

June 2019 | Dr Angelica B. Ortiz de Gortari

# eSPORTS in NORDIC SCHOOLS



## Survey Results – Wave 1

Schools & Esports students

SLATE Research Report 2019-4

SLATE Research Report 2019-4 June 2019

Ortiz de Gortari, A.B. (2019)

**eSportsNS** is funded by the Centre for the Science of Learning & Technology (SLATE) at the University of Bergen (UiB). SLATE contributes to the transformation of educational practices via the understanding of education, technology and pedagogy. The SLATE academic research team is multidisciplinary and international.

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# ABOUT THE eSportsNS PROJECT

## Introduction

The introduction of eSports courses and programs as part of a school curriculum offers a unique opportunity to encourage safe and healthy practice of video game playing.

The eSportsNS project is a longitudinal study that follows eSports students at Nordic schools to understand the impact of their eSports education on their well-being. The aim of the project is to strengthen eSports related programs at schools by providing informed advice regarding safe and healthy gaming to teachers and students.

In particular, the project's goals are:

- to contribute to innovative practices in the school
- to contribute with recommendations for developing safe and healthy eSports courses and programmes
- to identify benefits and reducing potential risks associated with the practice of eSports
- to develop initiatives for promoting healthy and safe video game playing
- to develop initiatives and recommendations regarding the use of video games in education

This report presents our findings about the students and schools participating in the eSportsNS project. This report contains background information about the participating schools and eSports students, before starting the eSports program.

## Method

Two surveys were conducted. First a short survey with the school staff responsible for the eSports program; second, the main survey was distributed among four schools in Sweden and Norway during April and May of 2018 (the first wave). A total of 73 students enrolled in the eSports programmes completed the survey. Additionally, students not enrolled in any eSports program also participated; the data in this group will be further analysed as a control group. In the first wave we collected data from 25 “control students” from one school.

## Limitations

Most of the data in this first wave was collected retrospectively as it was not possible to invite the students before they had started the eSports program.

The majority of the questions were addressed as: “Before starting the eSports program....”.

## The Questionnaire

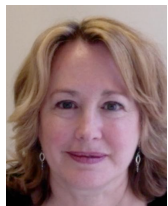
The main sections of survey consisted of:

- Student profile (e.g., demographic)
- Physical and mental health
- Socialisation factors
- Academic life, self-efficacy and future goals
- Information about the eSports program (e.g., motivation to join, game they play)
- Parents' role in video game playing and opinion about their children joining the eSports program
- Gaming habits and gaming-related activities
- Gaming engagement and consequences

## eSportsNS Research Team



Dr Angelica Ortiz de Gortari, the project leader is a licensed psychologist and postdoctoral researcher in psychology with master's degrees in Mental Health and Child and Youth Studies with over 15 years of experience on the effects of interactive media. She is expert on Game Transfer Phenomena (GTP), a term she introduced during her earlier research on gamers to understand the effects of video games from a neutral approach beyond traditional perspective (e.g. Gaming Disorder and controversial video game contents). Her research website: [www.gametransferphenomena.com](http://www.gametransferphenomena.com)



Professor Barbara Wasson, Director of the Centre for the Science of Learning & Technology (SLATE) and Professor at the Department of Information Science & Media Studies at the University of Bergen (UiB). Since the mid 1908s Wasson's research has focused on collaborative learning in distributed settings, mobile learning, interaction design, computer support for collaborative learning (CSCL), mobile learning, learning games, intelligent tutoring systems, e-assessment, teacher inquiry, learning analytics, and pedagogical agents.



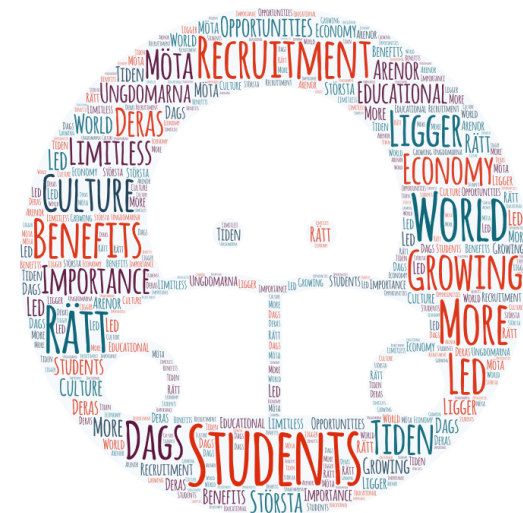
Professor Åge Røssing Diseth, Department of Education, University of Bergen (UiB), is a psychologist and expert in education and statistical methods. His research addresses motivation psychology, learning and cognitive style, personality, university pedagogy, and developmental psychology.

## RESULTS: BACKGROUND INFORMATION

## Schools involved in the project

Three schools in Sweden and one school in Norway participate in the project. Further information about the schools can be provided by request.

## Motivation to offer an eSports program



- due to its growing importance in the world economy and culture; the opportunities for the students within eSports is limitless
- recruitment
- possible educational benefits
- the time is right -- it is time to meet the students in one of their biggest arenas

## Characteristics of the eSports programs

The programs:

