

THE DRIVERS BEHIND MOTIVATION

A study of what moderates the effectiveness of self-leadership strategies

Master's Thesis
Meeri Huopainen
Aalto University School of Business
Management and International Business
Spring 2021

Author Meeri Huopainen

Title of thesis The drivers behind motivation: A study of what moderates the effectiveness of self-leadership strategies

Degree Master of Sciences in Economics and Business Administration

Degree programme Management and International Business

Thesis advisor(s) Valentina Arrieta

Year of approval 2021**Number of pages** 65**Language** English

Abstract

While organizations are moving towards flatter hierarchies where employees are given more responsibilities and less supervision, the need for effective motivational regulation has become increasingly more important. Self-leadership used to be something that was only witnessed in expert organizations, but it is now being experimented with across industries and education levels. Therefore, there is growing demand to find out ways to motivate employees without the requirements of rigid hierarchies.

This thesis studied the strategies outlined by the self-leadership theory by testing its strategies' effect on Finnish university students' ($N = 124$) motivation. It also tested gender and regulatory focus orientations as potential moderators for the strategies' effectiveness. The data was collected through an online survey during the fall of 2020.

The findings indicate that only two of the six strategies tested were effective in increasing student motivation: self-goal setting and self-observation. Moreover, self-rewarding was found to decrease student motivation. A high number of strategy use was also linked with increased motivation.

From the moderators tested here, students' regulatory focus did not affect the relationship between student motivation and self-leadership strategies. Gender, however, was found to moderate the effectiveness of self-punishment so that males were more motivated by the use of the strategy than females.

Theoretical implications of the findings are discussed and suggestions for future research regarding the individual differences affecting motivational regulation are given.

Keywords self-leadership, motivation, regulatory focus theory

Tekijä Meeri Huopainen

Työn nimi Vaikuttimet motivaation taustalla: Tutkielma itseohjautuvuusstrategioiden tehokkuuksien moderaattoreista

Tutkinto Kauppateieteellinen maisterintutkinto

Koulutusohjelma Johtaminen ja kansainvälinen liiketalous

Työn ohjaaja(t) Valentina Arrieta

Hyväksymisvuosi 2021

Sivumäärä 65

Kieli Englanti

Tiivistelmä

Samalla kun organisaatiot ovat liikkumassa kohti matalamman hierarkian organisaatiomalleja, joissa työntekijöille annetaan enemmän vastuuta ja heihin kohdistuu vähemmän valvontaa, tarve tehokkaalle motivaationsäätelylle on lisääntynyt. Itseohjautuvuus ei ole enää yksinomaan asiantuntijaorganisaatioiden juttu, vaan sitä on ryhdytty kokeilemaan monipuolisesti monien eri alojen ja koulutustasojen yrityksissä. Tästä syystä on lisääntynyt tarve löytää tapoja motivoida työntekijöitä ilman jäykkiä hierarkioita.

Tässä tutkielmassa tutkittiin itseohjautuvusteoriassa (*self-leadership theory*) esitettyjen strategioiden vaikutusta suomalaisten yliopisto-opiskelijoiden ($N = 124$) motivaatioon. Tässä tutkielmassa testattiin myös sukupuoli ja regulatiivisen fokuksen (*regulatory focus*) orientaatiot mahdollisina moderaattoreina strategioiden tehokkuudelle. Aineisto kerättiin syksyn 2020 aikana sähköisen lomakkeen avulla.

Tulokset osoittivat vain kahden kuudesta testatusta strategiasta johtavan lisääntyneeseen opiskelumotivaatioon: tavoitteiden itseasettaminen (*self-goal setting*) ja itsensä tarkkailu (*self-observation*). Näiden kahden strategian lisäksi itsensä palkitseminen (*self-rewarding*) vaikutti negatiivisesti opiskelumotivaatioon. Mitä useampaa strategiaa opiskelijat käyttivät, sitä motivoituneemmiksi he itsensä kokivat.

Tässä tutkielmassa testatuista moderaattoreista regulatiivisen fokuksen orientaatiolla ei ollut vaikutusta itseohjautuvuusstrategioiden tehokkuuteen. Sen sijaan sukupuoli vaikutti itsensä rankaisemisen (*self-punishment*) tehokkuuteen niin, että miehet motivoituivat strategian hyödyntämisestä enemmän kuin naiset.

Tuloksien teoreettisista implikaatioista keskustellaan ja ehdotuksia tulevaisuuden tutkimuksiin motivaationsäätelyn yksilöllisten erojen osalta tarjotaan.

Avainsanat itseohjautuvuus, motivaatio, regulatiivinen fokus teoria

Table of contents

1 INTRODUCTION	1
2 LITERATURE REVIEW	6
2.1 Can motivation be regulated?	6
2.2 Self-leadership as a practice.....	10
2.3 Exploration of self-leadership strategies.....	11
2.4 Regulatory focus theory explains how sources of motivation can differ	18
2.5 Theoretical framework	21
3 METHODOLOGY	23
3.1 Data collection	23
3.2 Measures	24
3.3 Sample.....	26
3.4 Data analysis	28
3.5 Trustworthiness of the study	32
4 EMPIRICAL FINDINGS	34
4.1 Data descriptives	34
4.2 Linear regressions	35
4.3 ANOVA tests	40
5 DISCUSSION AND ANALYSIS	43
6 CONCLUSIONS	49
6.1 Managerial implications.....	49
6.2 Suggestions for future research.....	50

List of tables

Table 1: Regulatory references of promotion and prevention systems according to regulatory focus theory	18
Table 2: Age groups of respondents	27
Table 3: Universities of respondents	27
Table 4: Field of studies of respondents	28
Table 5: Cronbach's alphas	29
Table 6: Summary of exploratory factor analysis	30
Table 7: Confirmatory factor analysis results	31
Table 8: Means and standard deviations	34
Table 9: Intercorrelations between variables	35
Table 10: Regression results: gender, self-leadership, and motivation	35
Table 11: Regression results: different self-leadership strategies and motivation	36
Table 12: Regression results: gender, self-leadership, regulatory focus, and motivation	37
Table 13: Promotion focus' moderation effect on individual strategies	37
Table 14: Number of strategies used by the respondents	38
Table 15: Regression results: gender, strategy use, motivation	39
Table 16: Regression results: gender, self-punishment, and motivation.....	39
Table 17: Two-way ANOVA descriptives	41

List of figures

Figure 1: The self-determination continuum showing the different types of motivation with their regulatory styles	7
Figure 2: The relationship between self-management and self-leadership	11
Figure 3: Theoretical framework.....	21
Figure 4: Gender moderating the relationship between self-punishment and motivation	40
Figure 5: Results from the two-way ANOVA test	42

1 INTRODUCTION

We all have our reasons for why we wake up early in the morning for work. For some, it is out of necessity for earning a salary and being able to sustain their way of living. For others, the work itself is fun and rewarding, or even an extension of self. Whatever the underlying reason is, that is what we call motivation. When taking this into consideration, it is easy to understand why motivation matters so much: we would hardly get anything done without it.

By definition, motivation can be considered either a state or a process (Winne & Marx, 1989, as cited in Wolters, 2003). From the perspective of a state, motivation refers to the willingness of an individual to “engage in and persist at a task” (Wolters, 2003, p. 190). However, it can also be considered as the process or processes through which an individual seeks a desired end state or engages in goal-directed behavior (Pintrich & Schunk, 2002, as cited in Wolters, 2003). In this thesis, the term motivation is used to cover both definitions (a state and a process) in conjunction.

Recently, research on motivation has extended beyond looking at the effects of motivation into understanding how individuals can manage their motivation. This process is called motivational regulation. It encompasses a wide variety of motivational control, dealing with anything from diagnosing oneself with a lack of motivation to the means with which one aims to increase their level of motivation (Wolters, 2003).

As someone who herself has often struggled with maintaining motivation whether it be with my studies or work or even household chores, it has been an ongoing battle to discover different strategies with which I can refocus my attention from distractions. Therefore, my interest arose specifically towards the various motivational regulation strategies that have been developed as tools for managing motivation. Lots of research has already provided preliminary evidence of their effectiveness (e.g., Napiersky & Woods, 2018; Schwinger & Otterpohl, 2017; Schwinger & Stiensmeier-Pelster, 2012;

Schwinger, Steinmayr & Spinath, 2011; Schwinger, Steinmayr & Spinath, 2009; Simons, Dewitte & Lens, 2004), but there is still a lot to uncover in terms of what mediates or moderates their relationship. While there might not exist any undisputed methods at achieving high motivation for every individual, adding on to what we already know about motivational tools and their efficiency or lack thereof is still valuable information, nonetheless. While we can safely assume that not every tool works for everyone, perhaps we can claim that a set of tools can help a vast majority.

My choice of tools for this study are the behavioral strategies outlined in the self-leadership theory. These tools have been invented primarily to help people working in self-managing jobs to regulate their motivation in such a manner that even without supervision they would be able to get their job done. Generally speaking, employees in self-managing jobs manage all aspects of their work independently. They often set their own goals and working hours, as well as do all the planning that is necessary. Therefore, it can be easy to see why motivation regulation is important in these types of jobs. However, these tools can also be used outside of the context of self-managing jobs. As self-leadership aims to improve an individual's own performance through a set of self-regulatory processes, which include cognitive, motivational, and behavioral strategies (Markham & Markham, 1995), it may be assumed that any context dealing with similar challenges can benefit from self-leadership practices.

Based on these assumptions, I have decided to study motivation within the context of Finnish university students. As Vallerand, Fortier and Guay (1997) note in their paper, the educational setting offers a fruitful context for studying motivation, as students often have high levels of reported intrinsic and identified motivation. Moreover, students often struggle to maintain their motivation as they face various obstacles along the way that impact their learning and achievement (Corno, 1993). They can therefore vastly benefit from being able to regulate their motivation level in order to overcome these hurdles that they face.

Another reason for why Finnish university students makes an interesting sample is that more than half of them work alongside their studies (Tilastokeskus, 2020). Self-leadership skills are particularly useful in the Finnish working life as Finland has one of the highest percentages – 12 % – of remote workers in the EU (Eurostat, 2018). Remote work can be classified as another context where there is limited supervision over an employee’s work, making it rely heavily on the employee’s own ability to manage their productivity.

Moreover, using students allows me to have a more homogeneous sample of respondents. This is because Finnish university students have all very similar possibilities to engage in self-leadership, whereas self-managing companies often set rather variant standards to what they classify as “self-management”. Some implement far more opportunities for employees to choose their ways of working, while others insist on holding onto at least some level of control. Furthermore, since these organizations are all relatively small, it would be difficult to get a large enough sample by using only one of them. Perhaps this is the reason why there are lots of previous research that has used a sample of university students for studying self-management (e.g., Unsworth & Mason, 2016; Lent et al., 2016; Furtner & Rauthmann, 2011).

Research concerning motivation has so far limited itself by assuming that motivational regulation strategies would be “one size fits all” type of a deal. However, besides understanding what the overall effect of these strategies is on motivation and performance, it is valuable to understand how individuals may differ in terms of effective motivational regulation. If we are able to find more specified means of regulating motivation at the individual level, perhaps we can ultimately arrive at a point where people will be able to find out what works for them without having to go through the numerous strategies themselves. My contribution to this topic is the investigation of whether an individual’s regulatory focus impacts the motivational effect of behavioral strategies that are linked with the self-management theory.

According to the regulatory focus theory (Higgins, 1997), people tend to belong to one of two categories: promotion or prevention focus. Individuals in these two categories differ with one another in terms of where they get their motivation from. Promotion-focused students tend to be more intrinsically motivated, as they see studying as a way of gaining personal growth. Prevention-focused students, on the other hand, tend to get their motivation extrinsically. These extrinsic influences can be anything from parental pressure to expectations of future earnings, for example.

The reason for choosing to study regulatory focus specifically in terms of self-leadership success comes from its dualist perspective towards achievement: perhaps students who are more extrinsically motivated have a harder time succeeding in self-leadership, as it requires stricter self-regulation. Maybe there are some strategies that are simply not as effective for those who are externally motivated. It is also entirely possible that some strategies work in fact better for those with a prevention focus rather than a promotion focus. I am therefore curious to see whether an individual's regulatory focus affects how well motivational regulation strategies work as a way of maintaining motivation.

Based on my discussion, three research questions have been formulated to which I seek to find answers through the study:

1. How does the use of self-leadership strategies affect student motivation?
2. How does students' regulatory focus affect their use of self-leadership strategies?
3. What other types of individual differences might explain how effective self-leadership strategies are for upholding student motivation?

