CULTURE AND 3D ANIMATION
A study of how culture and body language affects the perception of animated 3D characters

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Abstract

This study examined the differences and similarities in how animated 3D characters were perceived by individuals from Sweden and China. The study also attempted to examine how cultural aspects influenced the participants’ perceptions. Parts of the study were conducted through collaboration with the Chinese game company, Focus Games.

A literature study focusing on body language and culture was conducted, as well as a game animation analysis featuring games from both western and East Asian developers. Based on the game analysis, 6 animations were created with movement qualities inspired by each of the cultures.

The study was conducted through an online questionnaire, as well as shorter semi-structured interviews. The results show that there were certain similarities and differences in how participants perceived the animations, however the reason as to how cultural aspects influenced the responses was partially unanswered due to lack of data.

Keywords: body language, body language perception, cultural differences, game animation
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1 Introduction

Body language is a method of communication used daily by people and it encompasses several aspects such as bodily posture, facial expressions, the use of touch, gaze and a wide variety of gestures (Hurn, 2014). How body language is used and perceived is also affected by the culture in which an individual belongs to. Culture affects how intensely a person expresses emotions as well as the meaning of certain gestures. This means that when people from different cultures meet, it is important to be mindful of potential differences that can occur to prevent misunderstandings or causing offence (Goman, 2008). One can assume that the differences in body language that can be observed in real life also exists in the way animated characters move.

This assumption is what the project is based on; that since there are differences in real life in how body language is used and perceived, this will also be true for animated characters. Isbister (2006) brings up the importance of being culturally aware when creating game characters to avoid resorting to potentially negative stereotypes. By examining how body language is used and perceived across cultures, one will be able to create characters that behave in a way that corresponds to what an individual may come to expect, based on their culture. The primary aim for this study to examine how the body language of an animated 3D character is perceived by individuals from a western culture versus an East Asian culture. The study also will attempt to examine how cultural influences can affect.

In order to examine how the body language of an animated character is perceived by people with different cultural backgrounds, three movements commonly found in Massive Multiplayer Online Role-Playing games (MMORPGs) was animated with two variations each, resulting in 6 total animations. The actions were animated with more East Asian inspired body language as well as a version with more western inspired body language. The animations were then viewed by people from Sweden and China and through an online questionnaire as well as shorter semi-structured interviews information about how the animations are perceived was gathered.
2 Background

The background section begins with a brief definition of the terms culture and body language. Then the different ways emotions are expressed through body language is brought up, followed by how culture affects body language in various ways. In this section, the importance of understanding body language and how it can differ between cultures is examined, as well as suggested methods on how to interpret body language, like the 5 C's (Goman, 2008) are presented. The last section of the background discusses how the aspects of culture and body language can be applied to animation and games as well as why it’s important to be mindful of culture when creating content for games. Two frameworks for working with motion is presented in this section as well; Disney’s 12 Principles of Animation (Thomas and Johnston, 1995) and Laban’s Movement Analysis (Newlove and Dalby, 2003).

When culture and body language are discussed, the aspect of gender is often brought up since these subjects are heavily intertwined. Many studies discuss how gender, body language and culture affect each other, but due to scope limitations, this study will not be focusing in-depth on themes of gender. An additional argument as to why gender will not be brought up more thoroughly is that it seems unlikely that an individual’s ability to interpret body language is affected by gender (Pavlova, 2009). It’s however still important to be aware that gender is still a part of culture and body language. Facial expressions are not examined more thoroughly either as this project focuses mainly on nonverbal communication through the body only.

2.1 Definition of terms

Culture affects many aspects of people’s lives. According to Matsumoto (2005), culture can be defined as: “a shared system of socially transmitted behaviour that describes, defines, and guides people’s ways of life, communicated from one generation to the next.” Culture also influences how a person thinks and reacts to the surrounding world and can also be different depending on the location of the culture. Culture also affects how body language is used and perceived (Goman, 2008; de Gelder and Huis in’t Veld, 2016; Hurn, 2014).

Body language is used by humans to communicate and interact with each other in social situations (Corneanu, et al. 2018; de Gelder and Huis in ‘t Veld, 2016; Pavlova, 2009). It is through body language that people express their thoughts and emotions. There are different aspects of body language, such as gestures, gaze, touch, the way the body is posed, and facial expressions.

2.2 Expressing emotions through body language

Culture affects how emotions are controlled, how they are expressed and how they are perceived (Matsumoto, 2005; Goman, 2008; Kleinsmith, De Silva and Bianchi-Berthouze, 2006). The intensity a person uses when expressing emotions also varies between cultures. Many East Asian countries have a tendency to be more emotionally introverted than western countries (de Gelder and Huis in’t Veld, 2016; Matsumoto, 2015). The Japanese, for example, are less intense in how they express emotions than other cultures (De Silva and Bianchi-Berthouze, 2006).

Emotions are expressed through various methods of body language, and there are a couple of basic emotions that are regarded as universal when it comes to facial expressions. These are
the following: happiness, sadness, surprise, fear, disgust and anger (Goman, 2008; Marsh, Elfenbein and Ambady, 2007; Corneanu, et al. 2018). According to Corneanu (et al., 2018), there are also certain bodily movements that can convey these emotions. For example, happiness can be expressed through open body language, with the arms and legs kept separate (not crossed), the legs are parallel to each other and the individual is looking around. When interpreting body language, it is difficult to simply look at one specific part of the body, since there are many aspects that go into bodily communication, such as head position, hand gestures, placement of the feet and posture (Corneanu, et.al 201).

2.3 Cultural variation in body language

Both verbal and nonverbal methods of communication are used during interactions between people. Studies show that how a statement is interpreted depends 35% on the words being used whilst 65% is perceived through nonverbal signals (Corneanu, et. al, 2018). According to this statement, words account for a relatively small part in how a message can be expressed and perceived, compared to the impact that the body and facial expression have. How an individual uses gestures, how they act, and how the body expresses itself is a very rewarding source of information for social interaction (Pavlova, 2009; Marsh, Elfenbein and Ambady, 2007; de Gelder, de Borst and Watson, 2015). These studies further clarify the importance of the body when it comes to communication.

According to Hall and Hall (1990), the way different cultures communicate can be labelled as High Context or Low Context. High Context means that most of the information is already with the person, whilst Low Context means that the majority of the information comes from the explicit message. In the book *The Nonverbal Advantage: Secrets and Science of Body Language at Work*, Goman (2008) similarly claims that there are context cultures and content cultures. Context cultures focus more on what the person conveys through various sources of information such as body language and what is not expressed through words. Content cultures, on the other hand, tend to prefer direct communication through verbal or written means. Most cultures in East Asia can be labelled as context cultures, whereas many Scandinavian countries are labelled as content cultures.

Goman (2008, pp. 13-19) also proposes something called the 5 C’s. The 5 C’s is a method to interpret body language and consists of the following parts: context, clusters, congruence, consistency and culture.

1. **Context** means that the surrounding environment, as well as a person’s relationship with the people they interact with should be considered as these can affect how a person behaves. One may for example display different types of body language when talking to their boss compared to when they’re talking to a client.

2. **Clusters** mean that nonverbal communication is displayed through several types of movements or actions at the same time to reinforce a certain point. Someone might cross their arms for a variety of reasons, but if you pair this action with a frown and the person turning away from you, it becomes clear the person is most likely not approving of what you just said.

3. **Congruence** means that the nonverbal signs a person is showing matches and supports what they are saying verbally. There is also incongruence when the two do not match.
4. **Consistency** means that a person's baseline behaviour when they are not stressed needs to be established to be able to spot meaningful divergences in their behaviour when a more stressful situation does occur.

5. **Culture** means that it’s important to consider an individual's cultural background when looking at body language. When a person gets stressed, they are more likely to display culture-specific gestures. Subcultures are also an influencing aspect of how people use body language.

As Goman (2008) suggests above, several studies agree that culture is seen as the main factor that influences how people behave and use body language (de Gelder and Huis in ‘t Veld, 2016; Hurn, 2014; Corneanu, et al. 2018; Marsh, Elfenbein and Ambady, 2007). Goman (2008) also means that depending on the culture, certain aspects of body language such as gestures are perceived as “right” or more socially acceptable, whilst others are perceived as “wrong” or “strange”. What may be considered as the norm in one culture, may be seen as odd or even offensive, in another. Being able to understand other people’s body language is of high importance when interacting socially (Pavlova, 2009; de Gelder and Huis in ‘t Veld, 2016). The use of various aspects of body language such as eye contact, body posture, touch and gestures vary between cultures. Because of this, it’s important to be aware of the different ways people express themselves between cultures to avoid misunderstanding and ensure successful communication (Hurn, 2014).

Body language can according to Goman (2008) be divided into two types: acquired and instinctive. The gestures that can be labelled as acquired are generated by a society which means that gestures that are similar might mean different things between cultures. For example, the common North American way of waving in greeting with the hand moving from side to side is a way to signal “no” in Latin America (Goman, 2008). Whilst acquired gestures may differ in meaning, instinctive gestures are the same regardless of culture. For example, all humans raise their eyebrows when greeting each other (Goman, 2008). A further example of how body language can differ is the way in which people greet each other; in western cultures, shaking hands is often seen as a common way to greet someone when you meet for the first time. In East Asian cultures, however, it’s not as common to shake hands, and individuals from China and Japan, also tend to protest towards excess hugging (Hurn, 214).

Marsh, Elfenbein and Ambady (2007) mention that even though certain emotional expressions are shared internationally, the ability to correctly interpret body language between cultures can be negatively impacted as the geographical distance between the cultures increase. However, the increased access to the internet may have contributed to body language and culture being shared more effectively across the globe. This distribution has also lead to certain gestures becoming more shared and because of this, body language has become more globalized (Corneanu, et. al, 2018). For instance, the “thumbs up” gesture in Europe traditionally means “1”, as in “number 1” whereas, in Japan, it means “number 5”. Nowadays, the act of giving a thumbs up is seen as a general sign of agreement.

### 2.4 Game animation, culture and body language

Culture evidently affects how body language is perceived, and this also applies to animated characters in movies, and games. Just like in real life it’s through gestures, bodily posture, facial expressions and movement that an animated character communicates. The body language can identify a character and determines how they are perceived (Williams, 2009; Larsson, 2014). In the book, *Better game characters by Design - A Psychological Approach,*
Isbister (2006) gives an overview of how culture can affect when designing characters for video games. She mentions that in *Final Fantasy X* (2001) characters display typical Japanese body language such as bowing.

By being aware of how different cultures express themselves through body language, one can create animated works that are more streamlined for a specific culture. A very lively avatar can according to Kleinsmith, De Silva, and Bianchi-Berthouze (2006), be perceived as too intensive for East Asian viewers, whilst the same avatar is accepted without problem by Western viewers. One could, therefore, be of the opinion that an animated character should be able to convey information through appropriate body language to be accepted by the viewer.

Being culturally mindful when creating for games also minimizes the risk of using potentially negative stereotypes in both animation and character design. Isbister (2006) means that culture is very complex and many subcultures can exist within a culture. Therefore developers should avoid resorting to generalized stereotypes when designing their characters, as the people who play them are more than just broad stereotypes and will have their own experiences that will affect how they receive the character.

It’s also important to note that animated characters do not have the same physical limitations as real bodies. The use of body language can hence be exaggerated or otherwise manipulated intentionally to achieve certain effects, depending on which type of animation that is to be created.

### 2.4.1 Disney’s 12 principles of animation

Disney’s 12 Principles of animation are often regarded as the standard guidelines for working with both 2D and 3D animation. As the name implies the principles were created by the animators who worked together with Walt Disney. The main purpose of the principles is to break down different aspects of motion to help animators in their work (Johnston and Thomas, 1995). They are widely used when it comes to animation within Western cultures as that is the origin of their creation. The principles will be used when analysing games developed in the west, as well as when animating some of the movements during the production stage of the project.

The Principles of animation are described by Johnston and Thomas (1995) in the book *Disney Animation: The Illusion of Life* as the following:

1. **Anticipation** - Is the preparation for a movement. It gives the viewer a hint of what’s to come.
2. **Squash and stretch** - A change in the object or characters shape (but not volume), that helps visualize weight. Described as the most important principle.
3. **Follow through and overlapping action** - Follow through essentially means that certain parts of the body, for example, arms, should continue to move even after the main bulk of the body has stopped before moving back towards the body again. Overlapping action refers to the fact that body parts tend to move at different speeds.
4. **Staging** - The posing and movements of an object or character should be kept clear to make for easy readability.
5. **Slow in, slow out** - Movements should start out slow and gradually increase in pace, especially organic objects.
6. **Arcs** - The trajectory of most natural movement should be arc-like to convey dynamic motion.

7. **Secondary Action** - A movement that emphasises the main movement by making it more interesting and complex.

8. **Timing** - Refers to how long it takes to complete a certain action and when it should be executed. Having balanced timing is essential in order to convey the general feeling of action.

9. **Exaggeration** - By exaggerating emotional expressions and movements the animation becomes more interesting to look at as well as easier for the audience to read.

10. **Solid Drawing** - There should be harmony in the image. A balance between colours, volume, posing and composition makes for a good image.

11. **Appeal** - Can be compared to the charisma of a real-life human being. The character should catch the audience’s attention and make for easy readability.

12. **Pose to Pose and Straight ahead** - Different techniques of animating. Pose to pose means that you animate based on a few selected poses. Straight ahead means that you animate the entire action from start to finish in one go.

### 2.4.2 Laban’s Movement Analysis

Like the animation principles, *Laban’s movement analysis* is another framework used to identify and categorize movement. The framework was created by Laban and is used within several elements such as dance, theatre, physics and industrial work (Newlove and Dalby, 2003). Since this framework is less rooted in one specific style of animation, it can be used when analysing and animating the games developed in East Asia.