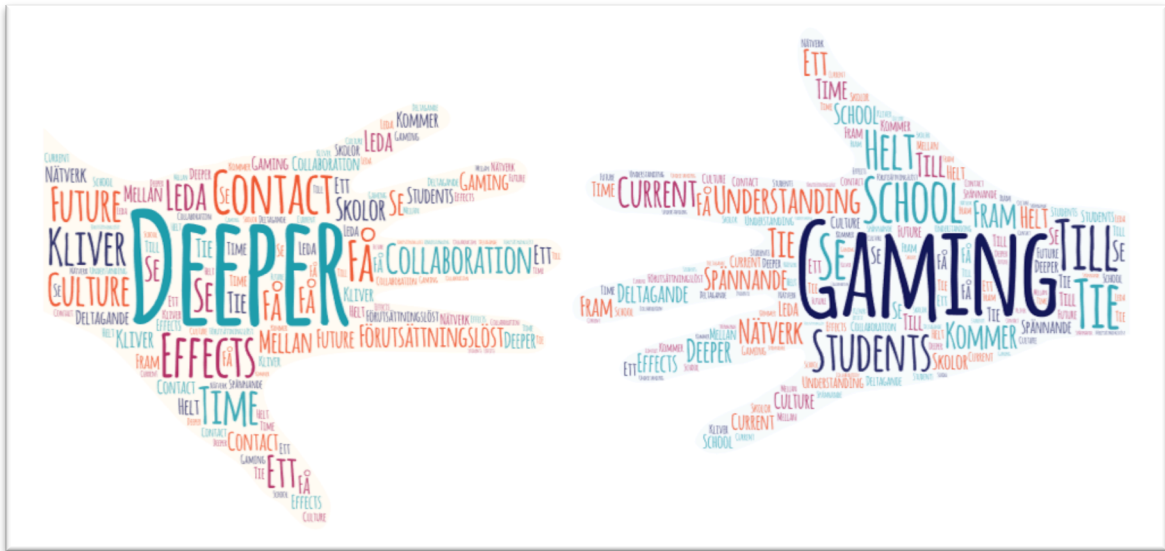
- eSports is a specialisation within another program (3 schools)
- eSports has its own program (1 school)

In three of the four schools the eSports course is the only course that involves playing video games.

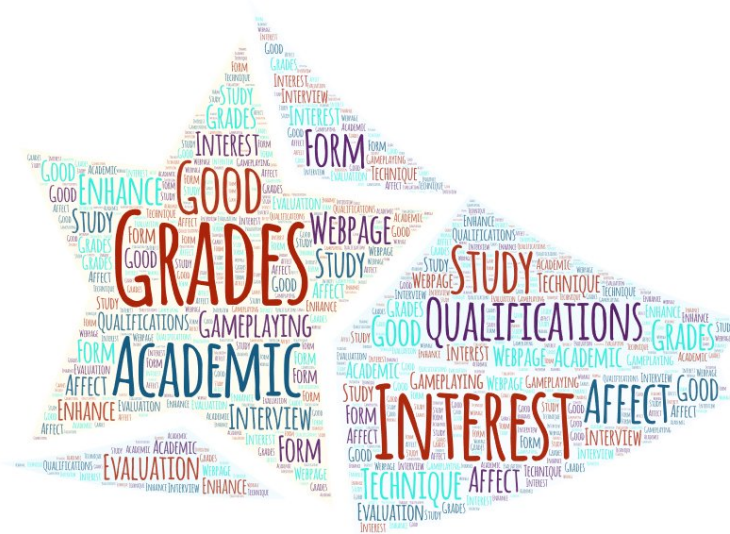


## Motivation for participating in eSportsNS

- to gain a deeper understanding how gaming affects students in this current gaming culture
- to get in contact with other schools
- to make deeper connections with other schools for future collaboration in different shapes and forms
- totally unbiased; it is exciting to see what results you will get; maybe it can even lead to a network between participating schools



## Student Selection criteria



Most schools select the students based on grades or academic qualifications, and interest. One school takes into consideration good study techniques to avoid the eSports course affecting their current and future grades rather than enhancing their grades. Another school described their selection procedure as 4 fold: 1) grades; 2) webpage form; 3) evaluation of a video recording while playing; and 4) an interview.

