tend to have lower self-esteem (Gross & John. 2003). On the other hand, individuals who tend to use the cognitive reappraisal technique tend to show fewer depressive symptoms and have higher self-esteem (Gross & John, 2003). This indicates that individuals, despite feeling a negative emotion will tend to not be able to change it and keep that emotion festering inside them (Gross & John, 2003). Seeing that self-esteem and emotional regulation relate to an individual's well-being and assessment is a significant aspect of the HE system, it is necessary to look at how these two elements relate to students in HE and their experience with summative assessment.

1.2 The Research Problem

Well-being and achievement are important components of HE (Fairlamb, 2020). For students to succeed through the HE system it is pertinent that they have goals and reach their achievements. This often can lead to students having CSE (Crocker & Wolfe, 2001; Fairlamb, 2020). To make sure that HE is doing the best it can for its students it is important to address certain contributors that can hinder student learning: self-esteem and emotions. Narrowing down the background of the problem, based on the assumptions that self-esteem and emotional regulation techniques can cause individuals to react or respond to an experience in a certain way, leads to this thesis looking at what relationship these two areas have with students' summative assessment experience.

1.3 Research Aims and Questions

The aim of this research is to study the relationship that students' experience with summative assessment, emotional regulation, and trait self-esteem have. To do this, a quantitative study using an analytical cross-sectional survey design will be conducted. To examine students' experience with summative assessment, the summative assessment experience will be looked at in four parts: before, during, directly after finishing and after receiving the grade. Drawing on the conceptualizations by de Ruiter et al. (2017) as well as Gross and John (2003), and the assumptions that were mentioned in the above section, the main research question will look at what the relationship between students' experience with summative assessment, emotional regulation and trait self-esteem is. In order to answer this main question, four sub-research questions will be addressed. They are as follows:

RQ1. *Is there a relationship between students' self-esteem and emotional regulation?*

RQ2. *Is there a relationship between students' self-esteem and their experience with summative assessment?*

RQ3. *Is there a relationship between students' emotional regulation and their experience with summative assessment?*

RQ4. *Is there a relationship between students' self-esteem, emotional regulation, and background characteristics (i.e., age, gender, degree, discipline and/or faculty)?*

1.4 Thesis Outline

This thesis is structed in seven different chapters. Chapter one addresses the introduction to the topic, background information and the research questions that this study will address. Chapter two presents the literature review. Here, empirical studies done on self-esteem, emotional regulation and assessment in the academic context will be addressed. Chapter three presents the conceptual framework. This includes the conceptualizations of self-esteem, emotional regulation, and the experience of summative assessment. Chapter four presents the methodology. This chapter includes the research design, population and sampling, questionnaire design, data collection and analysis, criteria for evaluation and ethical issues. This chapter is also where the hypotheses for the study are presented. Chapter five presents the main findings of the study. This chapter will include the reliability of the scales, the normality tests, following with the hypothesis tests. Chapter six presents the discussion of this thesis. Here, each research question will be addressed and discussed in relation to the main findings and their contribution to the literature. The practical implications, conceptual contributions, methodological contributions, and limitations of the study will also be discussed. Finally, this chapter will conclude with a discussion on future research. Chapter seven presents the conclusion, which will summarize the contents and main findings of this study.

2 Literature Review

The aim of this study is to research how summative assessment experience is related to students' trait self-esteem and the way students regulate their emotions. To understand self-esteem and emotions relationship to assessment, the following will present empirical studies on these concepts. First, self-esteem will be presented. This will include a review on self-esteem in relation to well-being, the academic context and finally narrowing it down to assessment. Secondly, emotions will be presented. This will include a review on emotions in relation to student well-being in HE, the academic context and finally narrowing it down to assessment. This section will also give a review of emotional regulation by addressing its relationship to the academic context.

2.1 Empirical Studies on Self-Esteem in the Academic Context

Research on self-esteem is broad and encompassed in many areas of study. In the HE academic context, self-esteem has been studied through its relation to test anxiety, grades, success after studies, mental health, and other various areas. The following section will discuss well-being, grades, impact of self-esteem on students' successes and failures, academic achievement, and finally the relationship between age, gender, discipline, and self-esteem.

2.1.1 Student Well-Being and Self-Esteem

Kapikiran and Acun-Kapikiran (2016) and Holopainen et al. (2020) studies will present a brief introduction into the relationship between self-esteem and well-being. In Kapikiran and Acun-Kapikiran (2016) study on 484 university students, addressed the mediating role that self-esteem had on optimism, psychological resilience, and depressive symptoms. Their main finding was that self-esteem is a full mediator between psychological resilience and depressive symptoms. Psychological resilience in their paper meant that individuals are more easily able to cope with depressive symptoms. The fact that self-esteem was a mediator means that high or low self-esteem can mediate the depressive symptoms an individual can cope with. They also found that self-esteem and depressive symptoms had a negative relationship. This means that individuals with a low self-esteem will tend to have more depressive symptoms. This next study, despite its focus on first year upper secondary education, is an interesting study to compare in relation to HE. Holopainen et al. (2020) conducted a study to see how self-esteem

and schoolwork difficulties contributed to student well-being. It was found that students' schoolwork difficulties affected students' well-being as well as their self-esteem. Students who tested higher on their self-esteem also had higher student well-being. These two studies give us a glimpse into the relationship that self-esteem can have on student well-being. To gain further understanding about self-esteem's relationship to well-being, the following will present the concept of CSE.

To understand the following studies, an understanding of CSE is needed. CSE is self-esteem that is dependent on a domain or a specific outcome that dictates the way one will regard their self-esteem and worth (Crocker & Luhtanen, 2003). This form of self-esteem is said to develop over a period through social interactions and influences (Crocker & Wolfe, 2001). CSE is either seen as being dependent on external outcomes or dependent on experiences (Crocker & Luhtanen, 2003; Swinger et al., 2017). Hallsten et al. (2012), state that it is corresponding to various conditions or standards that one expects to achieve. This form of self-esteem is often regarded negatively as one then needs to satisfy, impress, or achieve specifics to increase their self-esteem. This can then lead to a negative impact on one's overall health and well-being (Crocker & Wolfe, 2001; Fairlamb, 2020). Unlike Kapikiran and Acun Kapikiran (2016), Crocker and Wolfe (2001) argued that depressive symptoms are not a cause from low self-esteem rather the symptom of an individual's CSE. Which would mean that it is directly correspondent on the contingent element an individual places their self-esteem.

Now that self-esteem and CSE have been discussed in their relation to well-being (Crocker & Wolfe, 2001; Kapikiran & Acun Kapikiran, 2016; Holopainen et al., 2020), the following will go further into CSE in the HE academic context. First, a study by Hallsten et al. (2012) on CSE in Swedish nursing students will be reviewed. Hallsten et al. (2012) researched 1220 Swedish nursing students over a period of three years and found that their participants' CSE increased as they entered and continued in their HE. They argued that one of the reasons for this increase could be due to the domain specific requirements that nursing students undertake. The realization that they have a lot of responsibility and that throughout HE they become more aware of these responsibilities and the expectations that are placed on them. Despite this being specific to nursing students, it brings awareness to program and disciplinary variousness that can become present in this study. On account of different programs and disciplines having different experiences in their assessments due to high expectations, variety, practicality, etc.

Understanding that CSE is a part of many students' lives and that it can determine one's self-esteem, and well-being throughout a students' HE progress is crucial to understand.

2.1.2 Student Grades and Self-Esteem

Another study that looks at CSE was done by Crocker and Luhtanen (2003). They researched 642 college freshmen that looked at the various ways that CSE affected students in various social situations at the beginning of the students' HE journeys. When looking at academic problems and CSE they found that students were prone to more stress when their self-esteem was contingent on academic performances. They found that students who were high achievers still had more stress when receiving good grades. Despite the good grades, students were seen to find school less satisfying. They conclude that those students who associate their self-esteem on academic achievement would be prone more to academic problems than others. They state that despite a potential increase in self-esteem when and if a good grade is received, it is only temporary and those who receive a bad grade feel worthless. Crocker and Luhtanen (2003) suggest that a way of changing this is for students to focus on the learning process rather than the result. As well as students needing to disengage their self-esteem from their academic successes and failures.

Similarly, to Crocker and Luhtanen (2003) study on grades, Ralph and Mineka (1998) looked at 141 undergraduate students to see how self-esteem predicted students' reactions to their exams. They found that students who had low self-esteem and a more pessimistic view reacted to an event that was not regarded as negative to be more stress inducing. This same reaction can be seen as similar to what Crocker and Luhtanen (2003) found with high achievers having more stress despite receiving good grades. Interestingly, the study by Ralph and Mineka (1998) contradicts what Metalsky et al. (1993) found where students with low self-esteem tended to stress more, over poor exams than their counterparts. Ralph and Mineka (1998) attribute this to a theory from Swann et al. (1992, as cited in Ralph & Mineka, 1998) that suggested students who have low self-esteem tend to desire self-verification from negative experiences as it contributes to their outlook on themselves. These three studies (Metalsky et al., 1993; Ralph & Mineka, 1998; Crocker & Luhtanen, 2003) suggest that an individual's response to a positive or negative experience can be related to an individuals' self-esteem.

Another study done on the relationship between exams but on the direct impact of grades on self-esteem was conducted by Crocker et al. (2003). They researched 122 students that were in engineering and psychology courses in higher education. Through questionnaires students were asked to assess their own self-esteem 3 times a week. To find whether grades impacted their self-esteem a control test was done before the study began. What they found showed that students who received poor grades indicated lower self-esteem and those who received better grades indicated higher self-esteem. Interestingly, those students who were seen as academically consistent showed a higher increase in their self-esteem then those who were not as academically competent. Similarly, to Holopainen et al. (2020) who found that students schoolwork difficulties contributed to their self-esteem. Crocker et al. (2003) study concluded that students' self-esteem was related to their domain specific competencies and that the fluctuations are driven from feeling less competent in an area. Mirroring Hallsten et al. (2012) conclusions on CSE in nursing students.

2.1.3 Student Achievement and Self-Esteem

Moving on to look closer at the differences between state and trait self-esteem, we move to Crocker et al. (2002). Their study on 32 college seniors that were applying for graduate schools looked at whether self-esteem was negatively or positively impacted on the success or failure of getting into their intended programs. What they found was that daily occurrences affected students' overall state self-esteem. Students who were accepted into programs indicated higher overall state self-esteem and lower state self-esteem on days they were rejected. Fluctuations in one's self-esteem can then be said to be related to important events in one's life, as was seen in these students (Crocker & Wolfe, 2001; Crocker et al., 2002). This study shows that important events influence how one feels about themselves. When a student receives more positive daily occurrences their state self-esteem will be impacted and vice versa. Crocker et al. (2002) study does not address the implications these occurrences had on the students' trait self-esteem. Yet, they point out that if these daily occurrences were to continue over a period or that the event in question was severely drastic, implications to the trait self-esteem can occur.

Another study with relevance to success and failures in relation to self-esteem was conducted by Trautwein et al. (2006). They found that high self-esteem was not a strong predictor for achieving success. Despite high or low self-esteem not being a strong predictor, they did conclude that focus on domain-specific academic self-concepts would be a better predictor for

later achievement. They also state that despite this low predictor for achieving success, one cannot remove that self-esteem does have a relationship with achievement. However, Baumeister et al. (2003) would argue that self-esteem cannot be regarded as a cause for an individual's academic achievements. His study will be looked at closer in the following paragraph. A different approach on looking at successes and failures, was done by Salmela-Aro and Nurmi (2006) over 15 years on 297 university students. They found that over a period of six years, the students tended to gain higher self-esteem throughout their HE experiences. They found that those who initially had lower self-esteem finished with a higher one. They state this can be because students are growing as individuals in HE and that they are developing more independence and character. They found that students who reported higher self-esteem consecutively throughout their studies tended to be more satisfied with their careers than those who had lower self-esteem throughout. This study shows that a high self-esteem can lead to an adaption of success, as Salmela-Aro and Nurmi (2006) found that despite whether the career was one that an individual wanted, they were more satisfied in it then their counterparts. These studies (Crocker et al., 2002; Salmela-Aro & Nurmi, 2006; Trautwein et al., 2016) address self-esteem as having some contribution to the way an individual processes and views success and failure. Since summative assessment produces a grade or level that dictates an individual's success in the assessment (Broadbent et al., 2018), realization that self-esteem can contribute to how the individual views this is important to keep in mind. Similarly, to the findings that self-esteem can contribute to an individual's view of positive and negative experiences (Metalsky et al., 1993; Ralph & Mineka, 1998; Crocker & Luhtanen, 2003).

When discussing self-esteem and academic achievement, Baumeister et al. (2003) is often mentioned as their literature analysis has created numerous discussions since its publication (Orth & Robins, 2014). Baumeister et al. (2003) conducted a literature analysis on self-esteem to see its relationship to performance, interpersonal success, happiness, and healthier lifestyles. From an initial 26 919 publications, the analysis was narrowed down to focus on publications that only included casual relationships to self-esteem through longitudinal designs or laboratory experiments. Their study found that many studies did find a positive correlation between self-esteem and academic performance. Yet, Baumeister et al. argue that this isn't really the case. They found that the correlations are there but too small to make any clear assumptions from. They also argue that the correlations in these studies do not find clear indicators whether self-esteem is a result or a cause of school performance. Despite indicating that students with high self-esteem do tend to do better in school performance than their counterparts. Trautwein et al.

(2006) wanted to test Baumeister et al. (2003) study and conducted a study on students in Germany. They found that similarly to Baumeister et al. there was not a strong predictor between self-esteem and achievement. Other researchers have found that Baumeister et al. (2003) study is not valid, and that evidence shows that there is a strong relationship between self-esteem and an individual's success and well-being (Orth & Robins, 2014). Despite these contradictory findings, there is evidence that self-esteem and performance, achievement and success do have some form of relationship.

2.1.4 Age, Gender, Discipline and Self-Esteem

Research has shown that age, gender, and country of origin have a relationship to self-esteem. Bleidorn et al. (2016) conducted a cross-cultural examination that looked at gender and age differences and the relationship they had on one's self-esteem. The study was conducted in 48 countries with a large sample of 985, 937 participants. Their study, reconfirmed as other studies have, that male participants had a higher average on their self-esteem than women. Bleidorn et al. also noticed that as age increased, self-esteem rose with it. Interestingly, there was a factor that in some South American nations, self-esteem increased more with age than in some other countries. This was also seen in Robins et al. (2001) that male participants had slightly higher self-esteem than female participants. Velotti et al. (2017) also found in their study on graduate students, that women had lower levels of self-esteem. Finally, Hallsten et al. (2012) found that younger students and female students also had higher CSE throughout their studies than their counterparts. For this reason, age, gender, and faculty and discipline are included as variables in the current study.

2.2 Empirical Studies on the Role of Emotions in the Academic Context

Emotions in the academic context in HE has been researched on the well-being of students' mental health. Studies such as Larcombe et al. (2016) and Eisenberg et al. (2013) have researched students' mental health in the Australian and American contexts and found similar results. Larcombe et al. (2016) conducted a study on 5061 undergraduate and graduate students in 6 different disciplines in Melbourne, Australia. Their study showed that 1 in 4 students experienced "high levels of psychological distress" (p. 1089). These levels were related to depression, anxiety and stress and they found that these were higher than those that were recorded in other studies in the community. They concluded that higher education students are

at a serious threat for mental health issues. Evidently, students' gender, age, employment status, family care, and how much time students were a part of the classroom played roles in students' distress. Eisenberg et al. (2013) conducted a similar study on student mental health in America. Participants were a part of 26 different universities and colleges which consisted of 32, 133 students. Their results stated there was "a high burden of mental health problems among college students" (p. 64). Similarly, to Larcombe et al. (2016) females tended to have higher anxiety and symptoms of depression (Eisenberg et al., 2013). Financial stressors were taken into consideration as well, which was found to increase these mental health issues (Eisenberg et al., 2013). Both studies indicate that students in HE may be more susceptible to mental health issues than their surrounding communities. Larcombe et al. (2016) and Eisenberg et al. (2013) found that family, finances, class attendance, and other areas showed relationships to these struggles. It is interesting to look directly at the relationship that assessment has on these areas as well. As has been stated already, self-esteem shown as contingent self-esteem presents similar feelings of anxiety, depression and stress that are associated with the mental well-being of individuals (Crocker & Wolfe, 2001; Hallsten et al., 2012; Fairlamb, 2020). Now that these studies have focused on the general mental health of students, it is important to relate these emotions to assessment in the academic context.

2.2.1 Assessment, Student Perceptions and Emotions

The following will review emotions in relation to assessment in the academic context. Assessment is an area that is known to be a deeply emotion provoking area in the academic context (Christie & Morris, 2021). The type of assessment practice used in the classroom has a major impact on students' learning and academic achievement (Black & William, 1998; Struyven et al., 2005; Broadbent et al., 2018). Not only on the way they will study but on student outcomes (Black & William, 1998; Knight, 2002; Broadbent et al., 2018). Summative assessment is the measure of a student's progress in a single process where the evaluation determines the student's grade (Trotter, 2006; Broadbent et al., 2018). It gives a grade or a level that determines the student's progress or outcome in the course, program etc. Assessment is in place for a numerical value to be given for formal records in the education system, summative assessment is the easiest and most efficient way to achieve this (Pereira et al., 2016; Broadbent et al., 2018). Yet, summative assessment only shows the numerical value and is shown to encourage more surface learning (Pereira et al., 2016) and too much focus on grades can reduce student creativity, critical thinking and risk-taking (McMorran et al., 2017). Research has also

shown that summative assessment has affected students' learning process more negatively (Sambell et al., 1997; Pereira et al., 2016). The impact of grades can also influence a student's engagement in further assessments as grades are naturally linked with one's perception of themself and self-worth (Butler, 1998, as cited in Christie & Morris, 2021).

