Universiteit Leiden

Master Media Technology

My Coily Superpowers

Can a Video Game Adjust Acceptance Regarding Coily Hair Among First Graders

Name: Larissa Boerenstam
Student ID: s4073959
Date: 17/08/2025

Specialisation: Media Technology

1ST SUPERVISOR: Dr. Max van Duijn

2ND SUPERVISOR: Nicky Heijmen

Master's Thesis in Media Technology

Leiden Institute of Advanced Computer Science
Leiden University

Einsteinweg 55

2333 CC Leiden

The Netherlands

Abstract

This study explores whether an educational video game can positively adjust first graders' attitudes toward coily hair, a hair texture often underrepresented, negatively portrayed or completely forgotten in digital media. Grounded in Critical Race Theory (CRT), the research investigates how immersion and interactive storytelling in video games can challenge stereotypes and foster acceptance among children. A 2D game, *My Coily Superpowers*, was developed featuring a character whose coily hair grants them superpowers. The game was introduced to 46 children from two Dutch primary schools with differing demographic and ethnic backgrounds. Through qualitative interviews and quantitative surveys conducted before and after gameplay, findings revealed improved recognition and positive behavior change towards coily hair. The game also facilitated conversations around diversity, identity, and representation. Results suggest that serious games can be effective tools for challenging biases and promoting cultural inclusion in early childhood education.

Additional Keywords and Phrases: Representation, Coily Hair, Video Games, Race, Ethnicity, CRT, Children and Media, Digital Bias

1. INTRODUCTION

> “In every society, in every collectivity, must exist a channel, an outlet through which the forces accumulated in the form of aggression can be released. This is the purpose of games in children's institutions (…). Each type of society, of course, requiring its own specific kind of catharsis. The Tarzan stories, the sagas of twelve-year-old explorers, the adventures of Mickey Mouse, and all those “comic books" actually serve as a release for collective aggression. The magazines are put together by white men for little white men. In the Antilles, these same magazines are devoured by the local children. In the magazines the Wolf, the Devil, the Evil Spirit, the Bad Man, the Savage are always symbolized by Negroes or Indians; since there is always identification with the victor, the little Negro, quite as easily as the little white boy, becomes an explorer, an adventurer, a missionary "who faces the danger of being eaten by the wicked Negroes.”
>
> (Fantz Fanon (1952). Black Skin White Mask)

This quote is from Fantz Fanon. In his book Black Skin White Mask, he researches the impact of colonialism and racism on black people living in a white dominated world. This section in particular refers to children living in this system. Because the villain is frequently portrayed as a racialized figure: the "savage," the "devil," the "wicked Negro." These portrayals shape how children see themselves and others. And, as Fanon writes, even black children begin to identify with white protagonists, internalizing ideals that are not their own, while unconsciously associating their own identity with the "evil" or "lesser" figure.

This internalized distortion is something I experienced firsthand. Growing up, I rarely saw characters in media who looked like me. When they did appear, they were often cast as unattractive, dangerous, or comic relief. The lack of authentic representation, especially of coily hair and darker skin tones, left me feeling excluded. I began to question my own appearance and tried various ways to "fit in”. This included relaxing my hair, which ultimately damaged it. Only afterwards did I realize that these insecurities were not personal failings, but symptoms of systemic underrepresentation and negative stereotyping in the media.

Unfortunately, this pattern persists in modern digital media, particularly in video games. Black characters, when they exist, often lack the same quality and variety of customization options as their white counterparts. Hairstyles resembling coily or kinky textures are either absent, poorly rendered, or steeped in stereotypes. This limitation contributes to a form of cognitive dissonance: players cannot see themselves authentically reflected in the characters they control, subtly reinforcing the notion that they do not belong.

Video game studios often cite financial constraints as a reason for this lack of inclusion (Ivănescu, 2020). Yet the industry continues to provide high-quality customization and narrativity depths for its white audiences. If representation matters, and research confirms that it does, then the absence of meaningful black representation, especially for young players, cannot be overlooked.

This gap in representation is the driving force behind my thesis: *"My Coily Superpowers: Can a Video Game Adjust Acceptance Regarding Coily Hair Among First Graders?"* While past research has explored racial bias and cultural stereotypes in digital games, few studies have investigated the potential for video games to actively adjust acceptance in young children, particularly concerning coily hair.

