

# **An Investigation into how Character's Visual Appearance Affects Gamer Per- formance**

Janne Leppänen

Bachelor's thesis  
May 2017  
Degree Programme  
Interactive Media



## ABSTRACT

Tampereen ammattikorkeakoulu  
Tampere University of Applied Sciences  
Degree Programme in Media and Arts

LEPPÄNEN, JANNE:

An Investigation into how Character's Visual Appearance Affects Gamer Performance

Bachelor's thesis 46 pages, appendices 10 pages  
May 2017

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The purpose of this thesis was to investigate how a gamer perceives the playable character's visual looks in an FPS (first person shooter) type of computer game. The main focus was on how this affects immersion and especially the gamer performance while playing the game. The goal was also to explain the concept of enclothed cognition and its use in the thesis to support the research.

A series of tests was set up for multiple test subjects with the purpose of proving that the playable character has a psychological effect on the gamer. For the test a custom game in Blizzard's game Overwatch was set up and a screen recording of each test subject was collected. A key element to the test was altering the visual looks of the character between the tests. The test subjects were also asked to fill an answer form after the test.

The results were affected by variables not taken into consideration and thus the test ended up being inconclusive. Changes in the results are visible, but proving if they occurred by a random chance or not still needs verification. The conclusion part further discusses the needed changes in the test setting.

The results also suggest that most gamers are not conscious of their avatar appearances in this game. Most of the test subjects felt that their performance was not affected during the test or by the changes in the game environment. Some subjects admitted that playing with their favourite character might have some effect on their playing style and/or performance.

Further testing should be done with the help of game companies. As a result there might be a larger breakthrough in terms of gamer psychology and guidelines on character design. I would like to test this in multiple different game genres and playing styles. There are game companies such as Valve who could test this on visual modifications of weapons and its psychological effect on a gamer performance.

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Key words: game design, character, enclothed cognition, gamer psychology

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## ABBREVIATIONS AND TERMS

|           |  |
|-----------|--|
| TAMK      | Tampere University of Applied Sciences   |
| FPS       | First Person Shooter, a game genre   |
| Blizzard  | Game Company located in US   |
| Overwatch | FPS Game title from Blizzard   |
| Valve     | Game Company located in US   |
| Avatar    | Representation of user in virtual form   |
| Immersion | When activity takes control of senses  |
| MDA model | Mechanics/Dynamics/Aesthetics model used in game design                                |
| God mode  | Play mode where there is no character to be controlled                                 |
| Skin      | Visual modification for the avatar   |
| AI (bot)  | Artificial intelligence for NPC  |
| Bot       | Shortened from “robot”, a game character controlled by computer (i.e. the game engine) |
| NPC       | Non-playable character   |
| Emote     | Animation of the game character doing gestures e.g. in-game                            |
| MVP       | Most valuable player, best performance in the match                                    |
| POTG/POTM | Play of the game/match, triggers highlight recording                                   |
| K/D       | Kill to death ratio  |

## 1 INTRODUCTION

In this thesis, I try to prove that gamers react to and are affected by their in-game avatar. This is to test the speculation, that gamer performance is affected in a positive way when they play with an avatar with a special skin modification. Theory part will be focusing on the terms and psychology that is used, such as enclothed and visual cognition. These both are used quite frequently in early parts of my thesis.

In the test phase, every test subject played through identical three game rounds which got randomized out in a certain way. Subjects had the chance to go through multiple rounds of these tests. Testing was conducted to eleven subjects, I had set my target to at least ten test subjects which meant around thirty game rounds that were be recorded, analyzed and categorized. This brought out few issues that I will go through in the results part (4.3.1).

As I go through the results I will be providing a summary of the necessary recorded data and answers from the form that every test subject is asked to fill in after the test. The analysis of these said results will be focusing on gamer performance and explaining any variation in results. I will be using percentage, average and median ways of calculating and presenting the results. Chi-square calculation was added during the latter part of the writing process to prove if the research argument is true and valid.

In the conclusion part I explain how I interpret the results and give out suggestions how to do this test again and what I would change. This part will rely on my subjective way of interpreting the results. I will also explain what I feel was done properly and/or poorly and the reasons behind.

## 2 VISUAL AND ENCLOTHED COGNITION

In this part, I go through what is visual cognition and how it is used in games. As well as the difference to enclothed cognition which will be more accurate term I used to describe and explain the behavior analyzed in this thesis.

In his talk Kahneman (2011) talks about thinking fast (system 1) and thinking slow (system 2), and what these mean is that every person has two ways of thinking and reacting. The intuitive part is when one is thinking fast and perform tasks in incredible speeds. Visual cognition is related to system one of thinking fast and making judgement based on visual information. Systems 1 and 2 are like the two sides of the coin and how they work, comparison can be seen below in figure 1.

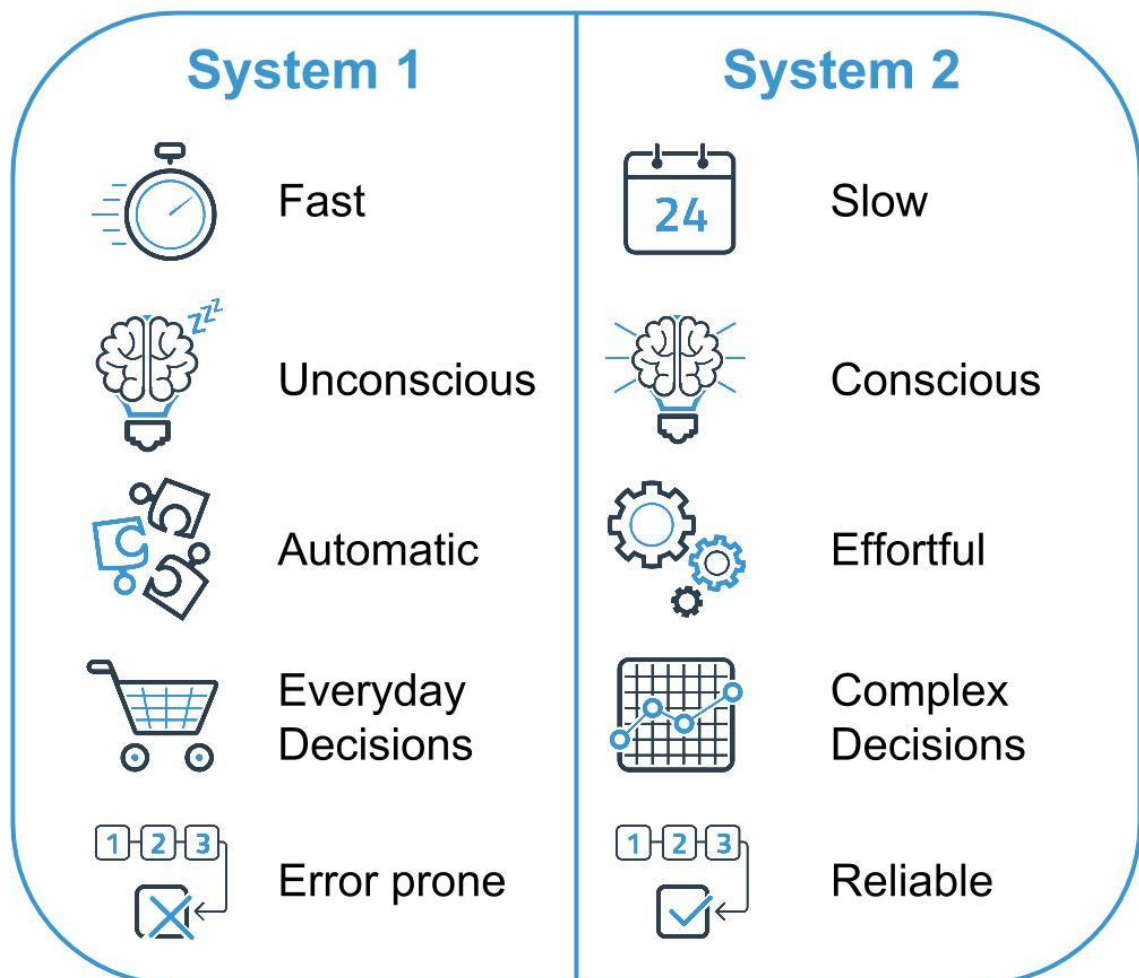


Figure 1 System 1 and System 2 (cityfloodmap.com 2015)

In the same talk with Kahneman, a picture of three figures was shown and audience were asked to identify if the figures are different scale on the screen. Picture 1, is the exact same picture shown and the initial assumption is that figure on right is largest and figure on left is the smallest. This process was system 1 and the conclusion of characters being same size and perspective giving this illusion is the thinking slow (system 2) part taking control.



*Picture 1 Hering illusion with people (popperschule.at 2017)*

## **2.1 What is visual cognition?**

First to understand the whole concept of visual cognition you need to look it in parts. Cognition by its definition is acquiring new knowledge through a mental process (Oxford dictionary 2017). Visual in this case is when something is viewed and it causes the stimulus for the cognitive part to activate as Humphreys explains (1989).

Visual cognition is a process where a visual stimulus has been received and therefore processed and understood. In a little simpler terms one can presume it is when you see something and understand what it is by looking at it. Example: when observing at a certain type of butterfly the observer sees the butterfly and puts it in to certain categories.

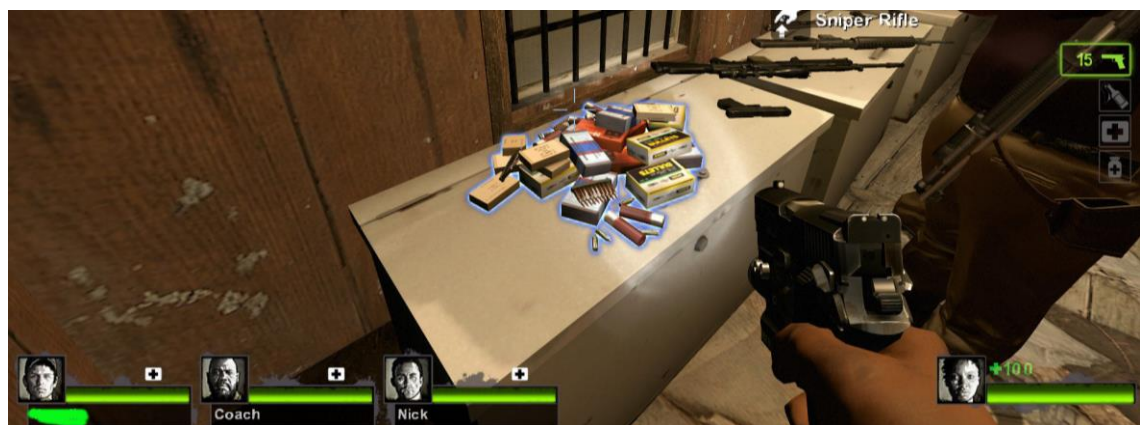
First category might be insects and second butterflies and so on. As the information is being handled, the definition of the viewed butterfly gets more and more accurate and thus leads to the observer to be able to recognize the viewed thing.

