

MASTER'S THESIS 2025

Learning Through Competition

Educational Outcomes for Architecture Students in Competitive
Environments

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CHALMERS UNIVERSITY OF TECHNOLOGY

Gothenburg, Sweden 2025

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Acknowledgements, dedications, and similar personal statements in this thesis, reflect the author's own views.

Cover: Schematic representation of interrelations between competition and learning, p.51

Printed by Chalmers Reproservice

Gothenburg, Sweden 2025

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Abstract

Historically, the architecture field has fostered a competitive mindset, evident in both professional practice and education which has been observed to demonstrate a more pronounced culture and usage of competition than others. The aim for this thesis was to discern what impact this culture of competition has on the learning of architecture students and if there are differences between male and female students in this regard. The study was based on semi-structured interviews with second- and third-year *Architecture* and *Architecture and Engineering* students at Chalmers University of Technology and practicing architects. The results indicate that competition in creative project-based education can affect learning both positively and negatively, through dual effects on motivation, peer learning, creativity and stress. There exists a gender gap regarding some aspects of the subject. However, this gender gap is not as significant in this context compared to prior research. As one learning objective of architectural education is competition skills, future research is suggested to further evaluate competition's importance as a learning tool in this context.

Disclaimer: AI was used in this thesis for transcribing interview recordings, translating words and short expressions from Swedish to English and grammatical editing.

Keywords: competition, competitive environment, learning, performance, motivation, cooperation, creativity, well-being, architectural education

Acknowledgements

As any thesis work, this paper was made possible with the help from multiple people. Firstly, I want to acknowledge my supervisors Caroline Ingelhammar and Charlotte Axelsson for the immense support and guidance and for bringing this thesis to the finish line. I also want to express my gratitude towards the teachers at the architecture programs for opening doors and towards all participants for their crucial contribution.

To my classmates and teachers, I want to say thanks for rewarding conversations and two wonderful years. Lastly, I want to thank all friends and family for unconditional support and endurance. You know what you did.

Julia Gunnarsson, May 2025

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Acronyms

A Architecture. 5, 6, 50, 53

AT Architecture and Engineering. 5, 6, 17, 40, 53

CE Competitive Environment. 5, 44, 47-49

CSDC Chalmers Structural Design Challenge. 19, 29, 49

EM Extrinsic Motivation. 44, 51

IM Intrinsic Motivation. 44, 51

OPM Opposing Processes Model. 9, 44, 51

SC Structural Competition. 5, 44, 47-49

SDT Self-Determination Theory. 7, 8, 45

1

Introduction

Historically, the architecture industry has been characterized by a competitive mindset. This becomes evident in both architecture companies and the education that prepare architecture students for work. While it is not the only method, competition is an important part of acquiring projects for architecture firms and some companies have teams of experts put together who specializes in competition strategies.

The next section explains how competitive values permeates the general educational system. However, it has been observed that some educational programs demonstrate a more pronounced culture and usage of competition than others. The architecture programs at Chalmers University of Technology are one example. According to faculty and students, there exists an ongoing problem with stress and pressure to perform among students. Observations have been made that this problem could relate to the established competitive culture associated with these programs (see Chapter 2 for context).

1.1 Background

Butera et al. (2021) explain how competitive values permeates the educational system due to the relationship between educational institutions and society. The competitive culture that exists in industrialized, capitalist countries comes from ideologies such as the fairness of free-market and meritocracy.

Meritocracy refers to citizens being rewarded with wealth or power based on their competence and effort, in contrast to being a part of a privileged social group. Consistent with this, the educational system uses merit as the principle to measure individual performance. It is also influenced by competitive norms, such as productivism, which indicate that to guarantee economic growth in society, students need to develop skills that are needed in the workforce. As a result, the assessment of students is shaped by the same competitive standards as in the job market. In addition, the free-market ideology influences school managers “to promote the idea that competition in education can boost performance just like it can in the marketplace”

(Butera et al., 2021, p. 573). Given that students are socialized in these systems, they adopt the current ideologies and in turn shape the future society through social reproduction in a feedback loop (Butera et al., 2021).

1.2 Aim

The aim for this thesis is to discern what impact competitiveness and competition have on student learning in a creative field, such as architecture. The results will show to what extent competition aspects in the curriculum and culture affects the students' educational process both positively and negatively. Additionally, the results will be analyzed with a gender perspective to draw conclusions about if women and men in the present context respond to competition differently. Gaining knowledge about how people respond to competition as a learning tool can help shed light on necessary changes within education and organizations.

The purpose of any education is to learn and to gain competence. However, even if learning is the expected educational outcome, performance assessment is the tool used for measuring difference in competence before and after a learning process. Therefore, the terms *learning* and *performance* are regularly used synonymously in research regarding educational outcomes (Butera et al., 2021). This thesis will attempt to examine these terms both collectively and independently with the purpose of drawing conclusions about student learning specifically.

1.3 Research questions

This thesis includes one overarching research question, supported by five additional questions that focus on specific dimensions within the broader issue, while contributing with insight to the main question:

Main Research Question:

RQ1: What possible effects can competitive elements and/or a competitive culture within education have on learning?

Supporting Research Questions:

RQ2: What possible effects can competitive elements and/or a competitive culture within education have on student work and performance?

RQ3: What possible effects can competitive elements and/or a competitive culture within education have on student motivation?

RQ4: What possible effects can competitive elements and/or a competitive culture within education have on student cooperation?

RQ5: What possible effects can competitive elements and/or a competitive culture within education have on student well-being?

RQ6: How do these effects differ between male and female students within this context?

1.4 Limitations

The present research is situated at Chalmers School of Architecture, located in Gothenburg, Sweden. Conclusions will therefore be drawn within this context. Conclusions regarding architectural education in general will require further research.

Furthermore, the present research aims to focus on consequences of competition and a competitive environment. Questions regarding cause, meaning what reasons lie behind a competitive environment, will not be dealt with in this thesis.

2

Context

The purpose of this chapter is to give a description of the context in which the present thesis is situated. The first section describes the two terms structural competition and perceived environmental competitiveness. The second section focuses on a presentation of the structure and relevant aspects of Chalmers School of Architecture. Lastly, a short description of the collaborative partner in this project is presented.

2.1 Structural Competition and Perceived Environmental Competitiveness

To clarify the scope of this thesis, two terms must be defined: structural competition (SC) and perceived environmental competitiveness (CE). Structural competition is the same as official competition, where performance is assessed in comparison to other competitors, instead of in comparison to an absolute criterion. Perceived environmental competitiveness refers to the experience of being in a competitive situation, where social comparison becomes prominent. In a competitive environment, individuals assess their own performance based on normative standards. Structural competition can often generate the perception of a competitive environment but this perception can also depend on other social cues, such as personality traits, relationships between competitors and the nature of the task (Murayama et al., 2021). Since there is a causal relationship between the two terms, the outcomes of a competitive environment could also indirectly be the outcomes of a structural competition. Both terms are therefore being used and investigated in relation to the research questions.

2.2 Chalmers School of Architecture

At Chalmers, the education in architecture is currently divided into two bachelor level programs, *Architecture (A)* and *Architecture and Engineering (AT)*, from which students continue to two possible master's programs, *Architecture and Urban Design* and *Architecture*

and Planning Beyond Sustainability. AT students are also eligible to apply for a master's in engineering (Chalmers, 2025).

The architectural courses at these programs are generally studio-oriented, meaning that they follow a project-based structure in which students receive introductory lectures or workshops and are ultimately assessed based on the project they work on during the duration of the course.

These programs all include variations of competitive aspects in their education: in a group project during the first semester, A- and AT-freshmen design architecture journals which are ranked at the final critique; the bachelor's project for AT seniors is a part of a competition organized in the United States; and at the master's level a course that covers architecture competitions is offered. These are a few examples.

It should be noted that in mandatory architecture courses at the A- and AT-programs, the use of structural competitions is not tied to course outcomes, which are assessed on a pass/fail basis.

2.3 Partner Company

This thesis is carried out in collaboration with LEDA20, a Swedish consulting company that offers services within sustainable leadership. Their services include lectures, training and strategies in inclusive and gender-equal leadership as well as organizational development (LEDA20, 2025).

Aligned with their focus on sustainable leadership, LEDA20 has an interest in researching this issue due to its connection to cooperation and workplace mental health.

3

Theory

This chapter presents the theoretical foundation of the present study. To understand the effect competition has on student motivation and learning, different theories and previous research need to be taken into consideration.

The chapter begins with defining different types of motivation with Self-Determination Theory and competition's relation to these terms. Next, the Opposing Processes Model is introduced to offer additional framework for competitions effect on performance. Building on this, gender differences in competition are considered, followed by an account of how stress affects cognitive learning. The ending of the chapter focuses on characteristics for the architectural education and how motivation and creativity interact, and concludes with a description of peer learning and how it is affected by competition.

3.1 Self-Determination Theory

With the assumption that people are growth-oriented, Self-Determination Theory (SDT) suggests that individuals' inner motivation stem from the satisfaction of three basic needs: *autonomy*, *competence* and *relatedness* (Ryan & Deci, 2000). Autonomy refers to a feeling of choice and psychological freedom, not to be confused with independence, as independence can be achieved without the individual having a sense of control. Competence refers to the individuals' sense of capability and mastery of the task at hand, meaning that they feel competent enough to perform and seek out challenges. Lastly, relatedness refer to the need to connect with others, a sense of belonging in the social environment (Van den Broeck et al., 2017). When these needs are met, individuals have the ability to feel intrinsically motivated. However, intrinsic motivation also refers to a feeling of interest and enjoyment, meaning that the principles of basic needs only apply if the activity is experienced as intrinsically motivating in itself (Ryan & Deci, 2000).

SDT also include the term extrinsic motivation, which refers to motivation driven by an outcome separable from the activity. Extrinsic motivation is further subdivided into several

regulations scaling from external rewards and punishments (external), through the pursuit of pride or avoidance of guilt (introjected), to actions driven by personal importance (identified) and identity (integrated), as shown in Figure 3.1. This reflects that extrinsic motivation can vary in its relative autonomy (Ryan & Deci, 2000). While external and introjected regulations (i.e. ‘I have to do this’) are considered harmful to well-being and performance, introjected and identified regulations, together with intrinsic motivation (i.e. ‘I want to do this’), are considered to foster ability and well-being (Van den Broeck et al., 2017).

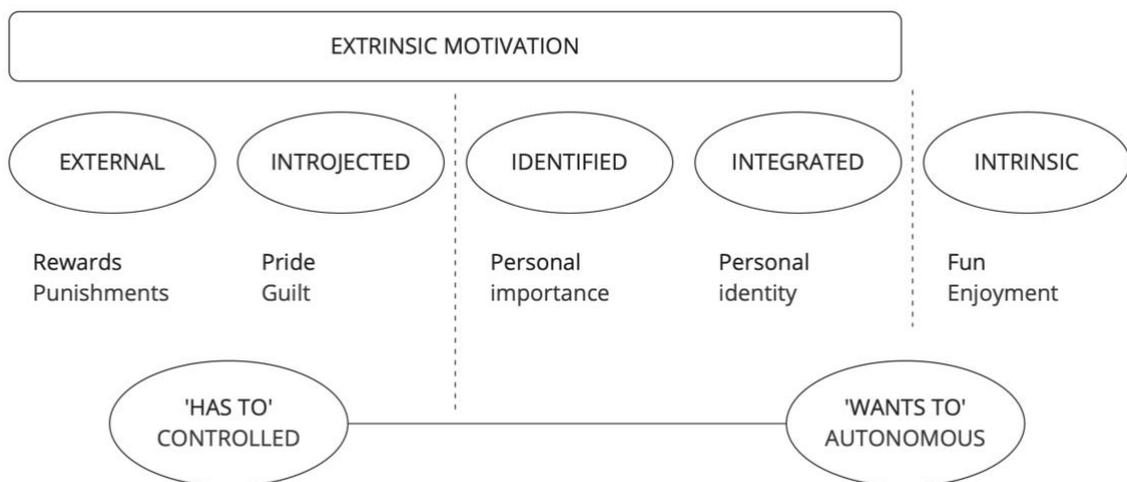


Figure 3.1: Visual representation of types of motivation. (Van den Broeck et al., 2017). Adapted with permission.