My research seeks to fill this gap by creating a video game centered around a black hero who uses their coily hair as a superpower. This character will not only offer a counter-narrative to dominant stereotypes but also serve as a tool for

empowerment and education. Framed as a *serious game*, the project aims to provide a playful yet impactful resource for teachers to initiate conversations about identity, diversity, and self-acceptance in the classroom.

1 BACKGROUND

1.1 Theoretical framework

This thesis will use Critical Race Theory (CTR) as a framework to examine race and representation in digital games. This theory is widely used in media, education, and cultural studies, and therefore applicable to children's media

Critical race theory

Despite Critical Race Theory (CRT) being a theory that gained mainstream attention in 2017, the foundation of this theory lies in the 1970s and 1980s. The movement was made primarily, but not limited to, progressive intellectuals of color. Derrick Bell, a black human rights activist and professor of law, claimed that even though the segregation laws were abolished, and on paper all men were equal, racism was still discreetly embedded in American life and law (Critical Race Theory, 1995). Eventually, it was human rights advocate and professor Kimberlé Crenshaw who named this way of thinking the Critical Race Theory;

> "an academic and legal framework that explicates racism as structural, institutionalized in the history, systems, and policies of the United States. Critical Race Theory recognizes that racism transcends individual bias and prejudice, it is embedded in legal, social, and educational policies and systems that uphold racial inequality. Critical Race Theory acknowledges the continuing impacts of slavery and segregation, illuminating how institutionalized racism perpetuates an inherently unequal system.",
>
> as noted by Dr. Sharon Ravitch (2021).

CRT can be understood through three principles relevant to digital media: whiteness as property, colorblind racism, and counter-stories. The principle of whiteness as a property claims that the control over digital spaces is protected as white property. This means that the racial hierarchies will not be criticized since the media is controlled by the people upholding these hierarchies in real life. An example of this are the new policies of Meta regarding "hateful conduct". These new policies make it possible to insult people based on their race, ethnicity or gender identity (NBC News, 2025). Making the platforms of Meta, such as Instagram and Facebook, a place where these racial hierarchies can be amplified.

Colorblind racism is the mentality of people who "don't see color and therefore race doesn't matter". This mindset dismisses racist systems and ignores historical inequalities embedded in institutions and digital systems. But, even though the colorblind racist denies race, one of the core features of this mentality is the use of racial stereotypes. They deem the stereotypes as "common sense" of the group they want to describe, thus actually admitting that race exists (*Colorblind Racism*, 2019). Because of this paradox and among other features of this mentality, this concept is critiqued by theorists.

Finally, CRT can provide a framework to analyze racialized and anti-racists counter-stories in digital texts. These stories propose alternative perspectives, exposing injustices and providing new agentive identities for minorities (A. Mills & Godley, 2018).

CRT has been applied in numerous studies to research how racial hierarchies are reproduced or challenged by digital games. Both the studies Race, Gender, and Deviance in Xbox Live by Kishonna L. Gray (2014) and Online Racism and Its Impact on Children, Adolescents, and Emerging Adults of Color by Christakis en Hale (2024), use the theory to examine video games through the experience of people of color. By using the theory its critical lens, both researches could issue the broader structure of power and the influences it brings to digital spaces. Providing insights into the way that black gamers are being racially targeted.

Critical Race Theory is used, among other things, to develop educational goals under the guise of undermining structural inequalities. Using counter-storytelling, this framework will be used in My Coily Superpowers. My Coily Superpowers is an educational video game that takes real-life biases and misconceptions about coily hair and tries to dismantle these stereotypes through its design process.
Using the theoretical framework that foregrounds this study, we will first dive into the stereotypical black characters in video games, coily hair in video games, and communicating acceptance through video games. This will lay the foundation and explain the need for this study.