### 2.1.1 Visual cognition in games

The way that visual cognition differs in games is that gamer heavily relies on immersion and how the avatar is presented in the game. Usually it is attached to roles and tasks that gamer is supposed to become or execute during play. In the earlier days of games, they started with basic roles such as warrior, wizard, thief, archer from the fantasy settings. In war settings, there usually is basic soldier, grenadier, sniper, medic and so on. These both example settings have tasks which are performed based on the playable roles.

In games, it is really important to recognize quickly if area, other gamer or character or item is hostile and dangerous or friendly and safe. Usually this is done by manipulating one or more of shapes, colors, behavior and such. Not all games share the same rules of good and bad, in one you might have all red and sharp be bad when in other the bad things could be purple and round.

Most common example of game objects that rely to gamer to recognize them, is intrac-table objects and pickups. These are commonly highlighted like in Left 4 Dead 2 which can be seen in picture 2 where ammunition pile has a light blue outline. These rules are usually taught in the start of the game so it is easier to distinguish between different things and that the separation is clear for the rest of the game too.



Picture 2 Left 4 Dead 2 - Item pick ups highlighted (budgetgamerpc.wordpress.com 2014)



## 2.2 Enclothed cognition

Enclothed cognition differs from visual cognition in a specific way so I want to make sure both are explained and understood correctly. Explanation of cognitive stays the same but instead of visual we have enclothed cognition. Enclothed in this case refers to what does one wear. “Overall, we hypothesize that wearing a piece of clothing and embodying its symbolic meaning will trigger associated psychological processes.” Galinsky & Adam (2012)

In their paper, they define two specific factors for the enclothed cognition to take place. First is that the psychological effect of the symbolic meaning of an apparel must be apparent and secondly is the physical experience of one wearing this apparel. Wearing and understanding the symbolic meaning of an apparel can alter behavior to certain extent. Galinsky and Adam conducted series of tests where they tried to prove such effect.

In a report study on enclothed cognition by Galinsky & Adam, a series of tests were made where subjects were given or shown a long white coat. Results were clearly affected based on the given description of this said coat that they were asked to use during series of tests.

In the tests, they first tested if wearing a long coat or not wearing it would affect the wearer performance. This however only proved that the physical effect of wearing the coat gave out a performance change. In their second and third test, they gave similar long white coat to the subjects and either described the coat as (medical) doctors coat or a painters coat.

Third metric that they measured, which was being exposed to this said coat (described as doctors coat) but not worn, changed between second and third test. This was the amount of time subject was exposed to this coat. In second the coat was shown and described but then taken away, when in third it was present in subjects field of view the whole testing. This way they concluded that the second factor had also come true, that symbolic meaning of the coat has effect on the wearer.

When one wears an apparel, it can give them certain things such as protection from weather, different uses (sport clothing and ice fishing gear for example) and a fashion statement of sorts, but does it also give a certain role to play? Every piece of apparel person owns and wears has most likely been selected by the person (in most cases) and this selective process takes in consideration all these said factors. Galinsky states a question in his paper on enclothed cognition that does a person wearing specific set of clothes give the wearer an increase of certain emotion or ability that is connected to said set of clothes.

One can speculate that usually enclothed cognition is a passive mental process “There is a party later today, I should change into a dress/suit”. Not only people expect person to be in a dress/suit in a party, but that they behave accordingly. Some of this behavior is etiquette and taught customs, but does not this type of behavior come easier or even naturally when in a proper attire to perform task related to the clothes?

### **2.2.1 Enclothed cognition in games**

In games the enclothed cognition is partly in charge of defining the immersion and reactivity to certain things. Enclothed cognition in games has not been researched as vastly and for most parts will be speculations, theories and assumptions. What this means is that there is no (accepted) scientific backgrounds for all of these theories yet. Report on Enclothed Cognition from Galinsky & Adam prove that there is definitely behavioral change in people when wearing certain sets of clothes and I made an assumption that game characters might give gamers similar output.

In their paper (2016) on how gamer performance is affected by two different looking (but same) aggressive character types McDonnell (etc.) state that “Our results indicate that gamers of the game correctly perceived our Red characters as highly aggressive and not friendly, while the Green characters were perceived as less aggressive and more friendly.”. From this one can suspect that if the enemy character is only visually altered and it still affects the gamer actions towards it. This might also affect gamer if the playable character visual looks get altered.

### 2.2.2 Issues with enclothed cognition

Enclothed cognition is new term for analyzing behavior. What I mean by this is that it is still partly being recognized and defined further. Enclothed cognition relies on background information on and on the eye of the beholder also in my opinion. One can suspect if the wearer has no prior experience or knowledge on what is being worn doesn't produce any (or assumed) effect.

The actual issue comes from personal views and preferences. When you see a particular piece of clothing, apparel or item you usually have a basic understanding of the said object. Even if every subject recognizes and can form an opinion of said object, this understanding of an object will vary from subject to subject. Everyone is biased and will form their opinion of an object based on their knowledge, experience and interest in this object.

In my test the problem is that the player itself doesn't wear the apparel that is being changed. To the in-game avatar some changes are made by changing the visual appearance this was done by changing skins from default to rare. Issue comes with the background knowledge where everyone can have the apparel (coat) physically on but one is not able to physically wear a game character. By giving the coat a meaning (medical doctors coat) everyone has some way of reacting to the coat, but not necessarily the same ability to react between default and rare skin.

I tried to apply and test the definition and study question of enclothed cognition in my thesis and tests as well as I could. The presence it taking place turned out to be quite difficult to prove in game environment and with the test I had planned and carried out. I will go into more detail in testing and conclusion parts.

### 3 BACKGROUND PSYCHOLOGY

Humans all have different ways of acting, interacting and understanding of the surrounding world and themselves. This applies to games too and in some ways is even more evident. Different values opinions, preferences, motivations e.g. define our behavior and studying these is called psychographics.

This thesis was made to test out my speculation that people playing with character that has more interesting visual output makes them perform better. By embodying the character and thus “wearing” the character I aim to trigger also symbolic meaning of the default and rare skin differences. I included this section to support and to give out background information on the gamer psychology as well as the motivations and reasons for a gamer to play games.

I go through the effect I am hoping to trigger within the subjects. In games, there are few great ways to define gamer motivation for playing a certain game that I will go through in next chapter. The main areas of interest for my thesis, that I will also look into are motivation and immersion.

#### 3.1 Gamer psychographics

Bartle’s taxonomy is well known and a great way of identifying the gamer types. Test version of it was based on Richard Bartle’s paper (1996) where he uses four gamer types and four metrics to create a quadrant that defines the major gamer types, it was completed in 1999. I hoped I could define the test subjects based on these types beforehand to calculate the motivation for being part of the test.

These said types are Achievers, Explorers, Killers and Socializers and are divided by two axes Y and X, see figure 2. Usually these two axes are set in a way that the X-axis has gamer in the negative end and world in positive end, same for the Y-axis is Interacting in the negative and on positive end it has Acting.

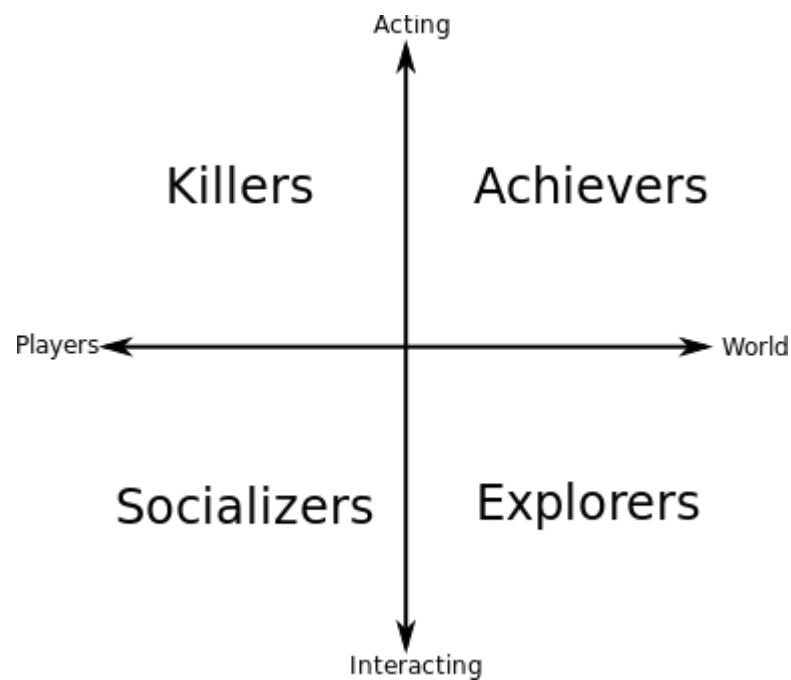


Figure 2 Bartle's taxonomy (wikipedia.org 2013)

As mentioned before, this can be used to define how one prefers to play games. This classification heavily bases itself on gamers in multiplayer online games as it was created to study this game genre. Because it was created for specific type of gaming it is lacking in many different, more minor definitions of gamer types and/or game styles.

For this thesis and it's practical tests a questionnaire was made to seek out how the subjects felt about the test. In the questionnaire answers and by taking notes during the test I hoped to find fundamental flaws or problems in my test. This said questionnaire was loosely based on Bartle's taxonomy where questions of playing habits are asked and the end result will place the subject on the quadrant and also give out a chart of 200% of result data divided between the four gamer types.