Laban presents many systems for categorizing movement, but the most commonly referred to are the four Effort Dimensions and the 8 basic Effort Actions. Newlove and Dalby (2003), describes the four Effort Dimensions as the following:

**Space** - Movement can either be direct or flexible, depending on how it moves through space. There are two levels of each of the Effort Dimensions: Normal and extreme. Normal directness in a movement can be described as determined and straight, whereas an extreme level of directness is non-adjustable and limited. A normal level of flexible can be described as adjustable and open, whilst an extreme level is seen as shallow or weak. As for strong, a normal level is described as being powerful and stable, and an extreme level is more raw and stubborn.

**Weight** - Depending on the amount of effort needed to execute a movement, it can be categorized as either light or strong. In light movement, little to no effort is visible (e.g. a feather falling) and in strong movements, a notable amount of effort is visible to accomplish the motion (e.g. push a heavy object). The normal level of light can be described as graceful and delicate, whereas the extreme level is seen as shallow or weak. As for strong, a normal level is described as being powerful and stable, and an extreme level is more raw and stubborn.

**Time** - A movement can be either sudden or sustained depending on how long it occurs. Swatting flies is, for example, categorised as sudden, whilst the stretching motion done when yawning is considered sustained. Normal suddenness is described as optimistic and lively, and the extreme is described as overly excited and hysterical. Normal levels of sustained are relaxed and moving at leisure, whilst the extreme level is hesitant and lazy.
Flow - A movement can be either free or bound. This Effort Dimension refers to how fluent the movement moves between the other dimensions. A free movement is visibly relaxed or wild and cannot be stopped abruptly but must be allowed to ring out naturally. A bound movement is notably tense or controlled and can be stopped whenever. Normal levels of free can be described as wholeheared and easy, and the extreme level is more uncontrolled and abandoning. As for bound, normal levels are described as careful and restrained, and the extreme can be described as oppressed and subdued.

Laban also proposes 8 basic movement types, Effort Actions, that each is distinguished by various combinations of the effort described above. Examples that go along with these Effort Actions are given below (Newlove and Dalby, 2003):

Wring - Combining efforts: Strong, flexible and sustained. Examples of movements including wring is stretching whilst lying on the couch or wringing water from a towel.

Press - Combining efforts: Strong, direct and sustained. A sustained movement in a single axis. Crushing and squeezing motions are an example of press.

Slash - Combining efforts: Strong, flexible and quick. A quick movement, much like a whip.

Punch - Combining efforts: Strong, direct and quick. A quick motion with a direct path, like a poke or a shove.

Dab - Combining efforts: Light, direct, and quick. The movement is light, focused and sudden, like tapping a table.

Flick - Combining efforts: Light, flexible and quick. A light movement that is a little bit all over the place, like flipping or flapping motions.

Glide - Combining efforts: Light, direct and sustained. A smearing or smooth motion, like an ice skater.

Float - Combining efforts: Light, flexible, sustained. The movement is drifting, like an astronaut in space, or a balloon rising through the air.

Bishko (2007) also states that certain animation principles seem to remain regardless of the style of animation: anticipation, squash & stretch and follow through & overlapping action. It is therefore good to be aware of the possibility that animations in the games developed in different cultures may use both frameworks of movement in their animations.
3 Problem

Culture affects how a person uses and perceives body language and the ability to interpret body language is essential for successful communication. A big part of communication happens through non-verbal methods such as body posture and gestures. The geographical distance between cultures can negatively affect the ability to interpret body language. However, the increased access to the internet has contributed to certain parts of body language becoming more globalized.

Culture and body language also affect animation, and in turn, games. When you animate virtual characters it is important to be able to convey specific messages through the character's body, just like in real life. It is also important to be aware of the diversity in culture and subcultures when designing and developing content for games, as the people who play games are just as complex.

Based on the information gathered my research question is the following: How is the body language of an animated 3D character perceived by individuals from a western culture versus an East Asian culture? What differences and similarities are there?

3.1 Method

3.2 The artefact animations

An animation analysis was conducted in order to properly decide which animations should be created. The pilot study consists of an analysis of MMORPG games developed by western studios as well as East Asian studios. The main focus of the analysis was to look at how the game characters moved in order to examine what the most distinct differences and potential similarities may be in their body language. When analysing the games it was mainly the playable characters movements that were analysed. Animations performed by both female and male characters were analysed in order to get a better image of the overall animation style that a game featured. The games developed by East Asian companies that were analysed are the following: Revelation Online (2015) and Tera: The Exiled Realm of Arborea (2012). The games by western developers are World of Warcraft (2004) and The Elder Scrolls Online (2014). How aspects of the movement defining frameworks, Disney's 12 principles of animation and Laban's movement analysis are used in the above games will also be mentioned.

The artefact resulted in a total of 6 3D animations that depict certain gestures or actions. Each action or gesture have one animation with more western inspired body language and one with more East Asian inspired body language. When deciding which gestures/bodily expressions that should be animated, the findings from the analysis made of the games mentioned above was used, and in the end these three movements were chosen:

- Run cycle (western and East Asian inspired)
- Jump (western and East Asian inspired)
- Idle (western and East Asian inspired)
By creating animations that feature the same type of movement but with influences from different cultures, the artefact allows for examination of how culture affects the body language itself, but also how individuals from different cultures perceive these movements.

### 3.3 The Model

The model used for animating the intended movements is a pre-created model called *Ultimate Bony* (Yetiskin, 2013). This rig, in particular, was chosen because of its lack of facial features. As this project focuses on the expressions of the body, having facial features was considered irrelevant. Despite this, a headless model was not regarded as ideal, considering that the head can still be used to express emotions even without facial expressions (Corneau, et.al. 2018). The head was therefore seen a contributing aspect to the overall posture of the character, which is highly relevant, considering posture is part of body language. This model was also chosen since it can be perceived as lacking in distinguished gender-related features. Achieving gender-neutral likeness is difficult, as there are many definitions of what makes a gender-neutral shape.

### 3.4 Data collection

To gather data from the participants, a semi-structured online questionnaire was used as the primary method. The questionnaire contained both closed and open questions. By allowing participants to write their answers freely, additional qualitative information was gathered that gave further insight into the participants’ thoughts and opinions (Barnum, 2011). Questionnaires are according to Williamson (2002) good at collecting quantitative data from a bigger group of participants and can get more representative data than interviews. They also allow participants to stay anonymous. Whilst surveys are good when more generalized data is desired it can be harder to control the circumstances in which the survey is completed, and the environment in which the survey is answered may affect the answers received (Williamson, 2002).

When creating a survey, it is important that the questions are worded clearly and the risk for misinterpretation is minimized (Østbye 2004; Williamson, 2002). For this projects survey, keeping the questions clear for language reasons was of high importance considering the majority of the individuals in the participant groups do not have English as their native language. A downside of using a questionnaire is that participants will not be able to ask for clarification of the questions, and the researcher will not be able to ask for clarification of answers or additional details (Williamson, 2002).

The survey for this study started with asking a set of basic questions such as age, gender, which nationality and cultural background the participant identified the most with, if they consume international media such as TV-series and games and if they work with or study game development. Participants where then shown the animation clips one at the time and asked how they perceived the animations as well as if they thought the animated characters body language could belong to a specific culture. They were also asked if they thought cultural influences affected their responses.

The main reason for choosing this method is that part of the participant group are employers at a Chinese game company called *Focus Games*. The author came in contact with *Focus Games* through a collaboration with *Game Hub Scandinavia* (Backlund, 2015). Using a survey would allow for more data to be gathered from a bigger amount of employers than holding
individual interviews as there are many employers. As Robson (2016) states, certain participants are easier to get a hold of through online means. It is also regarded as more time efficient as the participants may answer the survey whenever they have the time to do so, and won’t need to stop their work, which may not be an option.

Besides the online questionnaire, a couple of more qualitative questions were also prepared. By conducting these miniature semi-structured interviews, complementary qualitative data could be gathered regarding how participants thought cultural influences affect the media they consumed, as well as if they themselves were aware of cultural influences.

This study’s intended participation group are both Swedish and Chinese game developers. The reason for having game developers as the main participant group is as previously mentioned, because part of thesis work was done in collaboration with Focus Games, a Chinese game company. A of downsides to using game developers as a participant group is that they might have more prior knowledge about various aspects such as animation and body language and could, therefore, analyse things differently than the average consumer. However, since the participant groups are still from different countries, the different cultures are still argued to be an impacting factor, regardless of shared profession.
4 Implementation

In order to decide what type of animations that should be created, an animation analysis was conducted before beginning the actual animation work. The analysis was also conducted in order to examine what differences and similarities, if any, occurred in the body language of 3D animated characters.

As stated by Goman (2008), there are different aspects that come into play when interpreting body language. Out of the 5 Cs (see chapter "2.3 Cultural variation in body language"), the fifth C, Culture, was mainly used as the analysis focuses on the way the characters move depending on the games cultural background.

The games that have been analysed are the following:

<table>
<thead>
<tr>
<th>Game Title</th>
<th>Developing Studio</th>
<th>Year Published</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revelation Online</td>
<td>NetEase</td>
<td>2015</td>
</tr>
<tr>
<td>Tera: The Exiled Realm of Arborea</td>
<td>Bluehole</td>
<td>2012</td>
</tr>
<tr>
<td>World of Warcraft</td>
<td>Blizzard Entertainment</td>
<td>2004</td>
</tr>
<tr>
<td>The Elder Scrolls Online</td>
<td>ZeniMax Online Studios</td>
<td>2014</td>
</tr>
</tbody>
</table>

The reason for choosing to analyse Massive Multiplayer Online Role-Playing Games (MMORPG) was mainly because of the large number of animations that these types of games tend to feature (since players often get to choose between different playable races and classes), providing ample material to analyse. Another reason was that this genre of games is more familiar to the author personally, than single layer games and it was, therefore, easier to find games that were “purely” developed in the west and East Asia.

Aside from being categorized as MMORPGs, the four games have another thing in common, and that is that they all have some type of fantasy theme to them. For example, Revelation Online (2015) is a Wuxia/Xianxia themed MMORPG. Wuxia is a genre deeply rooted in Chinese culture and fiction and the word Wuxia can be translated as “martial heroes” (Immortalmountain, n.d). Xianxia can be translated as “immortal heroes” (Immortalmountain, n.d) and is a subgenre of Wuxia. Wuxia focuses on the adventures of people who practice martial arts in ancient China. Whilst xianxia is very similar to wuxia, the main difference is that this genre features more supernatural elements than the aforementioned. As these genres are very specific to Chinese culture, it made sense for me to pick games that could be labelled with these genres. As for the games developed in the west, both games can be labelled as fantasy, as they feature “typical fantasy elements” such as elves, dwarves, and a vast variety of unusual landscapes and creatures.

4.1 Game animation analysis

4.1.1 The Run animations

In World of Warcraft (2004), the playable characters share similar run cycles, regardless of playable race and gender. The upper body and back are kept slightly bent forwards but it is
still straighter than the characters in the East Asian games, Tera (2012) and Revelation Online (2015). Most of the movement occurs in the upper body, especially in the shoulders as the character turns. When running, the characters in The Elder Scrolls Online (2014) display a similar posture to the characters in World of Warcraft (2004). The upper body is kept slightly bent forward, however, in there is less overall movement in the characters upper body. The movement in the shoulders, however, appears to be smoother than compared to World of Warcraft (2004). When the characters in The Elder Scrolls Online (2014) are sprinting, the arm and leg movements are increased slightly, but they still feel quite “realistic” in terms of the range of motion.

Regarding the use of the animation frameworks, the characters in the western games move their limbs more in clear arcs. The use of follow through and overlapping action is also evident in the way the characters limbs move at different times.

The characters in Revelation Online (2015) have very “large” movements in their arms and legs when they run and sprint, compared to the western characters. The arms and legs move further apart and away from the main bulk of the body during the run and the motion also feels more exaggerated. The exaggerated arm and leg movements are slightly toned down for the females in both of the East Asian games, but they are still more exaggerated than the female characters in the western games. The overall posture of the East Asian game characters are more leaned forward then the western games. There also appears to be slightly more movement in the torso and hips when looking at the female characters in Tera (2012).

When looking at the use of the animation frameworks, the Effort Action, punch (combining efforts: strong, direct, quick), can be seen in the characters limbs as they appear more direct in their movement than the western characters. Regarding the four Effort Dimensions that were defined in the chapter “2.4.2 Laban’s Movement Analysis”, the movements can also be described as being more direct, strong, sudden and free.

![Figure 1. Compiled screenshots of the run animations. From left to right: World of Warcraft (2004), The Elder Scrolls Online (2014), Revelation Online (2015), Tera (2012).](image)

### 4.1.2 The Jump animations

The characters in Tera (2012) and Revelation Online (2015) appear to use more of their body when they jump. The characters upper body lean forward more during the motion and at the apex of the jump, both legs are high off the ground, with one leg moving up before the other. In Revelation Online (2012), the characters also seem to utilize more gliding motions, as if they are flying through the air.

In The Elder Scrolls Online (2014) the characters legs are not as bent, and they also stay closer to the ground during the jump, with the arms more evenly elevated. The characters spine is
kept straighter than the characters in the East Asian games. In *World of Warcraft* (2004), the jump animations vary slightly depending on the race and gender of the character, but overall, the legs reach higher off the ground than in *The Elder Scrolls Online* (2014). They are, however, still not as exaggerated as in the East Asian games. In *Tera* (2012) and *World of Warcraft* (2004), the jump animations also feature clear landing poses with *follow through* that add a certain bounce to the entire motion. This landing pose is not as evident in *The Elder Scrolls Online* (2014) and *Revelation Online* (2015).