1.2 Stereotypical black characters in video games

Stereotypes and children

Findings indicate that children, ranging from six- to eleven-year-olds, can rapidly form beliefs about real social groups following minimal exposure to a small number of statements. Specifically, children who were presented with information aligning with existing societal stereotypes were more likely to internalize and reproduce those stereotypical views. Conversely, children exposed to information contradicting prevailing stereotypes were significantly less likely to adopt such biased perspectives. Instead, they were more inclined to interpret the described behavior neutrally, suggesting that even brief counter-stereotypical input can weaken the internalization of social bias. Whereas, encounters with stereotypical input can strengthen those biases. (Block et al., 2022)

The strengthening of those stereotypical biases in children can cause long-term harmful effects. Stereotypes are fundamental in discriminatory actions like exclusion from groups based on gender or ethnicity. Stereotypes can cause exclusion by other children, and so have detrimental effects on children themselves. Without positive and authentic representation, children may internalize and even reinforce negative stereotypes, which can have long-term implications for their self-esteem and cultural identity. In adulthood, this can lead to struggles with depression, anxiety, and social withdrawal. (Rostagno, 2022; Mulvey et al., 2010).

Stereotypes in videogames

Video games can support these stereotypes. Game culture vastly mis- or underrepresents various social groups, causing it to be one of the least progressive forms of digital media (Shaw, 2015). This is because games are mostly made for and by white males. This often results in a "colorblind" approach to race. This orientation holds a strong connection with racist thoughts and actions, both offline and online. As a result, gaming spaces can become fertile ground for racism. But when addressing the online racism in video games, it is often filtered through a white perspective that downplays its impact, and is deemed as funny instead of harmful. Emphasizing that when people of color enter these virtual spaces, it is almost seen as a burden, leading to the punishment of blackness in virtual spaces. And causing humor to trump any concerns about the harm of racism. (LaLone, 2014; Richard & Gray, 2018).

Racism in video games is communicated through various elements, including character representation, environmental design, and audio cues. A study conducted by Children NOW (Glaubke et al., 2001) revealed that only 4% of heroes in the analyzed video games were black, compared to 87% who were white. While 52% of player-controlled characters were white and 37% were black, this difference between hero and player character representation highlights the limited and often stereotypical roles assigned to black characters. These characters frequently appear in supporting roles defined by athleticism, violence, or victimhood, tropes that have contributed to the popularity of the "urban" or "street" game genre. Despite the genre's growth, its core narratives, character types, and environmental settings have remained largely unchanged, consistently revolving around themes such as earning respect, gaining street credibility, and asserting hypermasculinity (Everett & Watkins, 2007).

The design of these game environments is often racially coded to represent "black and brown spaces," typically depicting dangerous urban settings where crime and violence are common. Audio elements, such as police sirens and gunfire, further reinforce these racialized stereotypes by creating an association between blackness and criminality. Collectively, these design choices feed into the stereotype that black people reside in "the ghetto" (Everett & Watkins, 2007).

All these design choices are made to make a game feel more authentic. However, by making a game feel more culturally specific or authentic using stereotypes, it will also facilitate the player with a learning environment that transmits certain conceptions about race and culture.

As for choosing a character to play in an online game, black people often have limited choices. Where the white character has an arsenal of skin tones and hairstyles, the black character often finds itself choosing between one or two skin tones and a limited amount of stereotypical or even comical hairstyles. When choosing a character, we often want them to represent ourselves, this personification gets the player more involved in the game. But when presented with these limited choices, this can harm the players' sense of self. This shows that black people their self-definition and self-representation in the gaming world, again, depend on the white technological framework (Gray & Leonard, 2019).

A telling example of this, are the results from a study done by Lee (2014) regarding "Effects of avatar-based diversity representation on willingness to express offline racial identity and avatar customization". The study found that when non-white players could not make a more diverse character, more accurately depicting them, they also showed less eagerness to reveal their offline racial identity.

Not only is this harmful for the players themselves, but this also hurts the progression of the gaming world as a whole. When black players, or players from any other minority, don't have the tools to create a realistic non-white character, this will result in a lack of non-white player characters. Thus, reinforcing racial hierarchies and stifling industry progress (Dietrich, 2013).

1.3 Coily hair in digital games

Now that we've established how children can internalize societal stereotypes and how video games can reinforce these biases through a predominantly white theoretical and design framework, we can turn our focus to a specific, often overlooked aspect of digital representation: coily hair.

However, before we can talk about the digital representation of coily hair, we must first dive into the history and appearance of the hair texture. In the sources that were found, researchers mostly focused on the experience of black

women regarding hair. This is because the connection of hair to beauty intersects with race and gender, thus providing an extra burden on black women (Cokley, 2023; McGill Johnson et al., 2017). Even though the material highlights the struggle of black women, black men won't be forgotten in this chapter.