The following paper is structured as follows: first, we will have a look at what theory says about motivation, self-leadership, and regulatory foci. Then, a theoretical framework will be presented based on the theory discussed previously. The methodology section will

explain how the study was made to verify or reject the framework. Lastly, findings and analyses will be presented based on the results of the study.

2 LITERATURE REVIEW

2.1 Can motivation be regulated?

Problems with motivation are common, especially in the academic setting. For instance, approximately 50 % of students self-reported that they procrastinate almost always when writing term papers (Solomon & Rothblum, 1995). While procrastination is a complex phenomenon partly explained by self-regulation struggles and self-handicapping (Strunk & Steele, 2011), it is just one of the many negative consequences caused by unsuccessful motivational regulation.

Motivation can be roughly divided into three categories: amotivation, which is the absence of motivation; extrinsic motivation, which is motivation caused by an external influence or influences; and intrinsic motivation, which is the type of motivation that people have when they find the activity itself fun, interesting, and rewarding (Ryan & Deci, 2000).

Not all motivation was created equal. Intrinsic motivation is often praised and sought after as it leads to a number of positive outcomes, such as psychological well-being (Burton et al., 2006) and creativity (de Jesus et al., 2013). But interestingly, intrinsic motivation is not always inherently better than extrinsic motivation. Whereas a task requiring creativity and quality is often performed better by the intrinsically motivated, a task requiring efficiency and quantity over quality works better for the extrinsically motivated (Cerasoli et al., 2014). The reason for this is that those with extrinsic motivation can focus more narrowly on a task when it has a concrete set of requirements needed to fulfil in order to receive compensation (Cerasoli et al., 2014) – so in a way, having tunnel vision (i.e., do this to get that) helps keep attention on what is essential.

The ability to maintain motivation is a key part of self-regulated learning (Schwinger & Stiensmeier-Pelster, 2012), which university studies can easily be categorized as. But what should you do if you find yourself not feeling intrinsically nor extrinsically

motivated enough to perform a task? Is there a way to generate motivation? Technically yes, in fact, there is. Motivational regulation encompasses any activities that an individual engages in that have a purpose of initiating, maintaining, or supplementing the will to start, work toward, or complete a task or a set goal. This is done by deliberately intervening in or controlling the processes that affect one's willingness to engage in those activities (Wolters, 2003). Therefore, anything that a student does to influence their effort or persistence in a task can be considered a form of motivational regulation. They include both physical (i.e. actions) and mental (i.e. thoughts) efforts.

How one regulates their motivation is dependent on what type of motivation they have. While amotivation implies that there is no regulation at all, and intrinsic motivation that there is intrinsic regulation, extrinsic motivation on the other hand has four distinct regulatory styles. Depending on how much of a behavior is driven by the action having personal importance for the individual, the more self-determined or autonomous the motivation, and thus lesser the need for external intervention (Ryan & Deci, 2000).

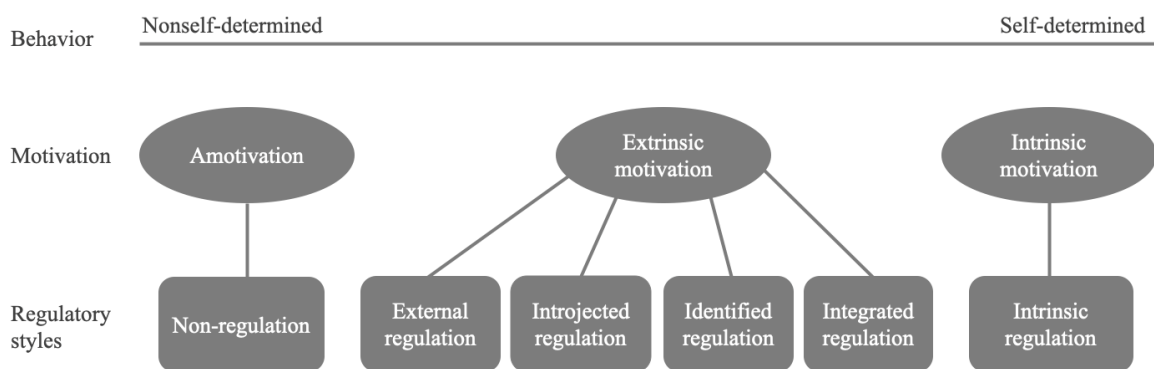


Figure 1. The self-determination continuum showing the different types of motivation with their regulatory styles (adapted from Ryan and Deci [2000]).

While the externally regulated perform an action to simply satisfy an external demand, which could be a person cleaning the kitchen after cooking in order to not upset their roommate, an introjected regulator would do it because they want to avoid feeling shameful themselves for leaving the kitchen dirty. As you move along the continuum

towards intrinsic regulation, the purpose behind an action is more and more determined by personal interest. In the case of identified regulation, the person is willing to do a task because they value the goal it serves its purpose for. Knowing that completing the task brings them closer to their identified values gives them external motivation to finish it. Related to the cleaning example, here the person would value having a clean home, so they are willing to work towards achieving that. Lastly, integrated regulation takes external motivation one step further. Here, the person finds the motivation to perform tasks, because they feel that the goal that they are working towards is an extension of self. Using the same example, the person in this case might identify themselves as a tidy person, so any action supporting that identity is something they feel motivated to work towards – even when the task itself is not enjoyable.

Not only does an individual benefit from knowing what strategies to use to increase one's level of motivation (motivational quantity), but also from knowing how they can influence the type of motivation that they have (motivational quality) (Scholer et al., 2018). Being able to assess the quality and quantity of one's motivation is called metamotivational monitoring, while being able to influence one's motivation through the selection of strategies is called metamotivational control (Miele & Scholer, 2018). A motivational regulation strategy, by definition, is any procedure that has the purpose of influencing one's own motivation (Wolters, 2003).

Engelschalk, Steuer and Dresel (2016) have proposed a 2×3 matrix that sheds light on the various motivational obstacles people face. They are divided across two categories: value problems (e.g., finding doing something to be boring and thus unmotivating) and expectancy problems (e.g., expecting something to be difficult and thus unmotivating). These problems can arise in three phases during the task, which are the pre-actional, actional and post-actional phases. What they found in their study was that students can recognize that there are differences between these motivational states and choose to utilize different strategies depending on the situation that they are facing. Thus, it is likely that students find some strategies to be more effective in certain situations, whereas they may find some strategies more effective in others. Students thus not only need to

recognize motivational problems but also choose a relevant motivational regulation strategy to counteract the issue. For example, if a student finds writing a specific essay for a course to be uninteresting, they can try to increase the enjoyment by listening to a good music album while writing. However, it is not likely to work in a situation where the assignment feels too difficult to even start, so in that case a better motivator might be to write down specific and easily attainable goals or phases in which you complete it.

What is the goal of motivational regulation strategies in an academic context? Interestingly, it is not performance. Motivational regulation strategies have not, in fact, been found to improve learning outcomes, such as GPA, but they instead have a positive relationship with effort management, which in itself is a strong predictor of performance (Schwinger, Steinmayr & Spinath, 2012). Thus, the most important role of motivational regulation strategies is to optimize students' learning efforts (Schwinger & Otterpohl, 2016). Moreover, students who utilize motivational regulation strategies have been found to persist longer when faced with difficult tasks (Schwinger, Steinmayr & Spinath, 2012).

While there exist several competing theories that utilize different kinds of strategies for motivational regulation, they tend to have similarities in many ways. Self-leadership theory is the only notable one that measures specifically self-managing employees' motivational regulation, but student motivation is often measured with the tools outlined by Wolters (2003). They have been specifically developed for the self-regulated learning context, which is also their greatest limitation. As they are so heavily context-specific, they offer little use in other contexts outside of learning. As organizations' interest in becoming self-managing has increased in Finland especially in some sectors, such as the IT and healthcare (Miskala & Uurto, 2019; Kettunen, 2018), they can benefit from being able to train their employees to be better self-managers. Additionally, if it can be shown that students can also benefit from using the practices elaborated by the self-leadership theory, perhaps it would make sense to teach those practices already in school. At the end of the day, those students are the ones who eventually move on to work for those self-managing companies.

2.2 Self-leadership as a practice

Self-management is a leadership style aimed at giving the employee full control of all managerial aspects of their work, such as planning, scheduling, organizing, and controlling (Markham & Markham, 1995). It has been around for approximately forty years as a concept, as one of the earliest – and most cited – articles that discusses self-management as a viable substitute for traditional management was published in 1980 by Manz and Sims.

In the mid-1980's the concept of self-management was developed further to cover a broader set of motivational strategies and that was named self-leadership. It can be classified as an approach that promotes controlled motivation and performance through a set of behavioral strategies (self-goal setting, self-reward, self-punishment, self-observation, and self-cueing), natural reward strategies, and constructive thought pattern strategies (Houghton & Neck, 2002).

In self-management, the employee is only concerned about the results that they need to deliver at work, as the means for achieving them have already been standardized within the organization. Self-leadership, on the other hand, imposes the responsibility of both results *and* the means for achieving them for the employee. Self-leadership also takes intrinsic motivation into account. Therefore, self-leadership can be considered as an umbrella term under which self-management belongs (Markham & Markham, 1995).

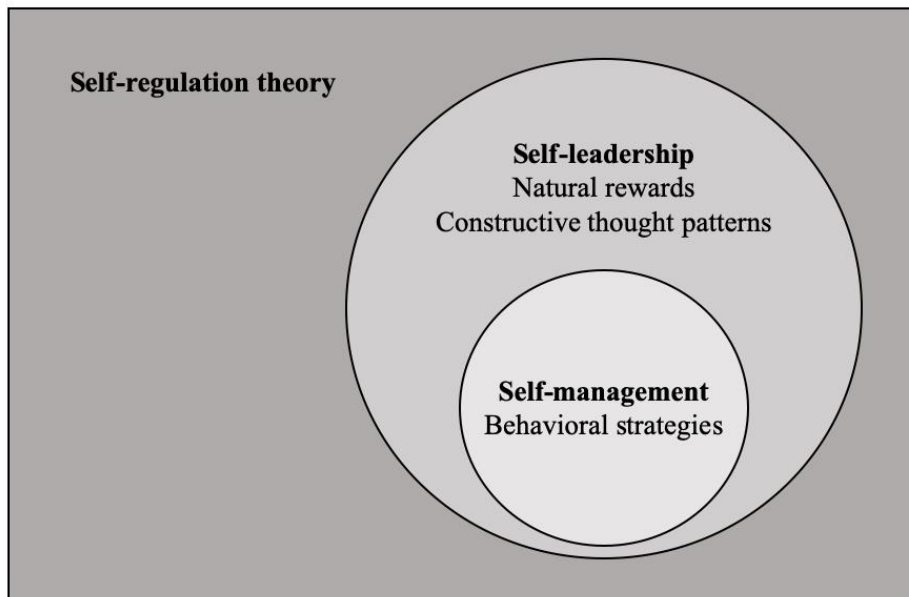


Figure 2.
The relationship between self-management and self-leadership (adapted from Markham & Markham [1995]).

Out of the various strategies outlined by the theory, I will be including everything but the constructive thought patterns in my study. The reason for excluding them is based on the research article by Napiersky and Woods (2018) where they found that whilst the use of behavioral strategies had a significant positive relationship with students' GPA, the cognitive strategies actually had the opposite effect. They theorize in their paper that the reason for this result might come from students' habit of using cognitive strategies as a form of emotional coping, which causes them to focus more on the thinking rather than doing. Similarly, Schwinger and Stiensmeier-Pelster (2012) found a small negative effect between self-talk and exam performance. Following the logic that using cognitive strategies can actually be detrimental for student performance, my focus will be more on the behavioral side of self-leadership.

2.3 Exploration of self-leadership strategies

There are six different types of self-leadership strategies that I am including in my research. Five of them (self-goal setting, self-rewarding, self-punishing, self-cueing, and self-observation) are considered as behavioral strategies. Their purpose is to incite a

behavioral change in an individual which will help them reach their goals. The sixth strategy, natural rewards, is a strategy that instead aims to increase an individual's intrinsic motivation towards a task by making performing it more enjoyable. In this chapter, I will be going through each of the six strategies and outlining what has already been discovered with regards to them and their effect on motivation.

Self-goal setting is one of the core self-leadership strategies, and there is plenty of research highlighting its importance for achieving better performance. According to Locke and Latham (2002), the more challenging the goal is, the higher the subsequent effort and performance becomes. Performance levels only decline after the limits of one's abilities are reached or when the individual loses their commitment to a frustratingly difficult goal (Erez & Zidon, 1984).

Self-rewarding is the act of administering a reward for when a specific goal or behavioral change has been met. As a concept, it is often mixed with self-incentivizing, which is a strategy aimed at increasing one's motivation by promising oneself rewards for meeting certain prerequisites. Because both can impact an employee's motivation and as concepts are closely related to one another, I will be including both of them in my study, although I will simply refer to them as self-rewarding for clarity purposes.