![Figure 2. Compiled screenshots the jump animations. From left to right: World of Warcraft (2004), The Elder Scrolls Online (2014), Revelation Online (2015), Tera (2012).](image)

### 4.1.3 The Attack animations

Whilst attack animation is not intended to be produced as part of the artefact, it is still, in my personal experience, important to analyse these animations as they are a core aspect of many games, not just MMORPGs. This is because by looking at a wider spectrum of animations, one can also better grasp the overall animation style used by the different games, which in this case can aid when creating the intended artefacts.

Looking at the attack animations, the characters movement is overall quicker and the poses feel more extreme in the East Asian games. The characters often leap through the air and perform complex acrobatic moves as they attack. In *The Elder Scrolls Online* (2014), when the character uses weapons such as axes or swords, the movements feel more realistic and the character stays on the ground when performing the majority of attacks. The animations in *World of Warcraft* (2004) appear slightly more stylized than in *The Elder Scrolls Online*, as the characters do leap into the air in many of their attacks. They are, however, still not as acrobatic in their poses as the East Asian games.

Regarding the use of the movement defining frameworks in the western attack animations, some of the more distinct animation principles displayed are *anticipation* and *exaggeration*. Examples of the principle *exaggeration* can especially be seen in certain attack animations featured in *World of Warcraft* (2004), as the model is stretched to unnatural proportions for a split second to increase the impact of a movement. This type of exaggeration has not been spotted in the either of the East Asian games, neither in *The Elder Scrolls Online*, as the characters do leap into the air in many of their attacks. They are, however, still not as acrobatic in their poses as the East Asian games.

Whilst not necessarily part of the character movement itself, the visual effects in *Tera* (2012) and *Revelation Online* (2015) appear to be larger and more extravagant compared to the other
games. The visual effects are still distinct in the western games, but they are still not quite as extravagant.

4.1.4 The Idle animations

The idle animations in all of the four games are very subtle, with small movements that prevent the character from being completely still. In the idle animations in *The Elder Scrolls Online* (2014), most of the movement seem occurs in the hands and wrists. There is also subtle movement displayed in the characters chest and head, but overall, the character is very still. The legs and feet in the character's stance is kept generally at shoulder width, with the arms slightly bent.

In contrast to *The Elder Scrolls Online* (2014), the idle animations in *Tera* (2012) feature a bit more movement, with the player character sometimes breaking their subtle idle cycle by for example looking around or shifting their weight from one side to the other. The stance of the characters in *Tera* (2012) vary slightly depending on the playable race, but in general the characters lean their weight on one hip, and keep one foot placed slightly in front of the other. The spine of the characters are generally slightly more arched, but still upright.

The characters in *World of Warcraft* (2015) also vary their stances slightly, depending on race, but overall, the stance is similar to that of *The Elder Scrolls Online* (2014), with the legs more together and with their arms slightly bent aligned with the body. *World of Warcraft* (2004) also feature more moving idles e.g. sometime they turn their upper body to look around their surroundings or shift their body weight.

In *Revelation Online* (2015) the characters are more still and do not feature any other movement than the “basic” idle, similar to the characters in *The Elder Scrolls Online* (2014). The characters in *Revelation Online* (2015) also have their feet wider apart than the characters in *The Elder Scrolls* (2014).

The use of the movement defining frameworks for the western idles are that the characters always seem to move in subtle arcs. For the East Asian games, the movements can generally be described as being more controlled, or *bound*.

![Figure 3. Compiled screenshot of the idle stances. From left to right: World of Warcraft (2004), The Elder Scrolls Online (2014), Revelation Online (2015), Tera (2012).](image-url)
4.2 Summary of game analysis

In general, the games produced in western countries seem to display movement that can be described as being more “realistic”, whilst the East Asian games feature more exaggerated movements. Regarding the animation frameworks, the arms and legs move in distinct arcs in the western developed game, especially during their run cycles. In the East Asian games, there are still arcs visible in the characters limbs but the Effort Action called punch is also more distinct as the arms and legs move more direct in their movement path.

As previously mentioned in the chapter “2.4.2 Laban’s Movement Analysis”, Bishko (2007) states that certain animation principles remain regardless of the style of animation, these being anticipation, squash & stretch and follow through & overlapping action. This has also been observed when analysing the game animations, as animations from both the west and East Asia do make use of animation principles such as follow through and overlapping action. It is, therefore, good to be aware of the possibility that animations in the games developed in different cultures may use both frameworks of movement in their animations and to consider this when producing the artefact.

This analysis essentially shows that there is a difference in the body language used by animated 3D game characters depending on if the game was developed in the west or in East Asia. The study’s research question aims to investigate how the body language of animated 3D characters are perceived by individuals from different cultures. The analysis conducted above can be seen as an introduction to how body language is applied to 3D characters. Besides confirming that certain differences in body language do occur, the analysis also acts as a general guide and aids in the creation of the artefacts.

4.3 Work progression

The style of each animation is based on the analysis conducted above, as the purpose of this study is to investigate how the body language in 3D models are perceived.

The final artefact consists of 6 animations: 2 idles, 2 run cycles and 2 jump animations.

One version of the movements are based on the body language featured in the East Asian games, and the other version is more based on the body language displayed in the western games. These movements were chosen as they feature certain cultural differences, as has been shown in the previous chapter “4.2 Summary of game analysis”. One can also argue that these movements are more commonly depicted in games, as well as being used in daily life, which one can make them easier for viewers to identify. By having easily identifiable movements, it can make it easier for participants to give their thoughts and opinions.

The animations were intentionally created to have the same duration and also be loopable, to make for easier and more seamless viewing. The program Autodesk Maya 2018 was used to create the animations and the 3D model is called Ultimate Bony (Yetiskin, 2013). A maximum of 3 work days were assigned to each animation. Certain animation principles were applied to both the western and East Asian inspired animations such as staging, timing, arcs, and follow through, as they were observed when analysing the game animations from both cultures. However the amount of the principles, for example, follow through, varies between the animations depending on the culture they are intended to be inspired from.
4.3.1 Animating the western inspired animations

Since one of the two western games analysed featured more moving idles where the character shifts their weight or looks around, as well as considering that the purpose of this study is to investigate how body language is perceived, I decided to animate idles with an “added movement” and not just feature the character idling in the same pose.

![Figure 4. Screenshot of the western-inspired idle animation.](image)

When creating the main pose for the western inspired idle animation (see figure 4), the legs were kept more straight, with the feet pointed slightly outward, as had been observed when analysing *The Elder Scrolls Online* (2014) and *World of Warcraft* (2004). The spine and chest were kept mostly straight, with the chest puffed out and the shoulders pulled back. The arms were kept neutral along the body with the hands and fingers in a relaxed, curled position. Most of the character movement is visible in the upper body, more specifically the chest and arms, as this was what was found to be more common in the two games.

Regarding the use of Disney’s principles of animation (Johnston and Thomas, 1995), *anticipation* can be seen before the character turns, in the way the head and chest dips down slightly before the turn. *Arcs* and *follow through* was also incorporated when the character turns their head and torso, and when the arms swing, to make the motion appear more dynamic. It is also apparent in the wrists when the character turns.
For the western inspired run animation (see figure 5), the characters basic pose was kept more “realistic” as observed in both the analysed western games. The characters spine and torso was kept slightly leaned forward and the limbs, especially the arms were kept closer to the main bulk of the body during the entire movement.

Regarding the use of the 12 Principles of Animation (Johnston and Thomas, 1995), the most distinct one is arcs. The principle can be seen mostly in the characters arms as arcs tend to convey more natural and organic motion. There is more follow through in the limbs, especially the arms and wrists as this was witnessed when analysing both the western developed games. The animated characters arms were kept more bent as displayed in *The Elder Scrolls Online* (2017).

One of the two western developed games, *The Elder Scrolls Online* (2017), featured slightly less follow through in the characters landing pose after the jump and it was decided that the artefact animation would follow this example to intentionally create a more clear difference between the produced animations.

As the character jumps (see figure 6), the legs bend slightly and one foot reaches slightly higher than the other as this was seen when analysing *World of Warcraft* (2004). The characters
arms and elbow are kept bent at approximately 90 degrees though the first part of the jump before fanning out in a smaller arc as they land at the characters sides. One of the arms are also kept slightly above the other. As mentioned above, the landing pose and the relating follow through was kept at slightly less levels, as one of the analysed games, featured almost no follow through in their landing poses. The animated characters upper body was kept relatively straight, even though some forward leaning occurs. At the end of the jump, the feet touch the ground at almost the same time.

4.3.2 Animating the East Asian inspired animations
As with the western animations, one of the two East Asian games feature more moving idles, where the character provides some sort of motion besides their standard idle animation cycle. Like with the western inspired idle animation, it was decided that the East Asian inspired animation should feature more movement as well.

![Figure 7. Screenshot of the East Asian-inspired idle animation.](image)

For this idle animation, the feet were placed further apart, with the character leaning their weight slightly on one hip (see figure 7). One foot was also positioned more forward than the other, as these attributes were observed when analysing the East Asian games. The spine was kept upright, but slightly more arched with the arms aligned with the torso. As the character shifts their weight, they perform a glide (combining efforts: Light, direct and sustained). The hands and wrists don’t follow the movement as much as they do in the western artefact idle.

Using less follow through in the hips was intentional, as there was little to no follow though observed as the characters from the East Asian games performed this motion. Subtle motions were added in the hands and fingers as these were apparent when viewing idles from both games. Overall, using terms from Laban’s Movement Analysis (Newlove and Dalby, 2003), the motion can be described as bound.
For the East Asian inspired run, the basic pose was made to be overall more exaggerated, as this was what was displayed in the analysed games (see figure 8). The characters upper body is leaned forward to a higher degree that may be described as less realistic. The arms were also kept in more defined 90 degree angles as this was evident in both the East Asian games.

Regarding the use of *Laban’s Movement Analysis* (Newlove and Dalby, 2003), the limbs move in more *slashing* motions. The movements are more exaggerated and direct, and move less in rounded motions. There is overall more motion in the characters upper body and hips as well, as this was observed when analysing Tera (2012).
As mentioned above with the western-inspired jump animations, the analysed East Asian games were also different in their use of landing poses. For the produced East Asian inspired jump animation, it was intentionally decided to take more inspiration from the game that used more distinct landing poses, *Tera* (2012), to create more difference between the western and East Asian examples.

In this jump animation (see figure 9), the legs reach higher off the ground than in the western-inspired jump animation. The characters' arms and legs are more offset in their position as well as their ascent and descent (for example, one leg goes up before the other, and lands before the other). The upper body and spine lean more forward as this was witnessed when analysing *Revelation Online* (2015) and *Tera* (2012). Towards the end of the animation, the character also displays a more distinct landing pose as they lean forward with their upper body as they touch the ground. The ascent and descent itself of the entire animation, as well as the motion of the limbs can be described as a *punch* (combining efforts: strong, direct, and quick).

4.4 Discussion of the artefact

All artefacts can be seen in GIF format at the end of the report. (See Appendix A).

First off, personal work speed and experience may have affected the artefacts quality. For example, certain animations required different amounts of work time as the motion is more complex (an idle requires less manipulating of the body than a run cycle, in my personal experience). The 3 day self-imposed deadline on each animation did help in the way that it reduced the risk of me getting too invested in smaller details of the animation and overworking it.

Another aspect that could have affected the artefacts is that it was easier to implement certain aspects of the different movement frameworks than others, considering that as an animator, I am more familiar with *Disney’s 12 Principles of animation* (Johnston and Thomas, 1995), compared to *Laban’s Movement analysis* (Newlove and Dalby, 2003). However, conducting
the game analysis helped creating basic guidelines that made creating the East Asian inspired animations less daunting.

When conducting the animation analysis, both male and female characters were analysed, and attributes from both genders were added when creating the artefacts in an attempt to make the animations more gender neutral. This turned out to be a rather difficult task and more research regarding gender expression in body language may have been useful in better deciding what aspects should be added to which animations. However, due to time and scope limitations as well as that the aim for this study was not to examine the gender influence, further research regarding this topic was not made. This is, however, something that should be considered for potential future studies.

Having two variations of the same type of movement, one being inspired by western games and the other by East Asian games, is also relevant to the research question. This is because certain differences were found in body language when analysing the games (“4.1. Game animation analysis”). Having artefacts that have been created with cultural influences as reference point allows for studying the way culture influences body language and animation in 3D characters. It also allows for examination of how individuals with different cultural backgrounds perceive these differences, and whether the perception differs between cultures or if they are more similar. This is ultimately the goal with the research question, to examine how body language in 3D characters is perceived by individuals from different cultures.

When differences and similarities in how certain aspects of a movement occurred, (for example: one out of two western and one out of two East Asian using more distinct landing poses), intentional decisions were made to create a difference in how the two movements appear. This was done both out of necessity as well as with the intention to create a more clear difference between the two animations, in order to make the artefacts easier for the participants to read, and therefore increase the chance of clearer responses in the evaluation phase.

In hindsight, idles may not have been the most suitable animation when aiming to measure perception of body language since as previously stated, idles are relatively subtle movements. This is also why a total of 6 animations were created as the higher amount of animations would feature more varied and expressive movements.

4.5 Pilot Study

A small scale pilot study was conducted when two of the 6 intended animations, the idles, were completed. The main purpose of the pilot study was to examine how long it would take to complete the survey, as well to control that the questions and overall layout of the survey made sense before conducting the final study.