**Demographics:**

91.9% male

71.6% 16 years old

27.0% 17 years old

1.4% 18 years old

**Training per week:**

50% train 3 hours

25% train 4 hours

25% train 5 hours

75% have homework

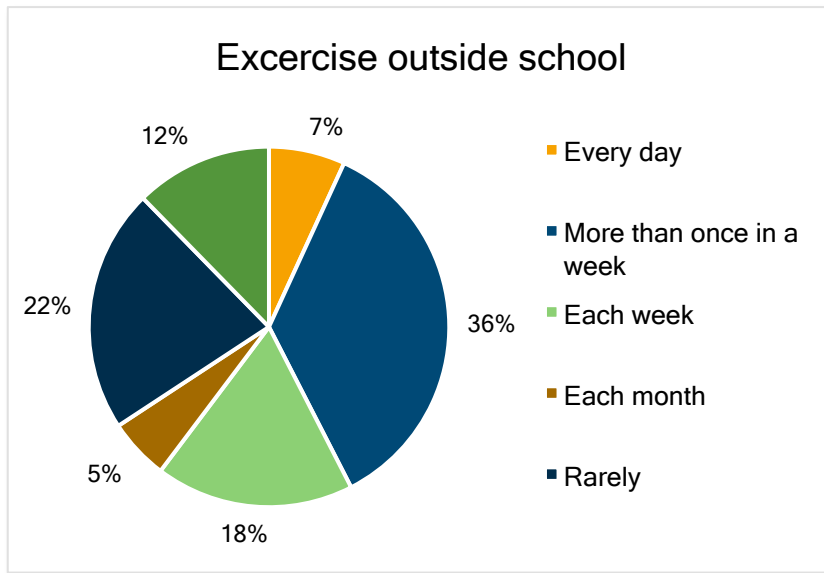
**Video Games:**



# RESULTS: eSportsNS STUDENTS

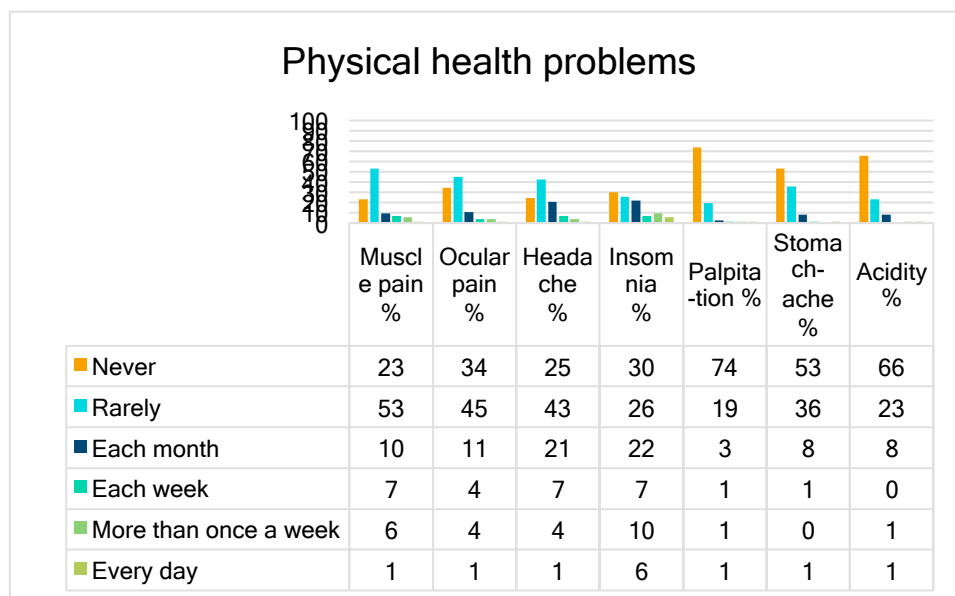
## Student Profiles

### Physical and psychological health



Over 50% of the students exercised outside school at least once a week before starting the eSports program. 44% exercised rarely or never outside of school before starting the eSports program.

When it comes to physical health problems, the most common psychosomatic/physical symptoms before starting the eSports program were insomnia (23%), muscular pain (14%) and headaches (12%).

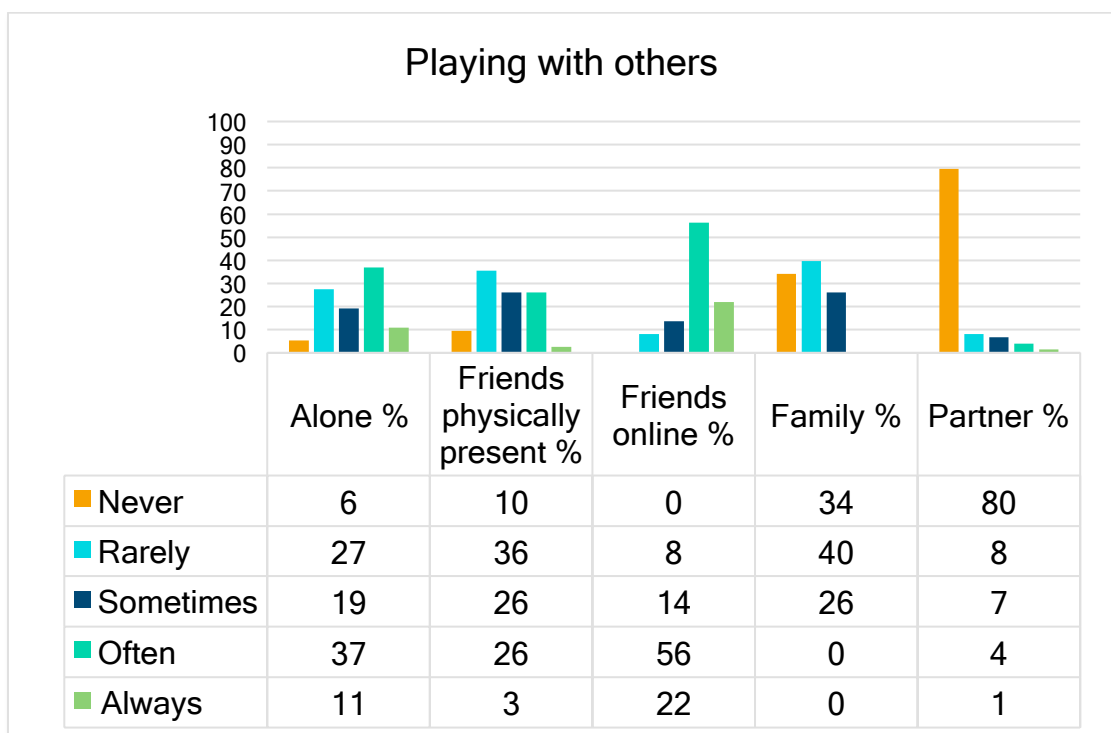
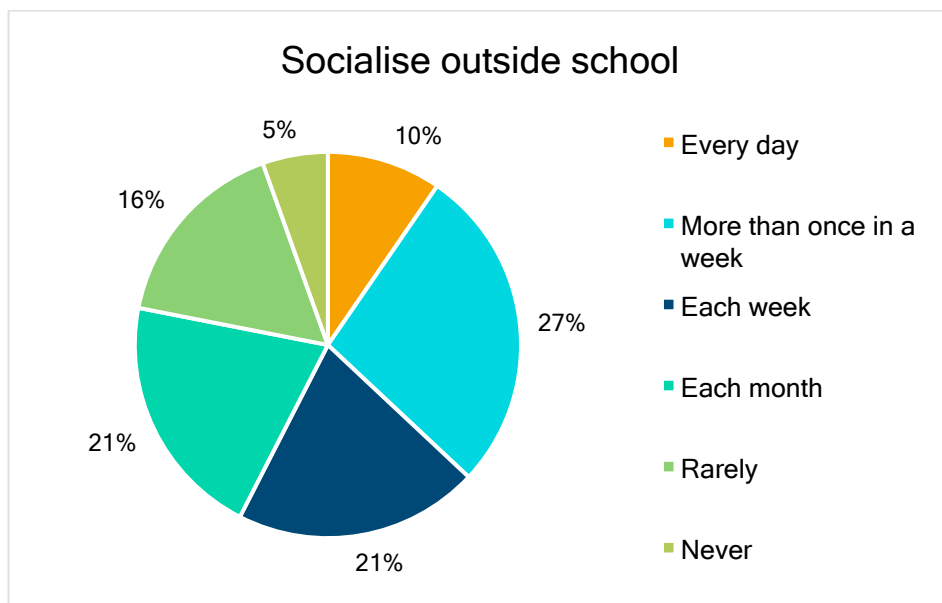


## Perceived stress

A total of 5% of the students appraised their life situation as very stressful, far above the norm.