When examining competition from an SDT perspective, it is evident that competition can both inhibit and facilitate intrinsic motivation by affecting the basic needs in various ways. Firstly, as competitions tend to be rich in feedback, they have a large impact on the need for competence. Advancing in the challenges that a competition offers generates positive feedback that will lead to competence satisfaction, while negative competence feedback, such as losing, will diminish intrinsic motivation. Secondly, the need for autonomy can either be satisfied or thwarted depending on the level of controlling pressures (from others or internal) that often appear in a competitive situation. Lastly, competition can both enhance and harm relatedness, by either giving an opportunity to build strong teams, or by generating social comparison and interpersonal conflict. All these depend on varying factors regarding how the competition is organized and conducted (Ryan & Reeve, 2021).

3.2 The Opposing Processes Model

It is common to assume that people are strongly motivated by being in competition with each other. Consequently, we also tend to assume that people perform better through competition. However, many can relate to competition being a stressful situation, and therefore it may not automatically enhance performance. Murayama and Elliot (2012a) (as cited in Murayama et al., 2021) accommodate these perspectives by incorporating them into the *Opposing Processes Model of Competition and Performance* (OPM), which describes what psychological and motivational aspects underlie competition and shows what effect competition has on performance.

To explain this model, a distinction between *mastery goals* and *performance goals* needs to be made (see Figure 3.2). According to Murayama et al. (2021), these are the two types of an *achievement goal*, which is the “desired end state for people’s competence-relevant engagement” (Murayama et al., 2021, p.191). In other words, what people want to achieve when they are in a competence-related situation. Mastery goals refer to the aim of gaining competence, measured against absolute or intrapersonal standards. For example, the goal to pass an exam or beat one’s personal best in something. In contrast, performance goals refer to the aim of gaining competence, measured against comparative standards, that is performing better than others.

In turn, performance goals are divided into *performance-approach goals* and *performance-avoidance goals* (see Figure 3.2). When in comparison with others, these two types represent appetitive motivation and aversive motivation, respectively, which means that a performance-approach goal is reinforced when a person tries to perform better than others, and a performance-avoidance goal is reinforced when a person tries to avoid performing worse than others. Even though these goals may seem similar, e.g., the desire to win appears synonymous to the desire not to lose, on a cognitive level, they direct people’s attention in two different directions. The former focuses a person’s attention on reaching for excellent results, the latter focuses a person’s attention on the possibility of failure and its consequences. As a result, “performance-approach goals tend to facilitate task performance, whereas performance-avoidance goals tend to impair performance” (Murayama et al., 2021, p.193). Because these parallel processes are often of equal measure, the effects of both goals tend to balance each other out, resulting in a minimal or negligible connection between competition and performance. How these factors: approach- and avoidance goals, competition, and

performance, relate to each other is the central concept of the Opposing Processes Model of Competition and Performance.

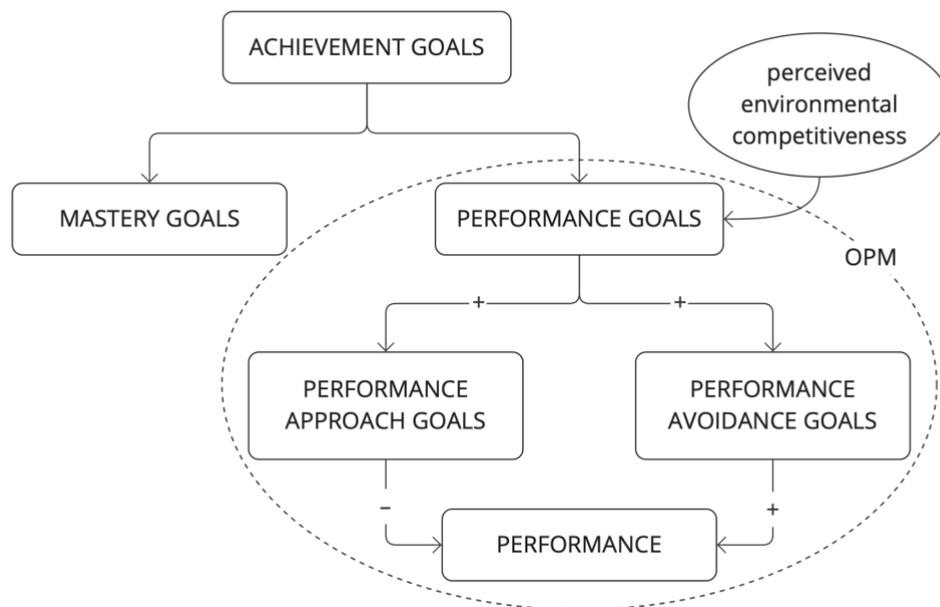


Figure 3.2: Visual representation of the relation between achievement goals and the Opposing Processes Model.

Murayama et al. (2021) further explain that the model includes the idea that perceived environmental competitiveness is the starting point for the adoption of these performance goals. A subjectively recognized competitive environment leads to social comparison, which in turn leads to the opposing processes being triggered. The perception of a competitive environment is typically derived from people being put in a structural, or official, competition but can also arise from social and personal factors, such as *trait competitiveness*, the personal desire or preference to compete. Those with high trait competitiveness tend to demonstrate the phenomenon of *competitiveness projection*, meaning they are more likely to see their environment as competitive, even in the absence of a structural competition (Murayama et al., 2021). As a consequence of this behavior, others may be influenced to respond similarly, resulting in a self-fulfilling competitiveness projection (Butera et al., 2021).

As a final point, the opposing processes model is used for understanding the short-term interaction between performance and competition. As a competition is usually short-lived, there is no additional motivation after the reward has been achieved. Murayama et al. (2021) therefore suggest future studies to take the long-term perspective into consideration and examine the model's generalizability.

3.3 Competition and Gender

When exploring the concept of competition, it is relevant to consider gender differences. Gender, in this thesis, is referencing the “social construct that is learned through socialization over time and within one’s cultural context” (Hanek, 2021, p. 515), while biological differences between men and women are not addressed.

Biological differences are considered negligible in this context due to the lack of evidence supporting the notion that different behaviors relevant to competition (e.g. aggression, technical skills) are rooted in biological differences. Conell and Pearse (2015) explain that it is also the other way around, namely that different behavior between genders, generate a difference in biology. This means that societal gender norms influence male and female behavior to reproduce differences in the brain. Therefore, “male and female thinking” has more to do with social constructs than with biology.

3.3.1 Gender and Competition Entry

Niederle and Vesterlund (2007) explain that men tend to be more competitive than women and that this conclusion is suggested by several psychological studies. One aspect of the gender difference in competition is the *entry preference* (i.e. the willingness and desire to partake in competition), and the authors conducted a study to examine this aspect. The study was carried out through an experiment where men and women were given a task where there were no gender differences in performance expected. For this task, they could either be compensated based on their performance in relation to other participants’ performance (structural competition) or be compensated independently of others’ performance. In their study, Niederle and Vesterlund (2007) found that 73 percent of the men chose the competition-reward structure, while only 35 percent of the women made the same choice, despite there being no difference in performance between the genders.

Factors such as risk and feedback aversion are likely to contribute to the gender gap in competition entry. This means that men are more likely to take risks and that women tend to be more reluctant to receiving feedback on relative performance due to their tendency to internalize negative feedback and link it to their self-worth. However, the authors identified the key factors as men being more overconfident than women, and men having a stronger preference for competition itself. The factor of men having a stronger preference for

competition itself was identified in an additional test, where the gender gap remained, despite the design that removed the impact of overconfidence, risk, and feedback aversion. Therefore, it is evident that men tend to want to compete (Niederle & Vesterlund, 2007).

3.3.2 Gender and Competition Performance

Another aspect of gender differences in competition is *performance*. Hanek (2021) highlights several experimental studies that show how a gender gap in performance emerges in competition, either through men performing better in comparison to a non-competitive setting or women underperforming compared to a non-competitive setting. A possible boundary condition for this effect is the nature of the task. As tasks are generally perceived as gendered, even when there is no gender gap in the ability to solve the task without competition, interesting insights arise when comparing men and women's competition performance across stereotypical masculine, feminine, and neutral tasks. While masculine tasks, such as mathematics, seem to regenerate the gender gap in performance and entry preferences, gender-neutral tasks, such as creative tasks, and feminine tasks, such as verbal tasks, do not.

Furthermore, Hanek (2021) addresses social psychological mechanisms on the subject. Social role theory explains that societal norms not only describe gendered behavior, but also prescribe it, making women and men behave in accordance with these expectations. Consistent with the norm of women being communal and caring, women are more likely to seek out and perform better in a competition if it is, for example, a team activity. Additionally, in a context where gender norms differ from this patriarchal structure (e.g. matriarchal societies), "women and girls have been shown to be as likely or even more likely to enter competitions than men and do not differ their performance under competition" (Hanek, 2021, p.528).

3.4 Learning and Stress

Maslow's *Hierarchy of Needs* is a classic theory that describes what learners need in order to achieve their full potential. The steps start at *physical needs* and *psychological needs* and moves on to *affiliation* (a sense of belonging), *esteem* (sense of self-belief) and lastly *self-fulfillment*. Maslow argued that needs at the lower levels of the hierarchy (i.e. physical and psychological needs) have to be met for the individual to progress to higher levels (Bates, 2019). Thus, psychological needs, such as stress, is closely related to a learner's capacity to learn.

Cognitive functions, such as attention, memory and decision making, are all susceptible to stress in different ways. Stress can both lead to impairment of cognitive functions as well as improvement. It depends on the level of stress and the type of task with its associated cognitive function. Tasks that are habit-based require simple stimulus-response learning strategies, while tasks requiring flexible thinking and complex reasoning refer to spatial learning strategies (Sandi, 2013).

Generally, low levels of stress can benefit cognitive functions, particularly for simple stimulus-response activities. However, Sandi (2013) explains that when an individual is exposed to a high level of stress, their task performance switches from usage of spatial cognitive functions to the use of simpler habit-based functions. This also applies to stress prior to learning and chronic stress. Consequently, high stress levels interfere with the learning process regarding tasks that generate cognitive load (such as problem-solving) and the transferring of information from working memory to long-term memory.

3.5 The Creative Education

Creativity has various definitions and overlapping meanings depending on the discipline in which the term is being used. In the context of design pedagogy, Orr and Shreeve (2018) define creativity as being tied to curiosity and risk-taking. Doheim & Yusof (2020) build on this by summarizing creativity within the architectural scope as being associated with innovation, originality and imagination, as well as risk-taking and curiosity. Architecture students need to adopt creative, as well as critical, logical and tentative, thinking to solve design problems and propose innovative solutions. Ultimately, creativity is a core skill in the architectural education due to the global demand of a workforce that can meet the challenges of sustainability (Doheim & Yusof, 2020).

3.5.1 Creativity and Motivation

Doheim and Yusof (2020) proceed to emphasize that creativity can be taught by citing various approaches proposed by other authors. Including challenging and varied experiences in the education (Simonton, 2000, as cited in Doheim & Yusof, 2020) and working with intrinsic and extrinsic motivation (Collins & Amabile, 1998), are a few examples.

As previously stated in section 3.1 (“Self-Determination Theory”), intrinsic motivation is driven by task enjoyment, whereas extrinsic motivation is driven by outcomes that are separate from the activity itself. Collins and Amabile (1998) reference a wide range of studies, stating that intrinsic motivation outperforms extrinsic motivation as beneficial to creativity. Thus, this combined research concludes that for achieving a high level of creativity and producing highly creative work, people are required to be highly intrinsically motivated, meaning finding inner enjoyment in the task at hand. This level of intrinsic motivation is also linked to the task being suitably challenging for the individuals’ level of skill.