This following review presents one of the few studies conducted on assessment practice and students' emotional responses. Christie and Morris (2021) conducted a study on undergraduate students in a variety of disciplines such as geology, human geography, law, and veterinary medicine, who were being assessed by completing blog posts. Their aim was to understand how this form of assessment contributed to students' emotional responses. First, their study addressed the more positive emotions that creating an individual blog had on students. They found that students were more excited and enjoyed this form of assessment because it was a new experience that allowed for individual creative input to occur. Similarly, Lynam and Cachia (2018) found their undergraduate psychology students favored assessments that were more student-focused or provided the student with options to build on their skills and had an element of choice. Christie and Morris' (2021) participants were overall more excited to contribute to this form of assessment due to the personalization it allowed. Participants spoke more negatively about "regular" assessment practices such as essays or exams because they were either too boring or just the same as what they were always given. The blogging provided students a new experience that granted more creative involvement. This resulted in students participating more in the overall process. Students were more engaged in creative writing and showed more engagement in the overall process. The negative emotions that arose with this assessment process was the need to constantly create more engaging posts, which some students struggled with and felt was overwhelming at times. Yet, this feeling was regarded as a learning opportunity to engage more with the process. Students stated that it is a new way of assessing but one that is refreshing to have. Interestingly, students pointed out that the "regular" assessment process was always met with some level of anxiety but with confidence in knowing exactly what needed to be done to pass. This form of assessment allowed students to engage more with their learning and make connections they felt may not have occurred otherwise. Similarly, Struyven et al. (2005) found that if students enjoyed an assessment practice more, they would attempt to study and engage in the practice more than if they did not enjoy it. These studies (Struyven et al., 2005; Lynam & Cachia, 2018; Christie & Morris, 2021) are important to understand the relationship that assessment has on students' emotions. Depending on what

form of process and type of assessment is used, the overall learning and contribution to the learning can be stimulated when the students are feeling more positive emotions.

Another study done on students' perceptions of assessment by Sambell et al. (1997) reiterated similar findings to Christie and Morris (2021), Lynam and Cachia (2018) and Struyven et al. (2005). Through the use of semi-structured interviews, Sambell et al. (1997) found that students reacted more negatively towards assessment practices that were "regular", or the traditional types, as did the students in the study by Christie and Morris (2021). Students felt traditional assessment types did not promote further learning, but was rather shallow (Sambell et al., 1997). As Sambell et al. (1997) wanted to research new forms of assessment, they found that students' emotions changed "quite dramatically" (p. 358). They state that when describing these other alternative assessments "interviewees found it difficult or inappropriate to say where their learning stopped and the assessment began, so fully integrated were the two aspects in their minds" (p. 358). However, students also felt that new types of assessment did create more work and motivation to be needed. Sambell et al. found that students felt that "end-point summative assessments" (p. 362) were more down to luck than actual learning. Students felt that if you were prone to having more stress, tendency to panic or were ill that these would determine your success that day. The concept of fairness was brought up a lot in students' discussions about assessment. These were presented with the ideas that assessment was often down to luck, rather than students being rewarded for their learning.

An interesting study done by McMorran et al. (2017) on an Asian university that implemented gradeless learning, studied its impact on students' emotions. Gradeless learning is an assessment that does not provide a student with a letter or a numerical grade. It was implemented first in the 1960s and 1970s in the United States of America to offset the effects that graded assessments has had on students. It was developed to help students become more learning oriented. Despite it not reaching its fullest potential, the study examined how students at this university really felt about it and whether it can create a more learning-oriented, less-stressful environment for students. The participants were in a gradeless semester at the beginning of their university studies, so only one semester of their studies were gradeless. The results were mixed. Gradeless learning allowed for students to feel less stress about achieving their GDP and some stated that it allowed for a smoother transition into their higher education journey. On the other hand, participants were somewhat confused with the gradeless semester and felt that it could have the potential of causing poor attitudes and routines to develop.

Despite McMorran et al. (2017) stating that research on gradeless learning does not show indicators of students developing poor attitudes and routines. Participants also felt that the gradeless semester would affect their career prospects and that their degree would then not be recognized by employers. The findings indicated that despite students no longer needing to stress and worry about their grades, it caused the stress and worry to be projected into other various areas. This study is presented to show that assessment and particular assessment that is based on a grade or numerical value may not be the biggest obstacle for students in HE. Despite students feeling somewhat less stress, the stress transfers to other areas. Despite grades having an impact on students, the experience of the assessment is important to view. Many studies solely focus on students' perceptions and experiences with the aftermath but looking at the overall experience can help understand what steps can be implemented throughout to aid students. Rather than removing grades altogether, a system that pays attention to students' experience is necessary.

Continuing emotions and assessment, another study by Lynam and Cachia (2018) found that students who had studied for two or three years in their undergraduate psychology program that emotions affected how they participated in their assessments. Stress and anxiety caused students to engage less whilst pleasure and excitement motivated the students. Performance was also seen to be hindered by negative emotions and assessments that students did not do often were met with more negative emotions. Yet, students who succeeded despite feeling negative emotions during the assessment felt prouder of their achievements afterwards. To go further with similar emotions, such as stress and anxiety and the consequences they can have, Tindall et al. (2021) conducted two studies, first on 1077 university students and secondly on 1075 undergraduate and postgraduate students to see if emotions related to plagiarism and other ethical areas while conducting assessments. They based their study off other studies that were conducted in similar areas (Tindall & Curtis, 2019; Ives, 2020; Fu & Tremayne, 2021, as cited in Tindall et al., 2021) and their study similarly found that negative emotions played a part in whether students would consider or did go through with some form of academic misconduct during an assessment. Negative feelings were labelled as emotions of stress, anxiety, or depression and these were closer linked to students cheating (Ives, 2020; Tindall et al., 2021). This study provides insight into the influence that emotions can have on students. If feelings of stress, anxiety or depression before the assessment can cause students to consider cheating on an exam, then HE institutions need to be aware of how they can support students in these areas to prevent these circumstances from occurring.

Assessment is “accompanied by a whole range of emotions” (Christie & Morris, 2021, p. 149) such as anxiety, fear, failure, or enjoyment (Christie & Morris, 2021). A study by Pekrun et al. (2002) found students have a variety of emotions in the academic context. They stated these emotions relate to the self, tasks, and social settings in the academic context. They also stated that emotions related to the academic context are often researched on the negative emotions that students express rather than positive, while they found that positive emotions were no less representative than negative ones. Emotions such as hope, pride, admiration, or empathy were seen as often as their negative counterparts. Pekrun et al. (2002) mention that research done on positive emotions in the academic context should be looked at as well. The relation to self-esteem and emotions was found by Brown and Marshall (2001) who found that self-relevant emotional states were most closely related to self-esteem. Self-relevant emotions are those that describe how one is feeling about themselves, such as pride, shame, or failure. Self-relevant emotions can be a result of self-relevant factors such as receiving a good grade on an assessment. Their studies found that self-esteem is a good predictor in finding out the way an individual feels when they fail. Similar to the findings on self-esteem, that suggest an individual’s response to a positive or negative experience can be related to an individuals’ self-esteem (Metalsky et al., 1993; Ralph & Mineka, 1998; Crocker & Luhtanen, 2003) as well as their success and failure (Crocker et al., 2002; Salmela-Aro & Nurmi, 2006; Trautwein et al., 2016). Considering that Pekrun et al. (2002) found similar emotions as those that Brown and Marshall (2001) call self-relevant, their relation to self-esteem is there and needs to be addressed, by looking at both the positive and negative emotions. This is one of the reasons that the study in question presents emotions on both sides in students' descriptions of their summative assessment experience.

2.2.2 Test Anxiety and Emotions

Despite test anxiety being another stand-alone area of study, its relationship to assessment and emotions is important to understand. Test anxiety is an area that is most often researched when looking at emotions in the academic contexts (Pekrun et al., 2002). Test anxiety is associated with assessment and closely relates to emotions. Test anxiety is anxiety that presents itself through the fear of an assessment and continues to increase during the process of the examination (Sari et al., 2018). Sari et al. (2018) conducted a study on high school students, despite this it is still relevant in the HE academic context. Their study aimed to look at the

effect of participants' levels of test anxiety and self-esteem whilst they conducted their entrance exams. They found that self-esteem rose as students' success increased as well. They also found that test-anxiety was related to how well students succeeded academically. Students who were more successful throughout their courses were reported having less test-anxiety. Another study in relation to test anxiety but looking at emotional regulation was done by Holic and Cretu (2018). Their study looked at test anxiety and high achieving students' emotional regulation and found that students in high stress educational competitions tended to suppress their emotions more to achieve greater success. However, this study was conducted on adolescents who were high achievers and participated in academic Olympiads. Interestingly the study found that suppression strategies gave students better abilities to cope with their frequent test anxiety.

Finally, a study done by Dan et al. (2014) in the HE context on 327 first year-college students looked at attachment, cognitive obstruction, and self-esteem in relation to test anxiety. Their study compared adolescent high school students with the 327 college students, and they found that college students had reported more symptoms of "poor concentration…as well as more physical and emotional discomfort before or during the test" (p. 668) compared to the high school students. They also found that self-esteem was negatively related to all areas of test-anxiety. Which Dan et al. (2014) found correspond with studies done on the relationship between test-anxiety and self-esteem as well (Hembree, 1988; Peleg, 2009; as cited in Dan et al. 2014). These three studies (Dan et al., 2014; Holic & Cretu, 2018; Sari et al., 2018) are presented to understand test anxiety and the emotions that it presents. As well as its relationship between emotional regulation and self-esteem. Despite this study not researching test anxiety, understanding that it may be present in the participants of this study and that it can contribute to a students' experience with their summative assessment is important to understand.

2.2.3 Emotional Regulation

As has been discussed, emotions are prominent in the context of assessment (Brown & Marshall, 2001; Pekrun, 2002; Lynam & Cachia, 2018; Ives, 2020; Christie & Morris, 2021; Tindall et al., 2021). To understand emotions better, emotional regulation will be addressed. Since there are many ways of looking at emotions and the way an individual processes them, emotional regulation will clarify how this thesis will look at emotions. Emotional regulation is the way an individual regulates their emotions (Gross & John, 2003). Cognitive reappraisal and expressive suppression are two techniques in the way an individual tends to regulate their

emotions (Gross & John, 2003). Studies on emotional regulation tend to fall into psychology, developmental, cognitive, social, and clinical studies (Gross, 2015). A few studies will be mentioned for their relevance on how individuals' emotional regulation plays a part in their lives. Gross and John (2003) found that individuals who used more of the expressive suppression technique tended to feel more negative emotions, cope with situations less effectively, tended to have more depressive symptoms and had lower self-esteem. Then on the other side, individuals who used more of the cognitive reappraisal technique tended to have better self-esteem and show fewer depressive symptoms. Their study showed that individuals who use either the expressive suppression or cognitive reappraisal technique tend to either have high or low self-esteem. Another study done by Velotti et al. (2017) on graduate students and the relationship between shame, emotional regulation and self-esteem had similar results. They found that participants whose shame was associated with characterological experiences, tended to use the expressive suppression technique rather than the cognitive reappraisal. They also found that the feeling of shame is not a standalone feeling but one that comes with lower self-esteem in themselves and in the world. These studies show us there is a relationship with emotional regulation and one's self-esteem due to the way that one feels, shows, expresses, and controls their emotions.

2.3 Chapter Summary

In summary self-esteem and emotional regulation in the academic context has a variety of areas to look at. To summarize, seven different areas have been addressed. First, self-esteem can affect student well-being. Secondly, CSE is often present in students and students tend to place their self-esteem onto academic outcomes which can lead to negative emotions and views of oneself. Thirdly, students with either high or low self-esteem tend to react to experiences and situations in a specific way due to their own self-view of themselves. An individual who has low self-esteem may not see that a positive grade on an assessment as positive due to their view of themselves. Fourthly, emotions play a big role in the academic context. Not only are HE students seen to have more anxiety, stress, and depression but emotions are often related to assessment. Fifthly, more positive emotions and experiences are related to other assessment types than summative assessment. Summative assessment was seen to be viewed as boring and non-beneficial for students. Sixthly, stress and anxiety were seen to prevent students from engaging in the assessment or producing adequate work. Finally, emotional regulation plays a big role on the way an individual copes with their emotions during and after an experience,

such as a summative assessment. Individuals who tend to use the expressive suppression technique were seen to have more anxiety and depressive symptoms. These individuals also had more difficulty in finding an experience positive whether or not it was. In conclusion, self-esteem and assessment have some form of a relationship, assessment is an emotion provoking area, and self-esteem has some form of relationship to emotional regulation. Thus, to understand these areas better, the conceptual framework will bridge together understanding of self-esteem, emotional regulation, and the summative assessment experience.

3 Conceptual Framework

This far, this thesis has presented a literature review on self-esteem and emotions in the academic context. Since the aim of the study is to look at the relationships of self-esteem, emotional regulation and summative assessment experience, this next chapter will focus on these three areas. This chapter is broken down into four parts. First, self-esteem will be conceptualized using de Ruiter et al. (2017) approach. Self-esteem will be conceptualized using *trait* and *state* self-esteem. Secondly, emotional regulation will be conceptualized using Gross and John's (2003) cognitive reappraisal and expressive suppression techniques. Thirdly, a conceptualization of students' experience of summative assessment will be addressed. To finish, a brief conclusion along with the way that these three conceptualizations will influence the research aims will be discussed.

3.1 Self-Esteem

In this study, self-esteem has been defined as "one's evaluation of the self" (Fairlamb, 2020, p. 2) including how oneself feels they are worthy, drawing from the works of Rosenberg (1965), Greenberg (2008), and Fairlamb (2020). In an effort to understand how self-esteem develops and changes over time, de Ruiter et al. (2017) approach will be used to understand self-esteem as a concept. First, two distinctions need to be made between *trait* self-esteem and *state* self-esteem. *Trait* self-esteem is the "constant" core self-esteem that is often regarded as the baseline self-esteem (de Ruiter et al., 2017). *State* self-esteem is the self-esteem that fluctuates according to experiences and contexts (de Ruiter et al., 2017).

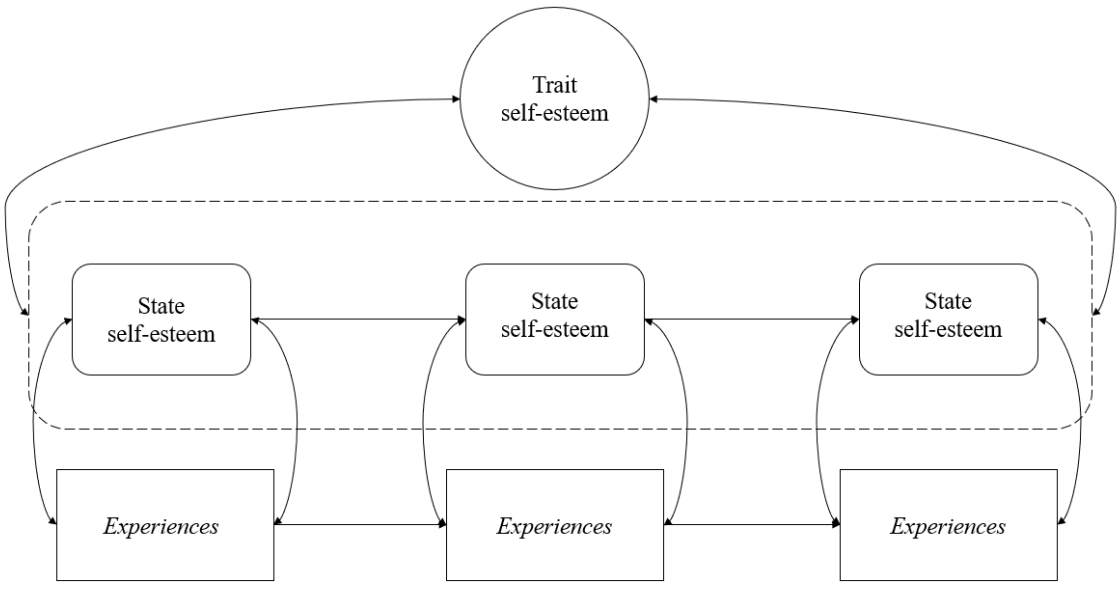
De Ruiter et al. (2017) presents two models of the way self-esteem develops. In their first model, *trait* self-esteem is the self-esteem that is not seen often. While the *state* self-esteem is what an individual shows during specific contexts. An individual can have a variety of different contexts and a variety of state self-esteems. This first model indicates that changes in a context directly corresponds to the state self-esteem but not directly to the trait self-esteem. The state self-esteem is what fluctuates under specific contexts, while the trait self-esteem stays unchanged. Thus, trait self-esteem is not directly concerned with the rest of the contexts in any way. This model indicates that a state self-esteem has no correlation to any other self-esteem. This would mean that an individual's trait self-esteem barely or not at all influences their state self-esteem and experiences. De Ruiter et al. (2017) argue that a new model should be in place

that considers the interrelationships between these various stages of self-esteem and how contexts can flow throughout the various stages of developing one's self-esteem.

This new model, which De Ruiter et al. (2017) calls the *self-organizing self-esteem model* (SOSE) is more diverse, interrelated and shows a better understanding of how self-esteem develops, changes and is affected due to contexts and experiences. This model argues that experiences change state self-esteem, but state self-esteem can also change the trait self-esteem. That the relationships between experiences, state self-esteem and trait self-esteem is interrelated rather than a singular linear relationship. Figure 1 presents a condensed model of the SOSE that explains the way these relationships work. This model explains that everything about the development of self-esteem is interrelated. That trait self-esteem is not absent of change like the previous model would suggest. Under the right experiences, and enough pressure on the state self-esteem, the trait self-esteem will also be affected. Whether the change is drastic, it does fluctuate under the right circumstances. It also indicates that the trait self-esteem can be present and show itself in the state self-esteem.

Figure 1

Condensed Model of de Ruiter et al. (2017) SOSE model



An example from De Ruiter et al. (2017) helps to illustrate how trait self-esteem can be present in certain experiences. It presents an example of an individual with a negative (low) trait self-esteem and their response to a specific experience.