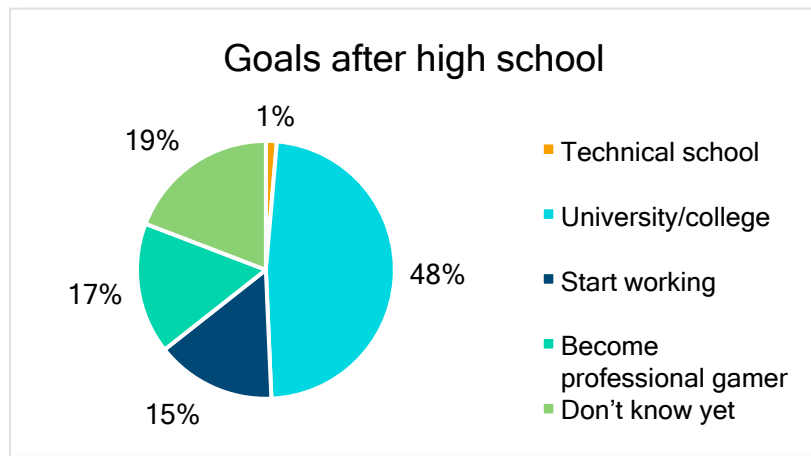
## Socialisation factors

More than half of the students (57.5%) socialise with friends outside school at least once a week. Regarding socialising while playing video games, the majority play with online friends very often or always, while almost half of the students also frequently play alone.



## Academic life, self-efficacy and future goals

### Goals after the eSports program

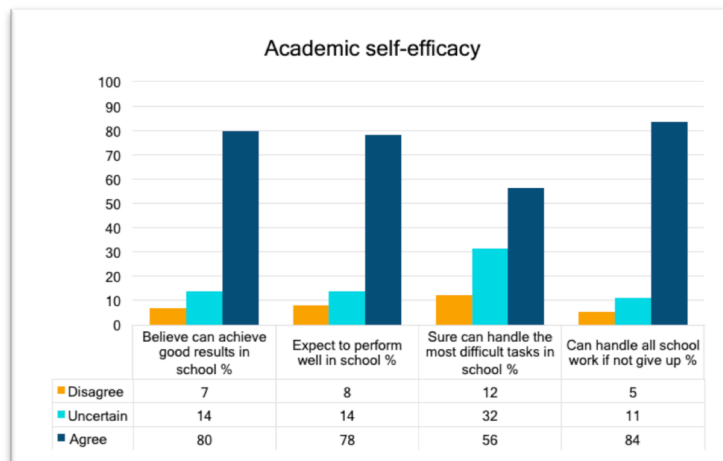


Almost half (48%) plan to study at a university or college and 17% plan to become professional gamer after high school.

### School self-efficacy and self-esteem

Half of the participants have confidence in themselves (50%), 17.8% have very high confidence, while 30% have low confidence.

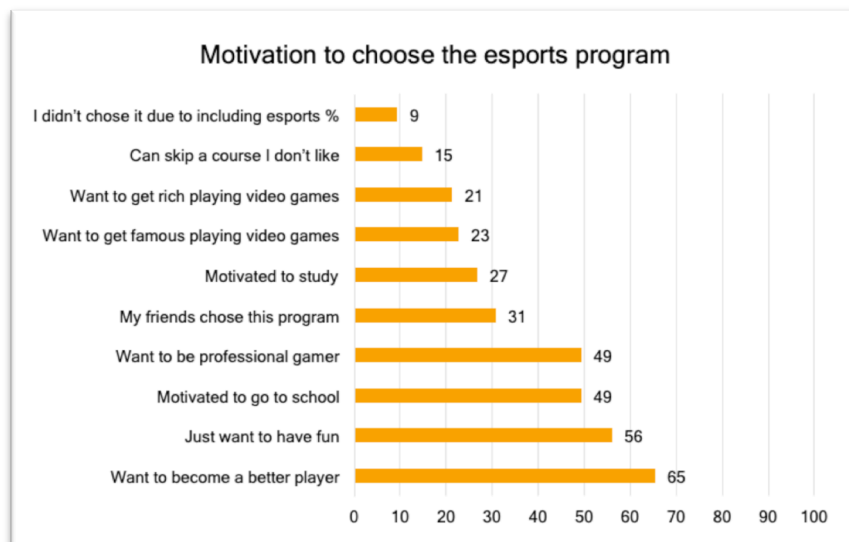
A majority believe they can achieve good results in school (80%) or expect to perform well (78%). Another 56% believe they can solve difficult problems, and 84% are confident they can handle schoolwork if they are determined.



## The eSports program

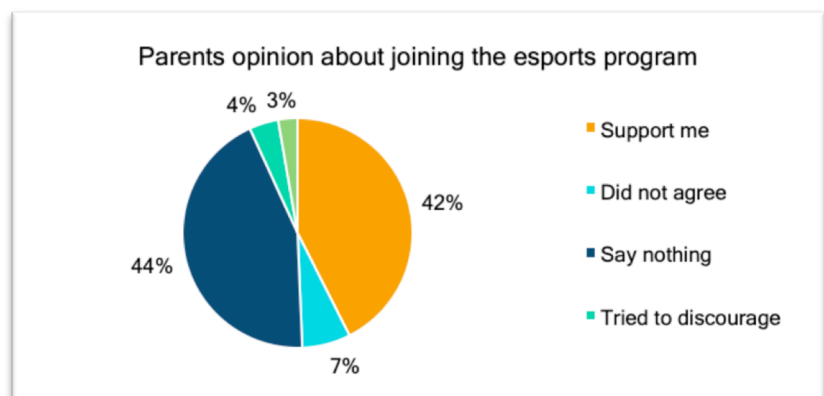
### Motivation to join the eSports program

More than half of the students' primary motivation for joining the eSports program was to become a better player (65%) or have fun (56%); another 49% wanted to feel more motivated to go to school or to become a professional gamer. See figure for the full results.