The pilot study questionnaire was created through the site Google Forms and conducted with a fellow student to receive feedback and opinions on the content and formulation of the questions. The pilot study questions and full response can be found at the bottom of the report (see Appendix B and C). The results of the pilot study revealed that it would take approximately 10-20 minutes to complete the entire survey. However, it does depend on how the participant chooses to answer, as some questions allow the participant to freely decide how much or little they want to write. The formulation of the questions seems to be sufficient for the main study, as all questions received relevant answers.
The semi-structured interview was also tested with this participant. The interviews main purpose was for the author to be able to ask the participants about their general ideas and awareness of cultural influences in the media they consumed (see Appendix D). It was also a chance to ask for potential clarifications in the participants’ responses, should it be deemed necessary. Since the interview format was semi-structured, some questions were prepared beforehand (see Annex D).

The interview elapsed for about 5-10 minutes and during this time, the participant talked about their own awareness regarding cultural influences in media, showcasing that the intended interview questions can spark relevant results.

Whilst I did not include the Chinese participants in the pilot study, the questions were still sent to one of the contacts at Focus Games in order to allow the company to translate and review the questions. Even if the questions were not answered by the company employers at this time, valuable feedback was still received regarding the formulation of the questions, as the contact person experienced no issues in translating them. Allowing Focus Games to translate the questions also allowed for more people at the company to participate in the study.

As mentioned in the section “4.6. Discussion of the artefact”, the idle animations may not have been the most suitable movement example. This was further noted when conducting the pilot study as the participant noted that whilst they did perceive certain differences in the animations, they did not overall get a “super strong impression of culture from either [animation] and they're fairly neutral.”

This suggests that having an animation with more clear cultural differences would most likely generate more distinct responses, which is why 2 more animations were created. The run cycles, as shown in “4.1 Game animation analysis”, feature more clear differences and will most likely be easier for the participants for the final study to analyse.

4.5.1 Second Pilot study

Right before sending out the main survey, a second pilot study was conducted with another single participant in order to see how much time it would take to complete the survey with all 6 animations featured. The results showed that there was no bigger impact on the time it took to complete the survey when all three animations were featured. In fact, the person who participated in the second pilot study completed the survey faster than the person participating in the first pilot study. The second pilot study still generated relevant answers and the differences in completion time further show that it is very individual how long a person may spend on the survey. More participants would have been needed in order to more securely establish these kinds of details, but due to time limitations, only one participant was able to complete the pilot study.

The results from this pilot study also contributed to a change of formulation and the addition of a question that asked the participants what nationality as well as what cultural background they identified themselves with. This was done as the first pilot study only asked about their cultural background and ethnicity in the same question and the participant of the second pilot study commented that these subjects are in fact, different. As the first pilot study had been created in a hurry, this had been overlooked on my part, but the formulation issue was corrected for the final survey.
5 Evaluation

In this chapter, the results gathered from the western participants as well as the Focus Game employees will be presented. The survey was answered by a total of 21 participants. 15 participants were from the west and 6 were from the Chinese game company Focus Games.

5.1 Gathering Data

In order to gather responses, the online survey described in the above chapter “4.5.1 Second Pilot study”, (see Appendix E for final version), was sent to Focus Games as well as posted in an online group hosted on Facebook for Swedish game developers. Regarding the western participants, by posting in the online group for game developers, it was assured that the survey would be answered by the intended participant group.

The order of which the animations were displayed also changed, with the idle animation being showed last instead of first. This was done because of the comments received during the pilot study showed that these animations was considered fairly neutral and in hopes of making it easier for participants in analysing the animations, the running and jumping animations were featured first.

Two interviews were also held with two of the western participants, one over a voice call, and the other through Facebook Messenger chat where the participant was sent the questions and then responded through text.

All people who participated in the survey and the interviews were either studying or working within game development and according to survey results, all participants had previous experiences with international media (see Appendix F and G).

5.1.1 Loss of data

Video-call interview was expected to be held with at least two participants from Focus Games but they were unfortunately busy during the week where the author had time to conduct interviews. The intended interview questions were sent out to the two company participants who had agreed to do follow-up interviews but no response was received.

5.2 Presentation of the results

All western respondents identified as Swedish, although one participant considered themselves as having American cultural background. There were 11 Female identifying participants, 3 male identifying participants and 1 participant who chose not to disclose. The majority of the participants were in their early to mid-20s, with the oldest participant being between 31-35 years old.

Among the participants from Focus Games, they all identified both their nationality and cultural background as Chinese. 4 of the participants identified as Male and 2 identified as female. The ages varied from 21 - 35 but the majority of participants were in their mid to late 20s.
5.2.1 Western participant results

For easier viewing of the questions that allowed the participants to type in their own responses, the author has categorized and compiled tables that more clearly show the responses. Full participant comments can be seen at the end of the report (see Appendix F).

First off, the run animations. To the question “Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?” with the running animations displayed, the following comments were gathered from the western participants:

<table>
<thead>
<tr>
<th>A1</th>
<th>A2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looks very neutral.</td>
<td>More intense, exaggerated, eager, determined (2/15 participants)</td>
</tr>
<tr>
<td>More collected, fit, smaller.</td>
<td>More exhausted, desperate, under strain (4/15 participants)</td>
</tr>
<tr>
<td>Less extreme, jogging. (3/15 participants)</td>
<td>More aggressive, angry (4/15 participants)</td>
</tr>
<tr>
<td>Normal movement (3/15 participants).</td>
<td>A2 is too bent forward and move their arms too much.</td>
</tr>
<tr>
<td>A1 is jogging, A1 is more relaxed than A2</td>
<td>A2 seems to be in more of a bad hurry, A2 seems more fictional - who run's like that except in like comics?</td>
</tr>
<tr>
<td>A1 feels more like the standard character run cycle.</td>
<td>A2 is going faster than A1 (3/15 participants)</td>
</tr>
</tbody>
</table>

Table 1. Summary of the western participant responses for the run animations.

Looking at the comments presented in table 1, the animation inspired by the western developed games (A1), received fewer comments than the animation inspired by the East Asian developed games (A2). The participants perceived the western-inspired run animation as being more natural and less extreme than the East Asian-inspired animation. Animation A2 was perceived by several participants as being more aggressive or angry, and one participant commented that the animation seemed more fictional.

To the following question “Which culture, if any, do you perceive character A1, respectively A2, to come from?” the comments below were collected:
Table 2. Summary of the western participant responses regarding perceived culture for the run animations.

Looking at the comments in Table 2, the majority of the participants did not perceive the animations as belonging to any particular culture, however, two participants commented that the western-inspired animation made them think of “white people”. Similarly, the East Asian inspired animation received comments that it reminded participants of East Asian media, such as Japanese cartoons. Another participant categorized the East Asian-inspired animation as belonging to American culture. One participant commented that both animations made them think of East Asian cultures, but in different ways (see Table 2).

For the question “Regarding your answer on question 7 and 8, do you believe there is any cultural influence on why you think this?" 40% of the respondents (6 out of 15), responded “Yes.” Below are some of the comments participants left (voluntary option):

Table 3. Summary of the western participant responses regarding cultural influences in their responses.

Table 3 shows that two of the participants who believed there to be cultural influences in how they’ve responded to the previous questions, also mention that they relate to previous media
they've interacted with when looking at the artefact animations. One participant also mentioned stereotypes, (“white people aren’t stereotypically seen as athletic”).

Moving onto the second animation, the jump cycles. To the question “Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?” the following comments were received:

<table>
<thead>
<tr>
<th>B1</th>
<th>B2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seems a bit stiff. (5/15 participants).</td>
<td>More dynamic and animated, more exaggerated (2/15).</td>
</tr>
<tr>
<td>B1 is less expressive and more restricted.</td>
<td>B2 again looks more cartoonish.</td>
</tr>
<tr>
<td>B1 seems to jump more with both feet together than B2.</td>
<td>More agile and jumps higher (4/15).</td>
</tr>
</tbody>
</table>

**Table 4.** Summary of the western participant responses for the jump animations.

According to table 4, the western-inspired animation, B1, was perceived as less expressive and stiffer whereas the East Asian-inspired animation, B2, was regarded as more dynamic, more exaggerated and fluid. B2 was also regarded as “more cartoonish”.

To the question “Which culture, if any, do you perceive character B1, respectively B2, to come from?” the following comments were received:

| No idea. B2 looks more like a cartoon character                      |
| Stereotypically it would be that B2 is asian in that case(since all asians know martial arts right) and left is more a westerner since more stiff, but I don’t really feel any of them are part of any culture. |
| B1 seems a little less secure and more reserved at jumping than B2 does, so maybe B1 comes from a less adventurous culture than B2. |
| No culture in particular, I believe it depends more on the person. B1 might be more of a female, while B2 a male. |
| [...]Ultimately I’d say B1 feels more western while B2 feels more eastern/specifically asian. |
| No perceived culture / Don’t know (7/15).                            |

**Table 5.** Summary of the western participant responses regarding perceived culture for the jump animations.

Looking at table 5, out of the participants who perceived culture in the movements, B1 was seen as coming from a more western culture, whilst B2 was categorized as coming from an Asian culture by 2 participants. Again, the East Asian inspired animation received comments that it “looks more like a cartoon character”. One participant commented that B1 appeared more female, whilst B2 appeared more masculine.
For the question “Regarding your answer on question 11 and 12, do you believe there is any cultural influence on why you think this?” 40% of the respondents (6 out of 15), responded “Yes.” Below are some of the comments participants left (voluntary option):

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>There’s always cultural influence.</td>
</tr>
<tr>
<td>Maybe there's some cultural influence but I’m ignorant to it and therefore I don’t see it?</td>
</tr>
<tr>
<td>Truthfully, I’m white and from a western/european country. I have had the luxury of never really needing to consider if the way I or others move gives away anything on our cultures. Could be I’m just &quot;blind&quot; to it, because I've never really tried to notice it before.</td>
</tr>
<tr>
<td>If i seek to try give them a cultural attribute, it certainly is based of my prejudice.</td>
</tr>
<tr>
<td>I am absolutely looking at these animations with previous media I've interacted with in mind, constantly thinking back to action movies and games while also comparing these to media with less wild movement like romance or slice of life things. So those definitely influence how I look at these animations and how I analyze them.</td>
</tr>
</tbody>
</table>

Table 6. Summary of the Western participant responses regarding cultural influences.

Some of the respondents commented (see table 6), that they are aware of cultural influence, even if they may not actively think about it, whilst other participants wrote that they were relating back to previous media when looking at the artefact animations.

Lastly, the idle animations. To the question “Looking at the animations above, how do you perceive the movements of character C1 compared to C2? What differences and similarities do you perceive?” with the idle animations, the following comments were gathered:

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>More confused, paranoid, insecure, lost, worried, tense (6/15)</td>
<td>Either super extra, like a Final Fantasy hero or a supermodel posing on a runway.</td>
</tr>
<tr>
<td>Down to earth, casual.</td>
<td>Character C2 feels like the typical &quot;model&quot; movements</td>
</tr>
<tr>
<td>C1 seems curious, inquiring since they’re looking around (4/15)</td>
<td>C2 looks more like they're telling someone something.</td>
</tr>
<tr>
<td>C1 has a stiffer animation, but more &quot;normal&quot; looking.</td>
<td>C2 seems more like they are waiting for something;</td>
</tr>
<tr>
<td>C1 looks like they are trying to cross a road (2/15)</td>
<td>C2 looks like it's more comfortable and more confident (5/15).</td>
</tr>
<tr>
<td>C1 feels more masculine.</td>
<td>C2 is more fluid, but also girlier.</td>
</tr>
<tr>
<td>C1 feels more unique. With the looking around C1 also feels more curious, which makes the movement feel like it belongs to a younger character than C2.</td>
<td>C2 seems a little impatient due to the rocking motion. B2’s legs are a little more separated than B1’s.</td>
</tr>
</tbody>
</table>

Table 7. Summary of the Western participant responses for the idle animations.
According to the comments presented in table 7, many participants perceived the western-inspired idle, C1, as appearing worried, tense, paranoid, curious or confused because of the character looking around. One participant regarded C1 as more “casual”. Another commented that whilst C1 had a stiffer motion, it also appeared more “normal”. C2, however, was regarded as more confident, comfortable and like they might belong in a Final Fantasy game. C2 was also described as having “typical ‘model’” movement. One participant commented that C1 felt more masculine, whilst C2 seemed “girlier”.

To the question “Which culture, if any, do you perceive character C1, respectively C2, to come from?” the following comments were collected:

| C2 might be asian, but same applies here, C1 more like a male and C2 more like a girl. |
| C1 I don’t know but C2 is French. |
| Now I think it’s harder to tell, because to me it seems like it could be the same person in a different situation. |
| When imagining the "typical" animations for games from eastern cultures I feel like C2 fits into that perception since, in my opinion, those movements tend to be sort of flashy and "perfect", but overall I don’t get a super strong impression of culture from either and they’re fairly neutral. |
| C2 reminds me of idle animations in asian games. |
| No perceived culture / Don’t know (9/15). |

Table 8. Summary of the Western participant responses regarding perceived culture in the idle animations.

Looking at table 8, the majority of the participants perceived no culture from the idles, but again, C2 received comments that it may belong to an Asian culture; “When imagining the "typical" animations for games from eastern cultures I feel like C2 fits into that perception since, in my opinion, those movements tend to be sort of flashy and "perfect [...]" and “2 reminds me of idle animations in asian games.” One participant perceived C2 as being French.