> How this individual experiences himself when he is confronted with a situation that will likely elicit some kind of experience of the self is largely dependent on the nature of his trait self-esteem... If this individual receives a moderately high test result in school, for example, his self experience in that moment will be pulled toward the nature of his trait self-esteem. So, because he has developed a *negative trait self-esteem*…, the self-experiential response that will take the least amount of energy will be a negative one, and his state self-esteem in that moment will likely be negative (e.g., he may attribute the high grade to the test being easy and feel unintelligent and demotivated). Furthermore, because he experiences negative state self-esteem, his negative trait self-esteem…state will be triggered, and it will require energy (i.e., effort, motivation, etc.) to remove his state self-esteem from the constraints of that negative trait self-esteem…(p. 53).

Understanding the way that trait and state self-esteem works is crucial. For this study, to understand that an individual who could potentially have a negative (low) trait self-esteem and then have a positive experience with their summative assessment, but still feel bad about it, is directly correspondent to de Ruiter et al. (2017) conception. This concept helps understand that an individual's self-esteem is not a straightforward phenomenon but can create experiences that may not otherwise make sense. Especially when looking at an experience related to assessment which can produce various feelings and create various fluctuations in the state self-esteem.

Due to contingent self-esteem (CSE) being discussed in relation to HE (Crocker & Luhtanen, 2003; Hallsten et al., 2012) it is important to explain this concept in relation to trait and state self-esteem as well. As has been mentioned previously in this study, CSE is seen to be dependent on external outcomes or experiences (Schwinger et al., 2017). Hallsten et al. (2012) state that it is correspondent to various conditions or standards that an individual expects to achieve. CSE is said to develop more negative influences on an individual as the individual must achieve specifics in order for them to feel worthy about themselves. In the academic context CSE is often seen with students placing their self-esteem onto academic achievements and performance (Crocker & Luhtanen, 2003). Despite this study not measuring participants CSE, it is important to understand that many of these students can have their trait self-esteem be contingent on the successes and failures of their assessment. This means that students' trait self-esteem can be altered more drastically as their self-esteem develops and changes more based on the contingent factor which their self-esteem is based upon. It is important to understand that each individual who may have CSE still has their trait and state self-esteem. Which work according to the conceptualization of de Ruiter et al. (2017). If an experience occurs that is not related to the individual's contingent factor, trait and state self-esteem develop

and change as normal. Yet, if an individual has an experience where their contingent factor is in question, the trait and state self-esteem have potential to develop and change more drastically. This is why CSE is often seen negatively because of its impact on an individual (Crocker & Luhtanen, 2003). CSE is important to understand as the results of this study cannot tell whether a student is contingent on assessment practices, but it can play a role in understanding the relationships that may be seen.

3.2 Emotional Regulation

Research done on emotional regulation has led to understanding that individuals have more control over their emotions than realized (Gross & John, 2003). Despite emotions having various strategies in coping with emotions, Gross and John (2003) narrowed down the focus to two specific strategies: 1- cognitive reappraisal and 2- expressive suppression. Cognitive reappraisal is when someone is in an "emotional-eliciting situation" (p. 349) one changes the emotions impact. Reappraisal happens earlier in the stages of the emotional development, so if one is starting to feel bad, reappraisal occurs and can alter the feeling entirely. Expressive suppression is when someone does not show the emotion they are feeling. Unlike reappraisal, suppression happens late in the emotion realizing stages. It changes the way the emotion responds. Therefore, it can decrease negative behavioral expressions but can also do the same for positive emotions. With suppression tendencies, a negative emotion is not altered and thus can linger and become unresolved. Whilst with reappraisal the emotion can develop from being a negative emotion to a positive one.

Gross and John (2003) found that those who use the expressive suppression technique tend to not understand their emotions, cannot modify them as successfully as their counterparts and that it can lead to feelings of depression. They found that those who use this technique will tend to view a negative situation as negative without necessarily being able to change it for the better. Thus, creating a cycle that can lead to the negative emotion lingering for a longer period of time. Unlike reappraisal, suppression does not alter the negative emotion. It leaves the feeling intact and at the level the individual is feeling that emotion. If it is a strong negative emotion, suppression will cause the person to feel the entirety of it, and in some cases for prolonged periods of time.

Reappraisal works in a way that someone will cope with a situation by looking for something positive in the situation that is causing the negative emotions (Gross & John, 2003). Those who tend to use the cognitive reappraisal technique tend to promote more well-being than those who use the expressive suppression technique (Gross & John, 2003). Gross and John (2003) found that individuals who typically use expressive suppression were seen to have less satisfaction with their life, had lower self-esteem and were less optimistic. It was also noticed that these individuals were less satisfied about the relationships around them. Reappraisal individuals tend to negotiate stressful situations better, have a better optimistic attitude and attempt to alter negative moods. They also tend to experience more positive emotions as well as express them more in their behaviors.

3.3 Summative Assessment Experience

For this study the experience of summative assessment will be looked at solely through emotions. More specifically students' emotional state throughout their summative assessment experience. Encompassing an experience, especially past tense, is challenging. In order to find out what kind of experience a student had throughout their last summative assessment experience, the experience will be broken down and looked at in four different phases:

1. *Before* starting the summative assessment emotional state
2. *During* the summative assessment emotional state
3. *Directly after finishing* the summative assessment emotional state
4. *After receiving the grade* emotional state

Many studies are conducted on the after, when receiving the grade, consequently it is relevant to look at the experience through emotions in relation to these four different phases. It is evident that assessment encompasses many different emotions (Pekrun, 2002; Christie & Morris, 2021) and not only negative ones (Pekrun, 2002). Each phase of the summative assessment experience was looked at through a variety of emotions.

For each phase, emotions were chosen to address the emotional state of the individual when they reflected on their summative assessment experience. As chapter two has presented, assessment includes a range of emotions (Christie & Morris, 2021). Anxiety, fear, failure,

enjoyment, pride, and shame (Brown & Marshal, 2001; Pekrun, 2002; Christie & Morris, 2021) were some of those listed. The conceptualization of students' experience with their summative assessment will be done through looking at various emotions during, before and after the summative assessment experience, as well as after receiving the grade for the assessment. The emotions that were chosen were based off of their reference in literature related to assessment. They are as follows: stress, calmness, excitement, frustration, good, bad, pleased, comfort, happiness, pride, failure, angry, and satisfaction with self. First, many of these emotions were chosen as they are self-relevant emotions (pride, failure, pleased, satisfaction with self). Brown & Marshall (2001) found that self-relevant emotions tend to be more closely related to self-esteem. Secondly, stress was chosen for the constant reoccurrence of it in the literature (Crocker & Wolfe, 2001; Crocker & Luhtanen, 2003; Hallsten et al., 2012; Eisenberg et al., 2013; Larcombe et al., 2016; McMorran et al., 2017; Fairlamb, 2020). Thirdly, excitement was an emotion found in relation to different assessment types (Lynam & Cachia, 2018; Christie & Morris, 2021). Anger and frustration were mentioned in Pekrun et al. (2006) list of negative emotions that were seen to be present in their participants when looking at assessment.

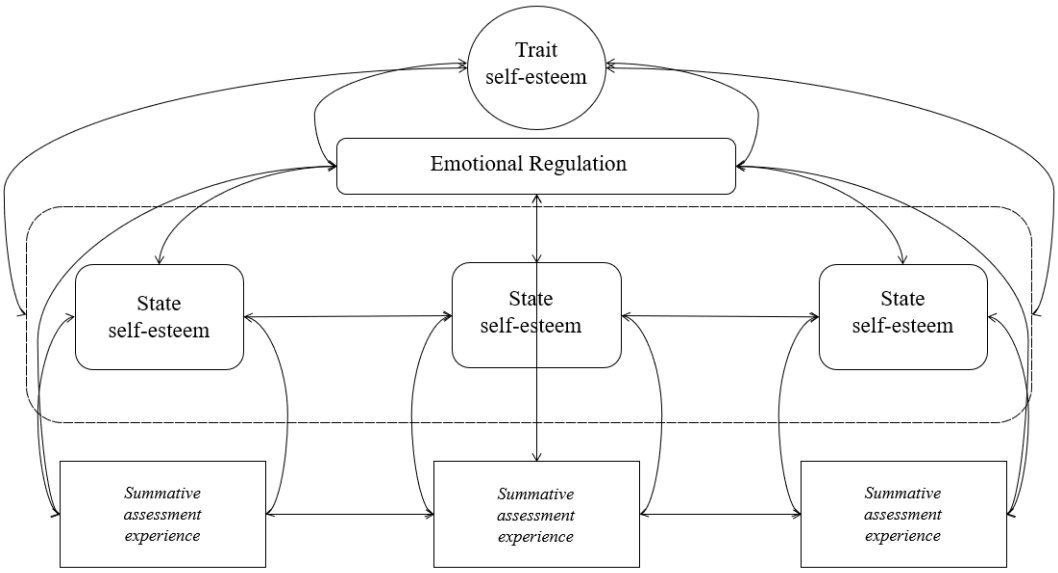
3.4 Self-Esteem, Emotional Regulation, and Summative Assessment Experience

This chapter has begun by first explaining that trait self-esteem and state self-esteem are related. That individual's trait and state self-esteem are connected and an experience that alters the state self-esteem has the potential to alter an individual's trait self-esteem. Following an understanding of CSE and its potential influence on students. Then this chapter presented emotional cognitive reappraisal and emotional expressive suppression. Which showed that emotional regulation strategies can influence the way an individual reacts in a specific circumstance. Finally, it presented how summative assessment experience will be conceptualized through four phases of before the assessment, during the assessment, after the assessment and after receiving the grade. Through looking at various positive and negative emotions that students felt were present during the entire summative assessment experience. Since trait self-esteem can influence an experience an individual has, and the strategy that an individual uses in coping with their emotions influences the experience an individual has, these two are key to looking at the way that students experience before, during and after summative assessment experience, including receiving the grade. Figure 2 shows the way that trait self-esteem and emotional regulation are seen in an individual's experience. An example of the way

that these concepts could potentially be seen, is if there is a student who scores low on trait self-esteem and also scores high on the emotional suppression strategy, their experience with their summative assessment would be from these conceptualizations be expected to be negative. This student could measure to have more negative emotions before, during and after phases of the assessment despite the student potentially receiving a good grade. Their trait self-esteem as well as their tendency to use the emotional suppression strategy would potentially alter their experience.

Figure 2

Model of the Relationship Between Self-Esteem, Emotional Regulation and Summative Assessment Experience



To restate, the aims of this research are to see if there are relationships between trait self-esteem, emotional regulation, and students' experience with summative assessment. This study specifically focuses on students' trait self-esteem, not their state self-esteem or CSE. Hence, this study will take these conceptualizations and look directly at what relationship an individual's trait self-esteem and an individual's emotional regulating strategy have in their experience with summative assessment. Summative assessment is an integral part of the HE system thus, it is critical to understand how students experience summative assessment.

4 Methodology

The following chapter will discuss the methodological approach this study has used. It will address the research design, population and sampling, questionnaire design, hypotheses, data collection and analysis, criteria for evaluating research and lastly the ethical issues.

4.1 Research Design

A quantitative method allows the researcher to find relationships between two or more variables (Stockemer, 2019). This study will do this by looking at trait self-esteem, emotional regulation and the experience students have with summative assessment. These three will show whether the experience of students relate to their trait self-esteem and the way they regulate their emotions. The research is an analytical cross-sectional survey design. This is used as it allows the researcher to gain data at one single point in time to gather information (Bryman, 2012; Stockemer, 2019). It will show how trait self-esteem, emotional regulation and students' experience with summative assessment relate, but it will not be able to explain the reasons for it. This study's intention is to look solely at the relationship between the three and whether the various variables relate to one another. The research focuses on a single point in time to analyze the relationships between these three areas.

4.2 Population and Sampling

The population for this study is students who are currently enrolled in Norwegian universities. This population includes both undergraduate and graduate students as well as both Norwegian citizens and international citizens. The reasons for choosing this population are due to various reasons. First, self-esteem is seen to be affected by age, gender, and discipline (Robins et al., 2001; Hallsten et al., 2012; Bleidorn et al., 2016). Having various students from various HE institutions and in various stages of study allows for these areas to potentially be considered. Secondly, this study does not want to specifically look directly at one group of students, such as internationals in Norway, but of the students involved in any Norwegian university. All three variables are expected to have the same relationship, independent of nationality, thus the nationality of the participants is not focused upon in this study. Finally, due to the time constraints that are in place for conducting and completing this master's thesis, the chosen country was used as it allowed the thesis author to use more connections that provided participants for the study.

4.2.1 Data Collection

Data was collected using personnel connections and posting the questionnaire in various Facebook student groups. Table 1 presents all the Facebook groups that the survey invitations were posted in. The survey invitation was sent out in both Norwegian (see Appendix A) and English (see Appendix B). The survey invitation was posted in either one or the other language dependent on the group that it was posted in. Yet, the questionnaire itself was only constructed in English. Due to this criterion, a sampling response rate cannot be calculated as it is not possible to see how many students in these various groups saw the invitation and responded. It is also important to understand that many of the Facebook groups have students who are current and past students as members. Also, as the population focuses on all Norwegian university students, some groups that the invitation was posted in were specific to international students, which has the potential to make the international participants population larger in the sample.

The sampling method that was used was convenience sampling. Convenience sampling is a type of non-probability sampling that is used most often due to its accessibility and convenience (Bryman, 2012). Participants in the questionnaire voluntarily participated and completed the questionnaire without previous selection. This type of sampling was used as well for its convenience as the study had limited time and funds to conduct a more well-rounded sampling method. Due to these time constraints in completing this project, the sampling method does create limitations. It does not guarantee that the sample will be distributed evenly between gender, age, or degree (Bryman, 2012). This will limit the population's representation in the sample. If time allowed a sampling method such as stratified random sampling would have been more ideal to gain better representation of the sample (Bryman, 2012).

Table 1

Names and Population of Facebook Groups

Facebook Group Name	Members (as of 25.03.22)
International Students at the University of Oslo (UiO) https://www.facebook.com/groups/1529843163741836/about	6000
Studiehverdag på OsloMet https://www.facebook.com/groups/studiehverdag.oslomet/about	3300
Student på Uv https://www.facebook.com/groups/uvstudent/about	1100
Studere ved UiS? https://www.facebook.com/groups/4225913774109426/about	133

Studiested Hamar, Høgskolen I Innlandet https://www.facebook.com/groups/innhamar/about	1400
USN-studenter campus Porsgrunn https://www.facebook.com/groups/804483289745124/about	2200
USN-studenter campus Bø https://www.facebook.com/groups/141916303345323/about	2200
USN-studenter campus Ringerike https://www.facebook.com/groups/1160207060691552/about	1800
USN-studenter campus Rauland https://www.facebook.com/groups/220986141837731/about	106
USN-studenter campus Notodden https://www.facebook.com/groups/978445938981957/about	961
USN-studenter campus Vestfold https://www.facebook.com/groups/1742508502507897/about	3400
USN-studenter campus Drammen https://www.facebook.com/groups/2110399669232509/about	2400

4.3 Questionnaire Design

The questionnaire was constructed using Nettskjema. Despite the questionnaire not asking participants personal traceable information, following NSD's guidelines the questionnaire began with an explanation of how the data will be stored, handled and individuals had to consent electronically to move forward. Participants under the age of 18 were not able to participate as it would require parental consent. The questionnaire was constructed in three main parts. First, participants were asked to answer 10 questions that related to their *trait self-esteem*. Secondly, 10 questions that related to their *emotional regulation* and thirdly questions asking participants about their most recent *summative assessment experience*.

Self-Esteem

Rosenberg's (1965) self-esteem scale (RSES) (see Appendix C) was used to measure students' trait self-esteem. According to the University of Maryland, which is the department of Sociology where Dr. Rosenberg developed this scale states that the RSES is one of "the most widely-used self-esteem measures in social science research" (University of Maryland, 2022, Department of Sociology Rosenberg Self Esteem Scale section, para 1). In chapter two, many of the researchers also used RSES to measure self-esteem in their studies (Crocker et al., 2002, 2003; Crocker & Luhtanen, 2003; Salmela-Aro & Nurmi, 2007; Sari et al., 2018; Holopainen et al., 2020). Consequently, the RSES was chosen to measure trait self-esteem in this research because of its recurrence in studies and its clear validity in social research.

The RSES scale was made up of 10 items that were measured through a 4-point Likert scale (0-3) to assess students' overall self-respect, self-acceptance, and attitude towards themselves (Rosenberg, 1965). Five of the questions were positive and five of the questions were negative. High scores represented high trait self-esteem. Students' answered questions such as: *I feel I have a number of good qualities* and *I am able to do things as well as most other people*.

Emotional Regulation

Gross and John's (2003) emotional regulation questionnaire (ERQ) (see Appendix D) was used to measure students' tendency to use either the cognitive reappraisal or the expressive suppression technique to regulate their emotions. Emotions are not a straightforward concept. As they are prevalent in the academic context, it was important to find a way to measure how the emotions present themselves in an experience, then only looking at the consequence of the emotion. Therefore, the ERQ was a top contender from the beginning to bridge the experience of summative assessment. More importantly, the ERQ has been used in relation to RSES (Gross & John, 2003; Velotti et al., 2017).

The ERQ scale was made up of a 7-point Likert scale (1-7) to assess which emotional regulation technique was more commonly used by the student. Six of the questions represented cognitive reappraisal and four of the questions represented expressive suppression. The higher the score on reappraisal or suppression the more the student tended to use that emotional regulation technique. Students answered questions such as: *I control my emotions by changing the way I think about the situation I am in* and *when I am feeling negative emotions, I am careful not to express them*.

Experience

Students were asked to think of an experience they had with summative assessment (see Appendix E). As chapter three section three described, the experience was separated into four phases, *before* summative assessment emotional state (BSES1-4), *during* summative assessment emotional state (DSES1-4), *directly after* summative assessment emotional state (ASES1-5) and *after receiving the grade* emotional state (ASES_grade1-5). Emotions were chosen from their reference in the literature (Crocker & Wolfe, 2001; Crocker & Luhtanen, 2003; Pekrun, 2006; Hallsten et al., 2012; McMorran et al., 2017; Fairlamb, 2020; Christie & Morris, 2021). Each scale consisted of 4-5 questions that contained both positive and negative emotional state questions. Negative emotions were loosely based off reference from Pekrun

(2006) and Christie and Morris (2021) labelling of anger, sadness, frustration, stress, and anxiety as negative. Positive emotions were looked at through the opposite or reverse of the negative emotions.