Additionally, extrinsic motivation, such as assessment of the task, has been found to be detrimental for creativity. This is also the case for the receipt of positive feedback prior to engaging in a task, having specific rules for a task, as well as simply being observed by others while conducting a task. The latter has been reported to make creative people avoid negative influences by mentally detach from others (Collins & Amabile, 1998).

However, there are circumstances where extrinsic motivation has positive effects on creativity. For example, Amabile (1979) showed in a study that creativity in fact could be increased by granting rewards for demonstrating creativity, if specific instructions regarding creative performance was given before the task. Additionally, Collins and Amabile (1998) explain that a creative process can be enabled by both intrinsic and extrinsic motivation, in the concept called *motivational synergy*, where intrinsic motivation is most successful in the early stages with idea generations etc., while extrinsic motivation, such as clear deadlines and external rewards, can help facilitate other stages where novel thinking is less essential.

3.5.2 Ambiguity and the Design Studio

In addition to creativity, architectural education is characterized by ambiguity and a studio-oriented curriculum. In *Art and Design Pedagogy in Higher Education*, Orr and Shreeve (2018) argue that ambiguity is the heart of creative education and that there is a need for open-endedness and uncertainty in a creative learning environment, though it generates discomfort (Orr & Shreeve, 2018). This discomfort is reflected in Doheim and Yusof (2020), who explain that architecture students have difficulties with implementing creativity in their projects due to ambiguity. In problem-solving, the aim is to find a workable solution and with this aim, students find the ideas of ‘ambiguity is good’ and ‘learning to fail’ difficult to apply. Consequently, confusion amongst students becomes evident, and quite paradoxically, creativity is inhibited.

Furthermore, the design studio is highlighted as the central course type in architectural education. The studio is where architecture students carry out projects and implement creativity, critical thinking and knowledge they receive from complementary theoretical courses (Doheim & Yusof, 2020). Orr and Shreeve (2018) highlight that the commonly used project-centered pedagogy has high potential but is taken for granted as the obvious choice in design education and should therefore be researched further. “The open-ended project brief [...] is a commonly used approach to pedagogy in art and design, but little is written about how it is used to support learning” (Orr & Shreeve, 2018, p.14).

3.6 Peer Learning

Peer learning refers to when students learn from each other instead of immediately from a teacher. This can be in the form of everything from student organized workshops to team projects and study groups. In this context, peer learning is defined as *reciprocal* peer learning, meaning that all students take on the roles of both teacher and learner in an interactive manner. Boud et al. (1999) explain how peer learning constitutes an essential complement to traditional teaching methods, by benefiting certain types of learning skills where other teaching methods are not as effective. These skills are collaboration and teamwork, critical thinking and reflection, communication and interpersonal skills, and ‘learning to learn’.

Additionally, Doheim & Yusof (2020) stress the importance of peer learning in the studio-based learning environment, as students who work in teams perform better in contrast to those who work alone. In a collaborative learning environment students enhance their problem-solving skills, decision-making and creative thinking, as a result of ideas exchange, idea evaluation and brainstorming.

Peer learning is however reduced when introducing competition into the situation. While competition may create opportunities for collaboration, it has also shown to lead to withholding of useful information as well as a general reduction in exchange of information between partners. Studies also show that performance-approach goals “reduce the ability to take into account and learn from a partner’s diverging point of view” (Butera et al., 2021, p.588).

4

Methodology

To answer the research questions, a qualitative interview study was conducted with architecture students at Chalmers and practicing architects at different architecture firms in Gothenburg. This chapter firstly presents the chosen data collecting method and secondly a description of the various analyzing methods of the collected data. Lastly, ethical considerations are presented.

4.1 Data Collection

The project was carried out through a qualitative study where architecture students were interviewed with the purpose to map out their experiences of how competition and competitive environments have impacted their education in relation to the research questions.

The interview format was chosen as the data collecting method as it is a tool for gaining deep understanding for individuals' perceptions of relatively complex subjects and through this define themes (Esaiasson et al., 2017). In this project it was not a matter of researching if students perceive competition as a strictly positive or negative learning tool but a matter of finding nuances in what its impact looks like. Therefore, to answer the research questions considered, the data collecting method needed to be open for unexpected responses which is why interviews were preferred to surveys. While surveys uses standardized multiple-choice questions, interview questions can be more flexible and adjust to the respondent's answers (Esaiasson et al., 2017). This is specifically the case for semi-structured interviews. As noted by Leech (2002), different interview types have different aims: structured interviews are appropriate when the researcher has substantial knowledge of the subject and seek specific answers with predetermined categories; unstructured interviews are appropriate when gaining insight with little prior knowledge but tend to generate wandering conversations. Semi-structured interviews offer a middle ground with open-ended questions and enough structure to guide the discussion.

In this study, semi-structured interviews were considered appropriate due to prior knowledge gained through experience from attending the AT program. This allowed the interviews to

revolve around courses and experiences all students are familiar with while still including open-ended questions to allow new insight.

Furthermore, interviews were chosen over carrying out an experiment due to limitations. An experiment's purpose would be to examine how students learn and perform in a competitive situation in comparison to a learning activity without a competitive element. It was initially argued that such an experiment would generate a more direct answer to the question "What impact does competitive elements within education have on students' learning and performance?" while interviews would provide results that show the students perceived learning. However, interviews enable insight into the student's education as a whole, not only their response to one competitive situation. In accordance with this, interviews also enable investigation of the students' perceived competitive environment, which is difficult to observe on one occasion. Due to time restrictions a combination of both methods was discarded.

4.1.1 Student Interviews

The chosen population consisted of all second- and third-year students enrolled in the bachelor level programs at Chalmers School of Architecture. First-year students were excluded due to their limited experience. The master's programs were excluded, as these student groups include architecture students from other universities in Sweden and globally, with potentially differing educational cultures. Students were recruited as respondents on a voluntary basis through sign-up sheets distributed during lectures and through class group chats, where a message was posted with assistance from students. The sample group included 17 volunteering students, of which ten female and seven male.

Each interview followed an interview guide (see Appendix A) with questions regarding the categories: motivation, creativity and cooperation, in relation to structural competition and perceived competitive environment. These categories were chosen to help facilitate student reflection, as it can be argued that competition's impact on motivation is more relatable and tangible, compared to the more abstract internal learning process. Creativity was selected as architecture is a creative discipline and cooperation was included to enable discussions on peer learning.

Due to competition and competitiveness possibly being sensitive subjects, in the sense that they are related to stress, anxiety and pressure to perform, the questions were designed to initiate conversation around course- and school elements, while direct inquiries were only posed if the

answers needed elaboration. Prior knowledge about the curriculum and context made it possible to ask about specific examples, such as the voluntary *Chalmers Structural Design Challenge* (CSDC, 2025), a competition where teams design and build wooden bridges in full scale, and the design studios, which are shared spaces where the students study and carry out their projects. The guide also included different variations of similar questions to accommodate the possibly different directions of the conversations. Additionally, the semi-structured format allowed improvised follow-up questions when needed.

Two students, one female and one male, were invited to participate in pilot interviews, which aimed to test the interview guide and identify necessary adjustments. After adjustments were made the remaining 15 interviews were conducted during a period of three weeks.

All interviews but two were carried out in person, in a separate room at Chalmers. For the students who were not able to meet in person, the interviews were carried out through a video call online. All interviews were held in Swedish to accommodate the participants' native language and lasted approximately 45 minutes. The recordings of the interviews were transcribed with an AI-based tool provided by Chalmers (ai.portal.chalmers.se).

4.1.2 Architect Interviews

As a complement to the main data collection from students, interviews were conducted with four practicing architects who previously attended Chalmers. Volunteers were recruited by email sent out to architects at four different offices in Gothenburg, who were in turn asked to forward the request to colleagues. Four architects volunteered within the time frame needed to conduct the interviews, three from one office and one from another. One interview was held in a separate room at Chalmers and the remaining three were held in a separate conference room at their offices. These interviews took place during the same time period as the student interviews, and were similarly conducted in Swedish, recorded and transcribed. However, they lasted approximately 30 minutes due to their more focused scope.

The purpose of these interviews was to gain insight into what architects consider essential qualities for graduates to possess when entering the industry, and to assess what role competition plays in this context. These interviews followed a separate interview guide (see Appendix B).

4.2 Thematic Analysis

For the analysis of the collected data from student interviews, a framework presented by Braun and Clarke (2006), was used. Thematic analysis was deemed appropriate for this study due to its flexibility and is recommended by Braun & Clarke (2006) as a suitable starting point for qualitative analysis. Their guide to thematic analysis contains firstly a few choices to determine what type of analysis that will be conducted, and secondly six phases to be carried out.

The type of thematic analysis that was chosen was a combined *theoretical* and *detailed* thematic analysis. According to Braun and Clarke (2006) a theoretical approach implies coding the data for a specific research question and as a result the analysis is guided by the researcher's interest in the subject. In a *rich description* the researcher will code the entire data set, in contrast to a *detailed account* which aim is to provide a more nuanced image of one or a group of themes within the data.

The theoretical and detailed approach was selected due to the large amount of data and limited time. The preexisting categories: motivation, creativity and cooperation, that guided the interviews, along with a clear research question, allowed a more targeted coding process.

Braun & Clarke (2006) identified six phases of thematic analysis are: *familiarization with the data, initial coding, grouping initial codes into initial themes, evaluating themes, describing and naming themes*, and finally *writing the results*, a so called 'narrative'. Even though these steps represent a linear workflow, the authors argue that the process can and should be iterative.

With this guide as a framework, the thematic analysis of the student interviews was carried out accordingly:

Phase 1 – The first readthrough of the transcripts consisted of listening to the recordings and edit the transcriptions where mistakes had been made by the transcription tool, simultaneously as taking notes and marking ideas for the upcoming coding. During this process, the preexisting categories: motivation, creativity and cooperation, were complemented by the categories of work/performance and wellbeing, as a pattern of these was noted.

Phase 2 – With the categories in mind, the coding phase consisted of searching for and marking excerpts that gave meaning to the questions of how competition and/or a competitive environment affect work/performance, motivation, creativity,

wellbeing and cooperation amongst students. Excerpts that were marked as relevant were given an initial code that explained in what way it related to the questions above. For example, a code regarding motivation could be “competition motivates when self-confidence is high” and a code regarding cooperation could be “competition affects openness”. Excerpts were coded manually in a spreadsheet and each excerpt was tagged with the specific student, gender and if it was regarding structural competition, perceived competitive environment, or both.

Phase 3 – The initial codes were then sorted and grouped into potential themes. Codes that were similar to each other were merged. During this process the preexisting categories were not considered a factor to allow codes linked to different categories to be grouped together.

Phase 4 – After all initial themes were constructed, they were evaluated by rereading all excerpts linked to each theme and considering if they formed a coherent pattern. Then, all transcripts were reread with the aim to see if the set of themes could be considered a valid representation of the data set as a whole, and to build on the existing codes by adding more excerpts, missed during the second phase. As a complement, this readthrough also aimed to find new patterns outside of the predefined categories, to allow a broader perspective and collect potential new insights.

Phase 5 – When the assessment of the themes reached a point of saturation, each theme and sub-theme was named and defined by writing a description.

Phase 6 – This phase consisted of writing the results part of this report (see Chapter 5).

4.3 Additional analysis

In addition to the main thematic analysis, two separate analyses were conducted. The methods for these are described below.

4.3.1 Gender analysis

Following the main thematic analysis of the student interviews, a gender analysis was conducted with the purpose to determine whether the data showed differences in attitude and experience between female and male students. This analysis was conducted by filtering each theme and its associated codes by gender within the spreadsheet that contained all selected data. Differences and similarities were noted and are presented in Chapter 5.2.1.

4.3.2 Summarization of Architect Interviews

The four transcripts from the architect interviews were analyzed in a more concise way, compared to the student interviews. The recordings were listened to while editing the transcripts and writing down notes and ideas. Due to the interview questions being relatively direct, the architects' responses could be summarized individually and then as a group. The summary is presented in Chapter 5.2.2.