Motivation increases the likelihood of reaching performance goals. Thus, as a way of managing one's motivation, effort is better exerted when self-satisfaction or tangible benefits are contingent upon reaching specific accomplishments. Therefore, if a student working on their thesis is motivated by the idea of having a summer graduation and considers it a valuable reward, they are more likely to finish it in the required time than a peer for whom the timing of their graduation does not matter. This means that the importance of self-incentives should not be understated. Moreover, those individuals who reward their own attainments usually perform better than those who are performing the same activity but without self-incentives (Bandura, 1986). Indeed, the use of self-incentives can be the differentiating factor in the overall success of self-regulation between individuals (Zimmerman, 1989).

It has been widely researched that offering incentives or rewards for employees can harm their intrinsic motivation (Ryan & Deci, 2000). However, Brown et al. (2018) suggest that the same does not hold true for self-administered rewards. They base this argumentation on the individual having full control of the conditions and features of the reward, which makes the reward more acceptable for the individual and thus is more likely to lead to a behavioral change. Moreover, Masters et al. (1977) found that a self-administered reward can also have a more powerful motivating effect than an externally administered reward when they compared it with self-dispensing achievement evaluations during a task with children. Jackson and Malloy (1985) recreated the results with students: those students who self-rewarded themselves were able to complete more arithmetic problems than their peers who used self-punishment or did not use any strategy at all.

There are also studies that are not as confident about the effectiveness of self-rewarding, such as the meta-analysis by Brown et al. (2018), which stated that while the strategy does have a significant and positive effect on goal attainment, the effect itself is very small. However, despite calling itself a meta-analysis, it should be noted that the number of papers included for quantitative analysis in this particular study was six (with a total of seven studies), as almost none of the papers initially included in the process, that being 259 papers, qualified to the researchers' standards in their research design or reporting practices.

While self-rewards can cover both tangible and intangible rewards, such as pep-talk or a fancy dinner, self-punishment by nature is more concerned with the intangible. In their survey of self-leadership strategies, Houghton & Neck (2002) have included the following items in the category of self-punishment, amongst others: "I feel guilt when I perform and task poorly" and "I sometimes openly express displeasure with myself when I have not done well" (p. 683). These showcase the nature of self-punishment: while it may not be anything that is visible for the people around you, it does feel very real for the person experiencing it.

Overall, out of all the self-leadership strategies, self-punishment is one of the more obscure ones. As de Vel-Palumbo, Woodyatt and Wenzel (2018) have noted in their paper, conducting self-punishment research is so difficult that it often comes with severe limitations. They list three stages in which limitations generally occur: the priming of transgression, the imposition of self-punishment, and the meaning behind the task of self-punishment. Therefore, finding research that has a proper setting and is able to simulate real life occurrences is quite challenging.

However, probably the greatest shortcoming of self-punishment research comes from the lack of non-laboratory-originated settings. While there are papers that investigate, for example, how willing one is to deny themselves pleasure (Nelissen & Zeelenberg, 2009), little is known of how common self-punishing behavior is in reality, or what drives people to do it, or who are the ones doing it.

There are three reasons for why self-punishment tends to occur: it functions as a form of emotion regulation, as normalized behavior, and as a reflection and learning process (de Vel-Palumbo, Woodyatt & Wenzel, 2018). It is dependent on the context and the individual which of the three is the cause behind self-punishment. In my research, I am mostly interested in the normalized behavior, and reflection and learning, as those two resemble the self-leadership strategy type of self-punishment the most. Here, normalized behavior is categorized as any behavior that gets repeated consistently over time in similarly framed situations. They can become fully automated and thus, at times, even involuntary. An example of such would be a ballerina who consistently punishes herself for receiving bad feedback at work by controlling her eating habits. On the other hand, self-punishing that is done for reflection and learning purposes can be a fully intentional way of examining one's actions and lead to a desired behavioral change.

What the two causes for self-punishing behavior have in common is that they both tend to cause the individual to feel even worse about what has happened (de Vel-Palumbo, Woodyatt & Wenzel, 2018). That is likely to lead the individual into avoiding repeating their mistakes so as to not having to deal with it all over again.

Self-cueing can be defined as any activity that is aimed at keeping an individual's attention on goal attainment (Neck & Houghton, 2006). It can occur both ways, so either by encouraging an individual to keep working on productive behaviors or by distracting them away from unproductive ones. They can be anything that is tangible, such as notes, lists, or reminders.

Self-observation, on the other hand, differs from self-cueing by being intangible. The objective of self-observation is to make the individual aware of the potentially ineffective behaviors that they engage in (Neck & Houghton, 2006). This awareness includes both *why* and *when*. For example, an employee might spend twice as long on a break if they browse their phone while doing it. If the employee is aware of this fact, they can either give up on browsing their phone entirely on breaks or set an alarm to remind them to get back to work in time (which, in itself, would be an example of a self-cue). Research has shown that self-observation can enhance learning processes and increase intrinsic motivation towards skill acquisition (Ste-Marie et al., 2013).

The final self-leadership strategy included in this study is the natural rewards strategy. There are two types of natural reward strategies an individual can engage in. The first involves crafting the specific task so that the task itself becomes more enjoyable to perform (Manz & Neck, 2004). An example of such would be inviting a friend over to study for an exam. Having a friend over can make studying more pleasant, as you can encourage one another as well as share some tips about studying or even test each other's knowledge.

The second variation of natural rewards is focusing one's attention on the more positive aspects of a task while gearing attention away from the negative (Manz & Neck, 2004). For example, if one wants to take up running as an activity, but does not like running itself very much, focusing attention on the music they listen to or thinking of that moment as a way of enjoying solitude can make it more naturally rewarding. As a concept, the core idea of natural rewards is to increase an individual's intrinsic motivation towards an activity or a task by accentuating its enjoyable aspects.

The use of natural rewards in studying has a positive relationship to effort expenditure (Lee & Turban, 2010). Increased effort, in turn, has a positive relationship with attention, and attention has a positive relationship with performance (Lee & Turban, 2010). Again, as mentioned earlier, the main goal of using this strategy therefore is not to directly increase one's performance, but rather to increase their motivation to complete tasks.

Not many papers have looked at how these self-leadership strategies are utilized by employees naturally. The only exception I was able to come across is from Breevaart, Bakker and Demerouti (2014), who studied how self-leadership affects daily work engagement with a sample of 72 maternity nurses. The study was conducted with a day-to-day diary that the respondents kept on their workdays. The diary included a section where the nurses had to indicate whether they had implemented any self-rewarding or self-punishing on that particular workday. As a result of that study, there was no indication that the nurses would perform these types of activities on a daily basis. However, their definition of self-rewarding was rather limiting (having dinner at a restaurant or going shopping), as people generally might not engage in these types of activities on the daily but rather as a special treat. This was pointed out by the authors themselves, and they stated that there is a definite need for a better tool to measure daily self-rewarding.

When there are so many different self-leadership strategies to choose from, how does one know which ones to use? It turns out that the more the merrier. For example, Choi and Chung (2012) measured students' success in self-leadership by asking them in the beginning of a self-leadership course to list behavioral changes they wished they were able to implement at the end of the course, after which they asked how well they felt they had achieved their set goals. Those who felt they had improved at their self-leadership skills were deemed successful (74 % of course participants), whilst those who had not were deemed unsuccessful (26 %). What they found by comparing these two groups was that the successful group had on average utilized more self-leadership strategies (4.8) than their unsuccessful peers (2.8). Therefore, self-leadership success was best achieved by utilizing as many of the available strategies as possible.

The study from Choi and Chung (2012) is not the only one of its kind. The results have been replicated by Schwinger, Steinmayr and Spinath (2012), who divided students into three groups according to how many motivational regulation strategies they used: low, medium, and high profile. Effort expenditure was the highest amongst the high profile, followed by medium, which superseded the low profile. Following the use of motivational regulation strategies, the high profile also continued to have significantly higher effort expenditure than their peers still five months later (Schwinger, Steinmayr & Spinath, 2012).

Another study was able to show that the self-leadership strategies work best for creative and complex tasks when they are combined with self-concordance strategies, which are defined as “self-regulatory strategies that help to align daily tasks with a person’s goals, identities, and values” (Unsworth & Mason, 2016). Self-concordance, as a construct, is an outcome of intrinsic motivation. In this study, they conducted two separate studies: first one with 79 undergraduate students who were enrolled on a course and whose performance was measured through a written literature review, and second with 131 professional staff members joining a professional development training. What they were able to find out as a result was that those employees and students who were high on self-concordance and self-leadership strategies were able to improve their effort and creativity the most. While slightly higher creativity was attained with only low self-concordance and high use of self-leadership strategies, effort did not increase even amongst the high self-leadership strategy group as long as they had low self-concordance. This study was therefore able to show that in order to get the most out of self-leadership strategies, one should be at least somewhat intrinsically motivated to perform a task.

To summarize, self-leadership strategies’ most important duty is to increase their user’s motivation. It is still up for debate as to which of the strategies outlined in self-leadership theory are the most effective at achieving motivation for the individual, but evidence suggests that the more strategies one uses, the higher the subsequent motivation is.

2.4 Regulatory focus theory explains how sources of motivation can differ

According to regulatory focus theory (Higgins, 1997), there are two distinct categories of self-evaluative preferences: promotion and prevention systems. Promotion system is run by ideals in which personal growth and development play a key role. In this system, the individual's actions are mostly driven by the thought that their effort leads to either gains or non-gains, where gains signify a positive development of a situation and non-gains a status quo. These types of individuals are more sensitive towards getting rewarded for good performance. Prevention system, on the other hand, is more concerned about security and avoiding potential loss. Individuals with a prevention focus are thus more sensitive to losses or non-losses. From this perspective, an individual is eager to remain vigilant in order to avoid the situation from getting worse, so in a way guarding themselves from mistakes. These types of individuals are more sensitive towards being punished for bad performance.

Table 1.

Regulatory references of promotion and prevention systems according to regulatory focus theory (Higgins, 1997).

Regulatory focus	Regulatory reference	
	Desired end-state	Undesired end-state
Promotion focus	Accomplishment	Non-fulfillment
Prevention focus	Safety	Danger

In order to clarify how these two systems tend to work in practice, I will use two authors (a self-leadership focused career) with different regulatory foci as an example, both of whom are both trying to motivate themselves to finish a draft of a new book in order to send it for reviewing to their publisher. For the author with a promotion focus, a more efficient strategy would be to imagine the positive feedback and encouragement they would receive from their publisher (the reward). As for the other author with prevention focus, a more suitable strategy would be to imagine the negative feedback that they would receive from their publisher were they not able to deliver the first draft upon the agreed deadline (the punishment).

Approach motivation, which relates to promotion focus, means gearing one's attention towards positive stimuli (i.e. activities that bring one closer to their desired end-state) (Elliot, 2006). With regards to studying, it would mean that the individual engages in activities that are likely to improve their grade, such as studying for exams and attending lectures. Avoidance motivation, which relates to prevention focus, on the other hand, deals with avoiding negative stimuli (i.e. activities that bring one further from their desired end-state) (Elliot, 2006). These types of students are likely to avoid engaging in activities that can harm their study performance, such as browsing social media or studying from home.

Individuals can possess both prevention and promotion focus simultaneously – or simply have neither. Thus, they either may display similar levels of both foci (two high foci or two low foci) or only one primary focus (high prevention with low promotion, or vice versa) (Liu et al., 2020). All of these variations come with their unique relationships towards the variables they predict, as was shown by Liu et al. (2020) in their study of the link between regulatory foci and learning engagement.

A single individual can also simultaneously be both promotion and prevention-focused for different tasks, because along with chronic motivations, we possess situational motivations. These situational motivations may require the individual to utilize the opposite regulatory focus to their chronic one. In these situations, the individual may have their goals shaped by their surrounding environment (e.g. workplace or relationship), whilst retaining a relatively stable general preference, which is more dominant in non-context-specific situations (Maczak, Zapata-Gietl & McAdams, 2014). What this means is that while an individual might be prone to seek praise and affirmation through their hobbies and daily life, they might be more concerned about retaining status quo and security in their relationships or marriage.

For example, certain occupations tend to encourage employees to adopt a certain type of work-specific regulatory focus. Some occupations consist of tasks that are dependent on the employee's ability to come up with novel ideas and solutions, whilst others may rely

on dutiful adherence to safety protocols. As the former occupations' tasks are involved with approaching desired end-states and latter with avoiding undesired end-states, the former would encourage an employee to be promotion-focused and the latter prevention-focused. However, the individual's general regulatory focus significantly predicts their regulatory focus at work, too (Lanaj, Chang & Johnson, 2012). This can either mean that people generally look for jobs that match their chronic regulatory focus or that their chronic regulatory focus is quite fluid and changes according to the environmental stimuli that they face.