Students were asked to think of the last summative assessment they had. A brief explanation about what summative assessment means was given. Then it proceeded to first ask two general questions about the summative assessment. Next, as the experience was grouped into four phases, students were asked questions regarding their BSES, DSES, ASES and ASES_grade. Before each phase, students were prompted to think about that specific phase. In ASES and ASES_grade, students were prompted to think about how they felt after the summative assessment including the grade they received. ASES also included three questions that were not based on emotions. The scales were made up of a 4-point Likert scale (0-3) to assess how the student felt in each phase of the summative assessment experience. High scores indicated the student had a more positive emotional state during that phase. Students answered questions such as: *during the assessment, I felt stressed* and *after the assessment, I felt good about myself*.

Demographic Characteristics

After consent was given, students were asked to answer the following: gender (female, male, other, prefer not to say), age (checkbox with predefined groupings), degree (bachelor's, master's, other), semesters enrolled in (text box), and faculty and discipline (checkbox with predefined list). These were used as the components for students' background characteristics (see Appendix F).

4.4 Hypotheses

Emotional regulation contributes to the way an individual reacts or responds in an experience (Gross & John, 2003). Similarly, trait self-esteem contributes to the way an individual reacts or responds in an experience (de Ruiter et al., 2017). Individuals who use more of the expressive suppression technique tend to keep emotions in and not deal with the emotions when they become present (Gross & John, 2003). Individuals who use more of the cognitive reappraisal deal with their emotions better than their counterparts (Gross & John, 2003). Trait self-esteem contributes to how one views themselves, and correspondingly the individual can view an experience in the light of how they view themselves (Metalsky et al., 1993; Ralph and Mineka, 1998; Crocker et al., 2002; Pekrun et al., 2002; Crocker & Luhtanen, 2003; Salmela-

Aro & Nurmi, 2006; Trautwein et al., 2016; de Ruiter et al., 2017). As both emotional regulation and trait self-esteem contribute to the way an individual reacts and responds in an experience, this thesis suggests that **(H_1) students' tendency to use the emotional regulation strategy cognitive reappraisal is correlated to high trait self-esteem** and **(H_2) students' tendency to use the emotional regulation strategy expressive suppression is correlated to low trait self-esteem**.

H3-5 are based on the concept that trait self-esteem contributes to an individual's response in an experience (de Ruiter et al., 2018) and the assumptions that emotions are prevalent in the assessment process (Pekrun, 2002; Christie & Morris, 2021). Going further, individuals who have lower trait self-esteem tend to be more pessimistic and stressed (Metalsky et al., 1993; Ralph & Mineka, 1998) and can linger on these negative emotions longer (Crocker et al., 2002). In reverse of these statements, this these suggests that **(H_3) there is a correlation between students' having high trait self-esteem and having a more positive emotional state *before* the summative assessment**, **(H_4) there is a correlation between students' having high trait self-esteem and having a more positive emotional state *during* the summative assessment** and **(H_5) there is a correlation between students' having high trait self-esteem and having a more positive emotional state *after* the summative assessment experience**, **including *after receiving the grade***.

Individuals who use more of the cognitive reappraisal strategy to cope with their emotions, tend to deal with their emotions better (Gross & John, 2003). They also are able to alter their emotions faster and more effectively in a negative inducing experience (Gross & John, 2003). Based on these two assumptions, as well as the assumption that assessment is an emotion inducing experience (Pekrun, 2002; Christie & Morris, 2021), this thesis suggests that **(H_6) there is a correlation between students who use the cognitive reappraisal technique and having a more positive emotional state *before, during* and *after* the summative assessment experience, including *after receiving the grade*.** Individuals who use more of the expressive suppression strategy to cope with their emotions tend to linger on the negative emotions and struggle to change negative emotions during a negative inducing experience (Gross & John, 2003). Based on this assumption and once again the assumption that assessment is an emotion provoking area (Pekrun, 2002; Christie & Morris, 2021) this thesis suggests that **(H_7) there is a correlation between students who use the expressive suppression technique and having**

a more negative emotional state *before*, *during* and *after* the summative assessment experience, **including *after receiving the grade*.**

Finally, as gender, age and faculty and discipline have been seen to relate in some contexts to an individual's trait self-esteem (Robins et al., 2001; Hallsten et al., 2012; Bleidorn et al., 2016; Larcombe et al., 2016; Velotti et al., 2017) this thesis suggests that **(H_8) there is a correlation between students' trait self-esteem, emotional regulation, and students' background characteristics (i.e., gender, age, degree, discipline)**.

4.5 Data Collection and Analysis

Data was collected during the spring semester of 2022 through an online questionnaire. Survey invitations were posted and open for participants specifically from February 28th, 2022 – March 30th, 2022. The questionnaire was constructed in Nettskjema where the data was collected.

4.5.1 Data Preparation for Analysis

After importing the data from Nettskjema, SPSS version 28 was used for analysis. Before beginning analysis, RSES, ERQ, BSES, DSES, ASES, and ASES_grade needed to be prepared. As items RSES3, 5, 8, 9, and 10 were negative they needed to be reversed. Then items RSES1-10 were combined to produce the scale of trait self-esteem. As items ERQ1, 3, 5, 7, 8, and10 represented reappraisal, these six items were added together to create ERQ_R which measured students' tendency to use the cognitive reappraisal technique. The rest of the items which were items ERQ2, 4, 6, and 9 were then added together to create ERQ_S which measured students' tendency to use the expressive suppression technique. Following these scales preparations, similar preparations were conducted on the summative assessment scales. Items BSES1 and 3 were negative emotions, therefore they were reversed. Then items BSES1-4 were combined. Items DSES2 and 3 were negative emotions, therefore they were reversed. Then items DSES1-4 were combined. Finally, items ASES1, 2, and 5 were negative emotions therefore, the were reversed. Then items ASES1-5 were combined. Items ASES_grade1 and 3 were negative emotions therefore, they were reversed. Then items ASES_grade1-5 were combined. Despite these two scales being split originally, an Exploratory Factor Analysis (EFA) was done in order to test the scales validity further. This was deemed as necessary as both ASES1-5 and ASES_grade1-5 were presented in the questionnaire with the same specific prompt (see Appendix E for clarification). This prompt created uncertainty as to whether the two scales

actually represented two different aspects. Due to this reason, clarification on these two scales validity was deemed appropriate. The EFA proved the point that ASES and ASES_grade were indeed two separate scales. The following sections will mention the tests that were used in the analysis of the data. Chapter five presents all the intricacies of each test.

4.5.2 Exploratory Factor Analysis (EFA)

An exploratory factor analysis (EFA) is "based on the concept that unobserved or latent variables underlie the variation of scores on observed or measured variables" (Watkins, 2021, p. 3). It is used in order to explain the correlations among the various measured variables (Watkins, 2021). It is one of several multivariate statistical methods used in data analysis (Watkins, 2021). It is used in testing theories, developing scales, and assessing the construct validity of scales (Watkins, 2021). The EFA was used on the ASES and ASES_grade items, in order to assess the construct validity of the two groups, ASES and ASES_grade, as clarification was needed. All items, in ASES1-5 and ASES_grade1-5, were included in the analysis as all ten items addressed the emotional state of the student after the summative assessment experience. All 120 participants responses were used as the data was deemed appropriate in regard to no missing data or any outliers in the data set. A correlation matrix (see Appendix G) was run to see whether there were significant correlations between any of the items. As there were, the EFA was deemed an appropriate test to run for the ASES and ASES_grade variables. A Kaiser-Meyer Olkin (KMO) measure of sampling adequacy was also considered before conducting the EFA. The KMO indicated whether the level of sampling was acceptable to conduct an EFA (Watkins, 2021). To interpret the EFA, few guidelines were addressed. First, in order to know what factors should be retained the scree graph was looked at (Watkins, 2021). A scree graph plots the eigenvalues against their extraction in order to determine the true common factors (Watkins, 2021). The graph was read by looking at the y-axis (eigenvalue) and the x-axis (component number) to see where there was a drop, and the eigenvalues began to form a linear line. The eigenvalues that were above score 1 and did not flow in the linear line, were the factors that were retained (Watkins, 2021). Once the factors were retained, a look at the rotated component matrix, which was set to an orthogonal varimax rotation was addressed. The prime goal of the EFA was to look at the relatable factors using an item loading of 0.30 on only one factor. After factors had been identified, only item loadings that were above the factor item loading of 0.30 were considered as relevant for the components. This then indicated which items were most relevant for each component.

4.5.3 Normality Tests

Normality is crucial in statistical methods to determine that the interpretation and inference of the data is reliable and valid (Park, 2008). A numerical method, which uses descriptive statistics and statistical tests to determine normality, was used (Park, 2008). There are two types of normality tests that are most often used, the Kolmogorov-Smirnov and the Shapiro-Wilk test (Park, 2008). Since the Shapiro Wilk test is "one of the most powerful tests for testing normality…(and) is more powerful against a wide range of alternative distributions" (Sahai & Ageel, 2000, p. 93) it was chosen to test the normality of the scales in this study. To interpret the findings of the Shapiro-Wilk test, one looks at the significant value. If the significant value is greater than 0.05 the data is normally distributed. Normality tests were conducted on each of the scales which determined whether a parametric or non-parametric test should be used in the analysis (Cronk, 2017).

4.5.4 Bivariate Correlations

Bivariate analysis is the analysis of two variables at one time to determine whether they have a relationship (Bryman, 2012). As the normality tests determined whether a parametric or non-parametric test should be used, Kendall Tau-B correlation test was chosen as the non-parametric test. This test was used to answer H1-8. As Kendall Tau-B correlation test assumes the variables are ordinal (de Vaus, 2014), all 6 scales passed this assumption as they all used a Likert scale and Likert scales can be categorized as ordinal variables (Bryman, 2012). To interpret the tests, statistical significance was looked at. The level of statistical significance that determined whether to reject the null hypothesis was a *p* value of 0.05. This value was determined because of it being commonly used in social research as the maximum level of risk that a researcher wants to take (Bryman, 2012). If the *p* value was lower than 0.05, the null hypothesis was rejected, indicating that there was a relationship between the two variables.

4.5.5 Other Non-Parametric Tests Used

To test H8, the relationships between trait self-esteem, cognitive reappraisal, expressive suppression and background characteristics, t-tests were used. This study contained single items that were also tested using these tests. An independent t-test compares the means of two groups (Cronk, 2017). Two various tests were conducted: the Mann-Whitney U test and the Kruskal-Wallis H test. First, a Mann-Whitney U test is the equivalent to the independent t-test

and is used for non-parametric analysis (Cronk, 2017). In order to conduct a Mann-Whitney U test, the variable must have two categorical groups. In this study, the Mann-Whitney U test was used to address the difference between gender (i.e., man & women) in RSES, ERQ_R and ERQ_S. It was also used to address the difference between degree (i.e., bachelor & master) in RSES, ERQ_R and ERQ_S. To interpret the results of the Mann-Whitney U test, statistical significance was looked at. If the *p* value was lower than 0.05 we could assume that the two groups had a significant difference (Cronk, 2017). Finally, the Kruskal-Wallis H test was used as it is the "non-parametric equivalent of one-way anova" (Cronk, 2017, p. 175). As faculty and discipline, information from the assessor, and grade had several samples, the Kruskal-Wallis H test was deemed appropriate. The only assumption that needed to be met for the Kruskal-Wallis H test was that the dependent variable was ordinal, whilst the independent variable could be nominal or ordinal (Cronk, 2017). Once again, to interpret the results the statistical significance was looked at.

4.6 Criteria for Evaluating Research

4.6.1 Validity

This criterion focuses on whether a measure really measures the concept in question (Bryman, 2012; de Vaus, 2014). There are various validity types that can be addressed in social research (Bryman, 2012; de Vaus, 2014). Face validity, construct validity, and content validity will be discussed. Face validity is concerned with how well "the measure apparently reflects the content of the concept in question" (Bryman, 2012, p. 171). This was done through asking fellow colleagues at the University of Oslo about their opinions and feedback on the BSES, DSES and ASES scales. Their input on whether the scales seemed to reflect the concept in question was considered throughout the development of the scales. As well as colleagues, the thesis supervisor's judgment and input were considered throughout. The RSES and ERQ have also been used in empirical studies (see chapter 2) that addressed similar topics. Construct validity was considered by using a Likert scale which measures the concepts by a multiple item measure (Bryman, 2012) and through the development of the hypotheses with consideration to the conceptualizations and previous research conducted on trait-self-esteem, emotional regulation, and assessment. Content validity addresses how well indicators measure different aspects of a concept (de Vaus, 2014). As this studies aim is to look at the relationship between trait self-esteem, emotional regulation and students' experience with summative assessment,

each scale adequately represents each of the aims. Trait self-esteem is measured by the RSES scale, emotional regulation by the ERQ scale and the experience of summative assessment using BSES, DSES, ASES and ASES_grade scales. The experience of summative assessment encompasses various phases, therefore in an attempt to validate that they measure the experience properly, the phases were each assigned their own scale in hopes of increasing the content validity.

4.6.2 Reliability

Reliability addresses whether the instrument consistently produces the same outcome when done again (de Vaus, 2014). Bryman (2012) outlines three areas of reliability that a researcher should check: stability, internal reliability, and inter-observer reliability. Stability is concerned with whether the measure is stable over time and is done through the test-retest method. As this thesis had a limited time frame to conduct and complete the research, conducting a test-retest method was deemed to be unrealistic. Internal reliability addresses whether items in a measure relate to one another (Bryman, 2012). Bryman (2012) states that internal reliability can be tested either by using the split half method or Cronbach's alpha. He states that the Cronbach's alpha is used more frequently nowadays due to it being incorporated into more data analysis software. For this reason, Cronbach's alpha was used to test the internal reliability of the scales. Cronbach's alpha coefficient is present in a number that ranges between 0-1 (Bryman, 2012; de Vaus, 2014). The closer the coefficient is to 1, the more reliable the scale is (Bryman, 2012; de Vaus, 2014). According to Bryman (2012) 0.8 is employed as the acceptable level of internal reliability but it can be lower. For example, 0.7 can indicate a satisfactory level of internal reliability. Chapter five section two presents the reliability tests of each of the scales. Finally, inter-observer consistency addresses the issue of judgment that the researcher can translate into their work. Since this study is a cross-sectional survey design and is based solely on the online self-completion questionnaire, it does not have many areas where the translation of data or the recording of data would interfere with the reliability.

4.7 Ethical Issues

According to de Vaus (2014) social research needs to consider five ethical responsibilities: *voluntary participation*, *informed consent*, *no harm*, *anonymity/confidentiality*, and *privacy*. The following section will address how this study considered each of these ethical issues. First, it is important to note that this study was done in Norway. Therefore, the study had to first be

approved by the Norsk Senter for Forskningsdata (NSD) (see Appendix H) before beginning the project. This was done in order to ensure that the project would be conducted with consideration to participants safety and legality.

4.7.1 *Voluntary Participation* and *Informed Consent*

Voluntary participation was evident with students since each student choose whether to conduct the online self-completion questionnaire. There was no force or reward given to students when they decided to conduct the questionnaire. A simple survey invitation was posted, and participants had the choice to click and complete it. Participants also were able to discontinue answering the questionnaire at any time if they felt the need to do so. The beginning of the questionnaire outlines the reason for the study, purpose of the questionnaire, and how the data will be used and stored. Students who wanted to proceed with the questionnaire had to consent (see Appendix I) electronically before they were given access to the next section. At the end of the questionnaire participants also had to confirm whether they wanted to submit the completed questionnaire. Each participant submitted in their own willingness.

4.7.2 *No harm*, *Anonymity/Confidentiality*, and *Privacy*

As the study does not induce changes or attempt to create change (de Vaus, 2014) the participants of this questionnaire were under no harm during the participation. Anonymity and confidentiality were guaranteed by the usage of Nettskjema which is a secure online service for data collection (Nettskjema.no, 2022). Nettskjema delivers secure processing for sensitive data (Nettskjema.no, 2022). The questionnaire does not deal with any personal information that could be traced back to an individual. Everyone's submission was coded automatically on Nettskjema. As there is no way of tracing an individual's answer to a specific participant of the study, there are no concerns regarding the privacy of a participant. There is no possibility of participants being asked for a follow up as the information cannot be traced. Once the thesis is submitted and reviewed all data that has been collected will be deleted and removed.

5 Findings

The following will present the main findings of the quantitative study. This section will be presented in four main topics. First, the demographic characteristics of the data will be presented. Secondly, the reliability of the scales. Thirdly, the normality tests. Finally, the hypothesis tests on each of the hypotheses that were presented earlier in this paper (see chapter 4.4).

5.1 Demographic Characteristics

The collected data had a total of 120 participants. As there were no participants who were under the age of 18, the data used the total number of participants in the analysis. On average the amount of time it took to complete the questionnaire was 21 minutes and 21 seconds. Yet, it is important to mention that there are several outliers such as 20 hours plus and others who took 40-60 minutes to complete the questionnaire. Out of the 120 participants, 77.5 % were female, and 22.5% were male. Participants' ages varied form 18-35 plus with an average of 44.2% of participants ranging in the 18-24 age group. Participants' degrees were quite evenly distributed between a bachelor's and master's degree, with 48.3% of participants completing a bachelor's and 43.3% their master's. The last 8.3% had responded with "other" as the degree of choice. "Other" can be regarded as either a PHD, a semester, course, night class etc. For faculty and discipline participants were quite diversely spread throughout all the options that were presented. Most participants responded to educational sciences (21.7%), business, economics, and management (13.3%), social sciences (13.3%), and other (10.8%). Table 2 shows participants frequency for faculty and discipline. In the demographic characteristics, participants were asked to indicate with a number how many semesters they had been enrolled in, including all their studies up to that point. Despite it being a mandatory field to answer, it can be assumed that a misunderstanding occurred for many participants when answering this question. As up to 20 participants who were attending a master's degree wrote either 2-4 semesters that they had been enrolled in. This number would be acceptable if the question did not ask for all studies up to this point. Hence, these 20 participants answers were considered missing data. Due to the large amount of missing data in this item, this item was not used further in the analysis.