4.4 Ethical Considerations

Since this thesis contains data from students, all information regarding personal data has been handled in accordance with GDPR and Chalmers' guidelines (Chalmers, 2024). This means that only personal data relevant for the project was collected and stored on Chalmers' permitted storage options. Considerable effort was made to ensure participant anonymity. In accordance with GDPR all participants also gave their formal consent through a consent form before partaking in the interviews (see Appendix C through E).

5

Results

In this chapter, the first section presents the result from the thematic analysis of the student data structured according to research questions 2 through 5. This first section also includes a comparison between structural competition and perceived competitive environment, based on student responses. The second section focuses on the additional analyses conducted: a gender analysis of the student interviews, connected to research question 6, and a summary of the architect interviews.

5.1 Results of Thematic Analysis

The thematic analysis of the collected data from student interviews resulted in four overarching themes stemming from the five preexisting categories (as described in Chapter 4), with the category of creativity being included in the theme work/performance. Each theme is divided into sub-themes, as illustrated in figure 5.1, and is described further below.

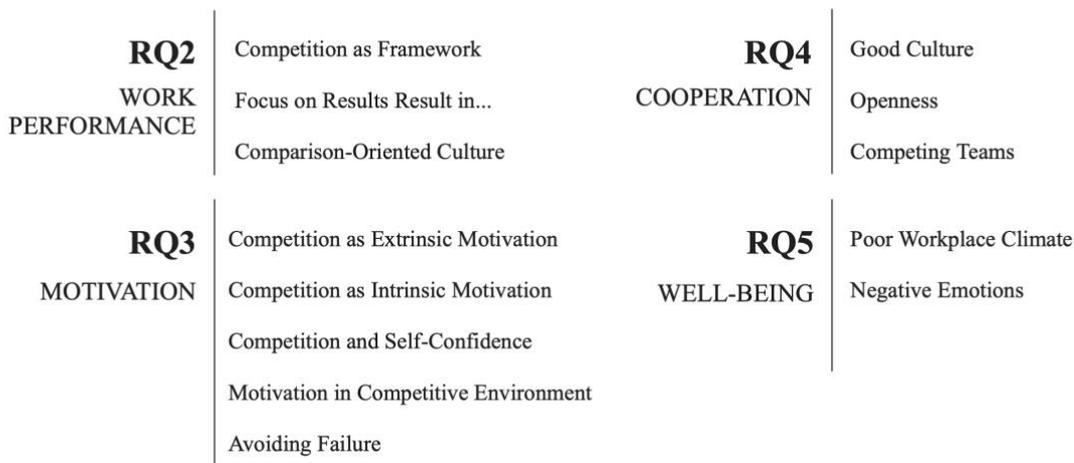


Figure 5.1: Structure of themes and subthemes from thematic analysis

Although there are aspects in various sub-themes that are connected and overlap, the sub-themes are presented here within a simplified hierarchical framework. This structure allows each theme to align directly with a specific supporting research question.

5.1.1 RQ2 – Competition’s Impact on Student Work & Performance

In this section, sub-themes relating to research question 2, ‘*What possible effects can competitive elements and/or a competitive culture within education have on student work and performance?*’, are presented (see Figure 5.2). *Competition as Framework* refers to how an official competition in a project-based course provides students with structure and how the students perceive this structure in relation to creativity. *Focus on Results Result in...* refers to in which ways competition directs students to mainly focus on results and how this affects their performance. *Comparison-Oriented Culture* refers to the positive and negative ways in which comparison among students affect their work. Each sub-theme is further described below, accompanied by quotations from students.

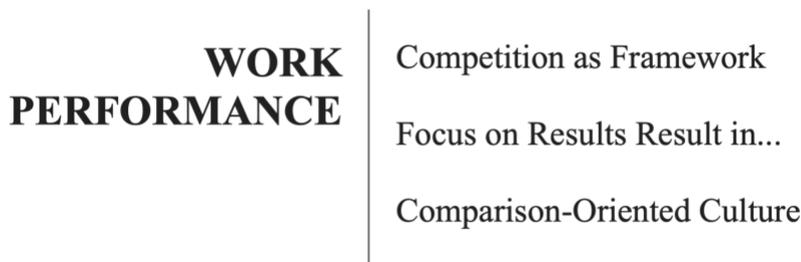


Figure 5.2: Sub-themes related to competition’s impact on student work and performance.

Competition as Framework – Balancing Structure and Creativity

It was common among the students to highlight competition as a way of giving structure to a project. This structure was regarded by several students as a help to organize one’s work process and to give clear guidance in what was expected to be done.

If you receive a project brief, describing ‘this is what you should do’. Then I think it is much easier to focus on the process, when you do not put as much thought into ‘what are we supposed to present?’.

The structure was also regarded as either a facilitator or an inhibitor for creativity. Several students explained their need for restrictions in order to be creative.

Creativity exists within boundaries. It is very difficult to create something without any reference point.

In contrast, a competition structure could act as an inhibitor for creativity either by the structure itself or by competitive pressure.

It can feel like you are supposed to just check of a list of competition demands [...] so you would have needed more time to be able to feel creative.

I find it difficult to force out an idea or trying to come up with an idea when you are sitting there and know that you only have a few hours to come up with three ideas.

Focus on Results Result in... Blockage and Less Risk-Taking

A characteristic for competition is that students tend to have an extra focus on the end results of the project when there is such an extrinsic factor. This focus affects student work in a couple of ways. Firstly, several students explained how an excessive focus on the result shifts attention away from learning. These students argued that when they do not perceive the situation as a learning process, the project is not allowed to be bad.

[...] and then I feel that the competition places focus on a specific point in the learning process instead of letting the process just be and perhaps letting you produce bad things.

One student highlighted a specific project where the supervisor explicitly encouraged them to focus on the process and that this helped the student to focus on other qualities of their work.

They talked about that the process is the important thing here and not the end result. [...] I focused on 'How can I incorporate these different qualities', and that takes away a lot of the stress and it becomes more creative and playful.

Secondly, numerous students emphasized that an excessive focus on results tend to make them less comfortable with exploring and taking risks. The fear of the project resulting in something bad makes student inclined to rely on familiar and reliable design principles.

Then I get very result oriented [...] instead of being open to new ideas and trying new things and well, having an open approach.

Not daring to take the risk of committing to my own thing.

Finally, various students presented examples of them being mentally blocked or inhibited in projects where there is a competitive situation.

At first, I felt that ‘Oh my God, now we have to come up with the best concept’ [...] but then we landed in that we just want to make a decent project, we do not have to win the competition, and then I did not feel as blocked anymore.

Comparison-Oriented Culture – Balancing Influence and Individuality

When in discussion about the comparison-oriented culture, the students highlighted various factors, such as inspiration and safety, as well as modification of projects. Comparing student work can generate inspiration in a way that provides the students with new perspectives, that can in turn generate new ideas that improves their projects.

I do not want to create in a vacuum. [...] There are things that people think about, that I have never thought of and then I take that with me. It is only in comparison to other people’s projects and other people’s analyses of sights that I can get that input.

Moreover, in comparison to others, students find comfort in knowing that they are on track, that they have not misinterpreted the project brief and seeing where the bar is set.

It can be a quite nice type of comparison when you see that someone else has not done that much either.

In contrast to inspiration, several students highlighted the negative aspect of being influenced by others’ work. It can lead to doubting decisions and changing projects from the original concept. Several students stated that they experience that various qualities and their personal touch are lost in a project during this kind of influence.

It is easy to be influenced by what others do, and it can be a good thing, but it can also make my project lose what it had from the beginning because I focus on others’ qualities.

Additionally, several students noted that projects tend to become very similar in the comparison-oriented culture, especially regarding presentation material, such as graphic design, layout and visual representation techniques.

You end up a bit directed in what you do. One concrete example is that during the city planning [a studio course] there were some people who made one of those axonometric perspectives, and then, suddenly, almost everyone was doing that. So, the comparing during the project process makes the projects look quite similar in some way.

Finally, a few students shared how they avoid comparing their work with others by actively redirecting the focus of their project.

I felt that everything did not turn out that well and that others had solved it better than I had. So, I put the assignment aside and did something else. Then it is not as easy to compare because I have done something completely different.

5.1.2 RQ3 – Competition’s Impact on Student Motivation

In this section, sub-themes relating to research question 3, ‘*What possible effects can competitive elements and/or a competitive culture within education have on student motivation?*’, are presented (see Figure 5.3). *Competition as Extrinsic Motivation* refers to competition being a catalyst for starting a project. *Competition as Intrinsic Motivation* refers to if the students find enjoyment in competition itself or other aspects. *Competition and Self-confidence* refers to motivation in competition being tied to the experienced level of competence. *Motivation in Competitive Environment* refers to in which ways comparing among students affect their motivation. *Avoiding Failure* refers to how students’ level of effort is affected by the fear of performing worse than others. Each sub-theme is further described below, accompanied by quotations from students.

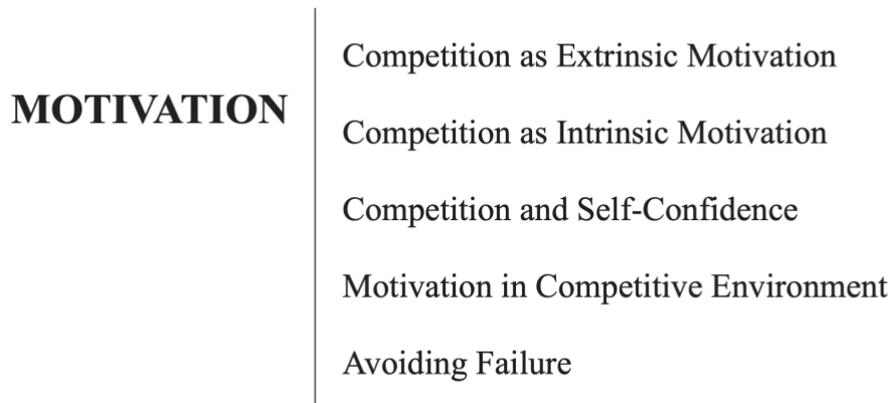


Figure 5.3: Sub-themes related to competition’s impact on student motivation.

Competition as Extrinsic Motivation – Catalyst or Merit

Most students described competition as being an incentive to begin a project. “It really helps you to get started sometimes”. In comparison to a project without the competitive element, a project with a competition structure will provide extra excitement and something additional to work towards, either a reward or the enjoyment of winning.

Structural competitions outside of the mandatory curriculum were also described to be incentivizing by being considered a merit, as the additional experience and possible win can be included in a student’s portfolio.

It is very competitive. You have to stand out to get a job in this business, so I have seen it [participation in competition] as a way for me to have something extra in my resume or in my portfolio.

Competition as Intrinsic Motivation – Motivated by Task or Contest?

The perception of competition as enjoyment, meaning that competition as a task can be intrinsically motivating, differs among the students. Several students described competition as fun, others described it as the opposite, and several gave a neutral response.

There is something a bit ‘guilty pleasure’ in being able to let everything else go and spend a large amount of time on something. [positive]

I like the engineering courses a lot because they do not have any competitive elements. [negative]

Deep down, I am not a competitive person. Maybe I do not have a need to show others how well I am doing. [neutral]

Several students also described competition as fun if the stakes were low, meaning that they enjoyed a competitive situation more “as long as it is not taken too seriously and that there are no consequences”.

Additionally, with the purpose to map out in what degree the students were driven by the concept of competition in itself, three specific interview questions were analyzed.

“Which project are you most proud of and why?” showed if the student was primarily driven by result or process. Out of 17 students, 40 percent mainly talked about aspects in the process, 30 percent highlighted the result as the reason for their pride and the remaining 30 percent talked about both result and process.

“Why did you want to participate in Chalmers Structural Design Challenge?” showed if the student was primarily motivated to join by the task or by the competition. Out of 15 responses, half stated that it was the task itself that was the motivating factor, ten percent of the students stated that it was being a part of a team that made them join, 20 percent talked about the task and the team in combination and the remaining 20 percent stated that they had no interest in participating due to time consumption and disinterest in competition (see Chapter 4.1.1 for context about CSDC).