For the question “Regarding your answer on question 15 and 16, do you believe there is any cultural influence on why you think this?” 46.7% of the respondents (7 out of 15), responded “Yes.” Below are some of the comments participants left (voluntary option):

| There’s always cultural influence. |
| With the sceptical and almost sassy behaviour from C2 I think of French fashion designers. |
| Honestly it’s a bit tricky to answer since these animations are far more subtle than the previous ones. Most of my awareness of body language comes from studying it where most sources do claim that culture makes a difference, but nonetheless I do think cultural influence from western media (as that is the media I primarily engage with) has given me biases in terms of how I perceive body language. At the same time, as mentioned before, interacting with other media definitely gives me expectations for what I consider western or eastern in terms of culture. |
| In asian games I’ve played female characters are hypersexualized. |
Table 9. Summary of the Western participant responses regarding cultural influences.

Like with the previous animations, the participants seemed aware of how culture and bias can influence their responses, even if these animations seemed to have been harder to analyse, as they were described as being “far more subtle”, by one participant. Another participant commented that in the Asian games they’ve interacted with, “female characters are hypersexualized.” (See table 9).

5.2.2 Focus Game participant results

As with the Western results, the author has again, categorized and compiled the participants’ answers into tables that allow for easier viewing. Full participant answers can be seen at the end of the report (Appendix G).

The question “Looking at the animations above, how you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?” received the following comments from the Chinese participants:

<table>
<thead>
<tr>
<th>A1</th>
<th>A2</th>
</tr>
</thead>
<tbody>
<tr>
<td>The character on the left seems more common</td>
<td>the action of the right one is dynamic and impressive [sic].</td>
</tr>
<tr>
<td>regular running</td>
<td>vs accelerative running</td>
</tr>
<tr>
<td>A1: looks like jogging.</td>
<td>A2: stronger emotion</td>
</tr>
<tr>
<td>A1 is standing and walking</td>
<td>A2 is walking and bowing</td>
</tr>
<tr>
<td>A1 looks like a human</td>
<td>A2 looks like a monster,</td>
</tr>
<tr>
<td></td>
<td>A2 looks very determined</td>
</tr>
</tbody>
</table>

Table 10. Responses from the employees at Focus Games regarding the run animations.

The comments displayed in table 10 shows that the western-inspired run animation (A1), was perceived as presenting a more “common” movement. The East Asian-inspired animation (A2), was described as “dynamic and impressive [sic]” and “determined”. One participant commented that A1 looked like a human, whilst A2 looked like a monster (see table 10). A2 was also described as displaying “stronger emotion” by one participant.

To the question “Which culture, if any, do you perceive character A1, respectively A2, to come from?” the following responses were given:

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Chinese culture vs on-internet culture. I prefer a more impressive motion.</td>
</tr>
<tr>
<td>Nothing to do with culture but the recognition of different types of games will affect one’s feeling of these pictures.</td>
</tr>
<tr>
<td>Different game style? (2/6)</td>
</tr>
<tr>
<td>No perceived culture / Don’t know (2/6 participants).</td>
</tr>
</tbody>
</table>

Table 11. Responses from the employees at Focus Games regarding perceived culture.
The western-inspired run A1 was according to one participant perceived as belonging to traditional Chinese culture, whilst the East Asian-inspired animation was perceived as "on internet [Chinese] culture". Some participants perceived the animations as belonging to different “game styles”, instead of cultures (see table 11).

For the question “Regarding your answer on question 7 and 8, do you believe there is any cultural influence on why you think this?” 16% of the respondents (1 out of 6), responded “Yes.”, and they left the following comment (voluntary option):

- In the traditional Chinese culture, people’s perception of behavior is elegant [sic] and dignified. And the relatively conservative consensus also led to weaker representation of the picture.

**Table 12.** Response from the participant from Focus Games regarding cultural influences.

As featured in table 12, the participant commented that in traditional Chinese culture, people’s perception of behaviour is “elegant [sic] and dignified”.

Regarding the jump animations and the question “Looking at the animations above, how you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?” the following responses were gained:

<table>
<thead>
<tr>
<th></th>
<th>B1</th>
<th>B2</th>
</tr>
</thead>
<tbody>
<tr>
<td>The jump action</td>
<td>The right one has more body language.</td>
<td></td>
</tr>
<tr>
<td>of the left</td>
<td></td>
<td></td>
</tr>
<tr>
<td>character is</td>
<td></td>
<td></td>
</tr>
<tr>
<td>more realistic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: regular jump.</td>
<td>B: jump harder</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How you raise your feet is different while</td>
<td></td>
</tr>
<tr>
<td></td>
<td>jump</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B2 is more in line with the law of motion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B2 has a larger range of movements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B2 is more like what you see in an American</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(style) cartoon</td>
<td></td>
</tr>
</tbody>
</table>

**Table 13.** Responses from the employees at Focus Games regarding the jump animations.

The East Asian-inspired animation, B2 received more comments than B1 (see table 13). B1 was perceived as being more realistic and was also described as a regular jump. B2 was described as being more in line with the “law of motion”, having more body language, as well as being a motion that could be seen in American cartoons (see table 13).

The question “Which culture, if any, do you perceive character B1, respectively B2, to come from?” received the following responses:

- Consistent with the answer to the previous question.
- I think it has a great influence on people’s perception of action and art.
Different game styles?

<table>
<thead>
<tr>
<th>B2</th>
<th>B1</th>
<th>Cultures does not affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2 is like the character you see in a 3A action game.</td>
<td>B1 is like what you see in a poorly made mobile game</td>
<td></td>
</tr>
</tbody>
</table>

**Table 14.** Responses from the employees at Focus Games regarding perceived culture.

According to table 14, three of the participants commented that the animations may belong to different game styles and that B1 looked like it could be from a “poorly made mobile game”, whilst B2 could be from a “3A action game”. Two of the participants left comments regarding culture affecting in various ways, (“consistent with the answer to the previous question” and “I think it has a great influence on people’s perception of action and art.”)

For the question “Regarding your answer on question 11 and 12, do you believe there is any cultural influence on why you think this?” 33% of the participants (2 out of 6), responded “Yes.”, and left the following comments (voluntary option):

<table>
<thead>
<tr>
<th>Same with the previous answers.</th>
<th>The difference between implicit and open?</th>
</tr>
</thead>
</table>

**Table 15.** Responses from the employees at Focus Games regarding cultural influences.

Looking table 15, one participant referred back to their previous answer about Traditional Chinese culture being perceived as more “elegant[sic] and dignified”, whilst the other participant commented on the differences in the range of motion.

Lastly, for the idle animations and the question “Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?” the following comments were received:

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorry, I don’t think there is any difference in perception between the two character...</td>
<td>The right one has more body language.</td>
</tr>
<tr>
<td>C1 is hesitant and timid.</td>
<td>C2 looks confident.</td>
</tr>
<tr>
<td>C1 is tense.</td>
<td>C2 is relaxed.</td>
</tr>
<tr>
<td>C1 feminization.</td>
<td>C2 masculinization.</td>
</tr>
<tr>
<td>C1 is looking around the circumstance.</td>
<td>C2 is like a standby movement</td>
</tr>
<tr>
<td>When turning around, C1 swing floats a little larger.</td>
<td></td>
</tr>
</tbody>
</table>

**Table 16.** Responses from the employees at Focus Games regarding the idle animations.
As seen in table 16, the western-inspired idle animation was described as hesitant, timid and tense by some participants, whilst C2 was regarded as confident and relaxed. C2 was regarded by one participant as having “more body language”. Another participant commented that C1 seemed to be “looking around the circumstance [sic]” whilst C2 was “like a standby movement”. One participant perceived no differences in the artefacts. C1 was regarded as more female and C2 as more male, by another participant.

The question “Which culture, if any, do you perceive character C1, respectively C2, to come from?” gathered the following responses:

<table>
<thead>
<tr>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are differences between Chinese and Western ways of expressing emotions.</td>
</tr>
<tr>
<td>Same as the previous answers, C2 looks like what you see in an usual 3A game, a movement with more emotion. Especially female characters.</td>
</tr>
<tr>
<td>No perceived culture / Don’t know (4/6).</td>
</tr>
</tbody>
</table>

Table 17. Responses from the employees at Focus Games regarding perceived culture.

The majority of the participants perceived no particular culture for the idle animations, but among those who did, table 17 shows that at one participant commented that “there are differences between Chinese and Western ways of expressing emotions.” Another participant described C2 as being something that could be seen in a triple-A game, as the movement had “more emotion.” This participant also commented that female characters were especially susceptible to this.

For the question “Regarding your answer on question 15 and 16, do you believe there is any cultural influence on why you think this?”, 33% of the respondents (2 out of 6), responded “Yes.” but neither participant left any further comments (voluntary option):

5.2.3 Interview Results

As previously stated in the chapters “6.1 Gathering data” and “6.1.1 Loss of data”, a couple of smaller semi-structured interviews were held. Two participants from Focus Games were to be interviewed through video-call, but due to their busy schedules, they did not have time to participate. Despite this, the intended interview questions were still sent to the Chinese participants, but unfortunately, no further response was given. As such, the interviews were only held with western participants. The first participant interview result is the same one that was mentioned in “4.5 Pilot study”, as the data gathered was deemed to still be valid for the final results.

One mistake happened with the first interview held over voice call with the first participant; the author forgot to ask the second question (See Appendix D). This mainly happened because of the authors' inexperience in conducting interviews. Despite this, the participant still contributed with relevant data.

All interview interactions were held in English, both the interview held over a voice call, and the other held through text.

Interview with the first participant:
Do you consider yourself aware of how culture can affect different aspects of life, and particularly in games?
“I wanna say yes that yes I am culturally aware, but I feel like am probably not as aware as I should be. I have studied the basics of body language through school, but it does not make me immune to cultural influences.”

What do you mean with Immune to cultural influences?
“I think about stereotypes a lot. Personally, I don’t have a lot of contact with other cultures, most of it being though international media, and international media sometimes use stereotypes that might not accurately represent how real people behave.”

Interview with the second participant:

Do you consider yourself aware of how culture can affect different aspects of life, and particularly in games?
“Ye i have studied some psychology and read about prejudice etc. I consider myself be somewhat aware and i try to correct stupid automatic thoughts. I'm not sure i have thought a lot about it in games though, or maybe i just fail to recall.”

Do you have any general Ideas or opinions about body language or cultural influences in media? Do you notice or think about it?
“Getting the question just like this i cant really think of any. Generally i think people and media are very little aware of their automatic thoughts and are bad at picturing how others might perceive something they say and do. We need more education in the psychology behind!”

5.3 Analysis of the results
Looking at the comments for the first set of artefacts, A1 and A2, the western participants perceived the western-inspired animation, A1, as displaying more “normal human” movement. A1 was also described as more “neutral” and “relaxed” (see table 1). The Chinese participants similarly perceived A1 as having more human movement, and being more “regular” (see table 10). Participants from both cultures identified the movement as running or jogging. Many of western participants also commented perceived A2 as “hurrying”. The animations were also more often described as “aggressive” and “determined”, and some participants perceived the character as being under some kind of “strain” (see table 1). Most of the Chinese participants perceived the character as "dynamic", “expressive” and “determined” (see table 10). The comments from the East Asian participants used more positive words for the East Asian-inspired animation. A suggested reason for this may be that the movement style of A2 (since it was inspired by East Asian developed games), may seem more familiar to the Chinese participants as they may have been more exposed to characters with this type of movement. However, one participant left the comment that A2 looked “like a monster” (see table 10), which also indicates that personal preference may also be an impacting factor.

When asked what culture, if any, they perceived A1 and A2 as belonging to, one Chinese participant described A1 as being more Traditionally Chinese, whereas 1 western participant discussed how A2 reminded them more of East Asian cartoons (see table 2 and table 11). According to another western participant, A1 seemed more aligned with the idea that Asian
cultures are “not as wildly expressive when it comes to body language as western cultures” (see table 2). Among those who left comments regarding what culture the character might belong to, some of the Swedish participants perceived character A1 as being “white” or “belonging to a western culture”. A2 was also perceived as belonging to American culture by one participant who identified as having Swedish as both nationality and cultural background. This notion could be due to the common notion that American individuals may be more exaggerated in their language.

Regarding the second set of artefacts, B1 and B2, both Swedish and Chinese participants regarded B1 as being more “stiff” in its movement, but the character also received comments regarding the movement as “human” or “realistic” (see table 4 and 13). As for B2, the animation was described by participants from both cultures as being more “expressive” and “dynamic”, as well as something they’d see in fiction or cartoons (see table 4 and 13). One Swedish participant commented that B2 looked like it may be a cartoon character but did not specify which type of cartoon (e.g. western, eastern style). Similarly, one Chinese participant commented that the movement reminded them of American-style cartoons. A reason for this may be that the participants most likely consume different types of media in different ways, which ultimately means that the participants have different past relations to the animation. However, since exactly what type of international media the participants have interacted with is unknown, these reasons are mere speculations and would require more data from the respondents. The animation was identified as a jumping movement by both cultures.

When asked what culture, if any, the participants perceived B1 and B2 as belonging to, a Swedish participant wrote the following; “Stereotypically it would be that B2 is asian in that case(since all asians know martial arts right) and left is more a westerner since more stiff, [...]”. (See table 5). A second western participant commented; “[...] Ultimately I’d say B1 feels more western while B2 feels more eastern/specifically asian [...]”. Only one of the Chinese participants commented more the cultural aspects of the movements by referring to their answer for the first set of artefact animations, (A1 belonging to traditional Chinese culture), as the participants’ response remained unchanged (see table 14). Due to the lack of comments regarding perceived culture from the Chinese participants, it is challenging to pinpoint a reason behind the differences in responses. The way the comment from the Chinese participant is phrased can also be interpreted as the participant having analysed the animation based on real life vs game or “internet culture” (see table 14). Similarly to the Chinese participant, the second western participant mentioned above, also analysed the animation based both on different types of media, like Japanese animated media, as well as animations used in both western and East Asian developed games (see table 5 for full comment).