Table 2

Frequency of Faculty and Discipline

Faculty and Discipline	Frequency	Percent
Law	2	1.7
Information Technology and Electrical Engineering	*2*	1.7
Psychology	*2*	1.7
Art and Design	*3*	2.5
Engineering	*5*	4.2
Humanities	8	6.7
Mathematics and Natural Sciences	8	6.7
Medicine and Health Sciences	8	6.7
Nursing	11	9.2
Other	13	10.8
Business, Economics, and Management	16	13.3
Social Sciences	16	13.3
Educational Sciences	26	21.7

5.1.1 Characteristics of the Assessment, Information Provided, and Grade Received

Participants were asked to include what type of assessment task they had. As this question allowed for participants to choose more than one answer, these numbers exceeded the total of 120 participants. Most participants had an exam (*N* = 68) and/or a written essay (*N* = 42) and/or oral/presentation (*N* = 24). Only 35 participants choose whether it was an at home assessment (*N* = 25) or at the university assessment (*N* = 10). The rest of the participants were scattered throughout the rest of the types of assessments. Table 3 presents the frequency of type of assessment in full detail. In regard to the information that was received after the summative assessment, 46 participants (38.3%) received grade and comments and 10 participants (8.3%) received comments only. The majority of the participants received only a grade (*N* = 64, 53.3%). Participants were asked to explain what grade they received. Rather than indicating this with a numerical value, participants were asked to choose from three choices. 20.8% of participants felt the grade they received was lower than expected. Whilst majority of participants felt it was the same as expected (40.0%) and higher than expected (39.2%).

Table 3

Frequency of Type of Assessment

Type of Assessment	Frequency
Other	1*
Short quiz/test	3

Journal/blog/reflective piece	4
Portfolio/project	6
Laboratory/practical or other skills-based tests	7
At the university assessment	10
Oral/presentation	24
At home assessment	25
Written essay	42
Exam	68

* Thesis

5.2 Reliability of Scales

The following will present all the scales reliability tests that were conducted using Cronbach's α. Each item was assessed by looking at the mean (*M*), standard deviation (*SD*), item-total correlation and Cronbach's α to see whether an item should be removed from the scale in further analysis. A concise list of all the items and codes for BSES, DSES, ASES, and ASES_grade can be found in Appendix J. Table 12 presents all the scales Cronbach's α after the reliability tests. Table 13 presents the final descriptive of each scale.

5.2.1 RSES – Rosenberg Self-Esteem Scale

The Cronbach's α with all the items in RSES was 0.889. Table 4 presents all the item statistics of RSES1-10. As removing any of the items in RSES would have lowered the Cronbach's α and the scale has been validated and tested for reliability before, there was no need to remove any of the items in RSES. The Cronbach's α of RSES at 0.889 is an acceptable level of internal reliability. Hence, the scale RSES stayed the same.

Table 4

Item Statistics RSES1-10

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if Item Deleted
RSES1	15.13	25.88	0.546	0.884
RSES2	15.03	26.33	0.507	0.886
*RSES3	15.62	24.07	0.633	0.878
RSES4	15.29	26.07	0.510	0.886
*RSES5	15.48	23.49	0.698	0.873
RSES6	15.63	24.07	0.693	0.874
RSES7	15.63	24.40	0.752	0.871
*RSES8	16.29	24.53	0.541	0.885
*RSES9	16.29	23.79	0.677	0.875
*RSES10	16.03	22.69	0.727	0.871

Cronbach's α with all items = 0.889

* Reversed items in RSES

5.2.2 ERQ – Emotional Regulation Questionnaire

The emotional regulation questionnaire was split into two distinct groups, ERQ_R (reappraisal) and ERQ_S (suppression). The Cronbach's α with all the items in ERQ_R was 0.869. Table 5 presents all the item statistics of ERQ_R. As removing any of the items in ERQ_R would have lowered the Cronbach's α and the scale has been validated and tested for reliability before, there was no need to remove any of the items in ERQ_R. The Cronbach's α of ERQ_R at 0.869 is an acceptable level of internal reliability. Hence, the scale ERQ_R stayed the same. The Cronbach's α with all the items in ERQ_S was 0.759. Table 6 presents all the item statistics of ERQ_S. Despite ERQ4 having the lowest total item correlation (0.345) and removing it from the scale would increase the Cronbach's α from 0.759 to 0.800, the scale has been validated and tested for reliability before. In addition to this, 0.759 is still an acceptable level of reliability. Hence, there was no need to remove any of the items in ERQ_S. Therefore, the scale ERQ_S stayed the same.

Table 5

Item Statistics ERQ_R

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if Item Deleted
ERQ1	23.13	28.93	0.694	0.842
ERQ3	23.43	28.15	0.646	0.852
ERQ5	23.62	30.44	0.440	0.893
ERQ7	23.10	28.63	0.780	0.829
ERQ8	23.33	28.81	0.765	0.831
ERQ10	23.41	29.17	0.770	0.832

Cronbach's α with all items = 0.869

Table 6

Item Statistics ERQ_S

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if Item Deleted
ERQ2	10.69	14.06	0.603	0.677
ERQ4	12.46	18.39	0.345	0.800
ERQ6	11.35	12.75	0.686	0.625

ERQ9	11.18	14.49	0.611	0.674

Cronbach's α with all items = 0.759

5.2.3 BSES – Before Summative Assessment Emotional State Scale

The Cronbach's α with all the items in BSES was 0.783. Table 7 shows that BSES2 had the lowest correlation (0.357) of all the items. BSES2 was the question "*before you started the assessment, to what extent do you agree with the following statement? – I felt excited*". Figure 3 shows the distribution of this item, which indicated that most participants answered 1 on the 4-point Likert scale (0-3), which was disagree. Since the item-total correlation was the lowest of these four items, it was removed from the scale. This brought the Cronbach's α from 0.783 to 0.835. Also, despite BSES2 having a significant correlation to the rest of the items, it did not have any significant correlation to self-esteem and emotional regulation (see Appendix G). Therefore, this item was removed from the scale and was not used further in the analysis.

Table 7

Item Statistics BSES1-4

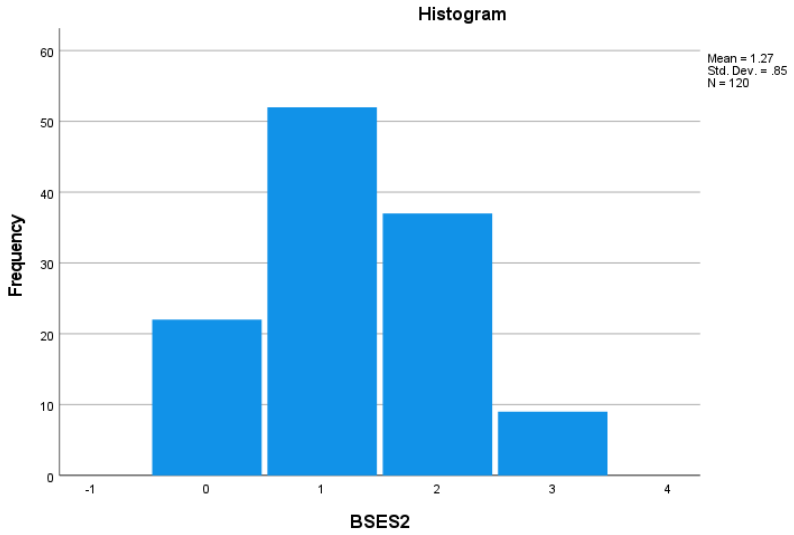
Item	*M*	*SD*	Item-Total Correlation	Cronbach's α if Item Deleted
*BSES1	0.78	0.85	0.651	0.700
BSES2	1.28	0.85	0.357	0.835
*BSES3	1.28	0.99	0.702	0.666
BSES4	1.13	0.88	0.672	0.687

Cronbach's α with all items = 0.783

* Reversed items in BSES

Figure 3

Frequency Graph of BSES2



5.2.4 DSES – During Summative Assessment Emotional State Scale

The Cronbach's α with all the items in DSES was 0.846. Table 8 shows that all items in DSES have a relatively good item-total correlation. Removing any of the items in DSES would lower the Cronbach's α. As the Cronbach's α is already an acceptable level of reliability, there was no need to remove any of the items in DSES. Hence, DSES remained the same. However, DSES3 will also be used in analysis later as a single item because stress is a prominent area in self-esteem studies (Metalsky et al., 1993; Ralph & Minka, 1998; Crocker & Luhtanen, 2003; Larcombe et al., 2016; McMorran et al., 2017; Lynam & Cachia, 2018; Ives, 2020).

Table 8

Item Statistics DSES1-4

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if item deleted
DSES1	1.67	0.832	0.669	0.811
*DSES2	1.71	0.911	0.729	0.785
*DSES3	0.96	0.854	0.623	0.831
DSES4	1.43	0.796	0.719	0.791

Cronbach's α with all items = 0.846

* Reversed items in DSES

5.2.5 ASES & ASES_grade – After Summative Assessment Emotional State Scales

Since the prompt for the after summative assessment emotional state scales was the same, clarification was needed in order to validate that the two scales, ASES and ASES_grade. This was done in order to confirm that the two scales did indeed address two separate aspects. Therefore, an exploratory factor analysis (EFA) was conducted for clarification purposes. Figure 4 shows the EFA scree graph of the combined ten items in ASES and ASES_grade. This graph indicated that two eigenvalues were above 1 and did not form a linear line as the other component numbers did. This indicated that component 1 and component 2 would be retained. Table 9 presents the rotated component matrix. This was an EFA with a varimax (orthogonal) rotation of the 10 Likert scale questions. The Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was factorable (KMO = 0.889). When the loadings less than 0.30 were excluded the test indicated a two-factor solution. As seen in table 9, it is clear that five items related to component 1 and five items related to component 2. It was clear that the five items related to component 1 were ASES1-5 and the five items related to component 2 were ASES_grade1-5. Hence, component 1 was clearly after summative assessment emotional state and component 2 was clearly after summative assessment emotional state after receiving the grade. Therefore, the items in the after summative experience were reliable with two scales that addressed two separate aspects. Consequently, ASES and ASES_grade were deemed valid and kept as two separate scales in further analysis.

The Cronbach's α with all the items in ASES1-5 was 0.913. Table 10 shows that all items in ASES have a high Cronbach's α. As the Cronbach's α is already an acceptable level of reliability, there was no need to remove any of the items in ASES. Hence, ASES remained the same. The Cronbach's α with all the items in ASES_grade1-5 was 0.914. Table 11 shows that all items in ASES_grade have a high Cronbach's α. As the Cronbach's α is already an acceptable level of reliability, there was no need to remove any of items in ASES_grade.

Figure 4

EFA Scree Graph

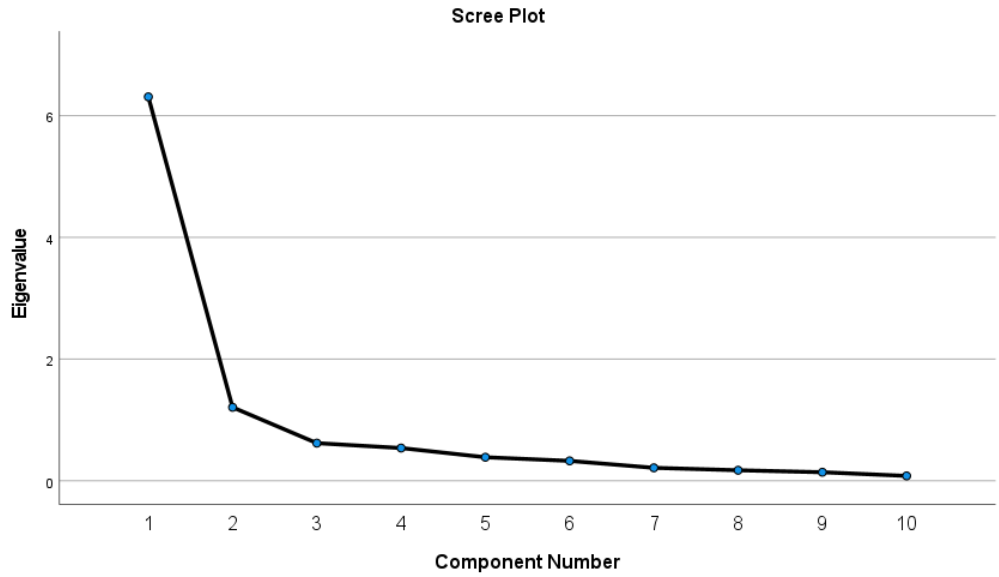


Table 9

Rotated Component Matrix (EFA)

	Component 1	Component 2
*ASES1	0.856	0.306
ASES4	0.854	0.359
ASES3	0.843	0.325
ASES5	0.771	0.374
ASES2	0.693	
ASES_grade4		0.859
ASES_grade3		0.857
ASES_grade1		0.823
ASES_grade5	0.433	0.780
ASES_grade2		0.691

Table 10

Item Statistics ASES1-5

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if Item Deleted
*ASES1	7.09	9.38	0.846	0.879
*ASES2	7.40	10.38	0.604	0.930
ASES3	7.27	9.76	0.828	0.884
ASES4	7.33	9.65	0.863	0.877
*ASES5	7.41	9.55	0.722	0.895

Cronbach's α with all items = 0.913

* Reversed items in ASES

Table 11

Item Statistics ASES_grade1-5

Item	*M*	*SD*	Item - Total Correlation	Cronbach's α if Item Deleted
*ASES_grade1	7.43	11.93	0.782	0.897
ASES_grade2	7.87	12.69	0.635	0.922
*ASES_grade3	7.69	10.69	0.836	0.884
ASES_grade4	7.81	10.34	0.853	0.880
ASES_grade5	8.00	10.42	0.822	0.887

Cronbach's α with all items = 0.914

* Reversed items in ASES_grade

Table 12

Cronbach's α With and Without Removed Items

Item	*Cronbach's α* before	Item removed	*Cronbach's α* after
RSES	0.889	N/A	N/A
ERQ_R	0.869	N/A	N/A
ERQ_S	0.759	N/A	N/A
BSES	0.783	BSES2	0.835
DSES	0.846	N/A	N/A
ASES	0.913	N/A	N/A
ASES_grade	0.914	N/A	N/A

Table 13

Descriptive of Items

Item	Minimum	Maximum	*M*	*SD*
RSES	3	30	17.38	5.47
ERQ_R	6	42	28.00	6.38
ERQ_S	5	28	15.22	4.95
BSES	00	9	3.18	2.38
DSES	00	12	5.76	2.81
ASES	00	15	9.13	3.86
ASES_grade	00	15	9.70	4.14

5.3 Normality Tests

To find out which type of correlation test was used to analyze the data, a normality test was done to see whether data was normally distributed. For each scale the Shapiro-Wilk normality test was used. Table 14 presents the Shapiro-Wilk normality tests for each of the scales. RSES had p = .063 which indicated that the data was normally distributed. However, for ERQ_R (p = .029), ERQ_S (p = .045), BSES (p = <.001), DSES (p = .027), ASES (p = .002) and

ASES_grade (p = <.001) the data was not normally distributed. Therefore, a non-parametric test was used in all the correlation tests.

Table 14

Shapiro-Wilk Test of Seven Scales' Data

	Shapiro-Wilk		
Item	***Statistic***	***N***	**Sig.**
RSES	.98	120	.063
ERQ_R	.98	120	.029
ERQ_S	.98	120	.045
BSES	.94	120	.001
DSES	.98	120	.027
ASES	.96	120	.002
ASES_grade	.92	120	.001

5.4 Test H1 - 2: Correlation Between ERQ(s) and RSES

Null H_1: There is no correlation between students' emotional cognitive reappraisal and having high trait self-esteem.

Null H_2: There is no correlation between students' emotional expressive suppression and having low trait self-esteem.

After establishing that both ERQ's were not normally distributed, Kendall Tau-b non-parametric test was used to test the correlations between ERQ_R, ERQ_S and RSES. First, for null hypotheses one, the correlation between ERQ_R and RSES, the results showed a significant positive correlation between the variables (t_b = .204, p = <.001). Therefore, we reject null hypothesis one and can assume that students who use more of the emotional cognitive reappraisal technique also tend to have a higher trait self-esteem. Secondly, for null hypothesis two, the correlation between ERQ_S and RSES, the results showed a significant negative correlation between the variables (t_b = -.251, p = <.001). Therefore, we reject null hypothesis two and can assume that students who use more of the emotional expressive suppression technique also tend to have a lower trait self-esteem.

5.5 Test H3 - 4: Correlation Between RSES, BSES and DSES.

> **Null H_3:** There is no correlation between students having higher trait self-esteem and having a more positive emotional state *before* the summative assessment.
>
> **Null H_4:** There is no correlation between students having higher trait self-esteem and having a more positive emotional state *during* the summative assessment.

After establishing that BSES and DSES were not normally distributed, Kendall Tau-b non-parametric test was used to test the correlations between RSES, BSES and DSES. First, for null hypothesis three, the correlation between RSES and BSES, the results showed a positive correlation between the variables (t_b = .133, p = .047). Therefore, we reject null hypothesis three and can assume that students who tend to have a higher trait self-esteem will also tend to have a more positive emotional state before the summative assessment. A closer look at the three items in BSES indicated that item BSES1 had a significant negative correlation to RSES (t_b = -.212, p = .003). The correlation test used the reversed item of BSES1 in the analysis. This assumes that students who tend to have a higher trait self-esteem tended to stress more before the summative assessment. For null hypothesis four, the relationship between RSES and DSES, the results showed a significant positive correlation between the variables (t_b = .189, p = <.001). Therefore, we reject null hypothesis four and can assume that students who tend to have a higher trait self-esteem will also tend to have a more positive emotional state during their summative assessment. A closer look at the four items in DSES indicated that items DSES2 and DSES3 had a positive correlation to RSES (DSES2: t_b = .257, p = <.001; DSES3: t_b = .169, p = .019). The correlation test used the reversed item of DSES2 and DSES3 in the analysis. This assumes that students who tend to have a higher trait self-esteem tend to not feel so bad about themselves and not stress as much during the summative assessment experience.