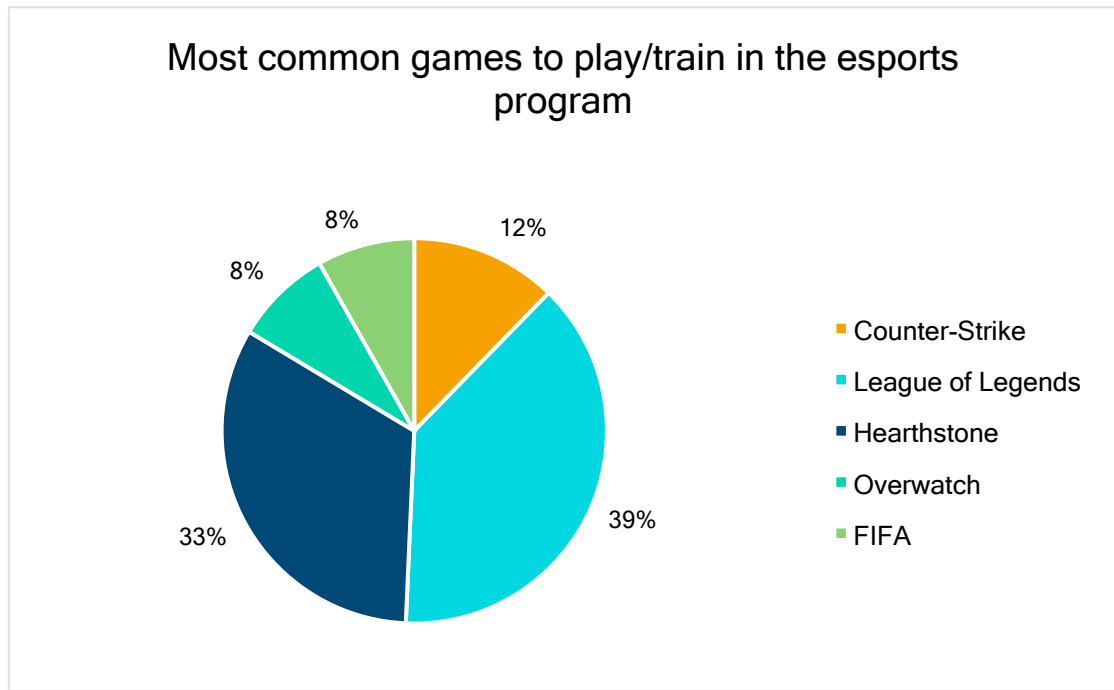
### Parent opinions about their children joining the eSports program

At least two-fifths of the parents supported their children's decision to join the eSports program, although another two-fifths did not have an opinion. One in ten either did not agree or tried to discourage their children to join the eSports program. One-third of the parents play video game themselves.



## Training games

The most common games that the students are training are League of Legends (39%) and Hearthstone (33%). The students consider their level of expertise in the main training game before starting the program as casual gamers (40%) or hard-core gamers (33.3%). Two-thirds (66%) have been playing these games for years.



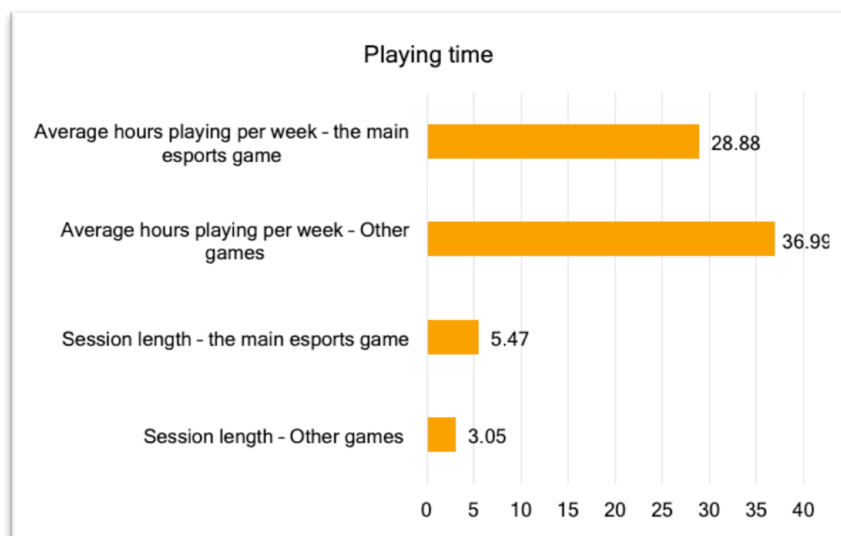
## Gaming habits and related activities

### Gaming platform and location

Almost all students played computer games (96%) but a significant number also played console games (41.3%), mobile games (32%), and few (9.3%) also played handheld games.

The majority played video games at home (97.3%), and just over one-third played at the home of friends (38.7%). Only a few (5.3%) played games at school or in game centres (7.7%). More than half played games every day (64.4%), or at least 5 to 6 times a week (24.7%).

## Playing time

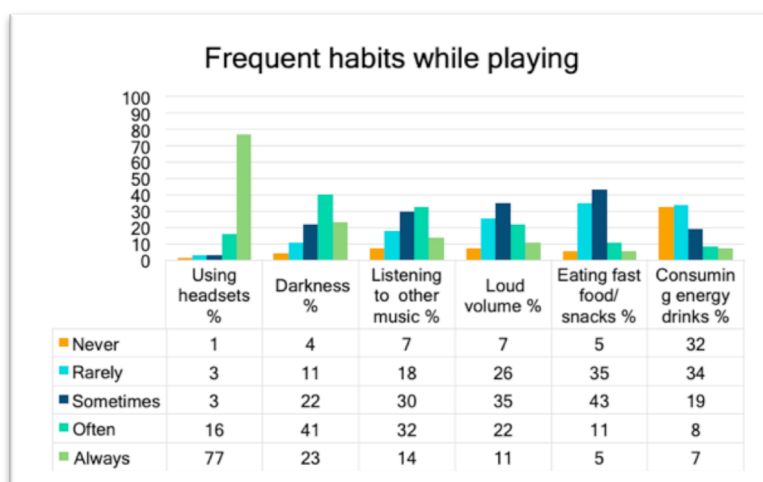


Before starting the eSports program, the students invested more hours per week (36.99 hours/week) playing other games than the games that are currently used for training in the eSports program (28.88 hours/week). However, they reported that their gaming sessions playing the eSports games were longer with an average of 5.47

hours session length, while other games were played in sessions with an average length of 3.05 hours.