What is coily hair

Coily hair is a hair texture that grows in zigzags, s-shapes, or coils. The term coily hair is also used interchangeably with black hair or type 4 hair. Type 4 hair refers to a schematic table invented by the hairdresser of Oprah Winfrey, Andre Walker. He argued that there should be an easier way to define one's hair type to provide the right treatment. However, Walker's chart came with a lot of controversy; it only displayed one dimension of hair, leaving out important factors like porosity. Another point of discussion was the fact that it was looked at, as if only that hair type was possible on someone's head, leaving out the diversity of especially coily hair, since those hair strands can vary between 4a and 4c on one person (Jordan & Oduro, 2023). Additionally, the chart doesn't include all black hairstyles, focusing on the unique pattern of each strand (Illinois State Board of Education, 2021).

Even though these arguments are valid and well-based, Walker's chart is still used nowadays to more easily grasp the definitions of different hair types (Figure 1).

Coily hair is exceptionally versatile. It is capable of being styled in numerous distinct ways, such as bantu knots, cornrows, afros, locs, twists, and various types of braids. Each of these styles is unique to coily hair and carries its own technique, cultural significance, and meaning.

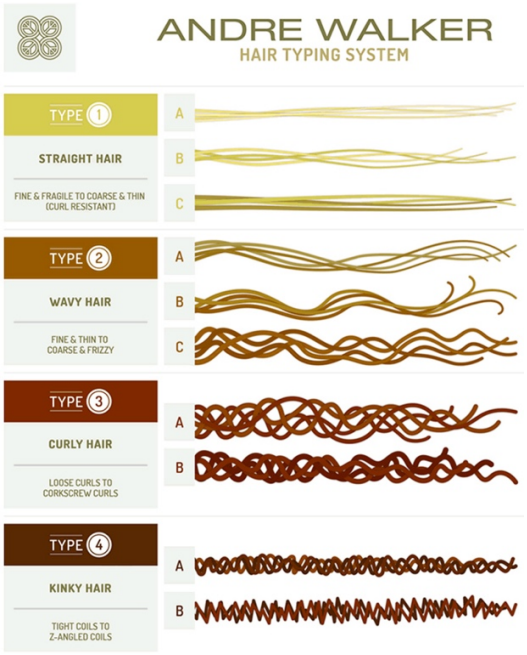


Figure 1: Hair chart designed and developed by Andre Walker, via Divina BLK (https://www.divinablk.com/en/blog/item/348-get-to-know-your-hair-type-with-the-andre-walker-method.html)

History of coily hair

"Don't touch my hair, when it's the feelings I wear"
Solange - Don't Touch My Hair[1]

Coily hair was never "just hair". It was a way of communicating information about the wearer, from one's social status to the clan they belong to, or even religion. Coily hair was, and still is, exceptional to the sense of self and identity for people of African descent. That's why the slave owners' act of shaving the hair of the enslaved Africans was a deliberate act of dehumanization and disruption of their personal history. The slave owners also referred to black people's coily hair as "woolly" or described it as similar to animal fur (Lashley, 2020, Greensword, 2022). It went as far as using enslaved people's skin and hair as accessories (Leather From Human Skin. - [Philadelphia News., 1888)

Because of the raping of black enslaved women by slave owners, mixed children were born with fairer skin and looser curls. Because these children were half white and leaning towards the white beauty standards, they got treated better than their counterparts with darker skin tones and tighter coils. (Langat, 2022)

[1] https://www.youtube.com/watch?v=YTtrnDbOQAU

After slavery, the same mentality was kept. There was even a test to make sure a black person was white enough to enter civic organizations, churches, or sororities. If their skin was lighter than a brown paper bag and a fine-tooth comb could run through their hair, they were deemed “successful” or “good” enough to join (McGill Johnson, Godsil, et al., 2017).

However, black people began to embrace their natural hair with the Black Power movement in the 1960s. Black people were encouraged to wear their natural hair with the afro style. This style was also political as black people didn’t wear it out of aesthetic per se, but out of resistance (Langat, 2022). However, the white majority found this style to be unkempt and militant. This agenda was pushed even more after Angela Davis' (one of the Black Panther activists) picture showed up on the FBI's most wanted fugitive poster for a crime she didn’t commit. In the photo, Angela Davis was portrayed with a big afro, which covers most of the picture (Figure 2). Thus, criminalizing the hairstyle and again, reinforcing the Western beauty standard by claiming that straight hair is the most attractive and professional, and so discouraging black women from wearing their hair in its natural state (Thomas, 2013; Langat, 2022).