It can be argued that promotion-focused students are, on average, more intrinsically motivated than prevention-focused students. The reason for this is that the goals that promotion-focused students set for themselves are aimed at improvement rather than stability. This inherent want, or perhaps need, to succeed fosters a multitude of things than require intrinsic motivation, such as creativity (Jaquith, 2011). This notion is also explored by Miele and Scholer (2018), who suggest that the values of promotion focus are more closely linked with Ryan and Deci's (2000) theory of self-determination theory and the concept of intrinsic motivation. That still does not mean that a prevention-focused student cannot be intrinsically motivated – as already discussed, one's regulatory focus is context-dependent, so a student might be intrinsically motivated by some of their schoolwork even when their chronic focus is prevention.

How would self-leadership strategies supposedly affect a student's motivation based on their regulatory focus? There are two ways to interpret this. One way would be to think that since those with a promotion focus tend to have higher motivation naturally, they would not need the help of self-leadership strategies to maintain motivation. Conversely, one could think that since those with a prevention focus lack intrinsic motivation, using self-leadership strategies would give them a more notable boost in motivation. However, as was suggested by Unsworth and Mason (2016), students *need* some level of intrinsic motivation in order to benefit more from self-leadership strategies motivation-wise. Therefore, the other way of interpreting this would be to think that while those with a promotion focus might naturally be more motivated, they are also able to attain greater

motivation through the use of self-leadership strategies. Prevention-focused students, on the other hand, would benefit less from the strategies because of their low levels of intrinsic motivation.

2.5 Theoretical framework

The purpose of my theoretical framework is to understand how self-leadership strategies affect student motivation at university level. Based on my literature review, my assumption is that regulatory focus determines how effective self-leadership strategies are for the individual, i.e., that promotion-focused individuals benefit more from using self-leadership strategies in their studies.

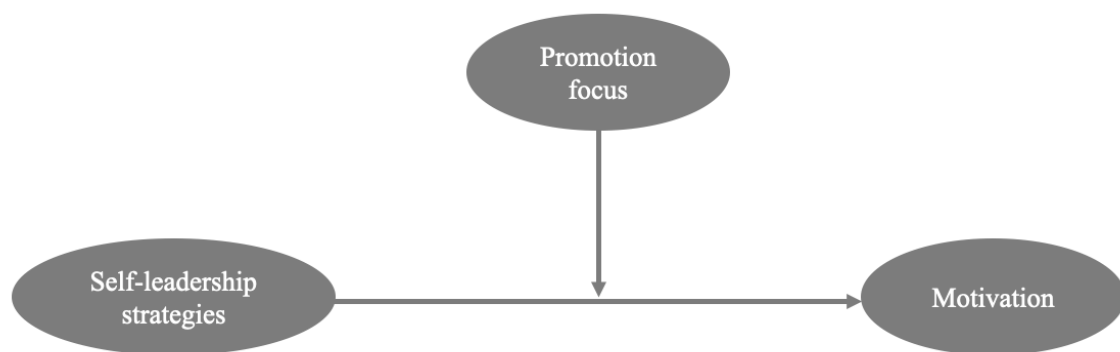


Figure 3.

Theoretical framework

Following the findings of Napiersky and Woods (2018) and Choi and Chung (2012), who have been able to show the effect of self-leadership strategies on performance, I expect self-leadership strategies to have a positive relationship with motivation.

Hypothesis 1: The use of self-leadership strategies is positively related to motivation.

Unsworth and Mason (2016) were able to find that self-concordance strategies, which are a form of intrinsic motivation, enhance the effect of self-leadership strategies. Therefore, I expect to find that promotion-focused benefit more from the use of self-leadership strategies.

Hypothesis 2: Promotion focus has a positive moderation effect on the self-leadership strategies' relationship with motivation.

Natural rewards are the one self-leadership strategy that aim to increase intrinsic motivation towards task performance. As prevention-focused students struggle with intrinsic motivation, I expect prevention-focused students to benefit more from the use of natural rewards strategy.

Hypothesis 3: Prevention focus has a positive moderation effect on the natural rewards strategy's relationship with motivation.

3 METHODOLOGY

This section of the thesis is divided into five parts. The purpose of this section is to explain the procedural choice, how the study was conducted, who answered to the study, what types of measures were included and why, how the data was analyzed, and what limitations this study has.

3.1 Data collection

This study was conducted using quantitative methods, namely through an online survey. Quantitative methods were chosen for this study because the idea of the moderating effect of students' regulatory focus in the relationship between self-leadership strategies and motivation is novel and has not yet been established by research. In order to find some generalizability in the results, a quantitative analysis was chosen for this study.

An online survey was utilized as the tool for collecting data. The approach was chosen out of convenience, as online surveys are one of the easiest ways of collecting a high number of responses. Moreover, collecting enough responses face-to-face seemed unlikely because of the ongoing COVID-19 pandemic during the data collection phase. However, there are some drawbacks to using online surveys. Some respondents might not answer the questions truthfully or pay enough attention while responding to get accurate results. Respondents are unable to verify their interpretation of a question if they are unsure of its meaning. Especially in this type of case where respondents' nationality is different from the language used in the survey it is a legitimate concern.

The online survey was spread through social media, and as sharing the survey was highly encouraged, it resulted in snowball sampling. The survey circulated online from September 2020 to December 2020.

Snowball sampling has some advantages and disadvantages. One of the advantages is that it allowed for a more diverse sample. While most of my student acquaintances are from

Aalto University, since that is where I study myself, some of my friends studying in other universities were able to spread the survey to their own acquaintances. However, that meant that some control over the sample was inevitably lost. It can also be argued that my friends may also have similar acquaintances as I do despite the different universities, because the data was rather homogenous in nature. That will be discussed further in the chapter about the sample itself.

3.2 Measures

There are three distinct constructs that are measured by the survey: the use of self-leadership strategies, the individual's regulatory focus, and level of motivation. Each of these constructs has been given its own scale from previously validated questionnaires. All of the items included were measured on a Likert scale from 1 to 5, where the description of each variable varied amongst the scales used. For example, all of the self-leadership items were rated from "strongly disagree" to "strongly agree", whilst some regulatory focus items were rated from "never or seldom" to "very often".

For measuring the use of self-leadership strategies, my items of choice come from the Revised Self-leadership Questionnaire (RSLQ) constructed by Houghton and Neck (2002). It is the most widely used self-leadership questionnaire at the moment and builds on two previous self-leadership questionnaires. The RSLQ holds a total of 35 items in nine distinct sub-scales, out of which I will be including six (self-goal setting, self-reward, self-punishment, self-observation, self-cueing, and natural reward strategies). Thus, the total number of items included in my study is 23. Some items were tweaked to include the context of studying more explicitly. Example items include "I establish specific goals for my study performance" (self-goal setting), "I make a point to keep track how I'm doing in my courses" (self-observation), and "I focus my thinking on the pleasant rather than the unpleasant aspects of my course work" (natural reward strategies).

The three sub-scales of visualizing successful performance, self-talk, and evaluating beliefs and assumptions were discarded on the basis of previous research findings, which

have found them to have a negative impact on student performance (Napiersky and Woods, 2018). A more detailed explanation can be found on the page 9 of this thesis.

For measuring the regulatory focus of students, the widely tested Regulatory Focus Questionnaire (RFQ) by Higgins et al. (2001) was used. This questionnaire targets at finding the individual's chronic regulatory focus, which should be noted, as individuals can also possess situational foci that do not match their chronic one. Therefore, it is entirely possible that a student has a different regulatory focus towards studying specifically, although these tend to be in line with one another (Lanaj, Chang & Johnson, 2012).

While a specific questionnaire that measures students' regulatory focus exists, which is called the General Regulatory Focus Measure (Lockwood, Jordan & Kunda, 2002), Hodis et al. (2016) have criticized it as they found that it was unable to capture promotion and prevention focus as independent constructs. Hodis and Hodis (2017) ran the same tests on the RFQ, but the scale did not have similar issues. Thus, even though a questionnaire made for students would be more accurate at portraying their regulatory focus in terms of studying, it was decided to use a chronic measure instead to avoid potential problems with validity.

The RFQ includes 11 items out of which six measure promotion focus and five prevention focus. Example items include "Do you often do well at different things that you try?" (promotion focus) and "How often did you obey rules and regulations that were established by your parents?" (prevention focus).

For measuring motivation, the effort management scale provided by the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich et al. (1991) was used. The MSLQ is an extensive questionnaire which has two different sections: one that measures motivation and another that measures learning strategies. The effort management subscale consists of four items, all of which have been included in this study. An example

item would be “Even when course materials are dull and uninteresting, I manage to keep working until I finish”.

The effort management scale is widely used to measure motivation by Malte Schwinger, one of the leading researchers in the area of motivational regulation strategies (example studies include Schwinger, Steinmayr & Spinath, 2012 and Schwinger & Otterpohl, 2016). She has shown effort management to have substantial correlations to other motivational constructs, such as need for achievement (Schwinger, Steinmayr & Spinath, 2009).

One control variable was also included in the survey: gender. Gender was included in the survey, because it has been shown that male and female students differ in terms of what motivational regulation strategies they tend to use (Cleary & Chen, 2009) and what their effect on the subsequent motivation is (Schwinger & Otterpohl, 2016).

The total number of questions included in the study was 46, six of which were demographical questions. Harman’s one-factor test was run for the scales of motivation, regulatory foci, and self-leadership strategies and no common method bias was found, as the total variance extracted for the one factor was 14.8 %.

3.3 Sample

124 responses were collected through the survey. All respondents were Finnish university students. 88 (71 %) respondents indicated that they were female, 34 (27 %) male, and 2 (2 %) did not wish to specify their gender. There were two large age groups to which most of the respondents belonged to: 20 to 24-year-olds ($N = 54$, 44 %) and 25 to 29-year-olds ($N = 53$, 43 %).

Table 2.

Age groups of respondents

Age group	<i>N</i>	Percentage
19 or younger	5	4.0 %
20 to 24	54	43.5 %
25 to 29	53	42.7 %
30 to 34	6	4.8 %
35 or older	6	4.8 %

The respondents belonged to over ten different universities, the biggest representation coming from Aalto University ($N = 51$, 41 %) and University of Helsinki ($N = 45$, 36 %). The rest of the universities had less than ten respondents each.

Table 3.

Universities of respondents

University	<i>N</i>	Percentage
Aalto University	51	41.1 %
Hanken School of Economics	3	2.4 %
LUT University	1	0.8 %
Tampere University	8	6.5 %
University of Eastern Finland	3	2.4 %
University of Helsinki	45	36.3 %
University of Jyväskylä	2	1.6 %
University of Lapland	1	0.8 %
University of Oulu	2	1.6 %
University of Turku	5	4.0 %
Other	3	2.4 %

In terms of study fields, business, administration and law was by far the most common answer with 60 (48 %) respondents indicating it as their field. Social sciences, journalism and information came in second with 13 (11 %) respondents.

Table 4.

Field of studies of respondents

Field of studies	<i>N</i>	Percentage
Agriculture, forestry, fisheries and veterinary	3	2.4 %
Arts and humanities	4	3.2 %
Business, administration and law	60	48.4 %
Education	10	8.1 %
Engineering, manufacturing and construction	3	2.4 %
Health and welfare	8	6.5 %
Information and communication technologies	5	4.0 %
Natural sciences, mathematics and statistics	12	9.7 %
Social sciences, journalism and information	13	10.5 %
Other	6	4.8 %

As can be seen, the sample is rather homogenous. Most of the respondents are female, come from either Aalto University or University of Helsinki, and study business, administration, and law. Additionally, they mostly had very high GPA. Almost 60 % had a GPA between 4.0 and 5.0 while no respondents had a GPA between 1.0 and 1.9. Moreover, only 5 % had a GPA between 2.0 and 2.9. Therefore, the sample can generally be considered that of high achievers.

3.4 Data analysis

The data was analyzed with SPSS. There was a total of four missing values divided between three separate cases. These missing values were replaced by calculating the mean of the rest of the variable's answers from the same case and using that in the missing value's place. For example, if a case were missing a value in promotion focus, the mean from the rest of that case's responses within that variable would be calculated (e.g., with 3, 4, 5 the mean would be 4) and that would replace the missing value. There were no multiple missing values within a single variable from one case.

To check for any outliers, Mahalanobi's distance was calculated for motivation as the dependent variable and promotion, prevention, and self-leadership strategies as independent variables (total of eight independent variables). None of the cases' p-values were less than .001. Thus, no outliers were identified from the data set.