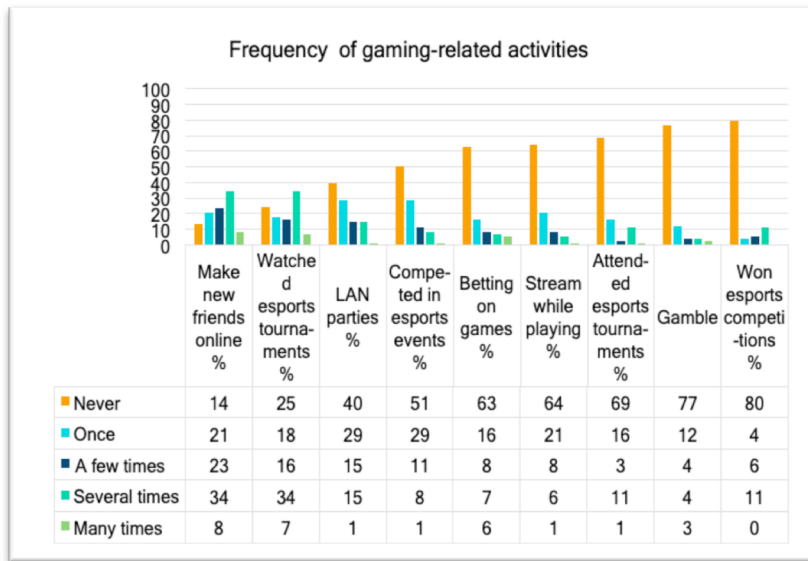
## Habits while playing

The student reported that they play using headset, in darkness, listening to other music or with high volume. Most played often/always using headsets (93.2%) and more than half played often/always in darkness (63.5%). Almost one-third (32.4%) played often/always with loud volume, and less than one fifth tended to eat snacks or fast food while playing (16.2%) or consumed energy drinks (14.9%).





## Gaming related activities

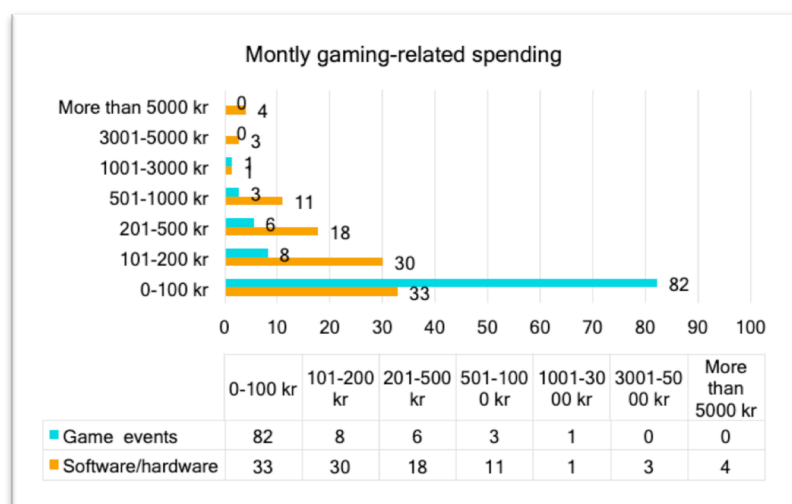


The more commonly practised gaming-related activities among the students were meeting new friends online (86%) and watching eSports tournaments (75%). Students have also taken joined LAN-parties (60%), eSports competitions (49%) and attended eSports tournaments (31%) and 20% had won an eSports competition.

A bit more than one-third (37%) had bet specifically on video games at some point (e.g., skill-based betting), and almost one-fourth (23%) had gambled at casinos, other gambling places or websites (e.g., poker, slot machines). Only a few (6.9%) had streamed their playing sessions several times/many times.

## Gaming related spending

Most students (82%) have spent a maximum of 100 Kr on a game-related event per month, and almost two-thirds (63%) have spent a maximum of 200 Kr in software/hardware per month.



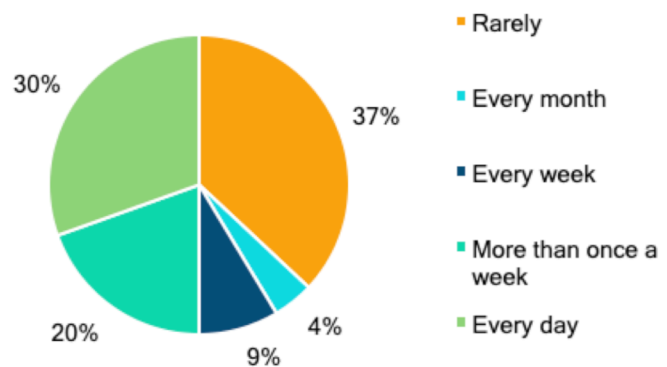
## Gaming engagement and consequences of gaming

### Game Transfer Phenomena

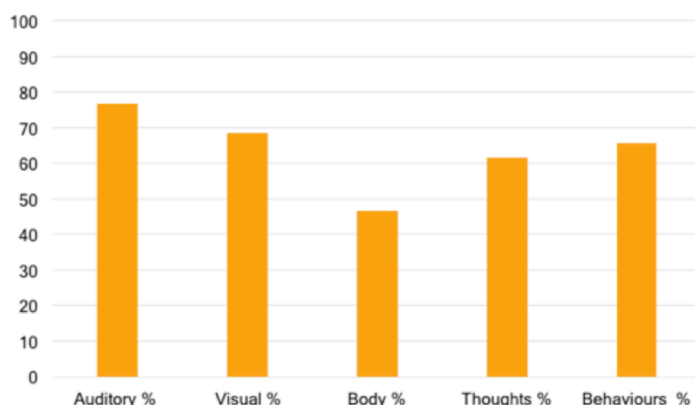
The lingering effects from video game playing called Game Transfer Phenomena (GTP) manifest as hearing, seeing, thinking or doing something related to the game automatically. According to previous studies, GTP is ubiquitous among gamers with a prevalence of 82% to 97% (Dindar & Ortiz de Gortari, 2017; Ortiz de Gortari, 2017; Ortiz de Gortari & Griffiths, 2015).