5.6 Test H5: Correlation Between RSES, ASES and ASES_grade

> **H_5**: There is no correlation between students having higher trait self-esteem and having a more positive emotional state *after* the summative assessment experience, including the emotional state *after receiving the grade*.

After establishing that ASES and ASES_grade were not normally distributed, Kendall Tau-b non-parametric test was used to test the correlations between RSES, ASES and ASES_grade. First, the correlation between RSES and ASES, the results showed a significant positive correlation between the variables (t_b = .180, p = <.001). Secondly, the correlation between RSES and ASES_grade, the results showed a positive correlation between the variables (t_b = .128, p = .050). Therefore, we reject null hypothesis five and can assume that students who tend to have a higher trait self-esteem will also tend to have a more positive emotional state after their summative assessment, including after they received their grade.

5.7 Test H6 - 7: Correlation Between ERQs, BSES, DSES, ASES and ASES_grade

> **Null H_6**: There is no correlation between students who use the cognitive reappraisal technique and having a more positive emotional state *before*, *during* and *after* the summative assessment experience, including the emotional state *after receiving the grade*.
>
> **Null H_7**: There is no correlation between students who use the cognitive expressive suppression technique and having a more negative emotional state *before*, *during* and *after* the summative assessment experience, including the emotional state *after receiving the grade*.

After establishing that all five scales were not normally distributed, Kendall Tau-b non-parametric was used to test the correlations between the ERQs, BSES, DSES, ASES and ASES_grade. ERQ_R and BSES (t_b = .074, p = .264), DSES (t_b = .064, p = .335), ASES (t_b = .046, p = .482) and ASES_grade (t_b = .023, p = .724) all indicated that there were no significant correlations between students who use the cognitive reappraisal technique and having a more positive emotional state before, during and after the summative assessment, including after receiving the grade. Hence, we do not reject null hypothesis six. ERQ_S and BSES (t_b = -.020, p = .765), DSES (t_b = -032, p = .630), ASES (t_b = .027, p = .683) and ASES_grade (t_b = -.021, p = .744) all indicated that there were no significant correlations between students who use the expressive suppression technique and having a more negative emotional state before, during and after the summative assessment, including after receiving the grade. Hence we do not reject null hypothesis seven. Therefore, we can assume that students' emotional state before, during,

directly after and after receiving the grade summative assessment experience is not related to the emotional regulation strategy that a student most commonly uses.

5.8 Test H8: Correlation Between RSES, ERQs and Background Characteristics

> **Null H_8**: There is no correlation between students' trait self-esteem, emotional regulation, and their background characteristics (i.e., age, gender, discipline).

As gender, age and discipline can have an influence on one's trait self-esteem, it is important to look at whether they have significance in this study. Thus, the following will look at the background variables in relation to trait self-esteem and emotional regulation. Each background characteristic was tested for normality using the Shapiro-Wilk normality test. Age, gender, faculty and discipline, and degree all had $p = <.001$, therefore, non-parametric tests were used.

5.8.1 Age

A correlation test was used with age, RSES and ERQs, as age was an interval ratio. The Kendall Tau-b correlation test was used. There were no significant outliers in age that needed to be removed. The results found that there were no significant correlations between age and RSES (t_b = -.010, p = .891), ERQ_R (t_b = -.059, p = .415) and ERQ_S (t_b = -.093, p = .196). Consequently, we do not reject null hypothesis eight in the context of age.

5.8.2 Gender

As all the 120 participants choose either male or female as their gender, there was no need to remove any of the data. A Mann-Whitney U test was performed to assess the relationship between RSES, ERQ_R, ERQ_S and gender. For trait self-esteem, there was no significant difference between male (N = 27, M = 17.93, SD = 6.57) and female (N = 93, M = 17.22, SD = 5.14) participants (U = 1212, p = .784). For cognitive reappraisal, there was no significant difference between male (N = 27, M = 29.29, SD = 6.08) and female (N = 93, M = 27.62, SD = 6.45) participants (U = 1078, p = .264). For expressive suppression, there was a significant difference between male (N = 27, M = 17.41, SD = 4.02) and female (N = 93, M = 14.59, SD =

5.04) participants (U = 823, p = .007). Consequently, we do not reject null hypothesis nine in the context of RSES, ERQ_R and gender. However, we reject null hypothesis eight in the context of ERQ_S and gender. Therefore, we can assume that gender does not relate to students' trait self-esteem and their tendency to use the cognitive reappraisal technique. As well, we can assume that male participants have a higher tendency to use the expressive suppression technique than female participants.

5.8.3 Faculty and Discipline

To test the relationships between RSES, ERQ_R, ERQ_S and faculty and discipline, the Kruskal-Wallis H test was used. For trait self-esteem, the test showed that there was no significant difference between the faculty and discipline, X^2 (11) = 9.98, p = .532. For cognitive reappraisal, the test showed that there was no significant difference between the faculty and discipline, X^2 (11) = 15.98, p = .142. For expressive suppression, the test showed that there was no significant difference between the faculty and discipline, X^2 (11) = 13.77, p = .246. As there were no significant differences found between RSES, ERQ_S, ERQ_R and faculty and discipline, no further tests were deemed necessary. Consequently, we do no reject null hypothesis eight in the context of faculty and discipline.

5.8.4 Degree

As the variable degree was considered nominal and ERQ_R and ERQ_S require a non-parametric test, the Mann-Whitney U test was performed to test the relationship between RSES, ERQ_R, ERQ_S and degree. Ten participants chose other as their degree and as it cannot be assumed what the participant meant when choosing other, it was considered missing data. Thus, only bachelor's and master's degree were considered. As this can be considered categorical, the Mann-Whitney U test was deemed acceptable. For trait-self-esteem, there was no significant difference between bachelor's (N = 58, M = 16.83, SD = 5.58) and master's degree (N = 52, M = 18.25, SD = 5.15) participants (U = 1308.00, p = .230). For cognitive reappraisal, there was no significant difference between bachelor's (N = 58, M = 28.24 SD = 6.89) and master's degree (N = 52, M = 27.90, SD = 6.20) participants (U = 1411.00, p = .561). For expressive suppression, there was no significant difference between bachelor's (N = 58, M = 15.16, SD = 4.63) and master's degree (N = 52, M = 15.09, SD = 5.18) participants (U = 1504.50, p = .983). Consequently, we do not reject null hypothesis eight in the context of degree.

5.8.5 Section Summary

Based on the above tests, we do not reject null hypothesis eight. As there was no significant correlations or differences found between RSES, ERQs and age, gender, faculty and discipline and degree. Despite results finding a significant difference between female and male participant's in ERQ_S, the study still rejects null hypothesis eight. This significant difference will be discussed more in chapter six. According to this study, we can assume there are no relationships between student's trait self-esteem, emotional regulation, and their background characteristics.

5.9 Relationships Between RSES, ERQ, Summative Assessment Experience and Fairness, Information from the Assessor and Grade

The following will present the findings of the single item questions that were present in the summative assessment experience questions. The following areas will be looked at closer: fairness, information from the assessor and grade received.

5.9.1 Fairness

As the question about fairness was valued with a Likert scale, a Kendall Tau-B test was used to see if there was any relationship between RSES, ERQ_R, ERQ_S and fairness. There was found to be no significant correlation between students feeling the grade received for the summative assessment was fair and ERQ_R (t_b = -.050, p = .487). There was a positive correlation found between students feeling the grade received for the summative assessment was fair and ERQ_S (t_b = .183, p = .012). There was a significant positive correlation found between students feeling the grade received for the summative assessment was fair and RSES (t_b = .226, p = .002). Consequently, we can assume that students who tend to use more of the emotional regulation expressive suppression technique will also tend to feel the grade they received was fair. As well as students who tend to have a higher trait self-esteem will also tend to feel the grade they received was fair.

5.9.2 Information from the Assessor

To test the relationships between RSES, ERQ_R, ERQ_S and information from the assessor, the Kruskal-Wallis H test was used. The information the assessor provided had three options, where majority of students only received a grade (53.3%, N = 64) back from their assessor. 38.8% received grade and comments (N = 46) and 8.3% received comments only (N = 10). For trait self-esteem, the test results showed that there was no significant difference between information from the assessor, X^2 (2) = .667, p = .717. For cognitive reappraisal, the test results showed that there was no significant difference between information from the assessor, X^2 (2) = 2.19, p = .335. For expressive suppression, the test results showed that there was no significant difference between information from the assessor, X^2 (2) = .710, p = .701.

Information from the assessor was also tested with BSES, DSES, ASES and ASES_grade, as knowing what kind of information one receives after an assessment could relate to the way a student feels before, during and after the experience. The Kruskal-Wallis H test was used to test the relationships. For before summative assessment emotional state, the results showed that there was no significant difference between information from the assessor, X^2 (2) = .358, p = .838. For during the summative assessment emotional state, the results showed that there was no significant difference between information from the assessor, X^2 (2) = 1.35, p = .508. For after the summative assessment emotional state, the results showed that there was no significant difference between information from the assessor, X^2 (2) = 4.29, p =.117. For after receiving the grade emotional state, the results showed that there was no significant difference between information from the assessor, X^2 (2) = 3.115, p = .211.

5.9.3 Grade

To test the relationship between RSES, ERQ_R, ERQ_S and grade, the Kruskal-Wallis H test was used. The grade had three options, lower than expected (20.8%, N = 25), same as expected (40%, N = 48), and higher than expected (39.2%, N = 47). For trait self-esteem, the results showed that there was no significant difference between grade, X^2 (2) = .667, p = .717. For cognitive reappraisal, the results showed that there was no significant difference between grade, X^2 (2) = 2.190, p = .335. For expressive suppression, the results showed that there was no significant difference between grade, X^2 (2) = .710, p = .701.

5.9.4 Section Summary

No significant differences were found between RSES, ERQs, BSES, DSES, ASES and ASES_grade and fairness, information from the assessor and grade. The only significant correlations that were found were between ERQ_S, and RSES and students feeling the grade they received after the summative assessment was fair.

6 Discussion

The following will discuss the main findings of this thesis. First, it will address the findings contribution to the literature. Secondly, it will address the practical implications, the conceptual and methodological contributions of this study. Thirdly, it will address the limitations. Lastly, it will address the recommendations for future research.

6.1 Contribution to the Literature

This thesis has presented four research questions that addressed the relationships between trait self-esteem, emotional regulation, students' experience with summative assessment and students' background characteristics. The main findings in relation to each research question were: **RQ1.** There is a relationship between trait self-esteem and emotional regulation, **RQ2.** There is a relationship between students' trait self-esteem and their experience before, during and after the summative assessment, including after receiving the grade, **RQ3.** There is no relationship between students' emotional regulation and their experience with summative assessment, **RQ4.** There are no significant differences between students' trait self-esteem, emotional regulation, experience with summative assessment and their background characteristics. This section will discuss these main findings in more detail.

6.1.1 RQ1: Trait Self-Esteem and Emotional Regulation

For trait self-esteem and emotional regulation, emotional cognitive reappraisal had a positive significant correlation, and emotional expressive suppression had a negative significant correlation. In other words, this thesis found that students who regulate their emotions using the cognitive reappraisal technique also tend to have a higher trait self-esteem. On the other hand, students who regulate their emotions using the expressive suppressive technique also tend to have lower trait self-esteem. These results were consistent with the literature (Gross &

John, 2003; Velotti et al., 2017); students who tend to use one or the other emotional regulation technique will also tend to have either a low or high trait self-esteem (Gross & John, 2003; Velotti et al., 2017). It is also important for the assumptions about trait self-esteem and emotional regulation. First, according to de Ruiter et al. (2017) assumption that trait self-esteem has an interrelated relationship to the experiences that an individual has (de Ruiter et al., 2017) and that trait self-esteem can present itself in these experiences through the way an individual responds to an experience (Metalsky et al., 1993; Ralph and Mineka, 1998; Crocker & Luhtanen, 2003; de Ruiter et al., 2017). Secondly, according to Gross and John's (2003) assumption that the emotional regulation technique an individual uses more often can change the way an individual reacts or responds in a certain experience (Gross & John, 2003). These two assumptions both describe trait self-esteem and emotional regulation having a connection to an individual's response or reaction in a situation. This study's finding that trait self-esteem and emotional regulation have significant relationships can be explained by their connection to an individual's response or reaction in a certain experience. This relationship can also be explained on how lower trait self-esteem individuals tend to have lower well-being, show more depressive symptoms, and have less satisfaction in successful situations (Crocker & Wolfe, 2001; Salmela-Aro and Nurmi, 2006; Hallsten et al., 2012; Kapikiran & Acun-Kapikiran, 2016; Fairlamb, 2020; Holopainen et al., 2020). Similarly, users of the expressive suppression technique also tend to show more depressive symptoms, have less satisfaction with their life, and have lower self-esteem (Gross & John, 2003).

6.1.2 RQ2: Trait Self-Esteem and Experience with Summative Assessment

According to the findings, before the summative assessment emotional state and during the summative assessment emotional state had significant positive correlations to trait self-esteem. This means that students who tend to have a higher trait self-esteem also tend to have a more positive emotional state before and during the summative assessment experience. Since trait self-esteem can determine the way an individual reacts or responds in a specific experience, the assumption is that an individual with high trait self-esteem will experience a situation more positively than their counterparts whether or not the experience is a positive one (Metalsky et al., 1993; Ralph and Mineka, 1998; Crocker & Luhtanen, 2003; de Ruiter et al., 2017). Students with high trait self-esteem will also tend to have more perseverance in situations that are hard and cause distress (Holopainen et al., 2020). Low trait self-esteem individuals tend to dwell on

negative emotions and have more inclination towards more negative moods (Rosenberg, 1965; Crocker & Wolfe, 2000). This can provide an explanation as to why low trait self-esteem students do not tend to look at the before and during summative assessment experience in a positive way.

A closer look found that stress, before and during the summative assessment, had a significant correlation to trait self-esteem. This indicated that students who have high trait self-esteem are also more prone to feelings of stress before their summative assessment. Yet, during the summative assessment are prone to feeling less stress. As the correlation was negative, this indicated that students with low trait self-esteem were prone to more stress during the summative assessment experience. Due to the fact that stress is seen to be prominent in the academic context (Metalsky et al., 1993; Crocker & Luhtanen, 2003; Eisenberg et al., 2013; Larcombe et al., 2016) this relationship was expected. Yet, high trait self-esteem students did not stress during the summative assessment experience as much, which can indicate that low self-esteem students were not feeling as competent in their abilities as high trait self-esteem students were. This could be explained by students with high trait self-esteem being more satisfied with themselves then their counterparts (Salmela-Aro & Nurmi, 2006). Despite that high trait self-esteem is argued in not being a strong predictor for students' successes and failures (Baumeister et al., 2003; Trautwein et al., 2006) it still is seen to influence students' perceptions of success (Crocker et al., 2002; Salmela-Aro & Nurmi, 2006; Trautwein et al., 2016). Trait self-esteem is, by definition, how one-self feels they are worthy (Rosenberg., 1965; Greenberg, 2008; Fairlamb, 2020). It can then be assumed that students with high trait self-esteem feel more worthy in the experience they had. So, when the process of conducting the assessment was in place, the nerves and stress they felt beforehand were potentially overpowered by their feelings of worth and competency in their own abilities. Hence, students did not stress during the summative assessment as much. The preparation and feelings of worth became more present during the assessment because they were able to put forth the knowledge they knew they had. This relationship could also indicate that students have contingent self-esteem (CSE). Crocker and Luhtanen (2003) found that students who were prone to more stress had their self-esteem contingent on academic achievement. This does not mean that a student needs to have either low or high trait self-esteem despite studies indicating that CSE is more prone to lower self-esteem (Crocker & Luhtanen, 2003).

Despite this study not looking at this area, another way to explain the relationship before and during the summative assessment, could be the amount of investment students placed into the preparation before their summative assessment. Since, summative assessment usually encompasses more essay, short quiz, exam types of assessments, some form of preparation could be needed for some of these assessment types. If high trait self-esteem students are more prone to stress, perhaps they also prepared more before the summative assessment which could indicate the feelings of stress. As well as the desire to achieve a certain outcome during the assessment, could produce more feelings of stress during the experience. Students who have low self-esteem as well as a more pessimistic view about situations tend to stress more over exams than higher trait self-esteem students (Metalsky et al., 1993). Despite this study finding the relationship was between high self-esteem students and stress, it is important to discuss whether an individual's own perspective on the experience could have presented different results as well.

According to the findings, trait self-esteem and directly after the summative assessment emotional state had a positive significant relationship. This indicated that students with high trait self-esteem had a more positive emotional state after their experience. Similarly, trait self-esteem and after receiving the grade had a positive significant relationship. This indicated that students with high trait self-esteem also had a more positive emotional state after receiving their grade. Once again, these relationships were assumed as an individual's trait self-esteem contributes to the way an individual processes and views experiences (Metalsky et al., 1993; Ralph & Mineka, 1998; Crocker et al., 2002; Crocker & Luhtanen, 2003; Salmela-Aro & Nurmi, 2006; Trautwein et al., 2016). Interestingly, trait self-esteem and whether students felt the grade received after the summative assessment was fair was also related. The relationship was positive which indicated that students who tended to have higher trait self-esteem also felt the grade was fairer than their counterparts. This can also be explained similarly as the above findings, that students with higher trait self-esteem tend to experience a situation more positively than those with lower self-esteem (Metalsky et al., 1993; Ralph and Mineka, 1998; Crocker & Luhtanen, 2003; de Ruiter et al., 2017). The feeling of the grade received being fair can also indicate that the students with higher trait self-esteem felt the experience was more positive and did not need to associate negative connotations to the after experience.