To check for potential problems within the scales, the items' Cronbach's alphas were tested. The results of this can be seen from Table 5. All the scales showed decent reliability, but one item in the promotion focus scale was not working too well. Promotion 6 has an inter-item correlation of just .19 and removing the item would improve the scale's alpha to .71.

Table 5.
Cronbach's alphas

Scale	Cronbach's alpha
Promotion focus	.656
Prevention focus	.743
Self-goal setting	.802
Self-rewarding	.934
Self-punishment	.849
Self-observation	.769
Self-cueing	.840
Natural rewards	.675
Motivation	.797

To investigate the Promotion 6 item's role within the scale, an exploratory factor analysis was run to see how the items loaded onto the promotion and prevention scales. This led to the discovery of another issue: Promotion 6 and Promotion 2 both loaded onto an additional third factor, but not to the promotion and prevention focus factors. Removing Promotion 6 altogether resolved this issue, as Promotion 2 would load onto the promotion focus factor after this. Thus, a decision was made to remove Promotion 6 from the promotion focus scale. The initial and final factor loadings are presented in the Table 6.

Table 6.
Summary of exploratory factor analysis

Construct	Items	Initial rotated factor loadings			Final rotated factor loadings		
		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Promotion focus	Compared to most people, are you typically unable to get what you want out of life? (RC)		-.759			-.680	
	How often have you accomplished things that got you "psyched*" to work even harder? (*eager, excited)			.395		.399	
	Do you often do well at different things that you try?		.307			.385	
	When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do. (RC)		-.667			-.615	
	I feel like I have made progress toward being successful in my life.		.685			.792	
	I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them. (RC)			-.454			
Prevention focus	Growing up, would you ever "cross the line" by doing things that your parents would not tolerate? (RC)	.703			.718		
	How often did you obey rules and regulations that were established by your parents?	-.385			-.348		
	Did you get on your parents' nerves often when you were growing up? (RC)	.684			.713		
	Growing up, did you ever act in ways that your parents thought were objectionable*? (*disagreeable, offensive) (RC)	.742			.749		
	Not being careful enough has gotten me into trouble at times. (RC)	.502			.490		
	Eigenvalue % of variance explained	23.96	20.92	10.10	26.26	22.50	9.91
Cumulative % of variance explained	23.96	44.87	54.97	26.26	48.76	58.67	

Note. N = 124; Extraction method: Principal Axis Factoring; Rotation method: direct oblimin. Factor loadings smaller than 0.3 are not displayed in the table.

It is possible that Promotion 6 did not work as well as an item because it deals with hobbies. The rest of the items are more general and can be interpreted much more vaguely. Had all of them discussed hobbies exclusively, the respondents would have been likely to respond to them differently. People might have many motivating hobbies or activities in their lives but still feel like they are underachieving in life.

Table 7.

Confirmatory factor analysis results

Measurement models	$\chi^2(df)$	$\Delta\chi^2(df)^*$	SRMR	CFI	RMSEA	AIC
Model 1 Self-leadership, motivation, promotion focus	221.910 (87)		.126	.730	.112	287.190
Model 2 Individual strategies, motivation	454.592 (303)	232.682 (216)	.082	.899	.064	604.592
Model 3 Individual strategies, motivation, promotion focus	650.972 (436)	429.062 (349)	.086	.875	.063	834.972

*Models 2 and 3 are compared to Model 1. All $\Delta\chi^2$ significant at the .05 level.

After establishing the scales, a confirmatory factor analysis was run to test the model fit. This was done to three separate models: Model 1, which had the combined self-leadership variable along with motivation and promotion focus; Model 2, which had all the strategies individually with motivation; and Model 3, which had the individual strategies along with motivation and promotion focus.

Out of the three models, Model 2 performed the best. It was the closest to the traditional CFI level of .90 and had moderate RMSEA results. Model 3 was close to Model 2 in performance, but Model 1 was clearly the worst of the three. Combining the self-leadership strategies into one variable made the model perform poorly overall.

The scales (individual strategies, motivation, promotion focus) were then tested for construct reliability and AVE. Reliabilities were all above the recommended threshold of .60, but some AVEs were below the recommended .50. Those scales were promotion focus, self-goal setting, and natural rewards. While self-goal setting was close with a score of .47, promotion focus' and natural rewards' scores were slightly concerning (.36 and .33, respectively). Therefore, those three have more variance within the construct than what is considered ideal.

3.5 Trustworthiness of the study

Besides the problems stemming from snowball sampling, there are other issues that should be considered when evaluating the trustworthiness of this study. One of them is the language choice. The survey was kept English as that was the language all of the scales could be found in. However, as my sample consisted of Finnish university students, English is not the native tongue of the respondents.

Even though English is the primary language used in many of the Finnish universities, it is still possible that some of the respondents were not as fluent with the language as would be needed in order to eliminate the chance of misinterpretation. This problem was something that already could be witnessed in the testing phase of the survey: some of my testers were unsure about the meanings of certain words. Those phrases that were identified as difficult in the testing phase were either modified slightly (e.g., 'I make a point to keep track...' was modified to 'I consciously keep track...') or more common synonyms were included in parentheses within the questions (e.g., 'disagreeable' and 'offensive' for the word 'objectionable').

Obviously, there is a risk that including synonyms or modifying the question changes the reliability of the scale. Even though there were only four of these types of modifications, it should still be taken into consideration. Moreover, there could be some difficult phrases that were not detected in the testing process that may have caused confusion and thus unreliable results. The survey can be found as an appendix to review all of the changes that were made.

There was also a conscious choice that had to be made between using chronic or situational regulatory focus when constructing the survey that could have led to different types of results. As explained on page 22 of this thesis, there is a scale that measures student regulatory focus specifically, but it has been deemed as unreliable as it is unable to measure promotion and prevention foci as separate constructs. For this reason, the largely validated RFQ was used instead. However, RFQ only measures the chronic focus.

As has been established in my literature review, people possess both a chronic and situational foci. Although they have high correlation, it is still worth noting that a student may have a very high promotion focus with regards to their studies but still score low on the RFQ.

Another potential issue is the lack of a question regarding the respondents' study year. This was an oversight that was realized too late into the survey's release. It would have been important to use study year as a control variable when measuring student motivation, as there definitely may be differences between those who are in their first year of studies versus those who have been studying already for years.

The final potential issue when evaluating the study's reliability is the presence of social desirability bias. This is one of the most common issues with conducting a survey that relies on subjective views on oneself. Even though the survey was entirely anonymous, there is a possibility that some respondents answered more in the manner of what they would hope their self-leadership skills are like instead of what they are in reality. This issue, however, is almost impossible to counteract: while outsiders might be a more reliable source in terms of objectivity, they would most definitely lack this type of knowledge when it comes to another person's study strategies.

4 EMPIRICAL FINDINGS

4.1 Data descriptives

Table 8 displays the means and standard deviations for the important variables used in the tests. All the means were above but relatively close to three. All the standard deviations were also reasonably low.

Table 8.
Means and standard deviations

	Mean	Standard deviation
Motivation	3.36	0.92
Promotion focus	3.55	0.64
Prevention focus	3.58	0.74
Self-goal setting	3.48	0.81
Self-rewarding	3.06	1.26
Self-punishment	3.64	0.98
Self-observation	3.75	0.77
Self-cueing	3.55	1.28
Natural rewards	3.53	0.67

Table 9 outlines the intercorrelations between important variables. Several of the variables had significant correlations with one another, especially the self-leadership strategies. However, none of them intercorrelated strongly (above .70 or below $-.70$). Motivation, which was used as the dependent variable in the tests, had significant positive correlations with promotion focus, self-goal setting, and self-observation. Out of these, self-goal setting had the highest correlation with motivation. Gender correlated with self-punishment, self-cueing, and natural rewards. Females seem to use more self-punishment and self-cueing, while males use more natural rewards.

Table 9.

Intercorrelations between variables

	1	2	3	4	5	6	7	8	9	10
1. Gender	1	.13	-.08	.01	-.01	-.30**	-.03	-.30**	.26**	.03
2. Promotion focus	.13	1	.07	.29**	.15	-.39**	.30**	-.07	.38**	.40**
3. Prevention focus	-.08	.07	1	-.04	-.22*	.00	.06	.14	-.15	.07
4. Self-goal setting	.01	.29**	-.04	1	.22*	.13	.58**	.28**	.11	.47**
5. Self-rewarding	-.01	.15	-.22*	.22*	1	.11	.19*	.04	.35**	-.09
6. Self-punishment	-.30**	-.39**	.00	.13	.11	1	.21*	.06	-.40**	.07
7. Self-observation	-.03	.30**	.06	.58**	.19*	.21*	1	.10	.07	.41**
8. Self-cueing	-.30**	-.07	.14	.28**	.04	.06	.10	1	-.15	.12
9. Natural rewards	.26**	.38**	-.15	.11	.35**	-.40**	.07	-.15	1	-.04
10. Motivation	.03	.40**	.07	.47**	-.09	.07	.41**	.12	-.04	1

*Correlation is significant at the .05 level

**Correlation is significant at the .01 level

4.2 Linear regressions

Linear regression tests were run to 1) identify whether self-leadership strategies impact student motivation, 2) discover the most effective self-leadership strategies to uphold student motivation, and 3) explore how one's regulatory focus affects the effectiveness of self-leadership strategies on student motivation.

The first linear regression model was run with motivation as the dependent variable, gender as the control variable, and self-leadership (a variable combining each of the individual self-leadership strategies) as the other independent variable.

While gender was not a significant predictor of motivation, the use self-leadership strategies was. Hypothesis 1 was thus supported. However, together the two only explained around 7 % of the variance related to student motivation.

Table 10.

Regression results: gender, self-leadership, and motivation

Constant	1.487 (0.629)
Gender	0.130 (0.145)
Self-leadership	0.487** (0.161)
R squared	0.072

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

The next step was to find out which of the six self-leadership strategies were the most effective in enhancing motivation. Thus, another linear regression was run. This time all of the strategies were put in separately with motivation as the dependent variable.

As a result, three of the six strategies were found to have a significant connection with student motivation: self-goal setting, self-rewarding, and self-observation. The biggest effect came from self-goal setting. Surprisingly, self-rewarding was found to be a significant but negative predictor of student motivation. Looking at the strategies individually boosted the R squared value notably, explaining almost 30 % of the variance in student motivation.

Table 11.
Regression results: different self-leadership strategies and motivation

Constant	1.571 (0.686)
Self-goal setting	0.456** (0.114)
Self-rewarding	-0.142* (0.064)
Self-punishment	-0.022 (0.085)
Self-observation	0.256* (0.116)
Self-cueing	-0.010 (0.133)
Natural rewards	-0.057 (0.133)
R squared	0.294

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

A third regression was run to see whether promotion focus moderates the effect of self-leadership strategies on student motivation. The hypothesis was that those with a promotion focus would benefit more from the use of self-leadership strategies. However, as can be seen on Table 12, the moderation effect was not significant. Hypothesis 2 is therefore rejected. Instead, what was found significant was promotion focus itself. It was found to be more significant as a predictor of student motivation than self-leadership. While the last model did better than the one run in the first linear regression, it is not nearly as effective in predicting student motivation than the individual strategies are, explaining around 20 % of the variance.

Table 12.

Regression results: gender, self-leadership, regulatory focus, and motivation

	1	2	3
Constant	3.292 (0.211)	1.487 (0.629)	0.095 (0.668)
Gender	0.055 (0.147)	0.130 (0.145)	0.038 (0.137)
Self-leadership		0.487** (0.161)	0.373** (0.152)
Promotion focus			0.537** (0.122)
Promotion focus * Self-leadership			0.042 (0.077)
R squared	0.001	0.072	0.202

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

Prevention focus was also tested as the moderator instead of promotion focus. As expected, prevention focus was not found to moderate the relationship between motivation and self-leadership, $p = .720$. As for hypothesis 3, the hypothesis was not supported. Prevention focus did not moderate the relationship between natural rewards and motivation, $p = .752$.

As the model for self-leadership ran so badly in the confirmatory factor analysis, each strategy was also tested for moderation effect individually. These regressions were run similarly to the ones before: gender was used as a control variable and motivation as the dependent variable.

Table 13.

Promotion focus' moderation effect on individual strategies

	<i>B</i>	R squared
Self-goal setting	0.066 (0.059)	0.307
Self-rewarding	0.016 (0.075)	0.181
Self-punishment	0.066 (0.067)	0.226
Self-observation	0.031 (0.069)	0.250
Self-cueing	0.014 (0.082)	0.180
Natural rewards	-0.074 (0.072)	0.209

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

None of the regressions came back as significant. Therefore, no moderation effect can be seen for promotion focus on any of these self-leadership strategies. The high values in the R squared column are solely explained by the effects of promotion focus and the individual strategies.