Most students (97.3%) in this study have experienced GTP at some point before starting the eSports program. Almost a third have experienced GTP every day (30.7%), and another 20% experienced GTP more than once a week (20%). Around one in fifth have experienced GTP rarely (22%), a few experience GTP every week (5.3%) or every month (2.7%).

**How frequently have students experienced GTP?**



**Prevalence of GTP modalities**

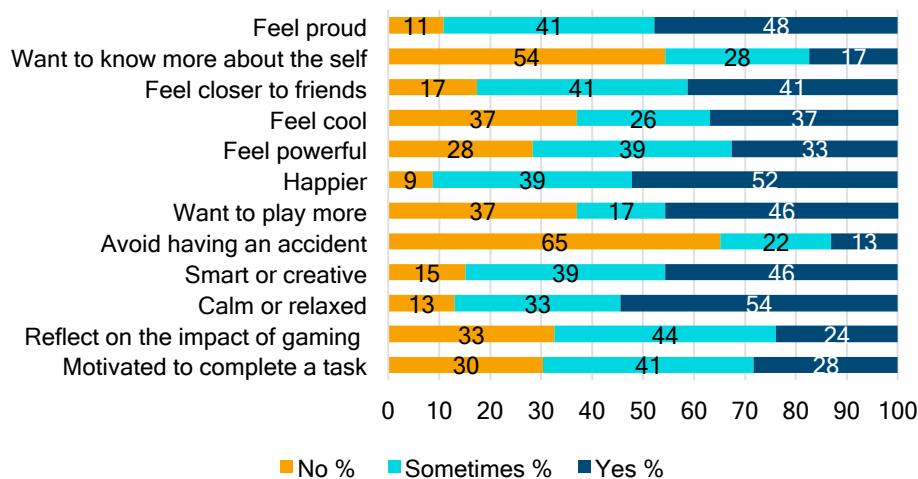


The most prevalent forms of GTP were re-experiencing music from the game (65.8%), visualising video game images (65.8%), hearing sounds (60.3%) and hearing voices (57.5%). The less prevalent forms of GTP were feeling tactile sensations (19.2%), seeing images with open eyes (15.1%), and perceiving distorted environments /objects (15.1%). The most common modality of GTP was auditory experience (77%), and the least common was body-related experiences (47%).

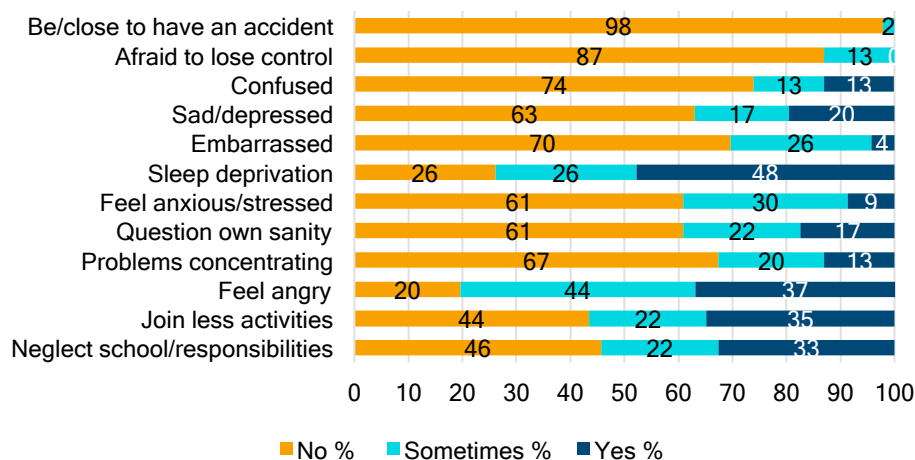
## Consequences of GTP

According to previous studies, gamers appraise GTP as pleasant and without negative consequences (Ortiz de Gortari & Griffiths, 2016). Most of the students enrolled in the eSports program reported positive consequences due to GTP rather than negative consequences. Specifically: Around two-fifths to half have felt calm or relaxed (54%), happy (52%), felt proud (48%), felt smart or creative (46%) or felt closer to friends (41%). Regarding negative consequences, the most common are sleep deprived (48%), angry/frustrated (37%), joining less activities (35%) and neglecting school/responsibilities (33%).