This relationship could be explained further if CSE were to have been measured in this study. CSE is dependent on experiences and an individual would then need to satisfy, impress, or

achieve specific outcomes in order to increase their self-esteem (Crocker & Luhtanen, 2003; Hallsten et al., 2012; Schwinger et al., 2017). Assessment measures a student's success or failure in the academic context. So, an individual who places their self-esteem onto academic achievements could feel a constant feeling of not achieving success. If this had been measured in this study, a further reasoning could have been found between students' trait self-esteem and their experience with the directly after and after receiving the grade emotional state.

As there were no significant differences found between grade, trait self-esteem, and after the summative assessment experience, we cannot know if this relationship played a role in students' emotions during the summative assessment experience. This finding is contradictory to research, as studies indicate that grades have a relationship to trait self-esteem and emotions (Swann et al., 1992; Metalsky et al., 1993; Ralph & Mineka, 1998; Brown & Marshall, 2001; Crocker et al., 2003; Crocker & Luhtanen, 2003; McMorran et al., 2017). One reason for this relationship not showing any difference could be methodological. Rather than asking students to put the numerical or alphabetized grade they received, the question was formatted by asking students to explain whether the grade was lower, higher or the same as they expected to receive.

This study does ask students to reflect back onto their last summative assessment. There was no question presented that addressed when the last summative assessment took place. Therefore, there can be many experiences that a student has had in the time between the experience and taking this questionnaire. The experiences that the student has had in this time period can also have contributed to their trait self-esteem in the moment of taking this questionnaire. Hence, the relationship between a students' trait self-esteem in all these four phases could also be related to various experiences that happened in this undisclosed time period.

6.1.3 RQ3: Emotional Regulation and Experience with Summative Assessment

This study found that emotional regulation had no relationship to students' experience with summative assessment. In order to explain this result, first a closer look at the conceptualization of emotional regulation should be addressed. The two strategies that were looked at were cognitive reappraisal and expressive suppression. According to Gross and John (2003) cognitive reappraisal happens earlier in the emotional development stage and changes the

emotion during its development into a more positive or negative one. With this strategy an emotion can develop from being a negative emotion to a positive emotion. Individuals who tend to use this strategy more frequently tend to not linger on the emotion. As this study asked students to think back to their last summative assessment, it requires individuals to think back onto the experience and present emotions from their memory. As the emotion has been dealt with and resolved for individuals who use the cognitive reappraisal technique, looking back onto the experience may not have the exact emotions that were present during their actual completion of the assessment. Similarly, for the expressive suppression, individuals will tend to linger on the emotions they felt before, during and after the summative assessment experience which could have changed or altered their trait self-esteem as well as the reality of the summative assessment experience (Gross & John, 2003). This study may have produced different results if directly after the summative assessment students were to reflect on their experience. Not only that but perhaps a longitudinal study on two points in time, where individuals were asked about their emotional state before the summative assessment along with their emotional regulation, and another questionnaire after to see whether individuals were using the technique in that exact experience.

A relationship was found between the emotional expressive suppression technique and students feeling the grade they received was fair. This relationship explains that students who tend to use the expressive suppression technique more also felt the grade they received was fair. This finding is very interesting but can be argued to being what is expected. An individual who uses the expressive suppression technique is more likely to view a negative situation as negative without being able to alter it (Gross & John, 2003). They are also seen to be less optimistic about situations and have lower trait self-esteem (Gross & John, 2003). In addition to Gross and John's (2003) conceptions about expressive suppression, it can also be related to the findings of Ralph and Mineka (1993). They suggest that an individual with low self-esteem will tend to desire self-verification from negative experiences since this experience would contribute to this individuals outlook on themselves (Ralph & Mineka, 1993; Swann et al., 1992 as cited in Ralph & Mineka, 1998). This study has already found that trait self-esteem and emotional regulation have a relationship. Hence, presenting trait self-esteem alongside this finding is understandable. In summary, this specific finding between expressive suppression and fairness can be attributed to the assumption that students who use this technique feel less optimistic and dwell on the negative emotions, resulting in them not having the energy or mental state to feel the need to view the grade any other way then fair. Secondly, it can be

attributed to the relationship between emotional regulation and trait self-esteem and that these students will tend to be satisfied with experiences that contribute to their trait self-esteem. Despite these arguments, this study did not find the grade one received was related to trait self-esteem or emotional regulation. If this had been found, this finding could have been better speculated upon.

6.1.4 RQ4: Self-Esteem, Emotional Regulation and Background Characteristics

In previous research, trait-self-esteem has been showed to have a relationship to age, gender, and discipline (Robins et al., 2001; Hallsten et al., 2012; Bleidorn et al., 2016; Velotti et al., 2017). Despite previous research finding this relationship, this study found no such relationship between trait self-esteem, age, gender, and discipline. This is contradictory to findings, as younger females tend to have lower self-esteem than their counterparts (Robins et al., 2001; Hallsten et al., 2012; Bleidorn et al., 2016; Velotti et al., 2017). This finding could be explained by the sampling method that was chosen. Convenience sampling does not guarantee that the sample is distributed evenly, resulting in this study's sample having a far larger percentage of females in it then males.

In regard to discipline, Crocker et al. (2003) found that self-esteem could be related to the feelings that an individual has in the discipline or faculty. This study found no significant differences between students' trait self-esteem, emotional regulation and faculty and discipline. This finding can once again be potentially explained by the distribution of participants between faculty and discipline. Since faculty and discipline was highly distributed between educational sciences, social sciences, business, economics, and management. Each discipline and faculty have different ways of formatting and completing assessments. If this study focused solely on one faculty or discipline perhaps the relationship would be different as there would be a more contained and clear consistency between the assessment type that students experienced throughout their degrees. Also, this study did not consider CSE which could be the determining factor between trait self-esteem and faculty and discipline (Crocker et al., 2003; Hallsten et al., 2012). Students' degree was also found not to have any significant difference between students' trait self-esteem and emotional regulation. This variable was considered because pervious research suggested that being either an undergraduate or graduate student determines how much experience an individual has with completing assessments (Crocker & Luhtanen, 2003;

Hallsten et al., 2012). CSE was seen to increase throughout HE (Crocker & Luhtanen, 2003; Hallsten et al., 2012) and in some studies trait self-esteem as well (Salmela-Aro & Nurmi, 2016). Since there was no significant difference found, this study cannot make further analysis on whether time spent in HE could play a part in students' trait self-esteem. Initially, the questionnaire did include a question about the total semesters a student had been enrolled in throughout their entire education. Yet, due to methodological issues, the question was removed. This is an area that could be considered in future research.

This study found only one difference in male and female participants regarding expressive suppression. It was found that males tended to use the expressive suppression technique more than female participants. This finding is interesting as it could have been assumed that as females tend to have lower trait self-esteem (Robins et al., 2001; Hallsten et al., 2012; Bleidorn et al., 2016; Velotti et al., 2017) they would also tend to use more of the expressive suppression technique.

6.2 Practical Implications

The relationship between trait self-esteem and emotional regulation is important for HE to understand. This thesis has found that summative assessment does bring forth various emotions in students. Summative assessment is a constant part of HE and could be considered an altering experience. This study has argued that students' trait self-esteem and emotional regulation contribute to students' experience with summative assessment as well as the summative assessment experience having the potential to alter a students' trait self-esteem. Three main implications to the HE academic context can be addressed from this study. First it is important for HE to understand that trait self-esteem can fluctuate when an individual is under situations that cause shifts in their state self-esteem (de Ruiter et al., 2017). Also, that summative assessment has shown to be related in some contexts to students' trait self-esteem. Secondly, mental health issues are becoming more prominent in the higher education sector (Eisenberg et al., 2013; Larcombe et al., 2016). A constant low trait self-esteem can present individuals with feelings associated with mental health issues and affect student well-being (Crocker & Wolfe, 2001; Hallsten et al., 2012; Kapikiran & Acun-Kapikiran, 2016; Fairlamb, 2020; Holopainen et al., 2020). This is important for the HE sector to understand. Constant stressors and negative experiences can alter a students' trait self-esteem. If a student is unwell, either physically or mentally, learning in HE can be affected drastically. Students who are well will

most likely learn better and gain more from their HE experiences. It is not the responsibility of HE to assist students' trait self-esteem development. Yet, HE does have the responsibility to teach and for students to learn. If there are areas that contribute to students having more tendency to become unwell, it is an important area for HE and educators to discuss. Finally, a student's summative assessment experience can also contribute further to students' trait self-esteem if the student is more prone to use the emotional suppressive expressive strategy in coping with emotion inducing experiences. Since summative assessment has now been established as an emotion inducing experience, this relationship provides further support towards HE and educators to address the influences that summative assessment can have on students.

Along with the three main implications that were addressed, addressing the implications on educators and their role in assessment is important. Summative assessment is not the only form of assessment in HE, formative assessment also contributes to students learning. Along with formative assessment is feedback. Ensuring students receive feedback in their summative assessment could allow the student to process the emotions they feel after the summative assessment. Whether the assessment was positive or negative, feedback could allow the student to gain a clearer understanding of what they have done correctly and incorrectly. This could help the negative emotions that are potentially dwelling inside the student. Since trait self-esteem can alter and change based on experiences, having feedback during this specific emotion provoking area could help maintain or develop a student's trait self-esteem. It is understood that not every teacher has the time to implement feedback processes into each assessment. Nevertheless, understanding that this can help aid in students' development of their trait self-esteem is an important practical implication to understand. Yet, despite this, this study found that there was no significant relationship between trait self-esteem and student's receiving comments on their summative assessment. As has been discussed, feedback could have aided students' feelings, but this study's findings indicate otherwise. This could be due to the process that the summative assessment goes through in order to get assessed. Dependent on the assessment in question, often assessments are submitted and in the span of a set number of weeks a grade is given. If comments were to be received alongside the grade, it would often be in this time period. Therefore, the emotions and change or alterations to the trait self-esteem could have already occurred in this time frame. It is known that assessing takes time and effort from the educator. To make suggestions on the process of assessing would be misplaced as

more research would need to be taken in order to do so. Despite this, there could be areas that may aid a student in enhancing their learning that an educator could possibly do.

6.3 Conceptual and Methodological Contributions

De Ruiter et al. (2017) conceptualization of trait self-esteem was important for this study. It provided clear insight into the way an individual's self-esteem can alter and develop due to experiences. If time allowed, this study could have considered students' state self-esteem with another scale as well. This could have provided insight into the state self-esteem an individual came with when conducting the questionnaire and compare the summative assessment experience with that as well. Gross and John's (2003) conceptualization that was used for emotional regulation was a concept that the thesis author has reflected on after conducting the analysis. Reflections on this conceptualization have already been discussed previously. In conclusion, there may have been a need for a concept that addressed emotional state in a different way. Emotional regulation addresses the techniques the individual uses which can also develop and adapt similarly to an individual's trait self-esteem. It is a challenging concept to give justice to in a study that focuses on past memorize of a student. Perhaps, Gross and John's (2003) emotional regulation would have been better suited if the study was conducted in a closer time frame to the student's summative assessment experience. Despite this, the concept that individual's use either cognitive reappraisal or expressive suppression to handle their emotions does contribute to the understanding that emotions are not straight forward, easy to measure or explain. Especially when an individual can use both techniques.

This study has constructed four new scales to address student's summative assessment experience. These four scales addressed students' summative assessment experience through focusing on students' emotional state before, during, directly after and after receiving the grade. All four scales had good internal reliability and produced significant relationships that were able to be explained and contributed to the overall literature in the field of assessment. Assessment is often looked solely through the after receiving the grade, and these four new scales have the possibility to be developed further in order to look closer at the entire summative assessment experience of a student. Each phase gives future researchers the possibility to focus closer on students' emotional state in either one of the phases or all together.

6.4 Limitations

After conducting this study, the thesis author has noted several areas that could have limited the research. First, regarding methodology, as already briefly mentioned in chapter four, the use of convenience sampling to gain participants limited the population's representation of the sample. Stratified random sampling could have been used in order to achieve more representation between students' background characteristics.

A pilot study could have been considered if time had allowed. A pilot study would have provided insight into issues that arose with some of the questions, such as semesters and the assessment type. A pilot study could have also aided in realizing that the emotions that were placed into each of the phases of the summative assessment experience were not continuous. Meaning that the same emotions could have been presented in each of the phases. For example, stress was only placed into the before and during phases, but that does not mean that students may not feel stress after the assessment. Since stress is also prevalent in students' after receiving the grade (Metalsky et al., 1993; Crocker & Luhtanen, 2003; McMorran et al., 2017; Christie & Morris, 2021). More consistency with the emotions in each phase could have provided different results in the findings. These changes could have also improved the content validity of the study. The consistency throughout each of the four scales could have increased the validity in measuring the emotional state in a more harmonious way. A pilot study would have also aided in catching some methodological issues that occurred once analysis began. Some of the questions that were in the original questionnaire were removed in the analysis as it was realized they were not able to be used in inferential statistics. A pilot study could have given insight into some of the issues that arose and therefore been changed in order to provide adequate data to conduct tests on.

The thesis author has also reflected on asking students to look back at their summative assessment experience. The assumption was that the use of the emotional suppression technique may influence the emotion in a way that the individual dwells on the negative feelings they experienced for longer which could in turn influence the individual's trait self-esteem (Gross & John, 2003; de Ruiter et al., 2017). The study fails to consider the impact of students reflecting back onto an experience. As the questionnaire did not ask students when they had the summative assessment experience, students could be remembering an experience from many months ago. An emotion can dwell and influence an individual's trait self-esteem,

we cannot guarantee that this did not occur in their last summative assessment. That the emotions that were present during the summative assessment are the same as they were when they answered the questionnaire. Evidently, if time allowed this study would have conducted a study in relevant time to assess the experience rather than base the experience off of students' memory. Also, this research does not consider the influence that outside variables could have had on student reflections of their summative assessment. Such as relationships, financial stressors, class attendance, test anxiety, or other mental health issues. Since all have shown to influence self-esteem, emotional regulation and emotions that are present in assessment (Crocker & Wolfe, 2001; Hallsten et al., 2012; Eisenberg et al., 2013; Dan et al., 2014; Larcombe et al., 2016; Holic & Cretu, 2018; Sari et al., 2018; Fairlamb, 2020).

In regard to the validity of the study, as emotions clearly have various developmental and strategies that are included in its research (Gross & John, 2003), the thesis author could have tried and found an expert in the area to look at the categorization of the emotions, as well as the emotions chosen. More focus on emotions, emotional developmental could have been necessary for this thesis. Yet, as it is a preliminary study on the relationships, it does not drastically impact the findings of this study.

6.5 Future Research

During the completion of this thesis, there were a few areas that sparked interest for potential further research. First, a complete study that looks at students' CSE, trait self-esteem, test anxiety, and emotions throughout the various phases could present more clear findings about students' experience with summative assessment. This could show more indication to what exactly the relationship is between students and summative assessment. Secondly, the thesis author would recommend for outside variables to be considered in future research. Outside variables such as constant stressors in one's family, finances, relationships, etc. could create fluctuations that could influence the research; therefore, they would need to be addressed. Thirdly, looking closer at students' academic achievements could present another way of understanding how students' respond and react during the summative assessment experience. Students who are high achievers may experience the assessment process before and during differently than others. This could also show whether high achieving students tend to show more negative emotions before and during the assessment, but once receive the grade feel better about their accomplishment. This area would benefit from looking at CSE alongside these

relations as many students may have CSE which could present different outcomes. Fourthly, there is a potential need to look closer at the phases of the summative assessment experience. As mentioned shortly before, students' preparation before a summative assessment could lead to various different emotions being present in the experience. Finally, this thesis author would recommend future research to look closer at disciplinary and faculty differences. Despite this study not finding any significant difference, a comparison between disciplines and faculties with enough participants could be significant to summative assessment research.

Self-efficacy is another area that could be studied alongside trait self-esteem and students' experience with summative assessment. Self-efficacy is the expectations that one gives to themselves in order to succeed (Bandura, 1997). It is about an individual's belief in their own actions and goals (Bandura, 1997; Artino, 2012). According to Artino (2012), if an individual lacks the belief in their own capabilities it will affect how they complete a task or a goal. This study has indicated that an individual's experience can be determined by their trait self-esteem (Metalsky et al., 1993; Ralph & Mineka, 1998; Crocker et al., 2002; Crocker & Luhtanen, 2003; Salmela-Aro & Nurmi, 2006; Trautwein et al., 2016). Including self-efficacy into this study could have also given another dimension to look closer at. Hence, future research could include self-efficacy as assessment also includes an individual's views about their capabilities and goals.

7 Conclusion

This thesis embarked to look at the relationship between students' experience with summative assessment, emotional regulation, and trait self-esteem. Using an analytical cross-sectional design, an online questionnaire was administered to address the research aims. The study found that student trait self-esteem and emotional regulation have significant relationships. In addition, it found that students' trait self-esteem and summative assessment experience were related. Solidifying the need for more studies in the area to help better understand how HE institutions can aid their student's well-being. Interestingly, no significant findings were found between students' usage of an emotional regulation technique and experience with summative assessment. This finding was explained by the fact that the summative assessment experience was a past recollection done by students. If the questionnaire had been presented directly after the students' summative assessment experience, perhaps this would have provided better insight into this relationship. In other words, this study could have benefited from a different

approach to looking at how students deal with their emotions. As assessment is constantly encompassed by a variety of emotions.

This study contributes to the academic world in the realization that individual trait self-esteem can contribute to a vast area and that the emotions that are present during, before and after a summative assessment are not easily identified. This study gives a glimpse into an area that could be researched further in order to benefit students' self-esteem, simultaneously benefiting student well-being and mental health. Not only would the benefits contribute to well-being and mental health, but if a student is feeling well they will most likely also learn better which is an explicitly important part of the HE system. This study has contributed methodologically to the academic world by developing four internally reliable scales that address student emotional state in four possible phases of the summative assessment. Summative assessment is here to stay and because of this it is important to look at the relationship it has to students in various ways. This study intended to present the necessity in furthering research on the area of assessment and student's self-esteem.