This test is called "Bartle test of gamer psychology" and later the quadrant (in the original paper) was divided into eight subcategories which provide more variation within the type as seen in figure 3. The Bartle's test focuses on defining the player type so it gave me some guidelines on how to plan and what to ask after the test I had planned out.

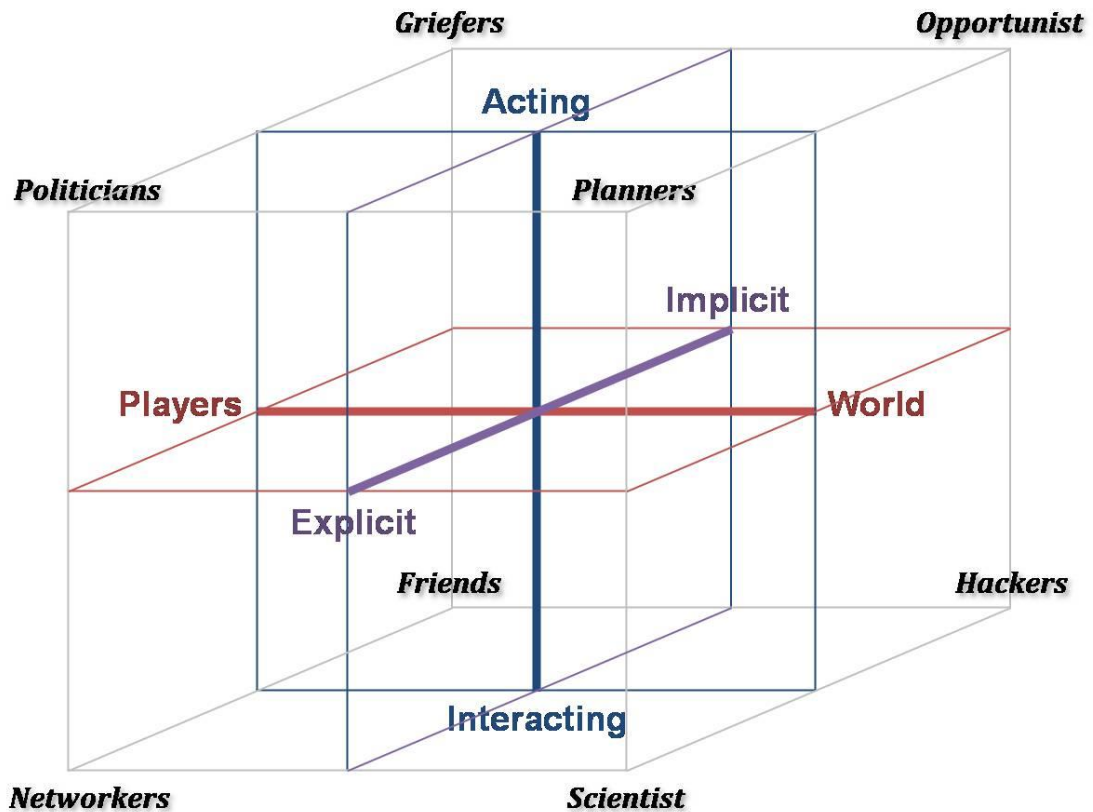


Figure 3 Bartle's test, graph 2 with eight variations (blog.kennethjhong.com 2012)

I kept notes during the testing period on how the gamer acted and tried to make an initial categorization based on Bartle's graph. Surprisingly quite many gamers switched their playing style constantly, some started exploring the map during even a slightest waiting time, some went to meet the enemy team to find interaction as fast as possible and so on. Most subjects formed tactics depending situation they were facing, but not all. Some subjects kept repeating the same tactic, same mistakes or successes throughout the rounds with varying results.

By assuming that gamers enjoy different areas and ways of playing games, it becomes hard to get totally reliable results from the test. This sort variation suggests to me that most gamers belonged in multiple of these categories and it was interesting to follow how these play styles appeared. It would be preferable to get all subjects to do a short questionnaire of how each subject plays games (similar to Bartle's test) beforehand and give a test tailored to each group. Bartle's test of course is not the only way to define gamer motivation for playing certain games and next chapter will focus more on it.

### 3.2 Immersion in games, theory of fun

When a gamer plays a game, immersion sometimes starts to take control. When surroundings, sense of time and noises fade away during gaming session it is when gamer gets immersed in the gaming experience so that the experience itself becomes the reality. There are many different types of immersions and ways to make the experience as realistic as possible. I spent some time researching these subjects as I felt they would guide me in my test planning and answer form.

Immersion in video games is one of the most desired features as it allows gamers to stay interacting with the game. If there is no immersion in the interaction, playing the game can feel tedious and repetitive or just frustrating. Gamer motivation and immersion has been researched by game developers, psychologists and gamers themselves. Bartle's test is good for defining how one plays games but it does not explain why. Why is partly defined by the pleasure you get out of the game experience.

Mark LeBlanc has done vast research on gamer psychology, especially on his paper in 2001-2004. He wrote the paper on a definition of eight kinds of fun (among other subjects), where he divided these pleasures you get from playing games to eight segments.

These segments are;

- Sensation
- Fantasy
- Narrative
- Challenge
- Fellowship
- Discovery
- Expression
- Submission

In general game developers try to include at least few of these in their game core mechanics to be immersive and fun experience to the gamer. Choosing which pleasures to add make the core of the game. As LeBlanc says in his paper it is hard to categorize fun as our descriptive vocabulary on subject is quite limited.

Like with Bartle's taxonomy, LeBlanc's definition is not exclusive, these eight parts are not what LeBlanc divides all games, but the majority of them. When examining closer these descriptions it is even more evident that gamers find pleasure of playing games from so many different factors. For everyone these factors can be different than to the next gamer. Balancing a game for certain demographic and these factors is hard and tedious work and not everyone will be completely happy of the end result.

Immersion is a way for interaction and in most cases the tool for interaction is the game character. There is usually one, multiple or in some cases a "god mode" (like in most area building games) characters to be controlled. Within these there are different view modes for the character such as first person, side view, third person, top down e.g.

### **3.2.1 Characters**

Since a playable character is the tool for interaction and therefore also for immersion, the way playable character is viewed differs between FPS, 3<sup>rd</sup> person, sidescroller and other types. When a game character is being played, it is necessary that gamer can relate to the character to reach proper immersion. This is achieved usually by giving the character a backstory, set of tools and/or visual appearance.

Appearance is the key to immersion for many gamers and it has many forms in terms of character customization. This area should be researched more and could lead to further breakthroughs in game character customization options and in understanding immersive character design.

Some games like Grand Theft Auto (GTA for short) have options for different apparels and other visual modifications like clothes hairstyles and tattoos (picture 3). These games usually have one to multiple predesigned main characters, so apparel and basic visual customization is possible. Overwatch belongs to this said category as well because all characters need to be identified from others to be able to play with, along and against them.





Picture 3 Character from GTA V being dressed (gta.wikia.com 2017)

Different way of customizing a character is usually seen in role playing games (RPG's for short). RPGs usually provide the gamer with vast character customization options, these might include anything from height, weight, age, gender, race and body features. Black Desert Online is a game well known for its character creation process. Customizing a character might take up to hours of playtime if every feature is checked.

In the thesis, I customize playable character for the test subject to certain extent. It would be preferable for the subject to choose the character and skin that gets used in test, but that would require me unlocking all skins and having AI bot's for all the characters in the game available to be used in the test (which neither was possible). Variation in characters and in skins mean also variation in results too.

### 3.2.2 Other examples

As a quick side note that this type of immersion brought by customization might also apply also to the tools gamers use. Good example of these are vehicles, there are many car games where you have an option to customize the parts and thus get better performance of the car like in GT series (Gran Turismo series). There are also car games that have wide variety of visual customization like Need for Speed (NFS) series have (picture 4).



Picture 4 Car being customized in NFS - Most Wanted (m.wikihow.com 2017)

Customizing how your weapon looks like in an FPS game is considered also to be important part of enjoying and being excited about playing the game. In Counter Strike Global Offence (CS:GO) you have variety of weapons that you can buy, unlock, gamble or trade a visual skins that makes said weapon look different (picture 5). Some of these said skins are highly valued and can be bought and sold with prices going over 1000\$.



Picture 5 Skin modification on a gun in CS:GO (gamebabana.com 2017)

## 4 PUTTING THEORY TO TEST

In this part, I go through how and what was done in the setup, testing and result analyzing phases. I decided to record the tests during a short period of time because the game that was being used was constantly being updated. Updates had the potential of removing my tool in-game for creating the test environment.

I was able to perform large part of the testing at my workplace where I was able to test people quick and manage all problems better. I suggest that if this thesis subject is done again, the test subject amounts and time frame would be extended greatly. I will follow up on how to do things better in the conclusion part.

For the test, I started to search subjects for the test between one to one and half months prior to starting the recording. I was able to do tests more efficient and got all needed recording done without any major problems. None of the tested seemed to know what was being tested according to the answer form filled and submitted straight after the play session. Majority of these tests were recorded within two weeks because of the fear of updates as explained earlier.

After I had the targeted ten tests completed I started to gather analytics in to a calculation table. In this phase, I reviewed all the notes and material (video recordings and answer forms) I got from the test sessions. In the calculation of single subject performance, I compared all rounds the subject played. My main goal was to compare the changes between a default and a rare skin.

### 4.1 Preparation

Preparations for the test started quite a while before the actual testing started as I wanted to get most out of it. At first I decided all the parameters for the test and how I would test it, as I didn't have time or resources to create completely new custom game environment for the test. I settled to Blizzard entertainment's new game title Overwatch as it had multiple characters, balanced gameplay, option to create custom game (with lots of useful settings) and lastly the characters had vast library of skins that I already owned alongside the game.

I made the test arrangements on two different computers, my laptop as the main test machine as well as my home pc as the secondary testing machine. Both have the recording software set up and the game installed. With the laptop, I was able to bring the testing equipment with me wherever I went. Doing this allowed me to get enough results from fairly many test subjects to make the needed calculations and in target timeframe.