Next, another regression was run to see if a higher number of strategy use would predict higher motivation, as has been suggested by previous research. Respondents were coded into two categories across the six strategies, 1 if they scored higher than 3 in the strategy, and 0 if they scored 3 or lower in the strategy. These were then grouped together to see how many strategies the respondents use.

Table 14.
Number of strategies used by the respondents

Number of strategies used	<i>N</i>	Percentage
1	3	2.4 %
2	8	6.5 %
3	28	22.6 %
4	35	28.2 %
5	30	24.2 %
6	20	16.1 %

The average number of strategies used by the respondents was 4.1 and the largest represented group by a total of 35 respondents was the use of four strategies. There were no respondents who did not use at least one of the self-leadership strategies. Then, a regression was run with gender as a control variable and motivation as the dependent variable. As expected, high strategy use is a significant positive predictor of motivation, $p = .002$. It explains almost the same amount of variance in motivation as the self-leadership variable, although the number of strategies used is slightly higher.

Table 15.

Regression results: gender, strategy use, motivation

Constant	2.354 (0.359)
Gender	0.125 (0.144)
Number of strategies used	0.204** (0.064)
R squared	0.078

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

As gender correlated with some of the individual self-leadership strategies, an interest to see if gender moderates some of those strategies' effect arose. Linear regressions were run to test this idea, and one of them came back as significant. Gender was shown to moderate the relationship between self-punishment and motivation. As can be seen from Table 16, while strategy itself was not a significant predictor of motivation, the moderator was. This relationship was put to a graph in Figure 4. It appears that males experience higher motivation when using the self-punishment strategy than females. Females, on the other hand, did not differ much in motivation whether they used the strategy or not.

Table 16.

Regression results: gender, self-punishment, and motivation

	1	2
Constant	2.941 (0.439)	2.695 (0.445)
Gender	0.097 (0.154)	0.305 (0.177)
Self-punishment	0.081 (0.089)	0.089 (0.087)
Gender * Self-punishment		0.197* (0.086)
R squared	0.008	0.049

Standard errors are reported in parentheses.

*Significant at the .05 level

**Significant at the .01 level

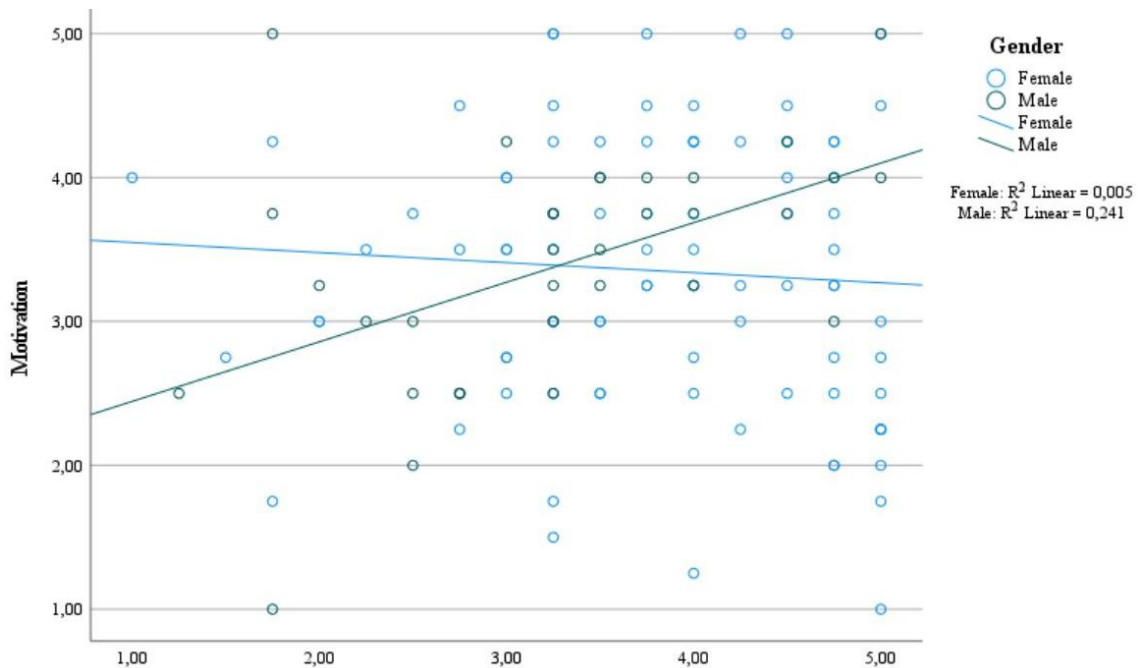


Figure 4.
Gender moderating the relationship between self-punishment and motivation

4.3 ANOVA tests

Previous research has found evidence showing that promotion or prevention focus alone might not sufficiently explain human behaviour. Instead, research has started to show interest in how the two regulatory foci work in conjunction. Therefore, the different combinations of regulatory foci have created four groups. These four groups are 1) high promotion, high prevention focus; 2) high promotion, low prevention focus; 3) high prevention, low promotion focus; and 4) low promotion, low prevention focus. As promotion or prevention focus alone did not seem to moderate the relationship between self-leadership and student motivation, there was still a possibility that an interplay of the two still could.

This idea was explored by creating a new variable, the promotion/prevention variable, that divided the data set into four categories according to the respondents' regulatory focus. Those who scored higher than three in both promotion and prevention focus were

put into the high/high group, whilst those scoring less than three were put into the low/low group, and so forth.

The potential moderation effect was studied through a two-way ANOVA test, as that would give a clear indication whether the four groups differ from one another. It would also be the most useful with this data set, as it was limited in size, making some of the four regulatory foci groups rather small.

In order to run the ANOVA tests, the self-leadership scale had to be simplified. As the original scale was combined from six different strategies, there were a large number of different values present with decimals. Therefore, a simplified scale was created that grouped every value ranging between a number into a single-digit number (e.g., values 3.67 and 3.01 were simplified into 3). This resulted in a four-value scale. However, not a single respondent scored anything between the values of 1.00 and 1.99 on the self-leadership scale, so there were zero cases of 1 in the simplified scale.

Table 17.
Two-way ANOVA descriptives

Regulatory focus group	Simplified self-leadership	Mean	Standard deviation	<i>N</i>
High promotion, high prevention	2	2.95	0.90	11
	3	3.60	0.78	52
	4	3.83	0.58	13
	Total	3.54	0.80	76
High promotion, low prevention	2	3.44	0.75	4
	3	3.28	0.95	15
	4	3.81	1.07	4
	Total	3.40	0.92	23
Low promotion, high prevention	2	3.75	1.56	3
	3	2.73	1.00	11
	4	3.25	1.41	2
	Total	2.98	1.14	16
Low promotion, low prevention	2	2.38	0.92	4
	3	2.69	0.75	4
	4	1.75		1
	Total	2.50	0.79	9

Means and standard deviations are for the motivation variable.

Then, a two-way ANOVA was conducted that examined the effect of regulatory focus group and the use of self-leadership strategies on student motivation. The test's result was that the interaction between the effects of one's regulatory focus group and self-leadership was not significant $F(6, 112) = 1.603, p = .153$. Therefore, it does seem that one's regulatory focus does not moderate the relationship between motivation and self-leadership strategy use. Another study with a larger sample size is needed for the rest of the groups to confidently state the effect of self-leadership skills, as this study suffered from a rather homogeneous sample, as can be seen from how the data was distributed in Table 17.

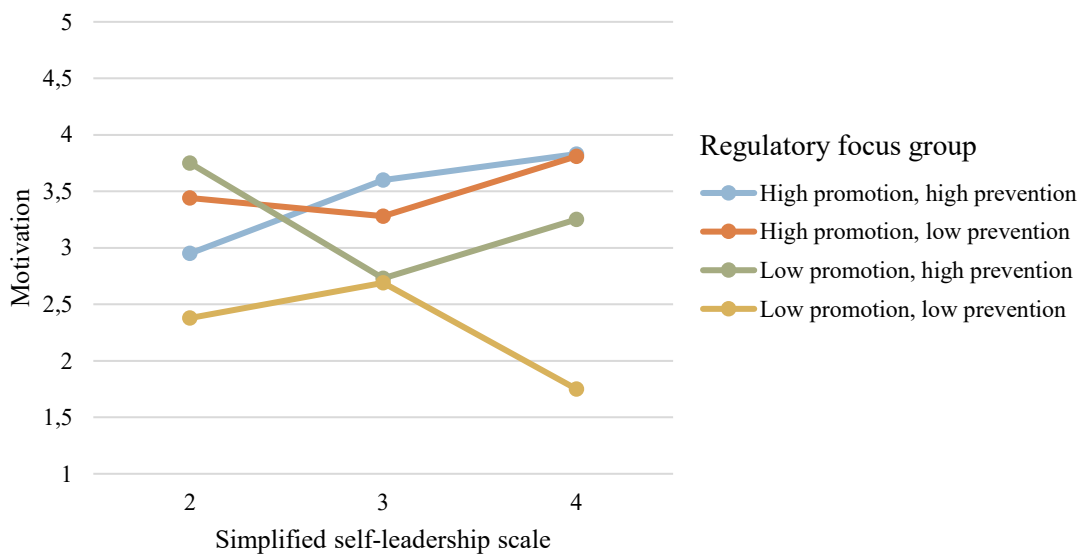


Figure 5.
Results from the two-way ANOVA test

5 DISCUSSION AND ANALYSIS

This Master's thesis explored the effectiveness of self-leadership strategies on student motivation. As a novel idea, it incorporated the moderation effect of the student's regulatory focus into play.

The results suggest that while the use of self-leadership strategies does increase student motivation, not all strategies are equally effective at doing so. In fact, only two behavioral strategies of the six outlined by the self-leadership theory had a significant positive effect on student motivation while one of them had a significant negative effect. However, a high number of strategies used was also found to predict motivation, which is in line with findings from other studies (e.g., Choi & Chung, 2012). Many studies have combined all of the behavioral strategies (self-goal setting, self-rewarding, self-punishment, self-observation, and self-cueing) into one variable (e.g., Harunavamwe, Pillay & Nel, 2020; Napiersky & Woods, 2018), but this study provided evidence towards the idea that self-leadership should not be studied as a single variable, as all of the strategies behave very differently from one another.

From the six self-leadership strategies tested here, only self-goal setting and self-observation were found to increase student motivation. Self-punishment, self-cueing, and natural rewards did not have an effect while self-rewarding was found to decrease motivation.

Self-goal setting had the single strongest effect on motivation. While this has been confirmed as an effective strategy by numerous other studies, it was interesting to see its effect hold when coupled with the other strategies. An individual seems to gain a boost in motivation when they focus on setting goals for themselves that they can work towards achieving. When you know what to work for, it becomes easier to exert effort towards the activities that bring you closer to your goal. Self-goal setting was also found to have the strongest link with academic attainment by Napiersky and Woods' (2018) study that looked at how well self-leadership strategies work in an academic environment.

Self-observation was the other strategy linked with increased motivation in this study. This is in line with previous research which has shown that self-observation increases intrinsic motivation towards learning (Ste-Marie et al., 2013). Perhaps the reason why self-observation works is that it allows students to refocus their attention if they notice that their grades are dropping. This is likely to motivate them to work harder to get back on their desired level. Moreover, it can help students identify areas in which they have done well or improved in, which can make further studying more motivating, as they can see the progress they are making.

The use of self-rewarding, in turn, was found to decrease student motivation. Research regarding self-rewards has yielded contradictory results for a very long time now where some have found it to increase job performance (Steinbauer et al., 2018), whilst some finding the effect to be weak at best (Brown et al., 2018). French, Jeffery and Oliphant (1994) found no link between self-rewarding and desired behavioral change. However, no previous study has yet found self-rewarding to have a *significant negative* effect on motivation.

One plausible explanation for this result could be the misuse of this strategy. Students might promise themselves rewards for completing a goal they have set for themselves, but they may feel tempted to cash out on the reward without having completed the goal itself. For example, by thinking “If I finish this assignment today, I am allowed to go to a party later tonight” they may hope that it will give them additional motivation to complete the assignment. However, if they fail to accomplish what they promised themselves, they might still feel the need to go to that party under another excuse. Failing to keep one’s promise repeatedly might then, in turn, result in lowered motivation. Therefore, there can exist a problem within the implementation of this strategy that should be noted.