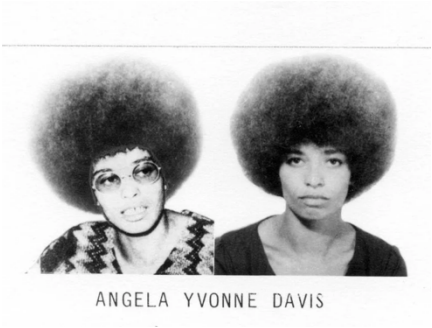


Figure 2: Angela Davis’ photograph used for her wanted poster by the FBI, via the FBI (https://www.fbi.gov/wanted/topten/topten-history/hires_images/FBI-309-AngelaYvonneDavis.jpg/view)

Even though this event happened over 50 years ago, this same mentality exists nowadays. A study done by McGill Johnson, D. Godsil, et al. (2017) researched the existing biases against black women's textured hair. They found that white women show explicit bias toward black women’s textured hair and that black women perceive a level of social stigma against textured hair, substantiated by white women’s devaluation of natural hairstyles. Another study by McGill Johnson, D. Godsil, et al. (2017) found that black women, as compared to white women, received higher penalties when they wore Afrocentric rather than Eurocentric hair.

The same goes for black men. For them, long or braided hair is seen as unprofessional. The lawsuit Arnold v. Barbers Hill Independent School District is a good example of this. De’Andre Arnold sued BHISD because of their racist grooming policy, forcing him to cut his locs to attend his graduation. Because De’Andre Arnold didn’t comply to the white standards that were laid upon him, he got suspended and excluded from extracurricular activities (Legal Defense Fund, z.d.).

Though these biases still exist, a new movement has emerged: The Natural Hair Movement. Finding its roots in the Black Power movement, this movement focuses on discovering the authenticity of black people, with hair just being one of the aspects to do so. The Natural Hair Movement also differs from other movements because of the current shift in

beauty standards. This shift emerged because the population of minorities grew quickly, causing companies to also include products for this audience. This way, diversity became more embraced, and this shift in mainstream beauty has formed an environment where black women can feel more comfortable with their natural hair because it is socially more accepted (Wilkerson, 2017).

Representation of coily hair in digital media

Though the representation of coily hair has been more present in real life, the representation of black hairstyles in general is missing in the digital world. Look at emojis for example. Everyone in this day and age uses digital expressions and icons. They range from mermaids to vampires but yet not one of the emojis have commonly worn black hairstyles. Yet there are different colored hairstyles like ginger, black, and blonde. But even then, the user can see that straight hair is the norm. (The Guardian. 2024, October 6). Another great and telling example is a scene from the animated child series Winx Club. In one of the episodes, the character named Layla cries in the hallway. Upon asking her what was wrong, she referred to her hair. Cryingly stating that "normally it's straight, I was just walking down the hall and..poof", referencing the afro. Still crying, the white protagonist touches the hair, which makes it wiggle, and looks concerned and dirty at crying black girl. Another white protagonist audibly says in a disgusted voice "what is that?", which makes the black girl cry even harder and in turn run away[2].

Hair in video games, like in the physical world, is never just about aesthetics. Even digital hair that is not photorealistic holds both symbolic and cultural weight. It carries the same social, emotional, and even spiritual meanings across virtual spaces as it does in real life. Hair has always represented identity, power, and history, even in its digital form (Ivănescu, 2020)

Yet in the gaming industry, realistic coily hairstyles remain largely absent. The industry often excuses this by citing financial and technological limitations, claiming that every additional customization option requires extra development time, computational rendering, and budget. This so-called "expense" results in developers prioritizing a narrow user base, usually white and male. Any efforts to expand customization options are either paywalled, hidden behind loot boxes, or simply never developed (Journal of Futures Studies, 2019; Ivănescu, 2020).

When choosing a character, we often want them to represent ourselves; this personification gets the player more involved in the game. Avatar design directly influences self-perception, emotional engagement, and even learning during gameplay. So, when players can't create avatars that look like them, especially regarding hair, they are forced into cognitive dissonance, which can harm the players' sense of self. (Gray & Leonard, 2019, Journal of Futures Studies, 2019).