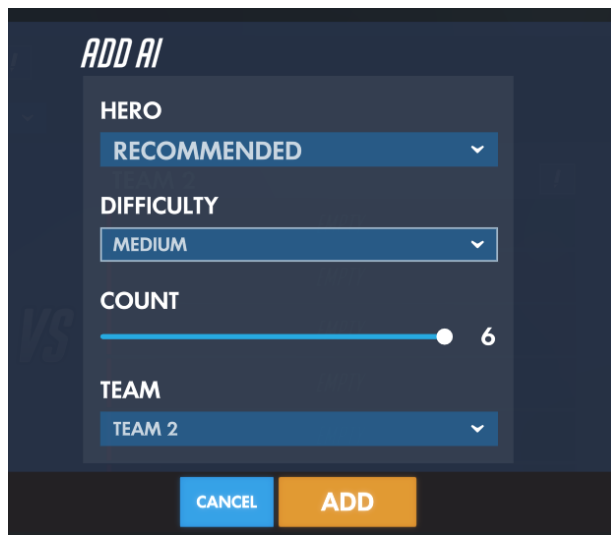
#### 4.1.1 Setting up the parameters and environment

For the testing environment (in-game) I prepared a custom game in Overwatch mode for the test. I made a lobby with mirrored teams; both have the exactly same bot characters; Soldier 76, McCree, Torbjörn, Lucio, Zenyatta and a Roadhog (picture 6). I believe this (team of two offence, two support, one defense and one tank characters) is the most balanced combination of characters because this way both teams have at least one of each character category. Also, these bots seemed to work the best together AI wise.



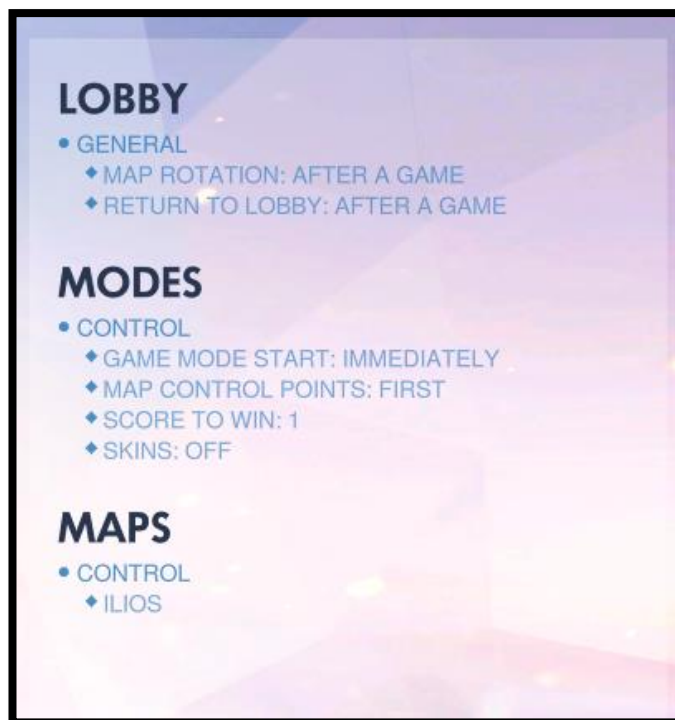
Picture 6 Teams setup with Soldier76 as chosen character

I made these six characters available for the test subject to choose from and the rest will be AI bots with medium difficulty as seen in picture 7. I lowered the bot difficulty if the test subject was a novice in this game or games in general so that difficulty spike would not be an obstacle. This was used in one case only because the gamer did not have enough time to warmup and was new to the game.



Picture 7 AI difficulty setup

In the settings, I had to set up the game so that every time the gamer started a round it was in the same map, same starting side and with only one match per round so I could switch skins on or off. The complete settings of the test game were set so it would be easy and fast to recreate the lobby and change the skin in between the matches (picture 8). For the map, I chose Illios' first map of the control points called the lighthouse. I chose this map as it is not too popular among experienced gamers but novices have a nice clear understanding of it as it is easy to approach.



Picture 8 Complete setup for game mode

#### 4.1.2 Preparing the subjects for the test

Reason why the test subjects were prepared was to lessen the confusion, make sure subject knows the basics of what to expect and make sure they know how to play the game. I explained all parts and approximate of the time that the test takes. Some subjects also told they want to change key bindings into what they use normally.

For people with no prior experience in playing Overwatch I set up an option of warming up and getting around the controls if they wished. Reason for it being optional was because I quickly realized that test session takes around half an hour as well as any extra time the subject uses for warming up phase. It was explained thoroughly what the characters do that the subject is playing with/against.

This in my opinion ensured that the gamers were familiar enough with the characters and the map so that “getting the hang of it” happens before the test not while. Other way of preparing (all) the subjects was done so that I told them the basic structure of the test and that they will be kept in the same game settings.

For all subjects, I told that performance is being tested and they will play (at least) three close to identical matches with one character in a level called Illiois. I also gave them an option to customize the controls to their liking as everyone tend to have different preferences when playing an FPS type of game.

As the custom game was starting I asked all of the subjects to perform an emote with the character by selecting it from the pop up option. Explanation I gave to test subjects was that it was a visual que for me when reviewing the footage afterwards, when in reality it was for the subject to see their character with the current skin on.

My goal was to make the subject be aware of the current skin subconsciously so I tried to enforce this awareness by asking subjects to perform the emote. Only few rotated the camera while emoting which was possible. When doing an emote character is being viewed from third person (from behind) and by rotating camera character would have been viewable from different angles.

### 4.1.3 Preparation for problems

There were many concerns on what will affect the test results or go wrong in some other way. The main fear I had was that the recordings get corrupted or not recorded at all. This would have meant that checking all the material would be impossible. When I was doing the tests, in one test I forgot to start the recording so I lost few minutes of footage which didn't matter too much as it was in the very beginning. In latter case when recording had failed I asked the subject to start again and saved my observation notes as warming up period.

The test subjects have different experience levels which I want to divide into few simple categories. No gaming experience, no Overwatch experience, Console gamer, experience in other FPS games and an Overwatch gamer. These five categories cause different types of problems in terms of what the tested is accustomed to.

I chose beforehand six characters and picked the rare skin on so it could be turned on or off in test. Reason why I did not allow the subject to choose skin was because it would be problematic test length wise and create unnecessary variation to the results. Another type of test could be built to test this approach and would be interesting to see the results of it.

## 4.2 Test phase

Test phase has three rounds; "no skin", "skin" and "skin +" tests. What these three rounds have in difference is the skins they are using. In the "no skin" test, the subject has the default skin on their playable avatar. Second, "skin" -test gives the gamer a different skin from the default.

This skin is a rare one and it has clear visual difference to the default skin. Third test focused on subtle praise on this said skin. When "skin +" -test started I made a subtle suggestion that this particular skin was special somehow, and thus gave player needed background information for the rare skin to carry symbolic meaning and affect how the gamer felt about the worn skin.

I tried to reproduce in game what Galinsky & Adam had done on their test on enclothed cognition (to some extent). Default skin versus skin and no coat versus coat test shared common points on physically wearing an apparel where skin versus skin+ similarities can be found with the defining second factor of enclothed cognition, which is the symbolic meaning of the worn piece.

I told the test subject in skin + test that this said skin was somehow special so they were aware that they had a different (than default) skin on while playing. As I changed the setups or started the next round I casually talked with the subject and said “That went well, it must have something to do with this skin. Did you know this Overwatch pro gamer X uses also this same skin?”.

This in my opinion should have made the skin feel special and affect the subject enough to trigger the symbolic meaning of a very special skin that even pro players use. The full chart on how the test progressed is visible in chart 1.

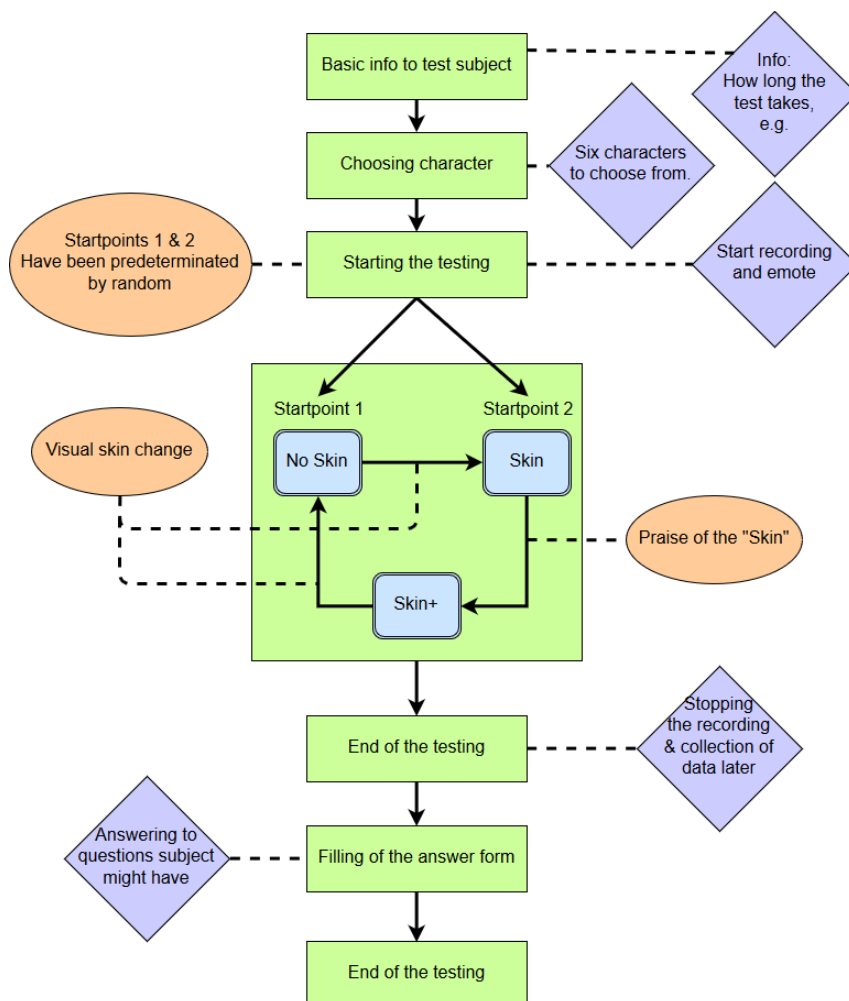


Chart 1 Test progression flow chart



It had been taken into consideration when and how the gamer saw the character. Character is visible in five different ways for the gamer. First encounter is in character selection menu where gamer selects the hero. During this selection, the hero is displayed on the screen from waist up as seen in picture 9. Second time is when I ask all subjects to perform an “emote” which allows subject to view full character while character does an animation cycle (picture 10).