How about the strategies that were not significant? What might explain that? First, self-cueing might be more linked with a certain personality type rather than upholding motivation. Using concrete lists and reminders is not something that comes to every

person naturally. Moreover, constant reminders might only increase stress for some people as the deadline is approaching. In a study of part-time teleworkers, self-cueing was not found to increase work satisfaction (Müller & Niessen, 2019). Therefore, while self-cueing might help get the job done, it is not likely to lead to any motivational benefits. However, there are some people that simply need to have lists and reminders in their lives, as they help in planning ahead.

Second, the use of natural rewards. This is a more difficult strategy to interpret as to why it does not improve student motivation. Intuitively, it would make sense that crafting an activity into something more enjoyable would result in increased motivation. After all, motivation inherently deals with one's eagerness to perform an activity. Natural rewards strategy has also been previously found to lead to reduced academic procrastination (Wang et al., 2021), better job performance (Steinbauer et al., 2018) and increased effort expenditure (Lee & Turban, 2010). So, even though there seems to be no effect on motivation, the natural reward strategy offers numerous other benefits for students and employees. However, this would make an ideal topic for a qualitative research: finding out why students use natural rewards while studying and how they perceive its effect on their own motivation.

Finally, as a strategy, self-punishment might act as a two-edged sword: while some students may be able to pick themselves up after feeling down because of a disappointment that they have faced, some may feel too defeated to get back on their feet. They might either feel the need to prove that they can improve and do better – or, instead, feel discouraged by a lack of results and think that there is no use in even trying. De Vel-Palumbo, Woodyatt and Wenzel (2018) suggest that there might exist a trait for self-punitiveness which makes some individuals identify fault in themselves in general. Thus, it may require a specific type of student for this strategy to work.

Gender was used in this study as a control variable as it has been shown to affect what types of study strategies students use. Gender correlated significantly with self-punishment, self-cueing, and the use of natural rewards. It seems that females tend to use

self-punishment and self-cueing more while males use natural rewards more. Interestingly, gender was found to moderate the relationship between self-punishment and motivation so that males are more motivated by using the self-punishment strategy. While previous studies have been able to show that there are differences between genders regarding preferred strategies to use (e.g., Schwinger & Otterpohl, 2017), this study is the first one to find a significant difference in the effect of self-punishment. This finding could imply that males, in general, get motivated to work harder if they face disappointments during their studies.

One explanation for this difference between the two genders might come from personality traits. Amongst research regarding personality traits, the Big Five personality theory is the most validated and trusted. Costa, Terracciano and McCrae (2001) looked at a high number of Big Five personality trait data across studies conducted in different cultures. They concluded that males and females differ across two of the five traits: neuroticism and agreeableness. These differences became even more prominent when they looked at data collected from only European and American samples. What is interesting about this is that women tended to score higher on neuroticism than men. High scores in neuroticism mean less emotional stability, which shows itself as increased feelings of anxiety, depression, and anger (Costa, Terracciano & McCrae, 2001).

Furtner and Rauthmann (2010) discovered in their study that those high in neuroticism use self-punishment and natural rewards more than their peers. This would support this thesis' findings, as females were found to use both of those strategies more often than males *and* tend to score higher on neuroticism.

Another possible explanation can be found from studies measuring self-esteem. According to a meta-analysis conducted by Kling et al. (1999), males have higher self-esteem than females. The difference was found to be highest during late adolescence, which is close to the ages of participants in this study. It has been found that individuals with high self-esteem persist more when facing failures and perform better overall in

difficult situations that demand a high degree of self-regulation (Di Paula & Campbell, 2002).

Interestingly, Sowislo and Orth's (2013) meta-analysis were also able to link low self-esteem with increased anxiety. Therefore, as females tend to score higher on neuroticism and lower on self-esteem, there is a good chance that they suffer more from anxiety than males. If women are, indeed, more prone to feelings of anxiety, it could very well explain why self-punishment is less likely to work as a self-leadership strategy for them. Thinking about your own setbacks can do further damage to one's confidence in overcoming obstacles if these setbacks cause one to feel anxious. Perhaps men are better able to control their feelings when faced with disappointment which in turn helps them to motivate themselves to work harder.

There has not been any pre-existing evidence in research of such differences between the two genders, and the number of male respondents in this study is relatively small ($N = 34$). Therefore, more research is needed to see whether this finding holds when tested in a larger population.

This study was the first one of its kind to test potential moderation effects from one's regulatory focus. However, promotion or prevention focus were not found to moderate the relationship between self-leadership strategies and motivation. There are a couple of possible explanations for why the hypotheses did not hold. First, this study used chronic regulatory focus as the measurement for students' regulatory foci. However, it is entirely possible that while a student might be chronically prevention focused, they might still be promotion focused with regards to their studies. Even though they are more likely to influence one another, people can still possess situational foci which differ from their chronic focus. Had there been a reliable scale for measuring students' regulatory focus, perhaps using that scale would have yielded different results.

Second, the effectiveness of self-leadership strategies might not be as contingent on intrinsic motivation as has been previously suggested by research (see Unsworth &

Mason, 2016). It could very well be that students need to be in the more autonomous end of extrinsic motivation – namely have identified or integrated regulation. Still, they do not necessarily have to have intrinsic motivation to make self-leadership strategies work. It might be enough that students view the end goal of their studies valuable to find the motivation to put in the work during their studies. It might also be enough that they identify themselves as someone who is, for example, hardworking; they can find enough motivation to study even when it causes them distress, because fitting into the image they crafted for themselves might just be more important.

This would be a very comforting finding: it does not matter what the source of one's motivation is, there are still tools and strategies one can utilize to enhance their motivation even further.

This study has offered three contributions to the field of self-leadership research. One, self-leadership strategies should not be studied jointly, but rather separately, as they behave differently and there are notable individual differences, such as gender, that affect what are the preferred strategies. Two, individual characteristics may affect how effective self-leadership strategies are at increasing motivation. Gender was found to predict higher motivation for males but not for females. This finding should be explored further. Three, regulatory focus does not affect the effectiveness of self-leadership strategies on motivation. Both promotion and prevention-focused students were able to benefit from the use of self-leadership strategies.

6 CONCLUSIONS

As self-managing companies multiply in numbers, it is getting increasingly more important to understand what can be considered as effective self-management. With the self-leadership theory being the most widely used tool for learning self-management, there are still many stones that have been left unturned regarding the list of strategies it offers. Who benefits from the use of self-leadership strategies?

The goal of this study was to test if self-leadership strategies are a one size fits all type of a deal, as has been suggested by previous research. The results are inconclusive: while a higher number of strategies used does predict higher motivation, some strategies are more effective than others. However, it can be confidently stated that university students, in general, benefit from the use of self-leadership strategies.

From the six self-leadership strategies tested in this thesis, only two significantly predicted higher motivation, while one strategy predicted lower motivation. The two significant positive predictors were self-goal setting and self-observation, and the negative predictor was self-rewarding. These findings were somewhat in line with previous research. Self-rewarding has been shown to lead to contradictory results previously with some research stating it as an effective strategy whilst some stating it as ineffective.

Neither promotion nor prevention focus was found to moderate the relationship between self-leadership strategies and motivation. Instead, males were found to benefit more from the use of self-punishment when it comes to achieving higher motivation than females.

6.1 Managerial implications

One managerial implication confirmed by this thesis can be confidently stated: those workplaces that value self-leadership should make sure that the different strategies are considered in training. If nothing else, companies should at least recognize self-goal

setting as an important strategy for achieving higher motivation. This strategy has been confirmed as effective by so many researchers by now that it should find its way into every self-managing company's training procedure. The other strategies should be, however, approached with slight caution: although high strategy use seems to be the best way to go about for achieving high motivation, some strategies may instead hinder motivation for an individual.

An additional cause for consideration is the lack of a heterogeneous sample in this study for drawing conclusions. University students can be seen as quite capable of self-management because of the nature of their studies. It is entirely possible that self-leadership strategies are only effective on the highly educated side of workforce. It is also possible that while some self-leadership strategies are more effective for the white-collar employees, others are more effective for the blue-collar employees. Therefore, because there are already some sectors in Finland, such as the healthcare sector, that are experimenting with self-leadership and have employees from a colorful educational background, the issues in generalizing these findings should be recognized.

6.2 Suggestions for future research

Some of the findings made in this study should be validated with more extensive research. First, as the data used in this study was rather homogeneous, it would be interesting to replicate the study with a more diverse sample of respondents. One of the biggest issues sample-wise was the lack of students in the other regulatory focus groups apart from the high promotion, high prevention focus group. Another issue was the small number of male respondents. The suggestion that male students would benefit more from using the self-punishment strategy for gaining higher motivation should be explored with a higher number of male respondents.

Additionally, more research should be put into finding out what other individual differences cause the variation in the different self-leadership strategies' effect on motivation. As motivation is a vital element of success in any studies or work, it should

continue to be a focal point in academic research. For example, it would be interesting to study whether the Big Five personality traits moderate any of the strategies' effectiveness. If it is indeed the case that high neuroticism causes self-punishment to not be effective, it would certainly make an interesting finding. The other potential moderator explaining this relationship is self-esteem. Therefore, those would make great topics for any future research regarding the effectiveness of self-leadership strategies.

List of references

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Breevaart, K., Bakker, A. B. & Demerouti, E. (2014). Daily self-management and employee work engagement. *Journal of Vocational Behavior*, 84, 31–38.

Brown, E. M., Smith, D. M., Epton, T. & Armitage, C. J. (2018). Do Self-Incentives and Self-Rewards Change Behavior? A Systematic Review and Meta-Analysis. *Behavior Therapy*, 49, 113–123.

Burton, K. D., Lydon, J. E., D'Alessandro, D. U. & Koestner, R. (2006). The differential effects of intrinsic and identified motivation on well-being and performance: Prospective, experimental, and implicit approaches to self-determination theory. *Journal of Personality and Social Psychology*, 91, 750–762.

Cerasoli, C. P., Nicklin, J. M. & Ford, M. T. (2014). Intrinsic Motivation and Extrinsic Incentives Jointly Predict Performance: A 40-Year Meta-Analysis. *Psychological Bulletin*, 140(4), 980–1008.

Choi, J. H. & Chung, K-M. (2012). Effectiveness of a College-Level Self-Management Course on Successful Behavior Change. *Behavior Modification*, 36(1), 18–36.

Cleary, T. J. & Chen, P. P. (2009). Self-regulation, motivation, and math achievement in middle school: Variations across grade level and math context. *Journal of School Psychology*, 47, 291–314.

Corno, L. (1993). The best-laid plans: Modern conceptions of volition and educational research. *Educational Researcher*, 22(2), 14–22.

Costa, P. T., Jr., Terracciano, A. & McCrae, R. R. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology*, 81, 322–331.

de Jesus, S. N., Rus, C. L., Lens, W. & Imaginário, S. (2013). Intrinsic motivation and creativity related to product: A meta-analysis of the studies published between 1990–2010. *Creativity Research Journal*, 25(1), 80–84.

de Vel-Palumbo, M., Woodyatt, L. & Wenzel, M. (2018). Why do we self-punish? Perceptions of the motives and impact of self-punishment outside the laboratory. *European Journal of Social Psychology*, 48, 756–768.

Di Paula, A. & Campbell, J. D. (2002). Self-Esteem and Persistence in the Face of Failure. *Journal of Personality and Social Psychology*, 83(3), 711–724.

Elliot, A. J. (2006). The Hierarchical Model of Approach-Avoidance Motivation. *Motivation and Emotion*, 30, 111–116.

Engelschalk, T., Steuer, G. & Dresel, M. (2016). Effectiveness of motivational regulation: Dependence on specific motivational problems. *Learning and Individual Differences*, 52, 72–78.

Erez, M. & Zidon, I. (1984). Effects of goal acceptance on the relationship of goal setting and task performance. *Journal of Applied Psychology*, 69, 69–78.

Eurostat (2018). Working from home in the EU. [online] Available at: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20180620-1> [Accessed 19 March 2020.]

French, S. A., Jeffery, R. W. & Oliphant, J. A. (1994). Facility access and self-reward as methods to promote physical activity among healthy sedentary adults. *American Journal of Health Promotion*, 8, 257–262.

Furtner, M. & Rauthmann, J. F. (2010). Relations between self-leadership and scores on the Big Five. *Psychological Reports*, 107(2), 339–353.

Furtner, M. & Rauthmann, J. F. (2011). The role of need for achievement in self-leadership: Differential associations with hope for success and fear of failure. *African Journal of Business Management*, 5(20), 8368–8375.

Harunavamwe, M., Pillay, D. & Nel, P. (2020). The influence of psychological capital and self-leadership strategies on job embeddedness in the banking industry. *SA Journal of Human Resource Management*, 18(0), 1683–7584.