The third set of artefact animations, C1 and C2, received the most comments about the characters perceived gender. A Chinese participant commented that “[...] C2 looks like what you see in an [sic] usual 3A game, a movement with more emotion. Especially female characters.” A western participant similarly commented that “[...] C1 more like a male and C2 more like a girl.” Overall, the impression of which gender the two artefact characters differed within and across the two participant groups. One Chinese participant regarded C1 as feminine, whereas one western participant regarded the same animation as masculine. As for C2, one Chinese participant regarded the animations as masculine, whilst a western participant perceived the animation as feminine (see tables 17, 7 and 16). A suggested reason for why the idles received more comments regarding perceived gender than the other animations is because of character C2 leaning more on their hip. Whilst no extensive research
was made for how gender, body language and culture interact with each other, it was still noted whilst conducting the game animation analysis (chapter “4.1 Game animation analysis”), that in western produced media, female characters would lean on their hip more often than the male character, whereas, in the East Asian games, the hip leaning seemed more common for both female and male characters.

One Chinese participant also remarked that it looked as if C1 was looking around whilst C2 was more of a “standby movement” (table 16). This suggests that the type of idle displayed through C1, is not as common in East Asian games, making it less familiar to East Asian viewers. Besides perceived culture, the idle animations received some comments regarding the characters perceived emotional state, (this similarly occurred for the artefact run animations as well). Participants from both cultures perceived C1 as being “hesitant”, “tense” (see table 16) and “confused”, “paranoid” and “lost” (see table 7). Two Swedish participants commented that the movements seemed like idle animations (table 8), indicating that the animations were still recognized as idles by both cultures.

Two participants from China commented on that the animations overall may belong to “different styles of games” (table 11, 14 and 17). This could either refer to different genres of games; the participant themselves mentioned that some of the East Asian-inspired artefacts featured movement that could be seen in “3A action games”. It could also be interpreted as referring to games developed in western countries or in East Asian countries.

There were also some differences in how the question “Regarding your answer on question X and Y, do you believe there is any cultural influence on why you think this?” that was asked for every animation, was answered between the two participant groups (see Appendix E and F). Of those who answered “Yes.” and also chose to comment, many of the western participants wrote that they were more exposed to western media and some participants commented that they were aware that culture does influence one’s surroundings, but did not elaborate further (see tables 3, 6 and 9). A western participant answered the above question with the following comment: “[...] I am absolutely looking at these animations with previous media I’ve interacted with in mind, constantly thinking back to action movies and games [...] So those definitely influence how I look at these animations and how I analyze them”. The majority of the participants from Focus Games did not believe culture affected the way they answered the survey questions (see Appendix F). However, some of the participants still believed there were a certain amount of cultural influences in the way they had responded, even if they did not elaborate further (table 11 and 17).

As stated above, many participants from both Sweden and China commented that they did not perceive the characters as belonging to any specific culture, but among those who did, the western-inspired animations still seem to have been categorized by both cultures as belonging to western culture, likewise with the East Asian-inspired animations. This could be seen as the participants “successfully categorizing” the artefacts to the culture the movements were inspired by. Considering that all participants had prior experience with international media, one may speculate that the consumption of international media may have had an impacting factor in the participants’ ability to categorize the animations.

Most of the East Asian participants regarded the western inspired animations (A1, B1 and C1) as being more “realistic”, as they are described as being more in agreement with the “laws of motion”, as well as the movements being described with terms such as “regular” and “normal. The East Asian-inspired artefacts (A2, B2 and C2), received comments such as the motion
being more “dynamic” and “expressive”. Among the Swedish participants, the western-inspired animations (A1, B1 and C1) were also seen as more “neutral”, “normal”, “stiff”. They regarded the East Asian-inspired animations, (A2, B2 and C2) as being more “intense”, “angry/aggressive/determined”, “exaggerated” as well as “fictional”.

These comments about the East Asian-inspired animations being perceived as more fictional could be an indication of what type of media the participants previously interacted with. Some of the western participants mention what type of media they’ve interacted with, for example, “I am more exposed to western cartoons and media” as well as “[...] I remembered media from specific cultures (aka anime) that made me associate the animations with one culture or the other.” (See table 3). Considering these comments, one may speculate that if the western participants interacted more with western media, they may regard the body language display in that media more as the norm, than if they interacted more with East Asian media, or a more even mix of both.

Looking at the interview results from the western participants, as well as the comments mentioned above, it seems like the western respondents are aware of how culture can affect how one interprets media. Both western participants mentioned during their interviews that they had interacted with aspects of culture and diversity through their education, which one may see as an indication that the western school systems put value in learning about diversity. Both participants also stated they are using their past experiences of media to interpret what they see. They also mentioned that they tried to be aware of and acknowledge the way culture influenced the way they interacted with different types of media. More data from the Chinese participants would need to be gathered in order to properly compare information like this.

5.4 Conclusions

The purpose of this study was to answer the question of how the body language of animated 3D characters is perceived by individuals from a western culture versus an East Asian culture. What differences and similarities are there? As well as to attempt to examine if there are any cultural influences behind any differences perception.

Looking at the results presented and analysed above, differences and similarities in the perception of body language between western and East Asian participants can indeed be noted.

Overall, the two respondent groups seemed to be rather equal in how they perceived the two animations. The western inspired animations (A1, B1 and C1) were described by participants from both cultures as being more “realistic” but they were also seen as more “stiff” in their movements. The East Asian-inspired animations (A2, B2 and C2), were described as more “exaggerated” and more “dynamic” by the participants. These animations were also more often regarded by the western participants as belonging to fiction.

Regarding if cultural aspects influenced the participants in their responses, the results from both the survey as well as the two interviews, show that a large part of participants from both cultures consider cultural influences to affect their responses, however, more data would ultimately need to be gathered to properly answer how it affects and if there are any impacting differences or similarities between the two cultures.

In conclusion, the study partially answered the research question, as differences and similarities in how the artefacts were perceived, were noticed. However, more data regarding
how cultural influences affect the responses given would definitely need to be gathered, especially from the Chinese participants, in order to examine more in-depth, how these differences occur, ultimately leaving ample opportunities for future studies.
6 Concluding Remarks

6.1 Summary
The main aim of this study was to attempt to answer the question of how the body language of animated 3D characters is perceived by individuals from a western culture versus an East Asian culture. What differences and similarities are there? The study also aimed to examine if and how cultural aspects affected the perception of the animations.

In order to do this, a game analysis was conducted of a total of 6 MMO-games, two developed in western countries, and two developed in East Asian countries. The analysis used terms from movement frameworks such as Disney's 12 animation principles (Johnston and Thomas, 1995) and Laban's Movement Analysis (Newlove and Dalby, 2003) to better distinguish the movements of the animations. Various game animations were analysed, such as run, jump, and attack and idle animations. Based on the differences and similarities between the body language displayed by the different games, a total of 6 animations were created, a run, jump and idle animation. Each movement was animated with one variation with attributes from the western developed games, and one with attributes from the East Asian developed games.

In order to collect data, an online questionnaire was used. The questionnaire was posted in a Swedish Facebook group for game developers in order to reach western participants as well as sent to the Chinese game company Focus Games. Two shorter semi-structured interviews were held with two voluntary Swedish participants. Interviews were planned with employees from Focus Games as well but were unfortunately not conducted due to lack of time on their part. The interview questions were sent to the Chinese participants, but no response was received in time.

In the end, the study managed to partially answer the research question. According to the study results, there are certain differences and similarities between how individuals from western cultures and East Asian cultures perceive the animated artefacts:

The western-inspired animations were typically seen by participants from both cultures as being more realistic but were also regarded as stiffer and less appealing. The East Asian-inspired animations were seen by participants as more dynamic and exaggerated. The western participants more often commented that the East Asian-inspired animations could belong in fiction. Two interviews were held and these interviews asked about the participants' awareness of cultural influences in media. Only western participants were able to conduct the interview, ultimately making it difficult to compare how cultural influences affected the responses from the two participant groups.

6.2 Discussion
In the final chapter of the study, the author discusses some of the projects flaws and alternate solutions and how these aspects may have impacted the study. This chapter also examines more societal, ethical and cultural aspects of the project, as well as the validity of the results.

6.2.1 Ethical, societal and cultural aspects
Regarding the ethical aspects, all participants who participated in this study did so of their own volition. The online questionnaire was anonymous in all regards except collecting basic
information such as age and gender. There was also a voluntary option for the participant to sign up for a potential follow up interview, and any gathered contact information would be kept confidential and deleted after the studies' completion. Before the participants started the online questionnaire, they were informed of the above, as well as the fact they were free to exit the survey whenever. Whilst most of the survey questions were marked as required, some open-ended questions that asked for further comments were left as optional in order to let the participant decide how much effort they’d like to put into the survey. Regarding the artefacts, they display no graphic or violent movements (such as attack animations or overly violent fighting scenes), that may invoke any kind of fear or offence in the participants. If anything, the study may have the potential in making participants more aware of certain differences in body language and how culture can affect but this is, however, simply speculation.

When considering the cultural aspects of this study, the author themselves are only familiar with one type of culture which may have resulted in certain bias being present throughout the project. For example, when working on the artefacts it was sometimes necessary to make design choices regarding how a movement should be presented that was not entirely covered by the game analysis conducted, such as aspects of gender and body language. Since the authors own judgement sometimes had to be used instead of researched information, those decisions are made based on what the author may personally perceive as being more culture-specific and even if these decisions were made to be as neutral as possible, a certain amount of bias is most likely still present.

This study as a whole can be regarded as a small scale, as the number of participants from each country is in no way representative of the population. This, in turn, means that the impact the study has upon society is most likely very small. The study does, however, open up for further discussion regarding cultural aspects, and provides ample material for future studies.

As this study interacts with participants from a different country, specifically, China, it is also worth mentioning the countries game market, which is rapidly growing. According to Futter (2019), the Chinese computer game market is expected to grow from roughly 312.4 million to 354 million players over the coming 5 years. For game developers who are interested in interacting with the overseas game market, studies that focus on cross-cultural aspects can be very valuable in gaining a better understanding of how different cultures interact with each other order to create content that can appeal to other cultures.

6.2.2 Problematization of the study

There are a couple of major factors that impacted the studies final results. First off, regarding the gender differences between Western and East Asian participants. Looking at the results for this study, the majority of western participants (11 out of 15) identified as female. Out of the East Asian participants, the majority of participants (4 out of 6) identified as male, displaying a contrast between the two cultures. There are many reasons as to why there are more or less of one gender participating in the study. One suggested reason may be that the gender division in the western game scene (industry, as well as education) is different between Sweden and China. This is, however, as stated, simply a suggested reason and requires further research. As for the participant’s ages from both cultures, the participants from Focus Games were slightly older, with the majority of participants being in their mid-to-late 20s. The majority of the participants from the west were in their early-to-mid 20s. This slight difference in age did not seem to have any significant impact on the responses gathered.
The interviews with the Focus Games employees that were not conducted, is another impacting factor. Since the interviews were not held, further qualitative data regarding how the Chinese participants believed cultural influences affect media, was lost, making it challenging if not impossible to accurately compare the two cultures.

As mentioned numerous times throughout the report, the language barrier between me and the people at Focus Games is another significant impacting factor. The contact person at Focus Game remade the survey into a Chinese version for the company employees to fill in, as many do not have access to VPN (Virtual Private Network). I was not aware that the contact person would be re-making the survey into a version with purely Chinese text, as I believed only people who could use the VPN would participate in the questionnaire and that the Google Forms survey I had made would be used. As much as I appreciate the extra steps taken by the company, this also ultimately meant a certain lack of control on my part as I would not be able to directly moderate the survey responses. A word document was sent back to me with the Chinese participants’ responses that were then manually inputted into a second Google Forms survey with the exact same layout as the one for the western participants. Since the company translated the survey into Chinese, the responses may also have been translated back into English. Depending on the method used (translation program, the translators’ personal language skills), this step could also have impacted the final result as information could have been lost in translation. Most participants from both the West and East Asia answered with shorter replies, however, the written responses from Focus Games were still significantly shorter compared to the responses from the Western participants. There may be several reasons for this, but once again, the language barrier may be the most significant factor. Although the questionnaire was translated into Chinese, it is unclear whether participants attempted to answer in English, or if they answered in Chinese that was later translated back into English. The usage of a translation program would explain some of the odd grammar usages, but not some of the spelling errors (e.g. “elegant” instead of “elegant”).

Another impacting factor may have been that a project that deals with cultural aspects in this manner may be slightly too big for a single person to handle by themselves. Despite asking fellow students and tutors for advice and feedback, it was still, in my experience, harder to discuss and bounce ideas and theories than if I would have had a project partner. Personal experience also played a part in the overall structure and design of the study.

Time and resources could also have been used alternate ways; I could have focused more on my thesis work during my internship in Shanghai to make sure I could conduct interviews in person with some of the employees. In hindsight, better planning and communication with my peers at the start of the project may have let me be more equal in the time put on tasks assigned to me by Focus Games, and the thesis.

Formulation of the questions also affected the responses received. Sometimes, participants did not entirely answer the questions “correctly”. An example of this is the question “Which culture, if any, do you perceive character B1, respectively B2, to come from?” where response such as “B2 is like the character you see in a 3A action game.” was generated. Whilst this is still valuable data, it does not entirely answer the question being asked. This is most likely due to, once again, the language barrier, as well as meanings being lost in translations. Another formulation issue was the term “international media”. Even though all participants frequently interacted with international media, the definition of what “international media” means may be debatable and exactly what type of international media the participants consumed, is
unclear. The meaning of “international media” should have in hindsight been given a more clear definition since “international” is a very broad term and may mean different things to different individuals. One may still speculate that the media the participants previously have interacted with influenced the way they perceived the animations.