Picture 9, Character selection screen Soldier 76 with “rare” skin.



Picture 10, Character in-game performing an emote

During the game, there is two other options to see your character: the actual FPS play mode (picture 11), where only parts of the character can be viewed (hands, weapon e.g.). This is partly why I chose Overwatch as my platform, when you aren't constantly reminded of your character looks, will the gamer performance still be affected? Second way to view character in-game is when your character dies. In the "kill cam" you can view the situation of your death from the view of the opponent and sometimes you see yourself quite clearly, other times not so.



Picture 11 In-game view

Latter case is two part but I count those as one since both are presented right after match ends. Victory is required for the first and being MVP or in terms used in Overwatch getting a POTG is required for the second. When gamer wins a match, they are greeted with a winning team poster where the whole team is portrayed (picture 12). If gamer performed well enough in the match there will be a short video where you see your character doing another animation on the screen, which is followed by the highlight recording of the match.



Picture 12 Winning team poster after match

Testing begins by randomizing whether gamer starts with a skin that is a default or a rare skin. This will be defined at the start and by the tester not the test subject, this hopefully removed any form of personal preference. Test itself will be disguised so that the test subject is not aware of what is being tested.

#### 4.2.1 Randomization to secure results

For the tests, I chose beforehand by random, which subject will start with or without skin. I made somewhat sure that there was balance in the start que too, so that first five will not start with default skin and next five with rare skin. This was done by creating random start order for the rounds.

For the subjects, I knew few who were willing to participate and I made posts of the test details and took names from around fifteen interested participants. I had to do most test late in the day so I gave them an option to come earlier if they wanted and took the test subjects at times that would fit them the best.

At first it was a concern that the subjects should all be tested in same environment and around same time. This was not possible so I had to manage with the lack of completely stable test environment and got as close as possible. Later was brought up that as the

test is only testing the subjects against themselves so there wasn't really a point in monitoring time and environment as long as it was comfortable and distraction free.

Some unintentional randomization was caused also because for some tests I had proper workstation where the test took place and in three cases the test was carried out in private apartment and or with mobile internet access. These were quite hard to control as some tests were organized to take place with a few hours' notice only.

#### **4.2.2 During test**

While test was in progress I remained as non-distracting as possible and would only answer to questions if any came up and were relevant. When the round was over I did my setup for the next round and reminded the subject to do the emote before the round starts. This ensured that the subject remained conscious of the skin as possible.

During the test, I made additional observations on the test subjects mood and tactics in-game for figuring out if they were aggressive, defensive, playing as a team or playing solo. I also wrote up the approximate sentence that I said to enforce the special skin to the test subject.

As an example, the one I used for Soldier 76 (most played character) was "Oh, you have the Bone (rare) skin. They use it in the competitive scene quite a lot as it blends with the map colours so well. It is quite hard to spot even with the red outline." and tried to keep the sentences similar for rest too.

Main interest for me was if there were clear changes in results in few metrics I could get from the game itself and how the gamer played tactic wise.

The metrics I selected were;

- Kills
- Deaths
- Objective time
- Damage
- Accuracy
- Round time
- And if the round was defeat or victory.

I added these metrics in a calculation table, where I also added what order the round was and skin wise as well. I decided to calculate using average and median for all the results for single subject and for all subjects and cross examine those.

### **4.2.3 Answer form**

In the answer form, I had five question sections and tried to keep the test topic unknown to the subjects until the last page. None of the tested knew what was being tested and few even told that they did not even notice the change of skins. None reportedly were aware of being suggested that the other skin was better. Some admitted that they do feel that they play better with a special skin, especially so on their favourite character. I also reminded them that they can now ask questions if something seems confusing or they want some clarification on the question.

The form consisted of five pages and sixteen questions in total. First section was to gather general information from the subjects, such as gender and age. Second part was about their knowledge on Overwatch, for example if they had played it before. Third section was about finding out how they felt about the matches and if they knew how many games they had won or lost.

I asked from the subjects of their feedback towards the test. In this part, I asked if they knew what was being tested and as I said before, no-one knew. Final part gave a summarized explanation of what was being tested and a possibility to give more feedback now that the topic was revealed to them.

It was asked what character the subject had used in the test as I wanted to see if it was clear to all which character they were using. Pictures of the characters with the name of the character was added as well as two or more extra characters. I suspected that a) some subjects might not remember after the match who they had played with or b) not recognize their character as they have played two rounds with special skin.

Most of the subjects had already played Overwatch before and they recognize all characters and remember who they had used. I decided to add the few extra characters and an extra option of "I do not recognize my character". Only few noticed that there were three extra characters as options (Zarya, Bastion and Reaper).

Form did not stay the same from first to last subject as I had to make few corrections to the questions as the tests went on. None of the values or questions were changed drastically. I fixed if something was typed wrong, was really confusing or had wrong values so I clarified the form ever so slightly.

### 4.3 Aftermath analytics and metrics

For the analytics, I had over ten recordings and each was around thirty minutes of footage which I went through and put all data in my analytics form. I got most of the data from the end of round statistics window and selected the metrics from those that are applicable to all six playable heroes. One of the requirements was to be able to take unnoticeably the test results for which the screen recording proved to be perfect.

I set the form to calculate every subject as an individual and as a group by round type where results were combined and cross examined. I used a basic table to calculate the variables (given earlier in setting up section 4.2.2), in which I compared between the round types as can be seen in table 1. I used median and average calculations to get an understanding of individual performance.

|          | Subject 1 | No Skin | Skin | Skin + | Avg.    | Median |
|----------|-----------|---------|------|--------|---------|--------|
| Kills    |           |         |      |        | #DIV/0! | #NUM!  |
| Deaths   |           |         |      |        | #DIV/0! | #NUM!  |
| O.Time   |           |         |      |        | #N/A    | #N/A   |
| Damage   |           |         |      |        | #DIV/0! | #NUM!  |
| Accuracy |           |         |      |        | #DIV/0! | #NUM!  |
| Time     |           |         |      |        | #N/A    | #N/A   |
| Result   |           |         |      |        |         |        |
| Order    |           | 1       | 2    | 3      |         |        |

*Table 1 Empty analytics base for variables*

Calculation base was divided so that first top to down line contained subject order, the metric names, result (win or a loss), order in which the matches was played. After this, the next three lines were for metric inputs and description of which skin was used. Last two lines were prepared so it was easy to calculate single subject average and median results from the horizontal rows. I also used this base to calculate all subjects together into one table.

I had hard time calculating average and median on times, as well as overall result for winning or losing the match which was calculated manually and few times I had to do an estimate. Time metrics were in only to give me a rough estimate how long the round took and how long the gamer spent defending the target point.

The data needed to calculate the results was stated in match results (picture 13). This data stated all the needed metrics and few extra that I was not able to use because of character skill differences. From match results, I collected the following data;

- Match time
- Eliminations (kills)
- Objective time
- Damage
- Deaths
- Weapon accuracy percentage

These I applied to calculation tables (subject to subject) and cross examined the data.



Picture 13 Match results window

### 4.3.1 Results

In FPS games the performance is usually calculated by two different ratios, win to lose and kill to death. To give an example let us say that gamer has won two rounds and lost one and killed fifteen enemies whilst dying three times. This situation can be calculated as 2:1 (or 66%) win and 15:3 (or additionally 5:1) k/d rate.

I made similar calculations for the results based on the collected round metrics and median and average values. As you can see (table 2) “skin +” has the best win to defeat ratio and “no skin” has the worst. No skin has 200% more defeats and Skin + has 29% more victories.

From these calculations one can speculate that this leans towards the theory of gamer being affected by the visual looks of a character. Only average was used as there were mostly only three rounds to calculate from. Skin and average results were completely even so I kept checking the results.

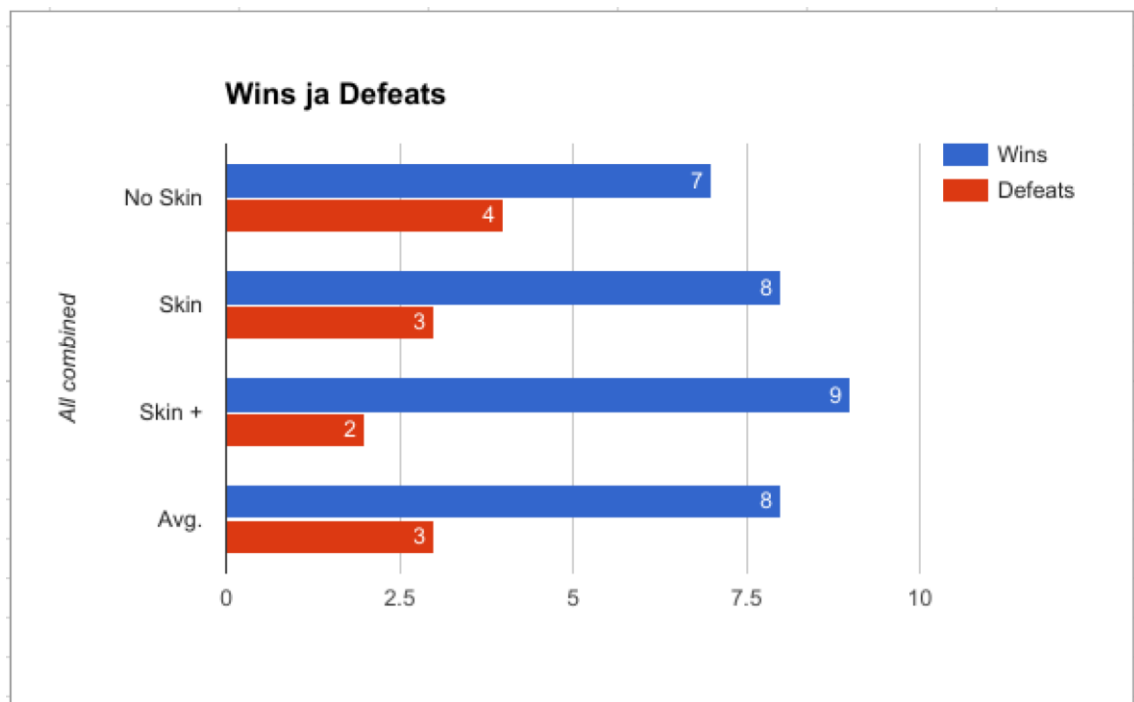


Table 2 win to defeat ratio on rounds



In later phase of the thesis writing, a way of calculating experimental data was introduced that gave confirmation to large amounts of variation in the results. From suggestion, a chi-square calculation check was done to the wins to defeat results which proved that all three calculated together with this method put out a 60% change to expected versus observed values.