“What drives you to put in extra time towards a project?” showed if the student was driven by the task or another external factor. Out of 17 students, 30 percent talked about their enjoyment in the task, 30 percent claimed they were driven by the potential result, 25 percent expanded on this position by stating that it was comparison to others or having something to prove that drove their effort, five percent highlighted the portfolio as a motivating end result, five percent

mentioned that showing up for a project partner motivated, and lastly five percent stated that it was easier to put in more time if the task was easy.

Competition and Self-Confidence – Motivation Through Recognition and Self-Belief

Nearly all students made a connection between motivation in competition and self-confidence. Students are more likely to enter structural competitions and be more motivated in a competitive situation if they feel competent in the present task. This also means that motivation stemming from the competition itself may only occur once the student perceives a realistic chance of winning.

I would not have chosen to do it [enter competition] because I want to win but I think that once I am in that situation and feel like we as a team are starting to come up with something, that this could turn out good, then my competitive side would kick in.

A few students also reasoned that they were not affected by the competitive environment as a result of high self-confidence or self-esteem. Aligned with this, many students also talked about how low self-confidence can inhibit their motivation.

If you do not win now and then, it can make you feel pretty bad and then it stops being motivating because you just feel like you are not good at what you do.

Moreover, most students highlighted that a competition is a way of receiving feedback, getting recognized for one's work and confirmation that one's competence is enough.

We raise the bar a lot higher than the passing level because we want to perform and get confirmation from teachers and fellow students.

Since I do not have a teacher giving me a grade, I feel like I have to find that type of feedback elsewhere and I think that one way is having a competition where you can experience that you have performed better than others.

Motivation in Competitive Environment – Inhibited or Driven by Norms

In separating structural competition from a perceived competitive environment, the students discussed how comparison among themselves affect their motivation. Several stated that comparison inhibits their motivation, while most students discussed how they are extrinsically motivated by the social norm to invest a lot of time in a project. This social norm was described

as something that developed from students observing other students staying in school and working on projects after hours, even through the night. This observation influences students to follow that example.

It sends a kind of signal that this person is sitting in the studio when I come to school in the morning, and they are staying when I leave.

You see your classmates spend a lot of time on a project. Then it makes you spend a lot of time on yours. You are influenced by it.

Moreover, in some cases this influence seems to originate from specific students. “There is a particular group that ‘go all in’, and a lot of students are trying to be like them”. These people, who were described as more competitive than others, tend to both put in more time towards projects and, as an example, proactively explore and utilize software that has not yet been introduced in the curriculum. This also motivates other students to try to advance their work beyond the formal curriculum. “A few guys start using CAD and then suddenly everyone is using CAD”.

It only takes one or a few individuals in a class to set the tone that the goal is now to surpass what the education has taught us, to show how skilled we are and then it becomes more of a competitive culture.

Avoiding Failure – Withdrawal or Overperformance

When it comes to fear of failure, or thoughts about performing worse than their peers, the students’ behavioral responses seem to divide them into two groups: those who avoid failure by putting in a smaller effort, and those who avoid failure by putting in more effort.

Several students said that it felt easier to remove themselves from the competitive situation completely. “It is difficult with competition because winning does not feel certain [...] So it is easier and more comfortable and maybe better to distance myself from it.” One student described how they “might as well throw it [the assignment] together quickly because it will not turn out well anyway”, while another student explained how putting in a lot of effort would make the feeling of failure worse and consequently it felt safer to perform less.

It is a quite blocking fear, that if it does not feel like it [the project] will turn out good, then I cannot put in the same effort because I need to have an excuse for why it did not turn out [good].

In contrast, several students will try to perform better to avoid their projects being worse than their peers' and are therefore motivated by this desire to not feel less than.

You have people around you that are, like yourself, high-achieving so you do not want to be worse than someone else.

When asked what drives them to spend a lot of time on a project, they referred to the final presentation in front of their classmates or the displaying of the projects in the open gallery space, as the motivational factor.

That was a driving force [...] Sometimes you walk around with people in the gallery and look at the different projects and there, people can be very harsh. So, I was like 'That can't be said about my project. It has to be presentable. It cannot be bad.'

5.1.3 RQ4 – Competition’s Impact on Student Cooperation

In this section, sub-themes relating to research question 4, ‘*What possible effects can competitive elements and/or a competitive culture within education have on student cooperation?*’, are presented (see Figure 5.4). *Good Culture* refers to the positive effect a supportive class culture has on competitiveness. *Openness* refers to how competition or competitive culture affects students’ tendency to share ideas and seek out feedback. *Competing Teams* refers to the different aspects of competition within a team and between teams. Each sub-theme is further described below, accompanied by quotations from students.

COOPERATION

Good Culture

Openness

Competing Teams

Figure 5.4: Sub-themes related to competition’s impact on student cooperation.

Good Culture – A Buffer Against Competition

Out of 17 students in this study, twelve are in the same class, which is generally described to have a good and supportive culture. Within this class, several students commented that the competitive environment that they perceive does not affect their willingness to help each other. Numerous students also made the statement that this is connected to their established class culture.

If you ask for something, you will always receive help. There is no one who holds something for themselves.

I also think that it depends on which class you belong to and how the sense of community looks like there. Because if you do not have a good community and do not want everyone to succeed, then it will become more like you are competing against each other.

This aspect of a good class culture also transfers to the situation with structural competitions, where several students argue that they tend to root for one another.

Competition can be motivating [...] it becomes motivating and positive when it feels like you are all in one team and that if someone in the class wins, I am just as happy for them as if it were going well for myself.

Additionally, one student argues that the ability to handle competition in the class without negative impact, is connected to structural competition not being introduced too soon.

I also think it is good that we have not had much competition until the end. I think that the risk of it turning into 'me against everybody in the class' increases if we were to start competing early in the education. Then there is a bigger risk of not having time to build a strong group before you compete against each other.

Openness – Privacy under pressure

In contrast to the responses in the previous sub-theme, numerous students from the entire sample group stated that competition and the competitive environment have affected the openness among students. In this context, openness, or lack thereof, refers to students shielding their projects from others during the work process. This shielding of projects has, in part, been found to be connected to high stakes, such as assembling a portfolio to apply for internships. Several students who have not experienced others to keep their projects for themselves before, have in connection with the bachelor project (a structural competition) and the application period for internships, seen a negative development.

I have noticed that they almost are holding some ideas hidden, which I think that people have started to do now during the bachelor project [...] My view is that it has also been a bit of the same thing with the internships, and that it becomes an unofficial competition [...] and then I think there just are some people who want to keep their ideas for themselves.

A few students, outside of the class mentioned in the previous section, have also stated that they have seen people hiding their projects without it being a high stakes situation, while other students do not share that view.

Everything you do is supposed to be new and innovative and therefore you cannot share your ideas because people are afraid others will take them.

Moreover, the behavior of shielding one's project has also been found to be connected to a fear of being judged or confronted with what the project lacks.

Then I do not want to come to school and compare my project to others' [...] I would rather not discuss my project with others because maybe I have not put as much time towards my project as someone else and then I do not want to compare myself with them.

I think I have solved it [being affected by the competitive environment] by not being in the studio anymore and trying to avoid people in the computer rooms as much as possible.

Finally, one student mentioned that the tendency to isolate and turn yourself inward during a project can relate to time pressure, that students do not have the time to show and discuss their projects.

Competing Teams – Balancing Unity and Tension

Regarding what impact competition has on a team, the student responses were divided into two sections: competition within a team and competition between teams.

Numerous students shared examples of when a structural competition with teams facilitate a sense of community and belonging, which consequently facilitates teamwork.

Winning, it is very fun, but I think that the most motivating factor in a competition is when you get to be a part of a group. I think that I get the most joy out of a shared ambition to win and just the feeling of belonging to a group and that we are doing something together.

Competition in teams were further described as preferable to competing alone due to the support and shared responsibility that exists within a team.

I think it is easier and healthier because you are not alone and competing against others. You do not have sole responsibility; you are competing together with others in a group.

Several students also shared examples of when a competing mindset, and especially different levels of ambition, within a group had a negative effect on cooperation. One student shared what happened with the group dynamic in a course where a group assignment was a part of a competition.

It was me, another guy and four girls. He was very motivated and wanted to do well and was also bad at listening, especially to the girls, and it became so obvious on several occasions. So, the fact that it was a competition kind of ruined our group dynamic.

5.1.4 RQ5 – Competition’s Impact on Student Well-Being

In this section, sub-themes relating to research question 5, ‘*What possible effects can competitive elements and/or a competitive culture within education have on student well-being?*’, are presented (see Figure 5.4). *Poor Workplace Climate* refers to the ways competitiveness can create a stressful and pushy atmosphere. *Negative Emotions* refers to in what ways competition and competitiveness generate mental pressures among students. Each sub-theme is further described below, accompanied by quotations from students.

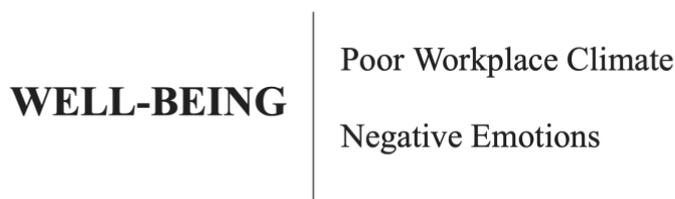


Figure 5.5: Sub-themes related to competition’s impact on student well-being.

Poor Workplace Climate – Stressful and Pushy atmosphere

When in conversation about the competitive environment, numerous students made the connection that a competitive environment affects the general workplace climate to be more stressful and that the general atmosphere can feel tense and pushy. Pushy in this context refers to students amplifying each other’s stress, not necessarily through direct demands, but through an environment where intense effort and visible productivity becomes the norm.

It can feel a bit unsafe to carry out projects in a competition format. It feels like a stressful workplace culture.

On this topic, one student highlighted the difference between the comparison-oriented culture and structural competitions, arguing that the comparison-oriented culture, or a competitive environment, has a more negative impact on student well-being.

So that [competitive environment] is much harder, especially when you are supposed to pretend that there is no competition [...] it can be toxic.

Negative Emotions – Self Criticism, Self Doubt and Mental pressure

As architecture is an aesthetic and subjective subject, many students stated that they tend to make a connection between their work and their person, meaning that when their work is criticized it easily translates into personal criticism. In relation to this, several students explained that they often have self-critical thoughts, such as “why did I not think of that?”, when comparing one’s work to others.

It feels like there is a lot of pressure on you and you feel like if you do not succeed here, then you are bad. So, there is a lot of self-criticism that comes out of it.

Moreover, the comparison-oriented culture generates thoughts of self-doubt among students. Several stated that they have questioned if they belong in the context of the architectural education.

One has those thoughts: ‘I am the worst. What am I even doing here?’

It also comes to one comparing oneself to people in the class and that some are pure architects who are really passionate about architecture, but I felt that I am not really at the same place.

Finally, many students shared experiences of mental pressure, stress and anxiety within the context of a competitive environment.

Especially within architecture, where you are presenting what you have done for others, and they are supposed to share their opinions [...] it can affect one very negatively mentally.

It [comparison] does not motivate me. It is stressing me out and it affects me negatively. I often think it generates negative emotions instead [of motivation].

5.1.5 Structural Competition vs Perceived Competitive Environment

The research questions addressed in the thematic analysis above are including student perception of structural competition and competitive environment simultaneously. This is due to the fact, as previously stated, that a structural, or official, competition can generate a perceived competitive environment. Thus, the terms can be overlapping when evaluating competition's effect on different factors. However, during the thematic analysis, differences between the two emerged. These differences are summarized in the bullet list below.

The overall interpretation of the data is that there is a more positive attitude among students towards structural competition and a more negative attitude towards competitive environment or comparison-oriented culture. Several students expressed this in clear terms. Structural competition could be described as exciting and more productive, while the competitive environment tended to be described as inhibiting.