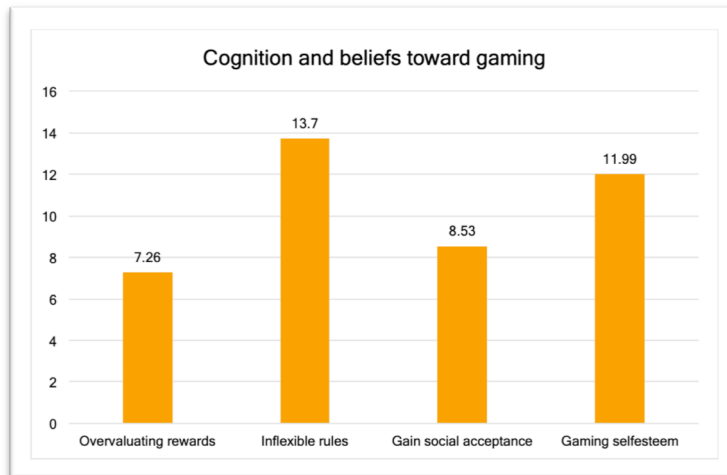
### Positive consequences due to GTP



### Negative consequences due to GTP



## Cognitions and beliefs toward gaming

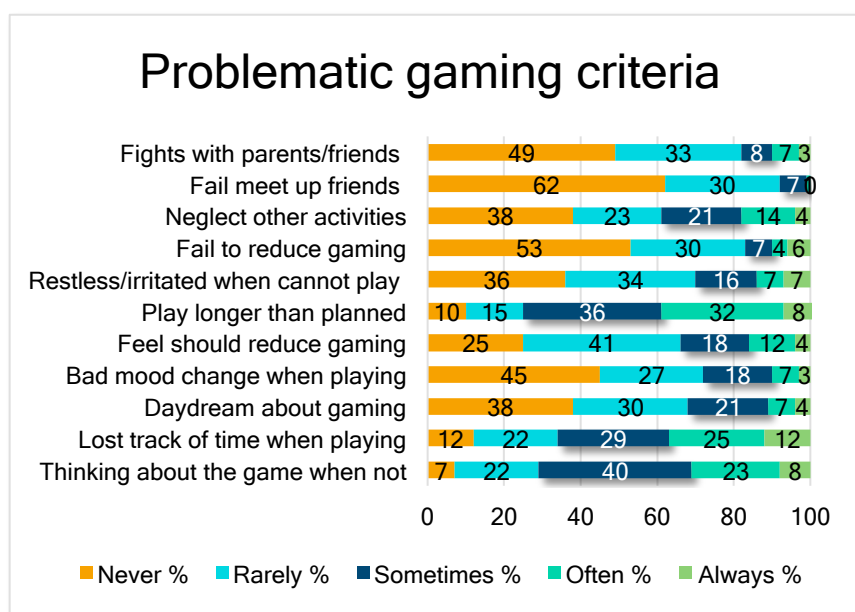


*\*Mean average*

Regarding cognitions and beliefs toward gaming, the most common among the students were persistence when failing, trying to resolve tasks as soon as possible, prioritize the game over other things, play the game longer than intended, and consider that stop playing as a waste due to the energy and time invested. Also, high scores were found in gaining self-esteem via gaming, such as feeling proud of the self by playing, usual, feeling in control when gaming and resolving stress via gaming.

## Problematic gaming

Only 2.7% of the students fulfilled the criteria for Gaming Disorder. The most frequent gaming-related problem was neglecting other activities (18%). One in ten often or always get into fights with parents or friends due to gaming; only one percentage often or always fail to meet up with friends due to gaming; almost one-fifth often or always neglect other activities due to gaming; almost 15% often or always get restless or irritated when they cannot play.



## SUMMARY

### Student profile

All the participants were enrolled in the eSports program. Most were male and 16 years old.

### Academic life, self-efficacy and ambitions

The academic grades of the students, depending on the grade system, ranged between A-D (scale from A-F); 3 - 4,5, 322 - 282 "meritpoäng" before starting high school. Half of the students are highly confident about themselves and the majority believe that they will successfully overcome the challenges that arise at school. Almost half plan to enrol at a university or college after finishing the eSports program. Less than one in five want to become professional gamers.

### Physical and mental health

No significant mental, physical or gaming problems were prevalent among the students. However, a few appraised their situations as highly stressful and insomnia was reported by almost one-fifth, at least once a week before the eSports program started. Moreover, insomnia as a consequence of re-experiencing some game content such as keep hearing the music from the game, or seeing images (i.e., Game Transfer Phenomena) that sometimes manifests while trying to fall asleep, provoking sleep deprivation (Ortiz de Gortari, 2019), were reported by almost half of the students. Just over one-third exercised more than once a week outside school.

### Socialisation

More than half of the students socialised with friends outside school at least once per week. The majority played online with friends very often or always.

### The eSports program

The main motivation for joining the eSports program reported by more than half of the students was to become a better player and have fun. Almost half reported that they would feel more motivated to go to school and to become a professional gamer. At least two-fifths of the parents supported their children's decision to join the eSports program, but one in ten either did not agree or tried to discourage their children. Almost one-third of the parents played games themselves.

The main training games played by the majority of students in the eSports program are League of Legends and Hearthstone. The students rate their level of expertise on their main training games as causal gamers or hard-core gamers. More than half have already played the training games for years.

### Gaming habits and gaming-related activities

The majority played games on a computer and most played at home, while almost two-fifths also played at the homes of friends.

More than half played video games every day, and one-fifth played five to six times a week. The students invested on average more time per week playing other games than the training games

(36.99 hours vs 28.88 hours) before starting the eSports program. Interestingly, the average gaming sessions when playing the training games were longer than when playing other games (5.47 hours vs 3.05 hours).

Students frequently played using headsets, in darkness, listening to other music, or with high volume. Less than one-fifth ate fast food or consume energy drinks while playing.

The more common gaming-related activities before starting the eSports program, reported by the majority, were meeting new friends online and watching eSports tournaments. At least two-thirds of the students have taken part in an eSports-competition or joined a LAN-party. More than a third have bet in video games and just over one-fifth have gambled (e.g., slotmachines, poker). Most students did not spend more than 200 SEK/NOK on video game software, hardware, or events.

### **Gaming engagement and consequences**

Lingering effects from video games called Game Transfer Phenomena (GTP) are ubiquitous among gamers (Dindar & Ortiz de Gortari, 2017; Ortiz de Gortari, 2017; Ortiz de Gortari & Griffiths, 2015) and manifest as hearing, seeing, thinking or doing something related to the game automatically. Most of the students (97%) had experienced at least one GTP before starting the eSports program. A little over half of the students experienced GTP every day or once a week, while more than one-third experienced it rarely. The most prevalent modality of GTP was auditory; either manifesting as re-experiencing music from the game or hearing sounds or voices. Visualising video game images from the game was also reported by more than half of the students.

Similar to previous studies into GTP, the participants were more likely to not report any negative consequences of GTP. Most students had positive consequences due to GTP, particularly feeling happy, calm or relaxed. However, almost half reported sleep deprivation, and around one-third reported feeling angry/frustrated, joining fewer activities or having neglected school/responsibilities due to GTP.

Regarding cognition and beliefs toward gaming, the most common among the students were persistence when failing in the game, trying to resolve a game task as soon as possible, prioritizing gaming over other things, playing longer than intended, and considering that stopping to play is a waste of time due to the energy and time already invested. Also, other common cognition and beliefs were related to gaining self-esteem via gaming such as feeling proud of oneself when playing, feeling bad when not playing as usual, feeling in control when gaming, and resolving stress via gaming.

### **Problematic gaming**

Only 2.7% fulfilled the criteria for Gaming Disorder. In general, only a few gamers reported often or always having problems with parents (i.e., fights) and neglecting friends or activities due to gaming. The most frequent problem was to neglect other activities due to game; this was reported by one in five.



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