If the observed value difference is anything above 5% the result is not significant enough. This means that effect on the players being affected by a skin change cannot be proven to be true in this test. By comparing only no skin round to skin + I ended up with a result of  $0.34 = 34\%$  difference. This should have been the clearest difference as both defining factors of enclothed cognition were tried to apply and take effect.

Similar to the win to defeat chart we can notice same kind of effect taking place in kills to deaths (table 3). In kills to death however the difference is more subtle and to get more accurate results more subjects should be tested. Instead of only using average calculation I decided to add the median value here too so I can see what the results look like when the experts and/or beginners (the peak values so to say) are out of the picture. This was also affected by the playable character as one would get (normally) more kills as an offense character than as a support character.

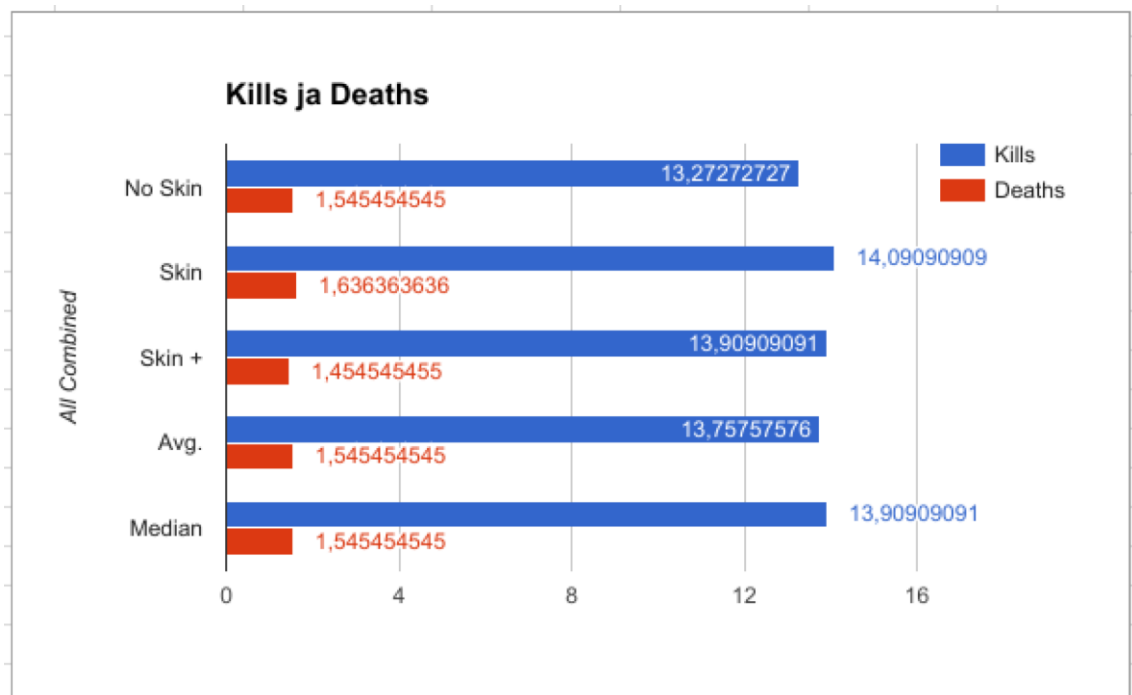


Table 3 kill to death ratio on rounds

Similar as with the win to defeat, Skin + had the lowest death rate which was 6% less than with No Skin, and 4% more kills. Interesting result that is also visible from this chart is that Skin+ had the best ratio on kills to deaths even if it is ever so small. This suggest to me that gamers were more aggressive when playing with Skin which then (when praised to Skin+ round) turned into more careful and calculative play style. But again, this is pure speculation and might be affected by random variables and chances.

By applying the chi-square test to kills versus deaths the percentage was even higher confirming that in this test no concrete results could be proven. In conclusion part I will go into more depth on what could be improved and changed to secure better data unaffected by unneeded variables that I had missed in my planning phase.

Video material and notes I made during the tests gave me confirmation and repetition on how the subjects ended up with these results and if there was some clear outside problem with certain match. The answer form replies gave me a good understanding of the mental process of the subjects. I also got valuable data on how to make this test better.

Most surprising to me was that there was some decrease on about half of the tests in performance when Skin+ was switched back to No Skin. This is usually the third round so no decrease should be happening as the gamer gets more used to the match flow. When looking at the results of switching to Skin from No Skin, performance was better in almost all cases.

In this case, the switch is on the second match which should be about the average. Summary of the results was made (table 4) where I looked at overall performance on all metrics which were stripped to best performance. It can also be seen which character was used, S76 (Soldier76), RHOG (Roadhog), ZEN (Zenyatta). I chose the best performance based on all metrics, how long the match took compared to kills to deaths. When these metrics could not give me the answer I looked at damage, objective time and my notes to decide which was the best performance.

| WHO?       | Character | Bot Diffic | Best Perform. |
|------------|-----------|------------|---------------|
| Subject 1  | S76       | Med        | Skin          |
| Subject 2  | S76       | Easy       | Skin+         |
| Subject 3  | ZEN       | Med        | Skin          |
| Subject 4  | RHOG      | Med        | Skin+         |
| Subject 5  | RHOG      | Med        | Skin+         |
| Subject 6  | S76       | Med        | No Skin       |
| Subject 7  | S76       | Med        | No Skin       |
| Subject 8  | S76       | Med        | Skin+         |
| Subject 9  | ZEN       | Med        | No Skin       |
| Subject 10 | S76       | Med        | NoSkin        |
| Subject 11 | RHOG      | Med        | Skin+         |
|            |           |            |               |

*Table 4 Result summary on best performance*

In appendices I have listed all single subject results where more careful observations and conclusions can be made. One can speculate many different opinions can be formed from these results. Too many variations were left into the test to give out concrete results and as I have said, further testing should be conducted to get more reliable results.

Reason why chi-square test was implemented in later phase of the writing process was to prove the claim if subject were affected by the visual changes to the used character. As well as to understand correct way of calculating chances and probabilities in experimental statics analysis.

Testing, data collection and analyzing was carried out as was planned before the beginning of the testing phase. Collecting data proved out to be easier than analyzing this said data. As to how much of it can be used to prove that playable character has effect on the gamer and the presence of enclothed cognition taking place is explained out in next part in conclusion.

## 5 CONCLUSION

In the beginning of this thesis I made a statement that gamers are affected by the visual looks of their character, subconsciously or consciously. I wanted to know if it was possible to affect gamer performance by changing a skin they have during a play session.

I tested eleven subjects who all played three rounds of custom game mode tailored to get thesis subject related results. Results were not concrete enough to say that the principles of enclothed cognition could be observed. Chi-square tests proved there could be improvement in reducing variables from the test and that the tests were not reliable enough.

Reflecting back, I should have made the test even more strict and instead of six different characters to only have six of one type of character in both teams. Overwath might have been also a problem for it being an FPS game where you don't see the character constantly. Complementing the skin should also be done in a way that the player cannot confuse the praise of the skin as praise on their performance. By changing these few points I feel progress and more trustworthy results could be collected.

Another problem in the calculation of the data was that there was not enough of it. Eleven subjects where every subject played three rounds this adds up to thirty-three different results that get compared and calculated. Having thirty to fifty subjects and by taking in consideration the problem variables the test could be conducted better. More test subjects also mean more variation on skill capacity too which has to be taken in consideration.

As my conclusion, I state that changes happened between the rounds but as to if it was pure random or a chance is hard to say without further testing. Game character visual modification affecting player is still inconclusive theory, but I trust this thesis will provide ways to seek out the answers to it. Further research is required to fully understand gamer psychographics in cases of visual modifications on video game characters.