- Structural competition provides a framework for the project that a competitive environment in itself does not do.
- Structural competition is explained as a motivational factor in a more positive way than a competitive environment. Provided that there is a sufficient level of competence, structural competition is described as motivating in positive terms, such as it being exciting and a way to seek positive feedback, while the motivational factors in a competitive environment are connected to social norms, pressure to perform and fear of failure.
- Structural competition is further described to have possible intrinsic motivational factors, such as the competition in itself and giving opportunities for teamwork. While comparing projects can generate inspiration, this tends to be in the absence of competitive agendas.
- Negative emotions, such as self-criticism and self-doubt, are more frequently described in relation to the competitive environment than in connection to structural competition.

5.2 Additional Analysis

In addition to the main thematic analysis above, two separate analyses were conducted. The results of these are described below.

5.2.1 RQ6 – Differences Between Male and Female Students

The general interpretation of the data is that there is no significant difference between men and women when it comes to the attitude towards structural competition and competitive environment in this context. However, by targeting individual themes, some differences could be identified. The findings are summarized in the bullet lists below, structured by main theme.

Work/Performance

- Only female students shared examples of mental blockage as a result of a competitive situation and pressure from a competitive environment having a negative impact on their general performance.
- More women than men use comparison as a tool for safety, meaning that students compare their work to others to confirm that they are on track.

Motivation

- There is no significant difference between women and men when talking about competition being a way of getting feedback and confirmation.
- When trait competitiveness was discussed, as one person or one group being very influential in their ambitions, they were referenced to as a group of male students, if gendered.
- The same number of men and women gave responses that indicated they tended to be motivated by the fear of failure. However, the female students expressed a more emotionally negative approach as they put in more effort due to stress, while the male students tended to be driven by the feeling of having something to prove.
- Only women explicitly talked about comparing themselves to others as being inhibiting for their motivation.

- When asked if they found structural competition fun, the same number of men and women responded ‘Yes’, while only women responded ‘No’.
- There was no difference between men and women in entry preference for the Chalmers Structural Design Challenge. However, more women than men emphasized being part of a team as the driving factor when entering.

Cooperation

- More female than male students tend to shield their work from others in the fear of being judged or confronted with lack of competence.

Well-Being

- There are no significant differences between male and female students regarding the impact competition has on their well-being. They are equally likely to experience self-criticism and self-doubt.

5.2.2 Architects’ Point of View

This section is a summary of responses from the four interviews with practicing architects.

Based on their answers, there seem to be a mixed view on competition in education from a practicing architect’s perspective. Both positive and negative aspects were highlighted by the respondents. All four discussed how competition in education can be very motivating if you are a competitive person. Competition tends to give structure, clear feedback and a good starting point for creativity. However, they also emphasized the potential and common pitfalls, such as stress, performance anxiety and an unhealthy way of comparing amongst students.

It is difficult because it is always a thin line I feel. [...] It is great that there is a class of 80 people and everybody is really driven [...] It is a quite nice environment when it feels creative but there is a destructive part in it. It cannot be ignored that it becomes a bit pushy, self-serving. [...] There are many parts in it that foster huge performance anxiety and an unhealthy environment.

One architect described the architectural education as being very ‘old school’ and promoting the ideal of the ‘lone genius’, a mindset misaligned with professional practice, where you

almost always work collectively. As a response to the question of what qualities are essential for architecture graduates, there was a general agreement that being a good team player is key but also having the ability to work independently. Another respondent emphasized humility and attentiveness, to be able to meet the customer's needs, while another emphasized being skilled at visual communication and presentation.

Qualities specifically required for competing architects were described as finding inspiration and producing material quickly, being good at generating ideas, handle abstract problems and as previously mentioned, being skilled in teamwork. Several also highlight being able to handle stress as essential. According to one architect the handling of stress is trained through the project courses that already largely resemble competitions while another argued that even though students should not be entirely sheltered from stress in school, the unhealthy type of stress that competition can induce is not sustainable and it shows among competing practicing architects as well.

I am working on a competition right now. It is something we [architects] do all the time. [...] I encourage that students conduct competitions in school. But of course, take it step by step because it is mentally difficult in the beginning.

Another architect stressed the importance to show students the wide range the architectural profession has. Some architects work with competition, and some do not work a single competition their entire career.

6

Discussion and Conclusion

To conclude this thesis, all research questions will be revisited, providing a comprehensive discussion of key findings. A final conclusion will be drawn, along with an evaluation of the methodology and recommendations for future research.

6.1 Discussion of Research Questions

In accordance with the results this discussion is structured by research question. However, as previously stated, there are connections and overlaps between sub-themes and consequently main themes. The discussions in this chapter will therefore occasionally move across thematic boundaries. With the aim to reflect the complexity and interrelated nature of the findings, a schematic map is presented in Figure 6.5. This figure is the unified model assembled by the individual schematics found under each discussed main theme.

Firstly, the supporting research questions will be discussed in order to further discuss and draw conclusions regarding the main research question, which will finalize this section.

6.1.1 RQ2 – Effects of Performance Goals and Types of Motivation

The core concepts of this discussion are competition's dual effect on performance through performance goals, competition's impact on creativity through motivation, and competition's impact on creativity through framework. These concepts are schematically presented in Figure 6.1 and discussed further below.

The Opposing Processes Model of Competition and Performance suggests that competition facilitates performance when performance-approach goals are adopted, and inhibits performance when performance-avoidance goals are adopted (Murayama et al., 2021). Although the results cannot determine in what degree performance-approach goals are adopted among the students, there are examples of students responding with performance-avoiding behavior, such as less risk-taking and mental blockage in response to a result-oriented situation

(sub-theme *Focus on Results Result in...*). Additionally, the sub-theme *Avoiding Failure* shows how students can actively inhibit their own performance or actively put in more effort in the fear of performing less than others. Here, the OPM suggests that both these groups would perform less due to performance-avoidance goals. Furthermore, the findings of Murayama et al. (2021) suggest that competition has a negligible impact on performance due to the two processes being of equal measure. However, since the results clearly show some students mainly adopting performance-avoidance goals, there is a possibility that other students have the ability to mainly adopt performance-approach goals, resulting in a positive connection between competition and performance for those individuals. Moreover, since the OPM is used for short-term interaction between performance and competition according to Murayama et al. (2021), further research is needed to assess the model's generalizability within the context of a competitive environment sustained throughout the duration of three-year bachelor programs.

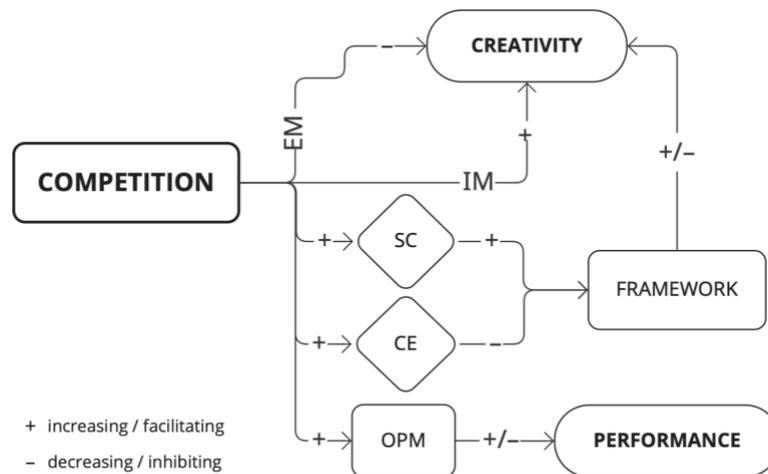


Figure 6.1: Schematic representation of competition's impact on performance and creativity. SC (structural competition), CE (competitive environment), OPM (opposing processes model), EM (extrinsic motivation), IM (intrinsic motivation)

It can be argued that competition is characterized primarily as a source of extrinsic motivation, as it imposes an external structure around a task. Along with prior research (Collins & Amabile, 1998) claiming that extrinsic motivation is inhibiting for creativity, it can be concluded that competition therefore has a detrimental effect on creativity. The results however present a variety among students when it comes to being intrinsically motivated by competition. Thus, competition can facilitate creativity through enjoyment in the competitive setting.

Moreover, the results show a variety among students' creative response to conducting projects within a framework, which a structural competition can provide. This relates to Amabile (1979) findings regarding specific instructions for creative performance as a condition for creativity being increased through extrinsic motivation. However, while it is possible to provide this type of clear instruction in a structural competition format, it is not possible in a general competitive environment. This is due to the lack of rules in a competitive environment without structural competition. Furthermore, prior research presents a contradiction, suggesting that while creativity can be facilitated through specific instructions (Amabile, 1979), ambiguity is also regarded as the heart of a creative education (Orr & Shreeve, 2018). This contradiction is reflected in the dual results and thus the relation between competition and creativity is a relevant subject for future research.

6.1.2 RQ3 – Motivation Through Confidence and Social Norms

The core concepts of this discussion are the confidence dependent impact of competition on motivation, and an increased motivation through social norms. These concepts are schematically presented in Figure 6.2 and discussed further below.

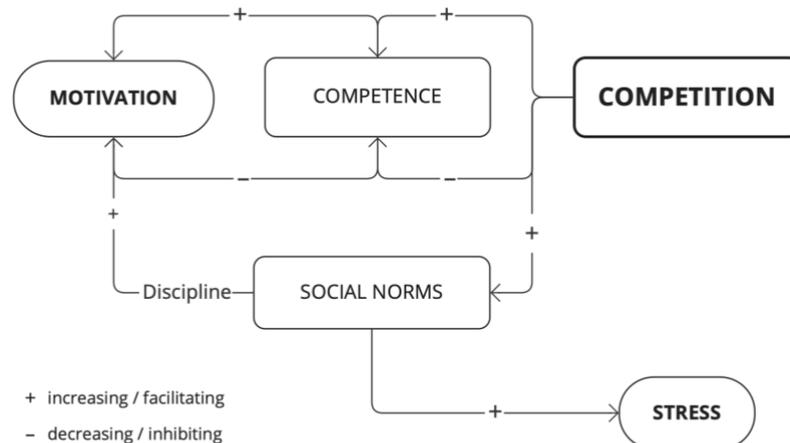


Figure 6.2: Schematic representation of competition's impact on motivation.

A few aspects regarding competition's effect on motivation was presented in the discussion above. In addition, the results clearly present that the students' motivation in competition is related to their level of self-confidence, meaning that if they feel confident in the task, they will be motivated in competition. These results reflect prior research regarding SDT that suggests

that the positive or negative competence feedback that the participator will receive in a competition will either increase or diminish their intrinsic motivation (Ryan & Deci, 2000). In this regard, it should be noted that while competition can generate positive impact on motivation for an individual, it inevitably results in some individuals losing within the group context. Therefore, motivating a group through competitions will not result in an increased motivation for the group as a whole.

Regarding motivation in a competitive environment, the results show that social norms are a large driving force for students to put in extra hours towards a project. The results also show that it is common for certain students to contribute to these norms more than others. This is also reflected in prior research regarding trait competitiveness by Murayama et al. (2021). It can be argued that this particular social norm has both positive and negative impacts. From one perspective, the social norm to work excessive hours on a project could result in stress and not enough rest and recovery for the students (further discussed in Chapter 6.1.6). From another perspective, the influence of observing fellow students working could help with one's discipline. Therefore, the peer pressure that occurs could either be positive or negative depending on if it helps or hurts the student.

6.1.3 RQ4 – Student Social Dynamics in Competitive Settings

The core concepts of this discussion are structural competition and competitive environment's dual effects on teamwork, competition's effect on reluctance to seek feedback, and the importance of a good class culture to suppress these negative impacts. These concepts are schematically presented in Figure 6.3 and discussed further below.