Whilst many participants thought that culture did affect their responses as well as the perceived culture of the artefact animation, the majority of participants, answered that they did not perceive culture as an impacting factor. This may both be due to the questions being formulated in a way that may have been difficult to understand (regardless of the participants’ culture), as neither participant group have English as a native language. It may also have been due to the method chosen, as typing out replies in a survey takes more effort than simply picking an answer from a scale. Elaborating further on this, scale questions for the questionnaire were considered but were ultimately not used because at the start of the project, the author felt uncertain if that method would answer the research question in a satisfactory way. In hindsight, having scale questions may have been easier for the participants as it would require less effort on their part (less typing), on the other hand, even less qualitative data would have been gathered in the end.

One western participant noted that in the question “Regarding your answer on question X and Y, do you believe there is any cultural influence on why you think this?” the wrong numbers were written. The reason for the numbers being wrong in the question is because of the formulation change mentioned in chapter “4.7.1 Second Pilot Study”, that separated and added the question regarding the participant's nationality and cultural background. Considering that only one participant mentioned the faulty numbers, this mistake had no significant effect on the respondent's ability to understand and answer the questions.

A way to prevent issues like those mentioned above would have been to have a bigger participant pool for the pilot study. Having more participants would have made these type of issues more apparent and alternate solutions may have been discovered earlier. In hindsight, a question asking which of the animations the participants preferred would have been an interesting addition, as it would have allowed for further examination of cultural preferences and may have gathered further qualitative data if participants would’ve had the option to comment further.

Ultimately the method that ended up being used may not have been the most optimal for this type of project and research question, but I still believe that valuable data was able to be gathered, as the results of the study still managed to partially answer the research question.

### 6.2.3 Validity of the results

Regarding the validity of the results, despite the impacting factors presented above, I personally still believe that the data gathered concerning the perception of the artefacts are valid. Since the participants had the ability to at least somewhat categorize the movements into the inspiring culture, one may suggest that the study results agree with Kleinsmith, De Silva, and Bianchi-Berthouze (2006) statement that by being aware of how different cultures use body language to express themselves, one can create animated characters that better represent the intended culture. This also ties into what Isbister (2006) says, regarding how culture is an important factor to consider when developing content for games.

Corneanus (et. al, 2018) states that access to the internet may have affected people's perception of body language and the study results both agree and disagree with this. All
participants who completed the survey had experience with international media. Considering that participants from both cultures seemed relatively equal in what culture they categorized the animations as belonging to, one may very well suggest that the increased access to the internet, and in turn, international media, may be a contributing factor to the participant’s ability to recognize the movements.

As for the studies secondary aim, to further examine how cultural influences may affect, I believe that more data needs to be gathered in order to properly answer this, as the uneven number in participants and differences in response length made it challenging to properly compare between the two cultures. The data that was gathered however, I still consider being valid, as it can be used to draw basic conclusions that can be used as the groundwork for future work.

6.3 Future Studies

If this project were to receive additional time, I would be very interested in focusing on further examining the reasons why the difference in perception occur. This study touches briefly upon the subject, but I believe there is ultimately a lot more to be discovered within this topic. By gathering more qualitative data from both Swedish and Chinese participants, one would most likely be able to gain a deeper understanding of the way the different cultures interact with media and games, which ultimately could be beneficial when considering collaborations between Swedish and Chinese game developers. Conducting this type of study with other types of games, just not MMORPGs would also be of interest, as well as how aspects such as gender can affect.

Another that was noted whilst conducting the background research for the study, was that people from East Asian cultures tend to be perceived as having more subdued body language. However, when analysing the East Asian games, the body language of the character was often more exaggerated than that of the western games. The above was also noted by some of the participants in the study. There may be many potential reasons as to why; is it a matter of how different media types convey different things, eg. Style choice since drawn media (such as western comics and Japanese manga and anime), need to show clear expressions, and how does other aspects of culture, such as societal ideals and norms, affect?

This project may have its flaws but despite this, it can serve as a reference and inspiration for future researches as there is much to be explored when it comes to culture and games, as well as a lot to consider when conducting cross-cultural studies.
References


Figure list


**Figure 1.** Screenshots from gameplay videos uploaded to *YouTube* by users Wowhead (2016), Gamer’s Little Playground (2016), Cryy (2016) and Hakurai (2012).

**Figure 2.** Screenshots from gameplay video uploaded by LeysTV (2018), LindeltESO (2018) and Cryy (2016). 4th screenshot from *Tera* (2012) was taken by the author in-game.

**Figure 3.** Screenshots from gameplay videos uploaded by Wowhead (2016), Alcast (2017) and Rendermax (2016). The 4th screenshot of *Tera* (2012) was taken by the author in-game.

**Figure 4.** Screenshot taken by the author and creator of the produced animation, C1 (2019).

**Figure 5.** Screenshot taken by the author and creator of the produced animation, A1 (2019).

**Figure 6.** Screenshot taken by the author and creator of the produced animation, B1 (2019).

**Figure 7.** Screenshot taken by the author and creator of the produced animation, C1 (2019).

**Figure 8.** Screenshot taken by the author and creator of the produced animation, A1 (2019).

**Figure 9.** Screenshot taken by the author and creator of the produced animation, B2 (2019).

Table 1 - 9. Compilation of the western participants’ comments.

Table 10 - 17 - Compilation of the East Asian participant comments.
Appendix A - Artefacts

A1 & A2 (Run): https://gph.is/g/EBk76ba [2019-05-07]


C1 & C2 (Idle): https://gph.is/g/Zk9v8dE [2019-05-07]
Appendix B - Pilot Study Questions

1. What is your age?
   18-20
   21-25
   26-30
   31-35
   36-40
   40+

2. What gender do you identify with?
   Female
   Male
   Other/Prefer not to say

3. What cultural background/ethnicity do you identify with? (Chinese, Swedish, Taiwanese etc.)

4. How often do you consume international media (ex. play games, watch TV series etc.)?
   Not at all
   Sometimes / Few times a month
   Often / Few times a week
   Very often / Every day

[Video featuring the Idle animations]

5. Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?

6. Which culture, if any, do you perceive character A1, respectively A2, to come from?

7. Regarding your answer on question 5 and 6, do you believe there is any cultural influence on why you think this?
   Yes.
   No.

8. (Optional) If you answered "Yes." on the question above, add further comments below.

9. (Optional) If you are willing to participate in a follow-up interview, please state your contact info below (WeChat ID, Messenger, email, etc.)
Appendix C - Pilot Study Results

1. What is your age?
   **18-20**
   21-25
   26-30
   31-35
   36-40
   40+

2. What gender do you identify with?
   **Female**
   Male
   Other/Prefer not to say

3. What cultural background/ethnicity do you identify with? (Chinese, Swedish, Taiwanese etc.)
   Swedish

4. How often do you consume international media (ex. play games, watch TV series etc.)?
   Not at all
   Sometimes / Few times a month
   **Often / Few times a week**
   Very often / Every day

[Video featuring character A1 and A2]

5. Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?
   Character A1 is more expressive than A2 and overall seems to have more personality. Character A2 feels like the typical "model" movements whereas A1 feels more unique. With the looking around A1 also feels more curious, which makes the movement feel like it belongs to a younger character than A2.

6. Which culture, if any, do you perceive character A1, respectively A2, to come from?
   When imagining the "typical" animations for games from eastern cultures I feel like A2 fits into that perception since, in my opinion, those movements tend to be sort of flashy and "perfect", but overall I don't get a super strong impression of culture from either and they're fairly neutral.

7. Regarding your answer on question 5 and 6, do you believe there is any cultural influence on why you think this?
   **Yes.**
   No.
8. (Optional) If you answered "Yes." on the question above, add further comments below. Honestly it’s a bit tricky to answer? Most of my awareness of body language comes from studying it where most sources do claim that culture makes a difference, but nonetheless I do think cultural influence from western media (as that is the media I primarily engage with) has given me biases in terms of how I perceive body language.

9. (Optional) If you are willing to participate in a follow-up interview, please state your contact info below (WeChat ID, Messenger, email, etc.).
[Participant responded with contact information]
Appendix D - Interview questions

Do you consider yourself aware of how culture can affect different aspects of life, and particularly in games?

Do you have any general Ideas or opinions about body language or cultural influences in media? Do you notice or think about it?
Appendix E - Final Survey

1. What is your age?
   18-20
   21-25
   26-30
   31-35
   36-40
   40+

2. What gender do you identify with?
   Female
   Male
   Other/Prefer not to say

3. What primary nationality do you identify with? (Chinese, Swedish, Taiwanese etc.)

4. Which culture do you identify yourself with?

5. How often do you consume international media (ex. play games, watch TV series etc.)?
   Not at all
   Sometimes / Few times a month
   Often / Few times a week
   Very often / Every day

-------------------------------------------

Animation #1 of 3

Character A1 (left) and A2 (right)

[GIF of the running animations]

6. Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?

7. Which culture, if any, do you perceive character A1, respectively A2, to come from?

8. Regarding your answer on question 6 and 7, do you believe there is any cultural influence on why you think this?
   Yes. / No.
9. (Optional) If you answered "Yes." on the question above, add further comments below.

Animation #2 of 3

Character B1 (left) and B2 (right)

[GIF of the jumping animations]

10. Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?

11. Which culture, if any, do you perceive character B1, respectively B2, to come from?

12. Regarding your answer on question 10 and 11, do you believe there is any cultural influence on why you think this?
   Yes. / No.

13. (Optional) If you answered "Yes." on the question above, add further comments below.

Animation #3 of 3

Character C1 (left) and C2 (right)

[GIF of the idle animations]

14. Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?

15. Which culture, if any, do you perceive character B1, respectively B2, to come from?

16. Regarding your answer on question 14 and 15, do you believe there is any cultural influence on why you think this?
   Yes. / No.

17. (Optional) If you answered "Yes." on the question above, add further comments below.
(Optional) If you are willing to participate in a follow-up interview, please state your contact info below (WeChat ID, Messenger, email, etc.).

Thank you so much for participating!
Appendix F - Western Participant Results

1. What is your age?
15 responses

2. What gender do you identify with?
15 responses
3. What primary nationality do you identify with? (Chinese, Swedish, Taiwanese etc.)
15 responses

4. Which culture do you identify yourself with?
15 responses
5. How often do you consume international media (ex. play games, watch TV series etc.)?
15 responses

6. Do you work or study within Game Development?
15 responses

7. Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?
15 responses
A2 looks more intense, and more eager to get to where they are going. Also looks a bit mad.

A1 looks more collected and fit, smaller.
A2 is more exhausted and desperate. Could be a goofball too though.
They both seem to be in a hurry.

The character on the right is more exaggerated in its movement. Its upper body is tilted forward more than the one to the left. It almost looks a little more sloppy than the one on the left with the arms flailing.

A2 looks more aggressive and fast

A1 is less extreme than A2. A2 seems to be more aggressive/determined, kinda looks like A2 is running while A1 is jogging

A1 är mer avslappnad

The way A2 leans forward seems a bit aggressive? If they weren’t so in sync, I’d assume A2 moves faster than A1, it looks like a little bit of a running pose? Or maybe they’re just under some sort of strain?

A1 normal movement. A2 Angry movement

A1 seems calmer. A2 seems aggressive and in a hurry

A1 has more normal human movement. A2 is too bent forward and move their arms too much

Differences:

A1 seems to jog in a normal/un-heavy pace and seems quite relaxed while A2 seems to be more exhausted and more stressed. A1 is standing more straight while A2 is more stooping. A2’s head seems closer than A1’s.

Similarities:

A1 and A2 seems to have the same body and they seem to, although the difference in running style, move in the same speed and at the same pace.

A2 seems to be in more of a bad hurry while A1 might be happily hurrying towards something. A2 seems more fictional - who run’s like that except in like comics?

A2 is going faster than A1. A1 is jogging, A2 is running. A1 is more relaxed than A2.

A2 feels more urgent and heavier, while A1 feels more like the standard character run cycle while A2 got more personality/ is quirkier.

A1 is less intense. Both are running.

8. Which culture, if any, do you perceive character A1, respectively A2, to come from?

15 responses
| A1 looks very neutral, maybe A2 reminds me a bit of like anime running so I guess Japanese? |
| A1 looks like it belongs in a fitness culture. A2 could belong to a culture that jokes a lot... maybe a comedy culture? |
| Unsure. They look like they could come from any culture. |
| No |
| None |
| ingen specifik |
| I don’t really know if I associates either way of moving with any cultural markers. A1 looks a little like they might be doing that almost jog white people do when they try to cross a street faster to avoid inconveniencing waiting cars? |
| A1 every culture. A2 no particular culture |
| A1 I don’t know. A2 American (USA) |
| No cultures identified |
A1 seems to come from a more healthy, more active culture - while A2 seems to come from a more unhealthy and more stressed culture.

Don't really see them as coming from any culture

Don't know

On one hand, A2 does make me think a bit of the naruto run which obviously makes me think of asian cultures, but on the other hand when considering other animations etc, A1 feels more controlled and minimal in its movement as compared to how wildly A2 is swinging its arms, making me associate A1 with the idea that asian cultures are not as wildly expressive when it comes to body language as western cultures

I don't perceive them as belonging to a specific culture. Maybe A1 is white lol.

9. Regarding your answer on question 5 and 6, do you believe there is any cultural influence on why you think this?

15 responses

10. (Optional) If you answered "Yes." on the question above, add further comments below.