Higgins, E. T. (1997). Beyond Pleasure and Pain. *American Psychologist*, 52(12), 1280–1300.

Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N. & Taylor, A. (2001). Achievement orientations from subjective histories of success: promotion pride versus prevention pride. *European Journal of Social Psychology*, 31, 3–23.

Hodis, F. A., Hattie, J. A. C. & Hodis, G. M. (2016). Measuring promotion and prevention orientations of secondary school students: It is more than meets the eye. *Measurement and Evaluation in Counseling and Development*, 49, 194–206.

Hodis, F. A. & Hodis, G. M. (2017). Assessing Motivation of Secondary School Students: An Analysis of Promotion and Prevention Orientations as Measured by the Regulatory Focus Questionnaire. *Journal of Psychoeducational Assessment*, 35(7), 670–682.

- Houghton, J. D. & Neck, C. P. (2002). The revised self-leadership questionnaire: Testing a hierarchical factor structure for self-leadership. *Journal of Managerial Psychology*, 17, 672–692.
- Jackson, H. J. & Molloy, G. N. (1985). Some Effects of Feedback Alone and Four Types of Self-Consequence on Selected Measures of Problem Solving. *Perceptual and Motor Skills*, 61, 1005–1006.
- Jaquith, D. B. (2011). When is Creativity? *Art Education*, 64(1), 14–19.
- Kettunen, S. (2018). *Itseohjautuva organisaatio – toiminnallinen taivas ilman esimiehiä?* [online] Available at: <https://blog.kauppalehti.fi/viivan-alla/itseohjautuva-organisaatio-toiminnallinen-taivas-ilman-esimiehia> [Accessed 31 July 2020.]
- Kling, K. C., Hyde, J. S., Showers, C. J. & Buswell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin*, 125(4), 470–500.
- Lanaj, K., Chang, C. & Johnson, R. E. (2012). Regulatory Focus and Work-Related Outcomes: A Review and Meta-Analysis. *Psychological Bulletin*, 138(5), 998–1034.
- Lee, F. K. & Turban, D. B. (2010). Natural Rewards Self-Management, Personality, and Achievement Outcomes. *Journal of Applied Social Psychology*, 40(9), 2267–2294.
- Lent, R. W., Ezeofor, I., Morrison, M. A., Penn, L. T. & Ireland, G. W. (2016). Applying the social cognitive model of career self-management to career exploration and decision-making. *Journal of Vocational Behavior*, 93, 47–57.
- Liu, H., Yao, M., Li, R. & Zhang, L. (2020). The relationship between regulatory focus and learning engagement among Chinese adolescents. *Educational Psychology*, 40(4), 430–447.

- Locke, E. A. & Latham, G. P. (2002). Building a Practically Useful Theory of Goal Setting and Task Motivation. *American Psychologist*, 57(9), 705–717.
- Lockwood, P., Jordan, C. H. & Kunda, Z. (2002). Motivation by Positive or Negative Role Models: Regulatory Focus Determines Who Will Best Inspire Us. *Journal of Personality and Social Psychology*, 83(4), 854–864.
- Manz, C. C. & Neck, C. P. (2004). *Mastering Self-Leadership: Empowering Yourself for Personal Excellence*, 3rd ed., Pearson Prentice-Hall, Upper Saddle River, NJ.
- Manz, C. C. & Sims, H. P. (1980). Self-management as a substitute for leadership: A social learning theory perspective. *Academy of Management Review*, 5(3), 361–367.
- Markham, S. E. & Markham, I. S. (1995). Self-management and self-leadership reexamined: a levels-of-analysis perspective. *Leadership Quarterly*, 6(3), 343–359.
- Masters, J. C., Furman, W. & Barden, R. C. (1977). Effects of achievement standards, tangible rewards, and self-dispensed achievement evaluations on children's task mastery. *Child Development*, 48, 217–224.
- Miele, D. B. & Scholer, A. A. (2018). The Role of Metamotivational Monitoring in Motivation Regulation. *Educational Psychologist*, 53(1), 1–21.
- Miskala, I. & Uurto, P. (2019). *Itseohjautuvuus hoitotyössä*. [online] Available at: <https://www.hel.fi/sote/fi/esittely/julkaisut/uutiskirjeet/itseohjautuvuus-hoitotyossa> [Accessed 31 July 2020.]
- Müller, T. & Niessen, C. (2019). Self-leadership in the context of part-time teleworking. *Journal of Organizational Behavior*, 40, 883–898.

- Napiersky, U. & Woods, S. A. (2018). From the workplace to the classroom: Examining the impact of self-leadership learning strategies on higher educational attainment and success. *Innovations in Education and Teaching International*, 55(4), 441–444.
- Neck, C. P. & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology*, 21(4), 270–295.
- Nelissen, R. M. A. & Zeelenberg, M. (2009). When Guilt Evokes Self-Punishment: Evidence for the Existence of a Dobby Effect. *Emotion*, 9(1), 118–122.
- Pintrich, P.R., Smith, D.A.F., García, T., & McKeachie, W.J. (1991). *A manual for the use of the motivated strategies questionnaire (MSLQ)*. Ann Arbor, MI: University of Michigan, National Center for Research to Improve Postsecondary Teaching and Learning.
- Ryan, R. M. & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*, 55(1), 68–78.
- Scholer, A. A., Miele, D. B., Murayama, K. & Fujita, K. (2018). New Directions in Self-Regulation: The Role of Metamotivational Beliefs. *Current Directions in Psychological Science*, 27(6), 437–442.
- Schwinger, M. & Otterpohl, N. (2016). Which one works best? Considering the relative importance of motivational regulation strategies. *Learning and Individual Differences*, 53, 122–132.

Schwinger, M., Steinmayr, R. & Spinath, B. (2009). How do motivational regulation strategies affect achievement: Mediated by effort management and moderated by intelligence. *Learning and Individual Differences*, 19, 621–627.

Schwinger, M., Steinmayr, R. & Spinath, B. (2012). Not all roads lead to Rome — Comparing different types of motivational regulation profiles. *Learning and Individual Differences*, 22, 269–279.

Schwinger, M. & Stiensmeier-Pelster, J. (2012). Effects of motivational regulation on effort and achievement: A mediation model. *International Journal of Educational Research*, 56, 35–47.

Senécal, C., Koestner, R. & Vallerand, R. J. (1995). Self-Regulation and Academic Procrastination. *The Journal of Social Psychology*, 135(5), 607–619.

Simons, J., Dewitte, S. & Lens, W. (2004). The role of different types of instrumentality in motivation, study strategies, and performance: Know why you learn, so you'll know what you learn! *British Journal of Educational Psychology*, 74, 343–360.

Solomon, L. J. & Rothblum, E. D. (1995). Academic Procrastination: Frequency and Cognitive-Behavioral Correlates. *Journal of Counseling Psychology*, 31(4), 503–509.

Sowislo, J. F. & Orth, U. (2013). Does Low Self-Esteem Predict Depression and Anxiety? A Meta-Analysis of Longitudinal Studies. *Psychological Bulletin*, 139(1), 213–240.

Steinbauer, R., Renn, R. W., Chen, H. S. & Rhew, N. (2018). Workplace ostracism, self-regulation, and job performance: Moderating role of intrinsic work motivation. *The Journal of Social Psychology*, 158(6), 767–783.

Ste-Marie, D. M., Vertes, K. A., Law, B. & Rymal, A. M. (2013). Learner-controlled self-observation is advantageous for motor skill acquisition. *Frontiers in Psychology*, 3, 1–10.

Strunk, K. K. & Steele, M. R. (2011). Relative contributions of self-efficacy, self-regulation, and self-handicapping in predicting student procrastination. *Psychological Reports*, 109(3), 983–989.

Tilastokeskus. (2020). *Työssäkävien opiskelijoiden osuus ennallaan*. [online] Available at: http://stat.fi/til/opty/2018/opty_2018_2020-03-12_tie_001_fi.html [Accessed 30 June 2020.]

Unsworth, K. L. & Mason, C. M. (2016). Self-concordance strategies as a necessary condition for self-management. *Journal of Occupational and Organizational Psychology*, 89, 711–733.

Vallerand, R. J., Fortier, M. S. & Guay, F. (1997). Self-Determination and Persistence in a Real-Life Setting Toward a Motivational Model of High School Dropout. *Journal of Personality and Social Psychology*, 72(5), 1161–1176.

Wang, Y., Gao, H., Sun, C., Liu, J. & Fan, X. (2021). Academic procrastination in college students: The role of self-leadership. *Personality and Individual Differences*, 178.

Wolters, C. A. (2003). Regulation of Motivation: Evaluating an Underemphasized Aspect of Self-Regulated Learning. *Educational Psychologist*, 38(4), 189–205.

Appendices

Appendix 1. Survey

The use of self-leadership strategies among students

The purpose of this survey is to explore the use of self-leadership strategies among Finnish university students.

It should take you approximately 10 minutes to complete the survey. All responses are completely anonymous. The data collected here will be used in a Master's thesis.

If you have any questions regarding the survey, please email me at meeri.huopainen@aalto.fi

Thank you for participating!

Choose what best describes you.

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Compared to most people, are you typically unable to get what you want out of life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Growing up, would you ever "cross the line" by doing things that your parents would not tolerate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	A few times 3	4	Many times 5
How often did you obey rules and regulations that were established by your parents?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Did you get on your parents' nerves often when you were growing up?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Always 5
How often have you accomplished things that got you "psyched" to work even harder? (* eager, excited)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Growing up, did you ever act in ways that your parents thought were objectionable? (* disagreeable, offensive)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Do you often do well at different things that you try?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never or seldom 1	2	Sometimes 3	4	Very often 5
Not being careful enough has gotten me into trouble at times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Never true 1	2	Sometimes true 3	4	Very often true 5
When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Certainly false 1	2	3	4	Certainly true 5
I feel like I have made progress toward being successful in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Certainly false 1	2	3	4	Certainly true 5
I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Choose what best describes you as a student.

	Strongly disagree				Strongly agree
	1	2	3	4	5
I establish specific goals for my own study performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I do an assignment especially well, I like to treat myself to some thing or activity I especially enjoy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to get down on myself in my mind when I have performed poorly at course work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consciously keep track of how well I'm doing in my courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I focus my thinking on the pleasant rather than the unpleasant aspects of my course work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use written notes to remind myself of what I need to accomplish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consciously have goals in mind for my study efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I do something well, I reward myself with a special event such as a good dinner, movie, shopping trip, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to be tough on myself in my thinking when I have not done well on a task.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually am aware of how I'm doing as I perform an activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to surround myself with the objects and people that bring out my desirable behaviors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use concrete reminders (e.g. notes and lists) to help me focus on the things I need to accomplish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work toward specific goals I have set for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have successfully completed a task, I often reward myself with something I like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree				Strongly agree
	1	2	3	4	5
I feel guilt when I perform and task poorly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I pay attention to how well I am doing in my courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I have a choice, I try to do my studying in ways that I enjoy rather than just trying to get it over with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think about the goals that I intend to achieve in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes openly express displeasure with myself when I have not done well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep track of my progress on projects I'm working on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seek out activities in my studies that I enjoy doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I write specific goals for my own performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find my own favorite way to get things done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Choose what best describes you as a student.

	Not at all true of me 1	2	3	4	Very true of me 5
I often feel so lazy or bored when I study for a class that I quit before I finish what I planned to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work hard to do well in my classes even if I don't like what we are doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When course work is difficult, I give up or only study the easy parts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when course materials are dull and uninteresting, I manage to keep working until I finish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How well do the following statements describe your personality?

	Strongly disagree 1	2	3	4	Strongly agree 5
I see myself as someone who tends to be lazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who does a thorough job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is your nationality?

- Finnish
- Other

How old are you?

- 19 or younger
- 20 - 24
- 25 - 29
- 30 - 34
- 35 or older

What is your gender?

- Female
- Male
- Other
- Do not wish to specify

Which university do you study in?

- Aalto University
- Hanken School of Economics
- LUT University
- Tampere University
- University of Eastern Finland
- University of Helsinki
- University of Jyväskylä
- University of Lapland
- University of Oulu
- University of Turku
- University of Vaasa
- University of the Arts Helsinki
- Åbo Akademi University
- Other

What is your field of studies?

- Agriculture, forestry, fisheries and veterinary
- Arts and humanities
- Business, administration and law
- Education
- Engineering, manufacturing and construction
- Health and welfare
- Information and communication technologies
- Natural sciences, mathematics and statistics
- Services
- Social sciences, journalism and information
- Other

What is the GPA of your last four courses?

- 1.0 - 1.9
- 2.0 - 2.9
- 3.0 - 3.9
- 4.0 - 5.0
- Unable to specify