As previously mentioned, competition can both enhance and harm relatedness, by either giving an opportunity to build strong teams, or by generating social comparison and interpersonal conflict. All these depend on varying factors regarding how the competition is organized and conducted (Ryan & Reeve, 2021). The results reflect both these aspects as the students highlight teamwork as an especially giving and motivating part of competition, while some students also point out the negative aspects of competing within a team. In this regard, it can be argued that structural competitions and competitive environments affect teamwork differently. A structural competition, given that you compete in teams, can facilitate teamwork if the competition is voluntary. The examples shared by students regarding competing mindsets within teams (see Chapter 5.1.3) were in the context of involuntary structural competition or in a general

competitive environment. Moreover, a competitive environment or competition without teams does not inherently enhance cooperation across the entire class, due to individual assessment. Therefore, cooperation is dependent on the existing class culture being good, which the results also reflect.

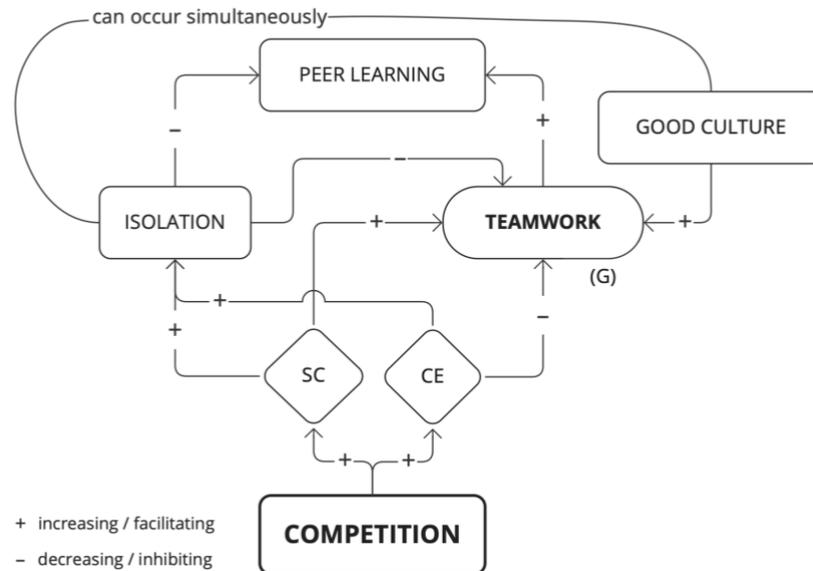


Figure 6.3: Schematic representation of competition's impact on cooperation. SC (structural competition), CE (competitive environment).

Butera et al. (2021) states that prior research has shown that competition in education can lead to withholding of useful information and general reduction in information exchange. In this aspect, the results are divided. While those students, who experience a good class culture, do not generally see competition affecting their willingness to help each other, there are other aspects of cooperation. Although, there is an existing willingness to help, it can be argued that cooperation and peer learning is reduced due to students' initial reluctance to seek feedback or help. This is also reflected in the results, as numerous students shared examples of shielding one's project or simply not working in the shared spaces.

6.1.4 RQ5 – Effects of Competition on Student Well-Being

The results suggest that competition, especially a competitive environment, can induce stress and negative emotions, such as self-doubt (see Figure 6.4). Moreover, a competitive environment is in the results generally referred to as a stressful and pushy work climate. Further discussions about stress and learning are addressed in Chapter 6.1.6.

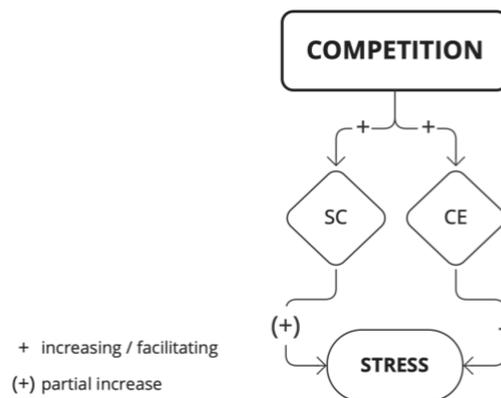


Figure 6.4: Schematic representation of competition's impact on stress. SC (structural competition), CE (competitive environment).

In this discussion, it needs to be noted that the theme *Well-Being* presents a partial view since the theme only includes results regarding negative aspects of competition's impact on well-being. This is due to students not articulating how competition specifically contributes to well-being and subsequently there were no relevant patterns found during the thematic analysis. One probable aspect of this is that those students who do not feel that competition generates stress showed this by not commenting. It is therefore important to emphasize that not all students highlighted stress, negative emotions and bad mental health as a result of competition in their education. Moreover, although numerous students commented on this issue, some experience high levels of stress and some experience lower levels.

Furthermore, the positive effects competition can have on well-being is instead found under other themes, such as students finding enjoyment in competition, and competition being an opportunity for teamwork which the results suggest many students find rewarding.

In conclusion, despite these contrasting perspectives, the findings still indicate that competition and a competitive environment can be significant sources of stress for students.

6.1.5 RQ6 – The Shifting Gender Gap in Architectural Education

Firstly, it should be noted that the results in this thesis are based on facts that students have chosen to share. As gender is a social construct, it is possible that the male students do not share emotional aspects to the same extent as female students. Similarly, both female and male students could be shaped by the competitive environment that they have studied in for some years and could consequently be shaped by the social norm of wanting to compete.

Prior research suggests that there is a gender gap both in competition entry and competition performance. Men tend to be more overconfident (Hanek, 2021; Niederle & Vesterlund, 2007). However, this is not something that is clearly reflected in the results. In the context that this thesis is situated, there is no significant difference between male and female students when it comes to entering structural competitions. Both male and female students talked about motivation in competition being tied to the level of confidence but in those responses, it is not possible to determine if the male students tend to have more confidence in competition than the female. Moreover, it is not possible to determine based on the results if the male students perform better than the female in general. However, the results suggest that female students in this context have a more profound experience of mental blockage as a result of a competitive setting and tend to feel more inhibited by comparing themselves to others.

Females are further described to be more aversive to feedback and that this can be one reason for their aversion to entering competitions (Niederle & Vesterlund, 2007). While there is no significant difference between the genders when talking about seeking feedback through structural competition, more female than male students tend to shield their work in the fear of being judged, which can be seen as an example of feedback aversion. Additionally, Hanek (2021) highlights that women tend to seek out and perform better in team competitions. This is reflected in the results as more female students emphasized teamwork as the driving factor when entering the CSDC.

The aspects where the results differ from prior research could be linked to the character of the education and the gender distribution among the students. Since architecture is a creative education and Hanek (2021) describes creative tasks as gender neutral, competitions in this context would not regenerate a gender gap in performance and entry preferences. However, the CSDC can be considered both a gender neutral and a male task due to it both being a creative design challenge and a practical construction challenge where the students build the full-scale bridges by hand.

Furthermore, in this context, it could be possible that gender norms differ from the patriarchal structure due to female students constituting a majority. At the A and AT bachelor's programs at Chalmers, female students typically constitute approximately two thirds of the class population. At the AT program, the proportion of female students ranges from half to two thirds, while at the A program it ranges between two thirds and three quarters. These statistics date back to 2008 (Univsertsitetts- och högskolerådet, 2024a, 2024b). It could be argued that this majority of female students has influenced the contextual culture and subsequently women in this type of education are more likely to be competitive.

In conclusion, the results in this thesis regarding gender differences show that there are some aspects where female students have a disadvantage due to gender norms, while other common gender differences are not regenerated in this context due to the nature of the education. These ambiguous results can be explained by and reflect prior research.

6.1.6 RQ1 – Competition's Impact on Learning

To conclude this discussion, the main research question regarding competitions impact on learning will here be discussed. This discussion will be based on different aspects from the prior discussions regarding the supporting research questions and additionally include aspects from the architect interviews. The consolidated results and identified interrelations are illustrated in Figure 6.5.

Beginning with discussing the relations between learning and performance: as stated in the introduction of this thesis, learning is commonly assessed through assessment of performance. However, it is evident that these terms are not synonymous, one example being men performing better than women in competition despite there being no difference in competence or learning levels. Still, there is a relationship between the two terms as increased learning generates an increased possibility to perform, and it can also be argued that there is performance in learning, for example listening to the teacher or maintaining concentration (A).

As previously mentioned, different aspects in competition have different impacts on creativity. The results, along with prior research, suggest that competition as extrinsic motivation will inhibit creativity, while competition as intrinsic motivation will facilitate creativity. As creativity is a core skill in architectural education (Doheim & Yusof, 2020), these aspects subsequently inhibit or facilitate learning. Moreover, as architecture students are to practice

As previously mentioned, social norms, especially the norm of extensive working hours, can have a positive impact on learning through discipline, while having a negative impact on learning through stress. Similarly to motivation, discipline is an important part of learning, although not the only contributing factor. Even though the student has the discipline to put in more hours towards a project, it is what those hours contain that generates learning (E).

The relationship between stress and learning can be explained through prior research, presented in Chapter 3.4. As stress, specifically high levels or chronic, interfere with the learning process regarding spatial tasks (Sandi, 2013), it can be argued that stress mainly inhibits learning in this context due to the learning objectives of architectural education being problem-solving through critical and innovating thinking (Doheim & Yusof, 2020). The level of stress differs among the students but generally the results suggest that the competitive environment generates more stress than the structural competition. As the competitive environment is not restricted to a specific course or learning situation, it can be argued that it generates chronic stress for those students who are receptive. The response from the architects further suggests that some stress is needed for students to develop stress resilience to handle architectural competitions (F).

The mentioned learning objectives, together with collaboration, communication and ‘learning to learn’, are also mentioned by Boud et al. (1999) when addressing skills best learned through peer learning. Therefore, competition’s influence on peer learning is consequently its influence on learning important skills for architecture students. The importance of the skills collaboration and communication is further addressed by the interviewed architects as they highlight being a good team player and being attentive as key qualities for architecture graduates. Here, structural competition and competitive environment have different impacts (G).

This dual effect is also reflected in competition as a framework. According to the interviewed architects, structural competitions can give structure to a project and this view is also shared by the students who find restrictions crucial for a creative process. However, these restrictions are found inhibiting by other students (H). Moreover, it can be argued that structure and framework can be achieved in project courses without structural competitions, making the argument that competition is beneficial through its structure insufficient.

6.2 Conclusion

In this section, a final conclusion regarding the main research question will be drawn, along with an evaluation of the methodology and recommendations for future research.

6.2.1 Methodological Discussion

The chosen method for data collection was well suited for the research subject. However, there are aspects that could be improved. The number of student and architect interviews was a result of time restrictions. In a larger study, more data could have been collected. For example, to gain deeper insight into the industry, more architects could have been interviewed, though the main focus of this thesis is the student perspective.

Furthermore, the student group could have had a broader distribution across the different classes to generate a more nuanced result. The students represent three different classes, two from the AT bachelor and one from the A bachelor. Since this study does not include a comparing analysis of the two programs, this lack of distribution is not considered to affect the general results. However, since a majority of the respondents are in the same class, this affects the results regarding class culture, which is addressed in the results chapter.

6.2.2 Conclusions and Future Research

In summary, competition can affect learning both positively and negatively, though structural competition tends to have a more positive effect while a competitive environment presents fewer benefits. The results also suggests that students respond differently to aspects of competition, leading to the conclusion that competition is beneficial primarily for a certain type of student, whether due to gender or personal trait.

In this regard, it is important to note that there are no evidence suggesting that certain individuals require competition in their education in order to learn effectively. They are most likely receptive to other learning methods too. However, there will inevitably be students for whom competition is not beneficial. Therefore, it can be argued that competition should be excluded from education.

Still, there are two aspects of the architectural education specifically that need to be taken into consideration. Firstly, the concept of structural competition can actively be excluded, while the

concept of a competitive environment is more difficult to affect. This is partly due to the open-brief project courses that largely resemble architectural competitions, as they follow a structure where all students design an architectural proposal for the same commission. This thesis therefore suggests future studies to investigate the possibilities of architectural learning objectives being taught through different methods. As Orr & Shreeve (2018) highlight: little is written about how the open-ended design brief facilitates learning.