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## APPENDICES

## Appendix 1. Subject results from testing

| Subject 1 | No Skin | Skin   | Skin + | Avg.        | Median |
|-----------|---------|--------|--------|-------------|--------|
| Kills     | 21      | 19     | 13     | 17,66666667 | 19     |
| Deaths    | 2       | 1      | 1      | 1,333333333 | 1      |
| O.Time    | 00:33   | 00:10  | 00:05  | #N/A        | #N/A   |
| Damage    | 7627    | 6170   | 3860   | 5885,666667 | 6170   |
| Accuracy  | 43%     | 50%    | 41%    | 45%         | 43%    |
| Time      | 5:21    | 3:33   | 3:06   | #N/A        | #N/A   |
| Result    | Win     | Win    | Win    |             |        |
| Order     | 1       | 2      | 3      |             |        |
| Subject 2 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills     | 16      | 17     | 20     | 17,66666667 | 17     |
| Deaths    | 0       | 0      | 0      | 0           | 0      |
| O.Time    | 00:57   | 00:41  | 00:57  | ~00:50      | 00:57  |
| Damage    | 4479    | 4968   | 5137   | 4861,333333 | 4968   |
| Accuracy  | 48%     | 55%    | 43%    | 49%         | 48%    |
| Time      | 3:00    | 3:27   | 3:36   | 3:28        | 3:27   |
| Result    | Win     | Win    | Win    |             |        |
| Order     | 3       | 1      | 2      |             |        |
| Subject 3 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills     | 5       | 11     | 2      | 6           | 5      |
| Deaths    | 2       | 0      | 2      | 1,333333333 | 2      |
| O.Time    | 00:25   | 00:42  | 00:09  | #N/A        | #N/A   |
| Damage    | 1631    | 2188   | 927    | 1582        | 1631   |
| Accuracy  | 30%     | 44%    | 25%    | 33%         | 30%    |
| Time      | 5:09    | 3:49   | 2:41   | #N/A        | #N/A   |
| Result    | Win     | Win    | Defeat |             |        |
| Order     | 1       | 2      | 3      |             |        |
| Subject 4 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills     | 12      | 9      | 14     | 11,66666667 | 12     |
| Deaths    | 2       | 1      | 1      | 1,333333333 | 1      |
| O.Time    | 00:28   | 00:26  | 00:31  | #N/A        | #N/A   |
| Damage    | 4000    | 2145   | 2190   | 2778,333333 | 2190   |
| Accuracy  | 20%     | 17%    | 22%    | 20%         | 20%    |
| Time      | 4:19    | 2:40   | 2:40   | #N/A        | #N/A   |
| Result    | Defeat  | Win    | Win    |             |        |
| Order     | 3       | 1      | 2      |             |        |
| Subject 5 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills     | 2       | 15     | 15     | 10,66666667 | 15     |
| Deaths    | 3       | 2      | 0      | 1,666666667 | 2      |
| O.Time    | 00:02   | 00:23  | 00:40  | #N/A        | #N/A   |
| Damage    | 1246    | 5173   | 2390   | 2936,333333 | 2390   |
| Accuracy  | 25%     | 24%    | 19%    | 23%         | 24%    |
| Time      | 2:240   | 4:57   | 3:08   | #N/A        | #N/A   |
| Result    | Defeat  | Defeat | Win    |             |        |
| Order     | 1       | 2      | 3      |             |        |
| Subject 6 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills     | 19      | 19     | 15     | 17,66666667 | 19     |
| Deaths    | 0       | 2      | 1      | 1           | 1      |
| O.Time    | 00:30   | 00:29  | 00:21  | #N/A        | #N/A   |
| Damage    | 3382    | 5240   | 3499   | 4040,333333 | 3499   |
| Accuracy  | 28%     | 45%    | 32%    | 35%         | 32%    |
| Time      | 3:05    | 3:25   | 2:58   | #N/A        | #N/A   |
| Result    | Win     | Win    | Win    |             |        |
| Order     | 1       | 2      | 3      |             |        |

| Subject 7  | No Skin | Skin   | Skin + | Avg.        | Median |
|------------|---------|--------|--------|-------------|--------|
| Kills      | 22      | 16     | 18     | 18,66666667 | 18     |
| Deaths     | 1       | 1      | 2      | 1,333333333 | 1      |
| O.Time     | 00:14   | 00:13  | 00:04  | #N/A        | #N/A   |
| Damage     | 5584    | 4608   | 4812   | 5001,333333 | 4812   |
| Accuracy   | 43%     | 48%    | 54%    | 48%         | 48%    |
| Time       | 3:33    | 2:53   | 2:54   | #N/A        | #N/A   |
| Result     | Win     | Win    | Win    |             |        |
| Order      | 3       | 1      | 2      |             |        |
| Subject 8  | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills      | 2       | 6      | 13     | 7           | 6      |
| Deaths     | 3       | 4      | 3      | 3,333333333 | 3      |
| O.Time     | 00:01   | 00:16  | 00:16  |             |        |
| Damage     | 2017    | 2117   | 3052   | 2395,333333 | 2117   |
| Accuracy   | 48%     | 26%    | 28%    | 34%         | 28%    |
| Time       | 2:41    | 3:47   | 4:06   |             |        |
| Result     | Defeat  | Defeat | Win    |             |        |
| Order      | 3       | 1      | 2      |             |        |
| Subject 9  | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills      | 18      | 25     | 22     | 21,66666667 | 22     |
| Deaths     | 1       | 2      | 2      | 1,666666667 | 2      |
| O.Time     | 00:32   | 00:55  | 00:49  | #N/A        | #N/A   |
| Damage     | 3036    | 5716   | 6056   | 4936        | 5716   |
| Accuracy   | 30%     | 33%    | 35%    | 33%         | 33%    |
| Time       | 2:54    | 4:26   | 4:42   | #N/A        | #N/A   |
| Result     | Win     | Win    | Win    |             |        |
| Order      | 3       | 1      | 2      |             |        |
| Subject 10 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills      | 6       | 3      | 4      | 4,333333333 | 4      |
| Deaths     | 2       | 3      | 4      | 3           | 3      |
| O.Time     | 00:50   | 00:16  | 00:40  | #N/A        | #N/A   |
| Damage     | 1894    | 1029   | 1580   | 1501        | 1580   |
| Accuracy   | 37%     | 34%    | 41%    | 37%         | 37%    |
| Time       | 4:04    | 3:23   | 4:04   | #N/A        | #N/A   |
| Result     | Defeat  | Defeat | Defeat |             |        |
| Order      | 3       | 1      | 2      |             |        |
| Subject 11 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills      | 23      | 15     | 17     | 18,33333333 | 17     |
| Deaths     | 1       | 2      | 0      | 1           | 1      |
| O.Time     | 01:18   | 00:31  | 00:52  | #N/A        | #N/A   |
| Damage     | 4563    | 3452   | 2924   | 3646,333333 | 3452   |
| Accuracy   | 36%     | 44%    | 36%    | 39%         | 36%    |
| Time       | 4:25    | 3:32   | 2:55   | #N/A        | #N/A   |
| Result     | Win     | Win    | Win    |             |        |
| Order      | 1       | 2      | 3      |             |        |
| Subject 12 | No Skin | Skin   | Skin + | Avg.        | Median |
| Kills      |         |        |        | #DIV/0!     | #NUM!  |
| Deaths     |         |        |        | #DIV/0!     | #NUM!  |
| O.Time     |         |        |        | #N/A        | #N/A   |
| Damage     |         |        |        | #DIV/0!     | #NUM!  |
| Accuracy   |         |        |        | #DIV/0!     | #NUM!  |
| Time       |         |        |        | #N/A        | #N/A   |
| Result     |         |        |        |             |        |
| Order      | 1       | 2      | 3      |             |        |

## Appendix 2. Answer form results

Answers from all the subjects with clarification if needed.

Form page 1

(1/7)

2.4.2017

THESIS QUESTIONNAIRE - Google Forms



## THESIS QUESTIONNAIRE

KYSYMYKSET

VASTAUKSET 11

11 vastausta

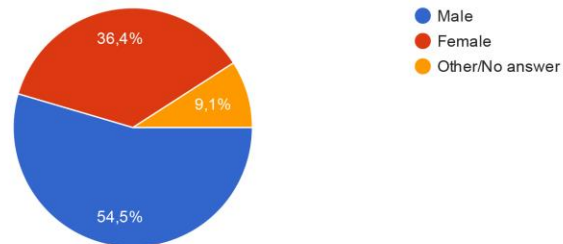


TIIVISTELMÄ

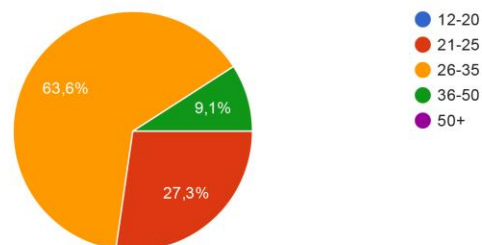
YKSITYISHENKILÖ

Hyväksytään vastaukset 

Your Gender: (11 vastausta)



Your Age: (11 vastausta)





Overwatch knowledge!

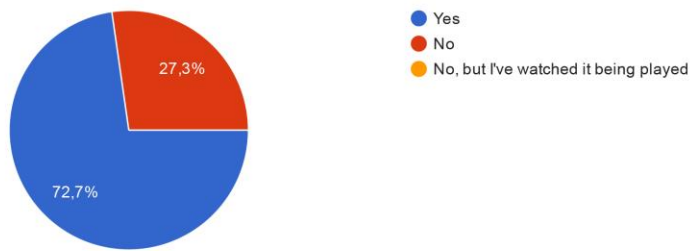
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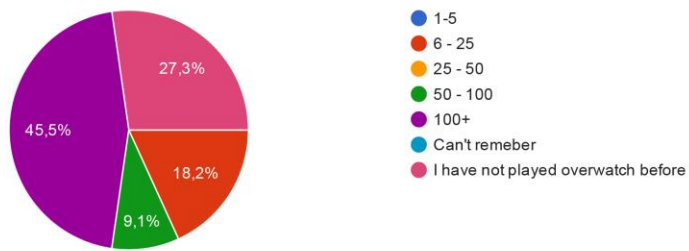
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THESIS QUESTIONAIRE - Google Forms

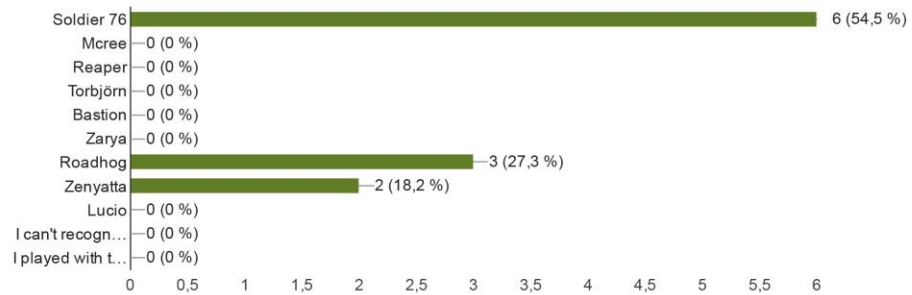
Have you ever played Overwatch before? (11 vastausta)



How many matches have you played before? (11 vastausta)



Which character did you use? (11 vastausta)