6 responses

I am more exposed to western cartoons and media

There is always an influence from your surroundings that affects the way you think. I'm just not sure on how.

Depending on your own culture you may view certain traits that other cultures view as positive/negative as the opposite

If 5 and 6 were the right questions:

I have grown up in a home with technology available and my parents have thought that knowledge is important - and I think that those values are pretty common in Swedish (or elsewhere) middle class families like mine.

If you really meant 7 and 8:

Well, maybe because my mother always has cared much about health and diet I analyze others healthiness more.

I mean yea, absolutely since I remembered media from specific cultures (aka anime) that made me associate the animations with one culture or the other.

White people aren't stereotypically seen as athletic.
11. Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?

B2 is more dynamic and animated, more exaggerated

They both jump from a fixed point.
A1 looks like it is either not used to the action or is doing it with little interest.
A2 looks like it is more focused on the action. Kind of looks like it could be riding a skateboard?

B1 looks more like a child. B2 looks like it's jumping alot higher.

B2 is more agile and jumps higher

B2 seems more natural since B2 is moving more than B1. B1 seems a bit stiff.

B1 is more stilted

B1 looks noticeably stiffer to me than B2, whose movements seem much more fluid. B1 also draws their arms in slightly while lifting them, as opposed to B2. I don't really know enough about body language to say for sure, but it seems a smidge defensive?

B1 seems a bit more stiff, while B2 more fluid

A1 is kind of boring. No uneven movements. Very flat. A2 seems livelier as it has more uneven movements.

B2 has more fluent and alive movement, B1 is more stiff

Differences:

B1 seems to jump more with both feet together than B2 and B2 jumps with both feet out of step. B2 also seems to bend their knees more than B1 while jumping. B2's right arm (left for us) does a little turn before the landing and B2's arms stretches out more than B1's do. B2 also seems to jump a little higher than B1.

B2 again looks more cartoonish. Raising both legs like that in a jump seems not likely, but maybe it is on other cultures? Seems like you'd have to be very athletic for it to get that spring

B1 is putting less force into jumping than B2. B2 seems to be jumping over something while B1 is just jumping in general. B2 appears more powerful.

B1 is less expressive and more restricted, while B2 is more dynamic and overall seems more real - the movement sort of explains the height of the jump in a way that B1 doesn't necessarily manage

Similarity: both are jumping. B2 has more power and jumps higher.
12. Which culture, if any, do you perceive character B1, respectively B2, to come from?

15 responses

<table>
<thead>
<tr>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
<tr>
<td>No idea. B2 looks more like a cartoon character</td>
</tr>
<tr>
<td>B1: I have no idea to be honest? Something strict? Politician culture maybe? B2 looks like it could be part of a skating culture.</td>
</tr>
<tr>
<td>Not sure on this one either.</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Speikultur på B1</td>
</tr>
<tr>
<td>I don't know if there's a culture that likes jumping more than others? I still struggle to perceive cultural markers in these types of movements.</td>
</tr>
<tr>
<td>No culture in particular, I believe it depends more on the person. B1 might be more of a female, while B2 a male.</td>
</tr>
<tr>
<td>No cultures identified</td>
</tr>
<tr>
<td>B1 seems a little less secure and more reserved at jumping than B2 does, so maybe B1 comes from a less adventurous culture than B2.</td>
</tr>
<tr>
<td>Stereotypically it would be that B2 is asian in that case (since all asians know martial arts right) and left is more a westerner since more stiff, but I don't really feel any of them are part of any culture.</td>
</tr>
<tr>
<td>Don't know</td>
</tr>
<tr>
<td>Sort of hard to decide, right now i'm torn between thinking about video games and general media since in general media it's not uncommon for western media to be far more extreme with body language and expressions (or at least i get the impression that it isn't uncommon), but at the same time when thinking about Shounen anime etc, the same type of over-the-top expressions and body language is used. Then again, when considering video games, i feel like eastern games often tend to go for movement from specifically shounen anime and general action stuff, meaning it is far more expressive than the more subtle tone western game animations tend to take as they push more and more for extreme realism. Ultimately, i'd say B1 feels more western while B2 feels more eastern/specifically asian, but that is again looking at them from the video game angle.</td>
</tr>
<tr>
<td>Don't perceive them as any specific culture.</td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>
13. Regarding your answer on question 9 and 10, do you believe there is any cultural influence on why you think this?

15 responses

![Pie chart showing 60% Yes and 40% No]

14. (Optional) If you answered “Yes.” on the question above, add further comments below.

7 responses

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>There’s always cultural influence</td>
</tr>
<tr>
<td>Same as the last time.</td>
</tr>
<tr>
<td>Maybe there’s some cultural influence but I’m ignorant to it and therefore I don’t see it?</td>
</tr>
<tr>
<td>Truthfully, I’m white and from a western/european country. I have had the luxury of never really needing to consider if the way I or others move gives away anything on our cultures. Could be I’m just “blind” to it, because I’ve never really tried to notice it before.</td>
</tr>
<tr>
<td>I think you meant questions 11 and 12, but the answer to them is no.</td>
</tr>
<tr>
<td>If I seek to try give them a cultural attribute, it certainly is based on my prejudice</td>
</tr>
<tr>
<td>As the previous answer, I am absolutely looking at these animations with previous media I’ve interacted with in mind, constantly thinking back to action movies and games while also comparing these to media with less wild movement like romance or slice of life things. So those definitely influence how I look at these animations and how I analyze them</td>
</tr>
</tbody>
</table>

Animation #3 of 3

15. Looking at the animations above, how do you perceive the movements of character C1 compared to C2? What differences and similarities do you perceive?

15 responses
C2 looks more self assured and C1 looks a bit more confused

They could both be in an idle animation. They look bored or rather, they look like they’re not doing anything at all. C1 looks more down to earth, casual. C2 looks like it is either super extra, like a final fantasy hero or a super model posing on a runway.

C2 looks like it’s more comfortable and more confident. C1 looks more tense with it looking to the sides.

C2 looks more confident

Looks like idle animations in a video game or smth. C1 seems worried or curious since they’re looking around, while C2 seems pretty neutral, just chilling. Maybe C2 seems a bit more confident than C1.

C2 has a more open posture than C1, and seems a little sassier? C2 looks more like they’re telling someone something, while C1 looks more inquiring.

C1 has a stiffer animation, but more “normal” looking. C2 is more fluid, but also girlier.

C1 seems curious as it looks around, swaying its arms. C2 seems not as interested in the world and a bit skeptical as it is swaying its hips.

Differences:

C1 looks like they are either trying to cross a road or if the coast is clear and are watching both directions before they move - or that they are just cautious or even a little paranoid. C2 seems more like they are waiting for something; maybe for a bus to come or for something else. C2 seems more relaxed than C1 even though C2 seems a little impatient due to the rocking motion. B2’s legs are a little more separated than B1’s.

Similarities:

Both seems to wait for something, both are standing up and looks like they are watching for something.

I dunno. Perceive them both as female for some reason. C1 being more insecure and C2 more hmm questioning? C1 Has small movements, looking around and c2 wide, more secure stance, shifting weight impatiently and head pose as if questioning what it’s looking at.

C1 is looking around before crossing the street or similar. C2 wants to casually get a closer look at something. They’re both interacting with the world around them but with different goals.

Character C1 is more expressive than C2 and overall seems to have more personality. Character C2 feels like the typical “model” movements whereas C1 feels more unique. With the looking around C1 also feels more curious, which makes the movement feel like it belongs to a younger character than C2.

they seem to be idle animations. C1 feels more masculine, while C2 feels feminine.
16. Which culture, if any, do you perceive character C1, respectively C2, to come from?

<table>
<thead>
<tr>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know, C2 looks like a douche</td>
</tr>
<tr>
<td>C1: just looks like a random person on thr street tbh. C2: fashion culture.</td>
</tr>
<tr>
<td>Unsure.</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>None</td>
</tr>
<tr>
<td>Ingen specifik</td>
</tr>
<tr>
<td>Could be any. i really don't know.</td>
</tr>
<tr>
<td>C2 might be asian, but same applies here, C1 more like a male and C2 more like a girl.</td>
</tr>
<tr>
<td>C1 I don't know but C2 is French.</td>
</tr>
<tr>
<td>No cultures identified</td>
</tr>
<tr>
<td>Now I think it's harder to tell, because to me it seems like it could be the same person in a different situation.</td>
</tr>
<tr>
<td>No culture</td>
</tr>
<tr>
<td>Don't know</td>
</tr>
<tr>
<td>When imagining the &quot;typical&quot; animations for games from eastern cultures I feel like C2 fits into that perception since, in my opinion, those movements tend to be sort of flashy and &quot;perfect&quot;, but overall I don't get a super strong impression of culture from either and they're fairly neutral.</td>
</tr>
<tr>
<td>C2 reminds me of idle animations in asian games.</td>
</tr>
</tbody>
</table>

17. Regarding your answer on question 9 and 10, do you believe there is any cultural influence on why you think this?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes.</td>
<td>53.3%</td>
</tr>
<tr>
<td>No.</td>
<td>46.7%</td>
</tr>
</tbody>
</table>
18. (Optional) If you answered "Yes." on the question above, add further comments below.

7 responses

<table>
<thead>
<tr>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>There's always cultural influence</td>
</tr>
<tr>
<td>Same as last time.</td>
</tr>
<tr>
<td>See my answer to question 14.</td>
</tr>
<tr>
<td>With the sceptical and almost sassy behaviour from C2 I think of French fashion designers.</td>
</tr>
<tr>
<td>I think you meant questions 15 and 16, but the answer to them is no.</td>
</tr>
<tr>
<td>Honestly it's a bit tricky to answer since these animations are far more subtle than the previous ones. Most of my awareness of body language comes from studying it where most sources do claim that culture makes a difference, but nonetheless I do think cultural influence from Western media (as that is the media I primarily engage with) has given me biases in terms of how I perceive body language. At the same time, as mentioned before, interacting with other media definitely gives me expectations for what I consider Western or Eastern in terms of culture.</td>
</tr>
<tr>
<td>In Asian games I've played female characters are hypersexualized.</td>
</tr>
</tbody>
</table>
Appendix G - East Asian Participant Results

1. What is your age?
6 responses

2. What gender do you identify with?
6 responses

3. What primary nationality do you identify with? (Chinese, Swedish, Taiwanese etc.)
6 responses
4. Which culture do you identify yourself with?
6 responses

5. How often do you consume international media (ex. play games, watch TV series etc.)?
6 responses

6. Do you work or study within Game Development?
6 responses
7. Looking at the animations above, how do you perceive the movements of character A1 compared to A2? What differences and similarities do you perceive?

6 responses

- The character on the left seems more common while the action of the right one is dynamic and impressive. I prefer the character on the right side.
- A1 is standing and walking • B2 is walking and bowing • One is slimmer and the other looks fatter (Visually?)
- A2 looks like a monster, A1 looks like a human
- A2 looks very determined
- Regular running vs accelerative running

8. Which culture, if any, do you perceive character A1, respectively A2, to come from?

6 responses

- Traditional Chinese culture vs on-internet culture. I prefer a more impressive motion.
- Don’t really feel the difference
- Nothing to do with culture but the recognition of different types of games will affect one’s feeling of these pictures.
- Different game style?
- Super Mario
- None.
9. Regarding your answer on question 5 and 6, do you believe there is any cultural influence on why you think this?

6 responses

10. (Optional) If you answered "Yes." on the question above, add further comments below.

1 response

In the traditional Chinese culture, people’s perception of behavior is elegant and dignified. And the relatively conservative consensus also led to weaker representation of the picture.

Animation #2 of 3

11. Looking at the animations above, how do you perceive the movements of character B1 compared to B2? What differences and similarities do you perceive?

6 responses

1. The jump action of the left character is more realistic, while the right one has more body language.

How you raise your feet is different while you jump

B2 is more in line with the law of motion

B2 has a larger range of movements.

A: regular jump. B: jump harder

B2 is more like what you see in an American (style) cartoon
12. Which culture, if any, do you perceive character B1, respectively B2, to come from?
6 responses

- Consistent with the answer to the previous question.
- Cultures does not affect
- I think it has a great influence on people’s perception of action and art.
- Different game styles?
- B2 is like the character you see in a 3A action game.
- B1 is like what you see in a poorly made mobile game.

13. Regarding your answer on question 9 and 10, do you believe there is any cultural influence on why you think this?
6 responses

- Yes: 66.7%
- No: 33.3%

14. (Optional) If you answered "Yes." on the question above, add further comments below.
2 responses

- Same with the previous answers.
- The difference between implicit and open?
15. Looking at the animations above, how do you perceive the movements of character C1 compared to C2? What differences and similarities do you perceive?

6 responses

- Sorry, I don't think there is any difference in perception between the two characters...
- When turning around, C1 swings a little larger.
- C2 looks confident, while C1 is hesitant and timid.
- C1 is tense, C2 is relaxed.
- C1 feminization, C2 masculinization
- I think there are different meanings... C2 is like a standby movement, while C1 is looking around the circumstance.

16. Which culture, if any, do you perceive character C1, respectively C2, to come from?

6 responses

- Sorry... no
- No influence
- There are differences between Chinese and Western ways of expressing emotions.
- No influence
- None

Same as the previous answers, C2 looks like what you see in an usual 3A game, a movement with more emotion. Especially female characters.
17. Regarding your answer on question 9 and 10, do you believe there is any cultural influence on why you think this?
6 responses

![Pie chart showing 66.7% Yes and 33.3% No]

18. (Optional) If you answered "Yes." on the question above, add further comments below.
0 responses

No responses yet for this question.