Secondly, since architectural competitions are a large part of the industry, the architect responses suggest that competition in itself is a learning objective for architectural students. In this regard, it could be argued that the method of ‘learning by doing’ is the most appropriate. However, since this thesis has concluded that other important learning objectives are inhibited by competition, future research should evaluate other methods for learning competition strategies. Otherwise, the question reduces to whether architectural education should prioritize students skilled in collaboration or students skilled in competition, and whether this focus may potentially be at the expense of student well-being.

6.2.3 Final Thoughts

The interesting thing about the architecture education in Sweden is that Sweden is a part of the larger patriarchal society, and the architectural profession has historically been a male profession. However, as more and more women have attended higher education, the architecture education has gradually made a gender swap and today women outnumber men among the students. Therefore, the present architectural education can be understood as something that has a patriarchal heritage while being a small matriarchal society. Thus, these two cultures are morphed into one, leaving the culture that manifests in the education a very interesting research object. If one compares architectural education with, for example, the nursing program, where women also outnumber men, the competitive environment does not manifest in the same way. Thus, this thesis concludes with a new question: what is the difference?

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A

Interview Guide - Students

The following document contains the interview guide used for student interviews. The guide is written in Swedish.

Intervjufrågor

Studenter

Bråttom??

Informera om könsidentifikationsfrågan

Samtyckesformulär skrivs under

Informera om ramarna för intervju:

- Alla svar hjälper. Finns inga rätt eller fel svar
- Om du inte förstår, eller inte vill svara – säg till
- Tanken är att du ska få utrymme att prata – tolka inte min tystnad som att du sagt något fel
- Kan ställa liknande frågor men på olika sätt
- Vi börjar med några mindre snabba frågor och sedan går vi vidare till lite mer ingående frågor. Semistrukturerad intervju.
- Har du några frågor innan vi börjar?

Uppvärmning:

- Vad fick dig att välja att plugga AT/A?
- Vad lutar du åt, ingenjör eller arkitekt? ...
- Vilken könsidentitet har du?

Jag undersöker alltså hur tävling påverkar lärandeprocessen med fokus på motivation och kreativitet. Tävling: structural & competitiveness

- **Vad är din spontana tanke om tävlings påverkan på motivation?**

Vilket projekt är du mest nöjd med och varför?

- Vad var det som bidrog till att du blev nöjd?
- När du tänker på projekt då du varit extra engagerad och lagt ner mycket tid, var det någon särskild drivkraft bakom det?
- Kan du berätta om ett projekt, eller en situation då du tappade motivation eller fastnade i arbetet?
 - o Vad behövdes för att du skulle komma ur det?

Vill prata om kreativitet för att... sysslar du med något kreativt på fritiden?

- Hur känns det när du får syssla med det?
- Har du ett exempel på när du upplevt samma kreativa utlopp i skolan?
- Vad behövs för att du ska kunna utforska nya idéer och ta risker i ett projekt?

Har du varit med i brobyggartävlingen?

- Vad var anledningen till att du ville vara med?
 - Vad är det som lockar med tävling, vad tycker du är roligt med att tävla?
 - Är det något som du inte gillar med tävling, gillar du alltid tävling?
- Vad var anledningen till att du avstod?
 - Om det hade funnits tid, hade du velat vara med då?
 - Varför?
 - Finns det någon tävlingssituation som tilltalar dig?

- Scenario (ex. på inofficiell tävling): Ni har hört att en gästkritiker i ett projekt ibland headhuntar till praktik (som ni alla vill ha), folk börjar snacka mycket om detta och vad man ska göra i projektet för att imponera... hur hade du känt i den situationen?
- I en tävlingssituation, vad brukar din inställning vara:
 - Jag vill försöka vinna
 - Jag vill i alla fall inte komma sist
 - Jag vill inte vara med
 - Jag fokuserar på uppgiften i sig
 - Något annat?

Upplever du att det finns en jämförelsekultur på programmet?

- Vad gör att du känner så?
 - Tror du att andra kan uppleva att det finns en jämförelsekultur?
- Hur upplever du att det påverkar dig?
- När du jämför ditt arbete med andras
 - Sporrar det, motiverar det, ger det inspiration?
 - Stressar det, känns det jobbigt?

När du jobbar på ett projekt, sitter du oftast i ritsalen, hemma eller någon annanstans?

- Vad gör att du väljer att arbeta där?
 - När ni sitter i ritsalen – brukar ni diskutera era projekt med varandra och dela idéer?
 - Hur påverkar det informationsutbytet dig?
 - Varför tror du att ni inte gör det?
 - Om du sitter hemma, diskuterar du ändå dina projekt med klasskompisar?
 - Upplever du att jämförelsekulturen har någon inverkan på samarbetet er kursare emellan?
 - Finns det en tendens att folk inte vill dela med sig av hjälp eller idéer?

Kompletterande ”rakt på sak”- frågor:

- Vad gör upplevd tävling och jämförelsekultur med din motivation?
- Hur upplever du samarbetet i klassen?
- Kan du beskriva en situation där du kände att tävling eller upplevelse av tävling påverkade samarbetet positivt eller negativt?

B

Interview Guide – Architects

The following document contains the interview guide used for architect interviews. The guide is written in Swedish.

Intervjufrågor

Branschaktiva

Bråttom??

Samtyckesformulär skrivs under

Informera om ramarna för intervju:

- Alla svar hjälper. Finns inga rätt eller fel svar
- Om du inte förstår, eller inte vill svara – säg till
- Tanken är att du ska få utrymme att prata – tolka inte min tystnad som att du sagt något fel
- Kan ställa liknande frågor men på olika sätt
- Vi börjar med några mindre snabba frågor och sedan går vi vidare till lite mer ingående frågor. Semistrukturerad intervju.
- Har du några frågor innan vi börjar?

Uppvärmningsfrågor

- Vad pluggade du? Vart? När pluggade du?
- Något projekt som du kommer ihåg som extra roligt?

Jag undersöker alltså hur tävling påverkar lärandeprocessen med fokus på motivation och kreativitet. Tävlings: *structural & competitiveness*.

- **Vad är din spontana tanke om tävlings påverkan på motivation och prestation?**

När du gick från din utbildning till att börja jobba som arkitekt, vad upplevde du var den största kontrasten mellan din tidigare bild av yrket och hur det faktiskt var?

- Vad har du tagit med från studierna in i arbetslivet som du känner har gynnat dig?
 - o Hur mycket har utbildningen påverkat ditt arbete som praktiserande arkitekt?
- Finns det något i utbildningen som du upplever fattas?

Vilka egenskaper tror du är viktiga för nytexaminerade arkitekter att ha i branschen idag?

- Varför... Berätta mer

Bakgrund... vilka tävlingsmoment som finns på programmen idag. **Vilka tävlingsmoment fanns i utbildningen när du studerade?**

- Nu när du har erfarenhet från arbetslivet, vad ser du för aspekter i att arkitekturstudenter genomför dessa tävlingsmoment?
- Upplevde du att det fanns en jämförelsekultur/tävlingsmentalitet på programmet när du studerade?
 - o Hur såg den ut?
 - o Ser du några likheter med branschen?
- Ser du någon koppling mellan de egenskaper som är viktiga för arkitekter att ha och tävling/tävlingsmentalitet i utbildningen?

Har du jobbat något med tävling som arkitekt?

- Är det ett aktivt val du gjort, att inte jobba med tävling?
 - o Hur ser processen ut i att vissa arkitekter jobbar med tävling och vissa inte?
 - o Kan man välja att jobba med tävling?
- Vilka egenskaper behöver man ha för att vara duktig på tävling som arkitekt?

- Upplever du att dessa egenskaper övas upp redan under utbildningen?
 - Bidrar tävlingskultur under utbildningen till tävlingsarbetet i branschen?
- Vad skiljer tävling i arkitekturbranschen från ”den vanliga” konkurrensen att vinna kunden i de flesta branscher?

C

Consent Form – Students(a)

The following document is a consent form used to obtain students permission to participate in the study. This consent form was used when the interview was conducted in person. The consent form is written in Swedish.

CHALMERS

Samtycke och information om behandling av personuppgifter i studentarbete

Jag samtycker till att mina personuppgifter i form av

För- och efternamn, E-postadress, Telefonnummer, Könsidentifikation, Ljudupptagning

får behandlas av Chalmers tekniska högskola för studien:

“Do we learn and perform better through competition?” – masterarbete av Julia Gunnarsson i kursen CLSX35 som undersöker tävlings inverkan på motivation och lärande inom det kreativa fältet arkitektur. Masterarbetets datainsamling består av kvalitativa intervjuer.

Information

Personuppgifterna kommer att hanteras på följande sätt:

Alla respondenter kommer vara anonyma. Om ljudupptagningen inkluderar uppgifter som kan kopplas till en viss individ kommer denna information kodifieras, alternativt exkluderas från rapporten. Samtliga personuppgifter kommer raderas från samtliga platser där det sparats i samband med masterarbetets slut, d.v.s. registrering av slutbetyg i Ladok.

Ditt samtycke gäller tills vidare. Du har rätt att när som helst ta tillbaka ditt samtycke. Detta gör du genom att kontakta *Julia Gunnarsson*, julgunn@chalmers.se eller registrator@chalmers.se. Om du återkallar ditt samtycke kommer vi upphöra att behandla personuppgifter vi samlat in med stöd i ditt samtycke. Vissa uppgifter kan komma att sparas pga. Chalmers skyldigheter enligt svensk arkivlagstiftning.

Chalmers tekniska högskola, 412 96 Göteborg, med org. nr 556479-5598 är personuppgiftsansvarig. Du hittar Chalmers integritetspolicy på www.chalmers.se.

Som registrerad har du rätt att få information om hur dina personuppgifter behandlas. Du har rätt att få felaktiga uppgifter rättade, överflödiga uppgifter raderade, begära att behandlingen begränsas och uppgifter överförda till en annan aktör. Du har även rätt att lämna klagomål till Integritetsskyddsmyndigheten (IMY). Har du frågor rörande Chalmers behandlingar av personuppgifter kan du kontakta Chalmers dataskyddsombud på dataskydd@chalmers.se.

Jag samtycker till att Chalmers tekniska högskola behandlar personuppgifter om mig i enlighet med ovanstående.

| | |
|-------|-------------------|
| Ort | Underskrift |
| Datum | Namnförtydligande |

D

Consent Form – Students(b)

The following document is a consent form used to obtain students permission to participate in the study. This consent form was used when the interview was conducted via video call online. The consent form is written in Swedish.

CHALMERS

Samtycke och information om behandling av personuppgifter i studentarbete

Jag samtycker till att mina personuppgifter i form av

För- och efternamn, E-postadress, Könsidentifikation, Ljudupptagning, Videoupptagning

får behandlas av Chalmers tekniska högskola för studien:

“Do we learn and perform better through competition?” – masterarbete av Julia Gunnarsson i kursen CLSX35 som undersöker tävlings inverkan på motivation och lärande inom det kreativa fältet arkitektur. Masterarbetets datainsamling består av kvalitativa intervjuer.

Information

Personuppgifterna kommer att hanteras på följande sätt:

Alla respondenter kommer vara anonyma. Om ljudupptagningen inkluderar uppgifter som kan kopplas till en viss individ kommer denna information kodifieras, alternativt exkluderas från rapporten. Samtliga personuppgifter kommer raderas från samtliga platser där det sparats i samband med masterarbetets slut, d.v.s. registrering av slutbetyg i Ladok.

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E

Consent Form – Architects

The following document is a consent form used to obtain architects permission to participate in the study. The consent form is written in Swedish.

CHALMERS

Samtycke och information om behandling av personuppgifter i studentarbete

Jag samtycker till att mina personuppgifter i form av

För- och efternamn, E-postadress, Ljudupptagning

får behandlas av Chalmers tekniska högskola för studien:

“Do we learn and perform better through competition?” – masterarbete av Julia Gunnarsson i kursen CLSX35 som undersöker tävlings inverkan på motivation och lärande inom det kreativa fältet arkitektur. Masterarbetets datainsamling består av kvalitativa intervjuer.

Information

Personuppgifterna kommer att hanteras på följande sätt:

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