Assessment is a constant in HE and the relationship it has to individual's trait self-esteem is confirmed. Yet, as self-esteem is a complex area that can be affected by the way an individual regulates their emotions and experiences, further study on its relation to summative assessment experiences is needed. Students in HE are seen to be more susceptible to mental health issues and acknowledging the role that trait self-esteem contributes to this is important. If the HE system could develop more ways of aiding students in developing their self-esteem and developing assessment processes that aids this process, students could enhance their learning.

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Appendices

Appendix A

Survey Invitation Post in Facebook Groups – Norwegian

Hei alle sammen!

Er du student på et norsk universitet, og interessert i selvtillit?

Fyll ut denne nettundersøkelsen https://nettskjema.no/a/244719

Det tar bare 5-10 minutter.

Undersøkelsen gjøres på engelsk, men alle norske studenter kan delta.

Infoen du gir er anonym og skal brukes til min masteroppgave om forholdet mellom selvfølelse og vurdering.

Jeg setter veldig pris på all deltakelse!

Appendix B

Survey Invitation Post in Facebook Groups – English

Hi everyone!

Are you a student enrolled in a Norwegian university and wondering about how assessment affects our self-esteem?

Fill out this online survey https://nettskjema.no/a/244719

It only takes 5-10 minutes.

This is for my masters thesis which aims to know more about the relationship between summative assessment and students' self-esteem.

All students enrolled in Norwegian universities are able to participate and you do not need to be an international student to participate.

All data is anonymous.

Thanks ahead of time for your participation!

Appendix C

Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965, p. 17-18)

RSES1. I feel that I am a person of worth, at least on an equal plane with others.

RSES2. I feel that I have a number of good qualities.

RSES3. All in all, I am inclined to feel that I am a failure.

RSES4. I am able to do things as well as most other people.

RSES5. I feel I do not have much to be proud of.

RSES6. I take a positive attitude toward myself.

RSES7. On the whole, I am satisfied with myself.

RSES8. I wish I could have more respect for myself.

RSES9. I certainly feel useless at times.

RSES10. At times I think I am no good at all.

Appendix D

Emotional Regulation Questionnaire (ERQ) (Gross & John, 2003, p. 351)

Reappraisal factor (ERQ_R)

ERQ1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.

ERQ3. When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.

ERQ5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

ERQ7. When I want to feel more positive emotion, I change the way I'm thinking about the situation.

ERQ8. I control my emotions by changing the way I think about the situation I'm in.

ERQ10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.

Suppression factor (ERQ_S)

ERQ2. I keep my emotions to myself.

ERQ4. When I am feeling positive emotions, I am careful not to express them.

ERQ6. I control my emotions by not expressing them.

ERQ9. When I am feeling negative emotions, I make sure not to express them.

Appendix E

Questions for Experience with Summative Assessment (BSES, DSES, ASES, ASES_grade)

Think of the last summative assessment you have had.

Summative assessment is any assessment you have received a grade for. If you last summative assessment has *not yet been graded*, think of another where you have already received a grade. Please answer the following questions with that experience in mind.

What type of assessment task was it?

Written Essay
Oral/presentation
Exam
Portfolio/project
Short quiz/test
Journal/blog/reflective piece
Laboratory/practical or other skills-based tests
At home assessment
At the university assessment
Other

What types of information did the assessor provide?

Grade and comments
Comments only
Grade only

BSES. Before you started the assessment, to what extent do you agree with the following statements?

BSES1. I felt stressed

BSES2. I felt excited

BSES3. I felt frustrated

BSES4. I felt calm

DSES. With that same assessment in mind, please answer the following.

DSES1. During the assessment, I felt it was going well.

DSES2. During the assessment, I felt bad about myself.

DSES3. During the assessment I felt stressed.

DSES4. During the assessment, I felt good about myself.

With that same assessment in mind, think about how you felt *after* the assessment. Consider as well the grade you received *after* the assessment. Please answer the following.

ASES1. After the assessment, I felt like a failure

ASES2. After the assessment, I felt I needed to comfort myself.

ASES3. After the assessment, I was pleased with myself.

ASES4. After the assessment, I felt good about myself

ASES5. After the assessment, I was not satisfied with myself.

Which of the following best describes the grade you received?

Lower than expected
Same as expected
Higher than expected

After receiving the grade, I felt it was fair.

ASES_grade. After receiving the grade, to what extend do you agree with the following statements?

ASES_grade1. I felt angry

ASES_grade2. I felt calm

ASES_grade3. I felt frustrated

ASES_grade4. I felt happy

ASES_grade5. I felt proud

I have experienced similar feelings with more than one previous assessment.

Yes
Somewhat
No

Appendix F

Demographic Questions

Please choose one of the answers for each question that is most applicable to you.

1. What is your gender? *

- ○ Female
- ○ Male
- ○ Other
- ○ Prefer not to say

2. What is your age? *

- ○ Under 18
- ○ 18-24
- ○ 25-29
- ○ 30-34
- ○ 35+

3. What degree are you taking? *

- ○ Bachelors Degree
- ○ Masters Degree
- ○ Other

4. How many semesters have you been enrolled in? *

Including all your studies up to this point.

5. What faculty or discipline are you currently in?

Other

Appendix G

Correlation Matrix of each item in BSES, DSES, ASES, ASES_grade, RSES and ERQs

Correlations

			BSES1	BSES2	BSES3	BSES4	DSES1	DSES2	DSES3	DSES4	ASES1	ASES2	ASES3	ASES4	ASES5	ASES_grade1	ASES2_grade	ASES_grade3	ASES4_grade	ASES5_grade	RSES	ERQ_R	ERQ_S
Kendall's tau_b	BSES1	Correlation Coefficient	1.000	.258**	.563**	.600**	.259**	.339**	.486**	.343**	.395**	.280**	.309**	.336**	.256**	.200*	.224**	.200*	.104	.179*	.212**	.123	-.089
		Sig. (2-tailed)	.	.001	<.001	<.001	.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.001	.014	.005	.013	.193	.023	.003	.098	.219
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	BSES2	Correlation Coefficient	.258**	1.000	.376**	.286**	.290**	.190*	.296**	.357**	.243**	.203*	.218**	.244**	.220**	.220**	.123	.221**	.197*	.276**	.072	.079	.029
		Sig. (2-tailed)	.001	.	<.001	<.001	<.001	.016	<.001	<.001	.002	.010	.006	.002	.005	.007	.123	.005	.012	<.001	.317	.267	.682
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	BSES3	Correlation Coefficient	.563**	.376**	1.000	.555**	.326**	.377**	.497**	.477**	.426**	.340**	.362**	.432**	.344**	.307**	.269**	.338**	.238**	.285**	.108	.022	.009
		Sig. (2-tailed)	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.002	<.001	.126	.760	.896
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	BSES4	Correlation Coefficient	.600**	.286**	.555**	1.000	.329**	.349**	.494**	.372**	.337**	.303**	.288**	.293**	.251**	.158	.252**	.173*	.066	.113	.067	.101	.009
		Sig. (2-tailed)	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.001	.050	.002	.029	.402	.148	.349	.156	.905
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	DSES1	Correlation Coefficient	.259**	.290**	.326**	.329**	1.000	.569**	.423**	.552**	.414**	.339**	.445**	.448**	.408**	.300**	.360**	.305**	.328**	.323**	.137	.056	.036
		Sig. (2-tailed)	.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.056	.433	.622
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	DSES2	Correlation Coefficient	.339**	.190*	.377**	.340**	.569**	1.000	.494**	.561**	.518**	.339**	.404**	.486**	.435**	.307**	.338**	.288**	.293**	.359**	.257**	.066	-.067
		Sig. (2-tailed)	<.001	.016	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.349	.346
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	DSES3	Correlation Coefficient	.486**	.296**	.497**	.494**	.423**	.494**	1.000	.525**	.426**	.338**	.401**	.442**	.343**	.247**	.269**	.232**	.218**	.274**	.169*	.080	-.003
		Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	.002	<.001	.003	.006	<.001	.019	.262	.971
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	DSES4	Correlation Coefficient	.343**	.357**	.477**	.372**	.552**	.561**	.525**	1.000	.463**	.297**	.471**	.536**	.455**	.234**	.243**	.224**	.230**	.392**	.126	.002	-.041
		Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	.004	.003	.005	.004	<.001	.082	.982	.574
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES1	Correlation Coefficient	.395**	.243**	.426**	.337**	.414**	.518**	.426**	.463**	1.000	.570**	.703**	.735**	.700**	.516**	.410**	.498**	.474**	.536**	.131	.026	.093
		Sig. (2-tailed)	<.001	.002	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.068	.719	.197
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES2	Correlation Coefficient	.280**	.203*	.340**	.303**	.339**	.339**	.338**	.297**	.570**	1.000	.507**	.487**	.477**	.414**	.326**	.407**	.357**	.356**	.185*	.050	.000
		Sig. (2-tailed)	<.001	.010	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.009	.481	.996
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES3	Correlation Coefficient	.309**	.218**	.362**	.288**	.445**	.404**	.401**	.471**	.703**	.507**	1.000	.861**	.633**	.489**	.423**	.445**	.525**	.567**	.154*	.085	.023
		Sig. (2-tailed)	<.001	.006	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.032	.236	.749
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES4	Correlation Coefficient	.336**	.244**	.432**	.293**	.448**	.486**	.442**	.536**	.735**	.487**	.861**	1.000	.713**	.497**	.476**	.483**	.521**	.629**	.206**	.084	.036
		Sig. (2-tailed)	<.001	.002	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	<.001	.004	.241	.612
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES5	Correlation Coefficient	.256**	.220**	.344**	.251**	.408**	.435**	.343**	.455**	.700**	.477**	.633**	.713**	1.000	.481**	.417**	.542**	.460**	.586**	.165*	.007	-.003
		Sig. (2-tailed)	.001	.005	<.001	.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	<.001	.020	.916	.970
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES_grade1	Correlation Coefficient	.200*	.220**	.307**	.158	.300**	.307**	.247**	.234**	.516**	.414**	.489**	.497**	.481**	1.000	.499**	.733**	.659**	.622**	.097	.075	-.006
		Sig. (2-tailed)	.014	.007	<.001	.050	<.001	<.001	.002	.004	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	<.001	.193	.300	.933
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES2_grade	Correlation Coefficient	.224**	.123	.269**	.252**	.360**	.338**	.299**	.243**	.410**	.326**	.423**	.476**	.417**	.499**	1.000	.533**	.549**	.506**	.108	.024	.015
		Sig. (2-tailed)	.005	.123	<.001	.002	<.001	<.001	<.001	.003	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	<.001	.134	.738	.840
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES_grade3	Correlation Coefficient	.200*	.221**	.338**	.173*	.305**	.288**	.232**	.224**	.498**	.407**	.445**	.483**	.542**	.733**	.533**	1.000	.592**	.677**	.123	-.052	.001
		Sig. (2-tailed)	.013	.005	<.001	.029	<.001	<.001	.003	.005	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	<.001	.085	.466	.989
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES4_grade	Correlation Coefficient	.104	.197*	.238**	.066	.328**	.293**	.218**	.230**	.474**	.357**	.525**	.521**	.460**	.659**	.549**	.592**	1.000	.757**	.127	.048	-.014
		Sig. (2-tailed)	.193	.012	.002	.402	<.001	<.001	.006	.004	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	<.001	.072	.496	.849
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ASES5_grade	Correlation Coefficient	.179*	.276**	.285**	.113	.323**	.359**	.274**	.392**	.536**	.356**	.567**	.629**	.586**	.622**	.506**	.677**	.757**	1.000	.112	.027	-.038
		Sig. (2-tailed)	.023	<.001	<.001	.148	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.	.110	.704	.592
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	RSES	Correlation Coefficient	.212**	.072	.108	.067	.137	.257**	.169*	.126	.131	.185*	.154*	.206**	.165*	.097	.108	.123	.127	.112	1.000	.204**	-.251**
		Sig. (2-tailed)	.003	.317	.126	.349	.056	<.001	.019	.082	.068	.009	.032	.004	.020	.183	.134	.085	.072	.110	.	.002	<.001
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ERQ_R	Correlation Coefficient	.123	.079	.022	.101	.056	.066	.080	.002	.026	.050	.085	.084	.007	.075	.024	-.052	.048	.027	.204**	1.000	-.001
		Sig. (2-tailed)	.088	.267	.760	.156	.433	.349	.262	.982	.719	.481	.236	.241	.916	.300	.738	.466	.496	.704	.002	.	.989
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	ERQ_S	Correlation Coefficient	-.089	.029	.009	.009	.036	-.067	-.003	-.041	.093	.000	.023	.036	-.003	-.006	.015	.001	-.014	-.038	-.251**	-.001	1.000
		Sig. (2-tailed)	.219	.682	.896	.905	.622	.346	.971	.574	.197	.996	.749	.612	.970	.933	.840	.989	.849	.592	<.001	.989	.
		N	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix H

Norsk Senter For Forskningsdata (NSD) Approval Letter

NSD NORSK SENTER FOR FORSKNINGSDATA

Assessment

Reference number

260957

Project title

The relationship of summative assessment on students' self-esteem

Data controller (institution responsible for the project)

Universitetet i Oslo / Det utdanningsvitenskapelige fakultet / Institutt for pedagogikk

Project leader (academic employee/supervisor or PhD candidate)

Rachelle Esterhazy, rachelle.esterhazy@iped.uio.no, tlf: +4722858113

Type of project

Student project, Master's thesis

Contact information, student

Saara Selkomaa, matilda.selkomaa@gmail.com, tlf: +358451561990

Project period

01.02.2022 - 01.12.2022

Assessment (1)

17.02.2022 - Assessed

OM VURDERINGEN
Personverntjenester har en avtale med institusjonen du forsker eller studerer ved. Denne avtalen innebærer at vi skal gi deg råd slik at behandlingen av personopplysninger i prosjektet ditt er lovlig etter personvernregelverket.

Personverntjenester har nå vurdert den planlagte behandlingen av personopplysninger. Vår vurdering er at behandlingen er lovlig, hvis den gjennomføres slik den er beskrevet i meldeskjemaet med dialog og vedlegg.

DEL PROSJEKTET MED PROSJEKTANSVARLIG
For studenter er det obligatorisk å dele prosjektet med prosjektansvarlig (veileder). Del ved å trykke på knappen «Del prosjekt» i menylinjen øverst i meldeskjemaet. Prosjektansvarlig bes akseptere invitasjonen innen en uke.

Om invitasjonen utløper, må han/hun inviteres på nytt.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til den datoen som er oppgitt i meldeskjemaet.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER
Personverntjenester vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål

dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER
Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), og dataportabilitet (art. 20).

Personverntjenester vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

Ved bruk av databehandler (spørreskjemaleverandør, skylagring eller videosamtale) må behandlingen oppfylle kravene til bruk av databehandler, jf. art 28 og 29. Bruk leverandører som din institusjon har avtale med.

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til oss ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde: https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema

Du må vente på svar fra oss før endringen gjennomføres.

OPPFØLGING AV PROSJEKTET
Personverntjenester vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Appendix I

Questionnaire Consent Form

Mandatory fields are marked with a star *

The Relationship Between Summative Assessment and Students' Self-Esteem

Purpose of the project

This study will try to understand the relationship between summative assessment and students' self-esteem. The research project will be done for a master's thesis project in Higher Education at the University of Oslo.

What does participation involve for you?

If you chose to take part in the project, it will involve you filling in this online questionnaire. It will take approx. 5 minutes. Your answers will be submitted and stored anonymously and electronically.

Your personal data will be processed confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). Only the student and supervisor will have access to the annonymous data that is collected. Personal information, such as

- Age
- Gender
- Semesters spent studying
- Program and/or Dicipline that you are in

Will be stored and processed in full anonymity that cannot be traced back to you. Once the project is finished all personal data and digital records will be destroyed.

For this reason, it is not possible to withdraw consent after the survey is submitted, as it will not be possible to identify your data set.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- The student researcher via Saara Selkomaa, by email: (saarase@student.uv.uio.no) or by telephone: +358 45 156 1990
- The University of Oslo via Rachelle Esterhazy (supervisor), by email: (rachelle.esterhazy@iped.uio.no) or by telephone: +47 22 85 81 13
- Our Data Protection Officer: Roger Markgraf-Bye, by email: (personvernombud@uio.no)
- NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 55 58 21 17.

Yours sincerely,

Saara Selkomaa

- *Student*

Rachelle Esterhazy

- *Project Leader*
- *Researcher/supervisor*

Consent *

I hereby understand the information about the project and what my answers will be used for. I give consent:

- To voluntarily participate in the questionnaire
- For the information given to be published in the thesis
- For the data to be stored and processed anonymously for the length of the study

◯ I consent

Appendix J

Items and Coding of the Summative Assessment Experience

Question	Code	Scale item is included in (if applicable)
Before you started the assessment, to what extend do you agree with the following statements?		
I felt stressed.	BSES1	BSES
I felt excited.	BSES2	N/A*
I felt frustrated.	BSES3	BSES
I felt calm.	BSES4	BSES
During the assessment…		
I felt it was going well.	DSES1	DSES
I felt bad about myself.	DSES2	DSES
I felt stressed.	DSES3	DSES
I felt good about myself.	DSES4	DSES
After the assessment…		
I felt like a failure.	ASES1	ASES
I felt I needed to comfort myself.	ASES2	ASES
I was pleased with myself.	ASES3	ASES
I felt good about myself.	ASES4	ASES
I was not satisfied with myself.	ASES5	ASES
After receiving the grade, to what extent do you agree with the following statements?		
I felt angry.	ASES_grade1	ASES_grade
I felt calm.	ASES_grade2	ASES_grade
I felt frustrated.	ASES_grade3	ASES_grade
I felt happy.	ASES_grade4	ASES_grade
I felt proud.	ASES_grade5	ASES_grade
Single-Item Questions		
****What type of assessment task was it?*		N/A**
What type of information did the assessor provide?		N/A**
Which of the following best describes the grade you received?		N/A**
After receiving the grade, I felt it was fair.		N/A**
****I have experienced similar feelings with more than one previous assessment?*		N/A**

** The item has been removed from the scale*

*** Single-Item Questions*

**** The item was removed for further analysis*