### How did the matches go?

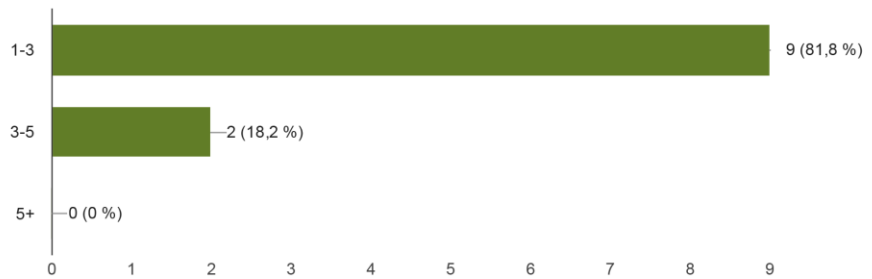
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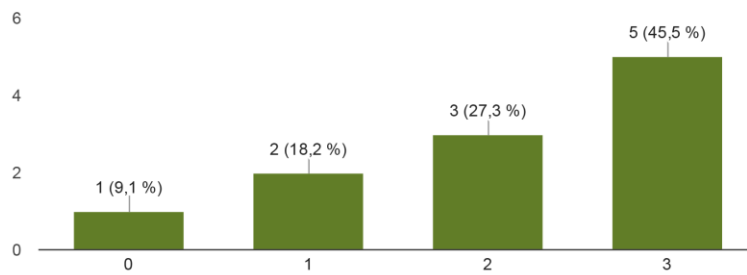
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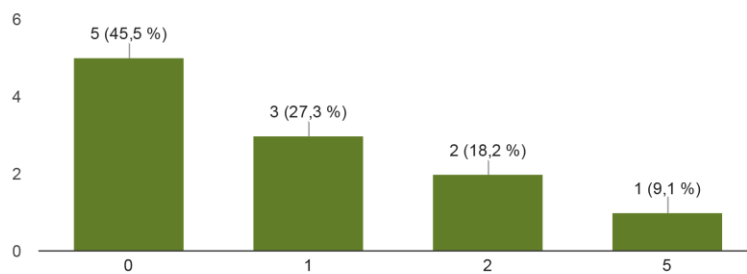
### How many matches did you play all together? (11 vastausta)



### How many matches did you won? (11 vastausta)



### How many matches did you lose? (11 vastausta)



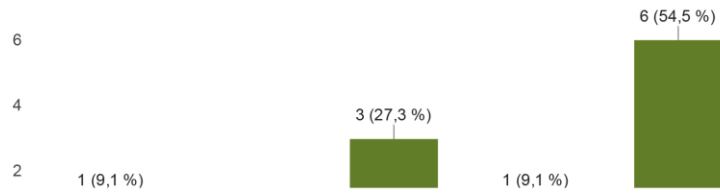
How do you feel the matches went? (11 vastausta)

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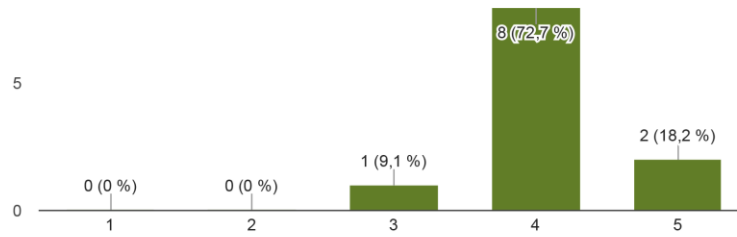
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THESIS QUESTIONAIRE - Google Forms

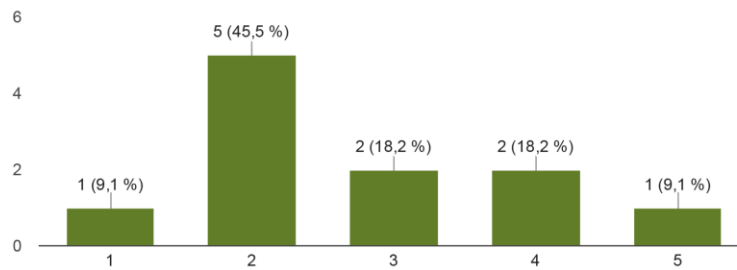


How do you feel after playing the game? (11 vastausta)



How much do you estimate the changes between matches affected your gameplay and performance?

(11 vastausta)



(5/7)

Did you have any preference to the character or skins? (11 vastausta)

Yes

I didn't really notice the skins; I only paid attention to the colored outlines and model shapes.

I like Zenyatta.

Different skins are nice, liked the one I started with

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THESIS QUESTIONNAIRE - Google Forms

Not really

Olen pelannut hahmolla aikasemminkin. Skini oli ihan ok. Ihan perus.

got a bit bored playing Soldier all the time :)

Not really, because the characters are unknown

Hahmo oli tutuin ja turvallisin valittavista hahmoista. Olin pelannut viimeksi betassa tätä peliä. Normaalisti warrior/soldier-tyyppiset hahmot eivät ole lemppareitani, mutta ne ovat helppoja hahmoja tutustua peliin.

Only used one character so cannot say

Hogi on jees.

## Form page 3

### In depth questions of the test...

Give an overall description of the matches you played. Include also any emotions you remember having during the test.

(11 vastausta)

Matches got shorter and easier toward the end, I was mostly amused by the bad decisions of the AI

I stayed with the AI-controlled team on the control point, and did my best to keep the enemies in my crosshairs. I enjoyed the gameplay, since prior map knowledge didn't seem too important, at least on Easy difficulty.

I was really excited and panicking because I didn't remember how to play. I won the two first matches even though I had no idea if I was even pressing the right buttons etc.

Exciting, it was fun to go forward to attack the enemies after capturing the point as I don't usually do that. At first the matches felt way easier than what I've played before, but the last one was harder. I think it's nice to play easier matches from time to time, of course winning is the best. But even losing makes you feel like "now I need to try harder and I'll win again" and keep on going.

First match was all bullshit, second and third match i felt happy killing all enemies.

Matsit meni ihan hyvin. Hieman uusi hiiri ja näppäinyhdistelmien puute esti lähi-iskujen teon. Tähtäys olisi hieman seinille, mutta minkäs teet. Sain aikaan paljon tuhoa vastustajassa, mikä on hahmolleni tärkeää. Siinä onnistuin. 3kpl "kill cam" esiintymiset vahvisti tätä seikkaa. Toisessa ja kolmannessa pelissä kuolemat hieman harmittivat. Olisin voinut tehdä muutaman seikan paremmin, esim tähtäys tai sijoittuminen... Voitoista tuli ns onnistumisen tuntua.

I've played a ton of Overwatch before so I was mostly interested in how the bots play the game (as I don't play many bot matches). I tried to think of ways to make the games feel more fun and interesting, although I mostly

(6/7)

Answers missing from last question:

- I've played a ton of Overwatch before so I was mostly interested in how the bots play the game (as I don't play many bot matches). I tried to think of ways to make the games feel more fun and interesting, although I mostly kept doing the same thing. Killing loads of enemies is fun even if they're only bots :p
- Entertaining.
- Tykkäsin paljon. Päälimmäiset tunteet olivat: iloisuus, keskittyneisyys ja uppouneisuus.
- It was my first time with the game, but I've heard a lot of good things about it so I was excited to try it out. During the match, even though playing just against bots (and very poorly) I felt excited and it definitely woke up my competitive side again (I used to play BF3 and Halo 1-3 versus). When dying I felt agitated and disappointed in myself, when killing someone or capturing the control point I felt excited and eager to go on. After death I was excited to jump back in.
- Hyvin meni kaikki. Ekassa keskeytin mcreen ja soltun ultit koukulla peräkkäin, se oli jees. Toka alko vähä kömpelösti.

Was it clear to you what was being tested? (11 vastausta)

No

Not at all.

<https://docs.google.com/forms/d/1x51i5770aFiSa6F5mpq5F7rP2cEc2FXO8aLiFRultoE/edit?c=0&w=1#responses>

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THESIS QUESTIONNAIRE - Google Forms

No.

How do different settings affect gameplay experience? Or something like that?

Yes

Ehkä. Pelasin kolme ottelua ja ensimmäisen pelin jälkeen jotain muutettiin. En tiedä mitä. Ehkä joskus..

Not really

Hazard guess: something about unfair gameplay?

Eipä oikestaan. Varmaan reaktiokykyä taikka taktisuutta.

Probably some type of graphical ques or other settings were changed, but I have no idea what as I was so focused on the game itself.

Ei

(7/7)

Do you feel something could be improved in the test or in the question form.

(11 vastausta)

Can't really say

Seeing as I haven't to foggiest as to what was being tested, I can't make any suggestions there :) The questionnaire was clearly worded and to the point, as far as I can tell.

No. :D I have no idea of anything. Maybe I should have asked to play the game a sec before actually testing.

There was a spelling mistake in one question :D But dunno, not really sure what was being tested?

There could be option for 1-5 games played.

Jos omistajalla olisi parempi netti niin ei laigais niin vietävästi. Amatööri. -Helppo ampua lippaallinen viholliseen, kun vihollinen "warppailee" ympäriinsä.

Hard to say when I don't really know what the test was about :)

Not really since the original purpose is not quite revealed nor what it is used for

Eipä tule mitään nyt mieleen.

As I am still not quite sure as to what exactly was tested, I don't know :)

En tiedä miksi tämä tehdään.

Form page 4

## Explanation of the test

## Feedback (11 vastausta)

<https://docs.google.com/forms/d/1x51i5770aFiSa6F5mpq5F7rP2cEc2FXO8aLIFRultoE/edit?c=0&w=1#responses>

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THESIS QUESTIONNAIRE - Google Forms

Having a certain skin definitely does affect me but only when I play a character I actually care about, which S76 really isn't :D

Interesting subject for a thesis, and now that I know the subject, the test seems well-designed.

Ha. I noticed that the skin changed, but I didn't think it was relevant for the test in any way.

COOL

I think getting used to the character helped getting better results more than the skin.

Testi oli onnistunut. Pelaamis ergonomia hieman huono. Netti huono.

It's kinda hard to even notice which skin I'm using, at least with S:76? I wonder if there's a bigger impact if I could choose the skin myself?

Yay!

Ihan hauska testi. Overwatch on mukava peli, mutta en vain ole jaksanut sitä ostaa. Nyt tekisi mieli. En huomannut ollenkaan, että skini oli muuttunut. Mua ei oikein skinit kiinnosta pätkääkään. En maksaisi skineistä yhtään.

Haha, I did not even realize that the skin changed :)

Answers missing from last question:

- Aloin epäillä itseäni vaikka olin jo varma että skini vaihtu välissä. Ei tainnut vaikuttaa niin suuresti.