Black people often have limited choices. Where the white character has an arsenal of skin tones and hairstyles, the black character often finds themselves choosing between one or two skin tones and a limited amount of stereotypical or even comical hairstyles. This results in the systematic exclusion of authentic Black hairstyles (Gray & Leonard, 2019). A study done by Dietrich best portrays this problem. Out of the 85 RPGs and MMORPGs that were examined, they concluded that only 13 offered customizing options for natural Black hair, black skin tones, and black facial details (Dietrich, 2023)

Not only is this harmful for the players themselves, but this also hurts the progression of the gaming world as a whole. When black players, or players from any other minority, don't have the tools to create a realistic non-white character, this

[2] https://youtu.be/8mw_Cnjo13U?feature=shared

will result in a lack of non-white player characters. Thus, reinforcing racial hierarchies and stifling industry progress (Dietrich, 2023)

1.4 Communicating acceptance through video games to children

But what even makes video games important? The way we play is the way we understand the world. Video games are established cultural products and can be seen as socially organized phenomena that embody important aspects of contemporary society. Using this statement, video games can remake and even exemplify ideas of inequality and power. This makes video games the best entry points for understanding real-life and digital cultures (Chopra, 2022; Gray, 2014). Building on this, it is also possible to change the narrative with video games to shed light on minorities or systemic inequalities

A good example is a category of games that focuses on science or educational purposes: serious games. Games have been used mainly for entertainment purposes, but this changed around 1970 when the games Lemonade Stand[3] and The Oregon Trail[4] were released by the Minnesota Educational Computing Consortium. The first teaching about business management and the last being a huge success in teaching the history of American colonists. This set the stage for future serious games regarding concepts of well-being, interpersonal communication, health care, and cultural heritage. The concept cultural heritage in serious gaming can be divided in the reconstruction of history, virtual museums, and cultural demonstrations. If the goal is to educate players about the customs and social values of other cultures, the concept of cultural demonstrations through storytelling is the most effective (Laamarti et al., 2014).

In the first section of this background study, it was highlighted that learning about contradicting stereotypes can weaken social biases. So learning about people who look and don't look like you through storytelling in a positive light is detrimental. This form of intuitive learning can be made possible by video games. It can even display hallmarks of an ideal learning environment because of the possibilities of situated learning and socialization. For social studies, gaming has an immensely positive effect on students, by allowing the student to immerse themselves in the digital world. This leads to an understanding of this world and encourages deeper learning (Arias, 2014; Richard & Gray, 2018). Thus, video games can effectively teach acceptance by immersing players in interactive, empathetic experiences. By engaging players in scenarios where they must navigate challenges faced by others, video games foster understanding and empathy for diverse perspectives. Players feel a sense of personal growth as they learn about different cultures and struggles through gameplay, leading to increased awareness and acceptance. This interactive learning approach makes video games powerful tools for promoting acceptance and intercultural understanding. (Shliakhovchuk, E. 2018)

[3] https://classicreload.com/play/apple2-lemonade-stand.html#
[4] https://oregontrail.ws/games/the-oregon-trail/play/

2 MY COILY SUPERPOWERS

My Coily Superpowers[5] is a 2D video game designed for educational contexts, in which students guide a fictional character on a journey home to ensure their guardian can wash and comb their hair. Along the way, the character must navigate a series of challenges, including encounters with enemy lice and projectiles in the form of "lice balls" and challenging level designs. Players engage with level design and enemy interactions through unique abilities originating from the character's coily hair.

For educators, My Coily Superpowers serves as a tool that can promote discussions about diversity, identity, and representation. The game also intends to help pupils discover their own biases.

Immersion

To ensure broad appeal and engagement among students of all gender identities, the game's main character has been deliberately designed as non-binary. This inclusive design decision aims to weaken gender-based bias and encourage equal participation from every participant. The character wears gender-neutral clothing and lacks defining facial features such as eyes or a detailed mouth (Figure 3). This visual ambiguity supports the player's ability to project their own identity onto the character, fostering greater immersion and identification. Furthermore, the goal of the game was well thought in order to make sure all participants related. Children often forget the time when they are playing outside, resulting in them coming home late. Therefore, making the game objective to go home in time is almost obvious.

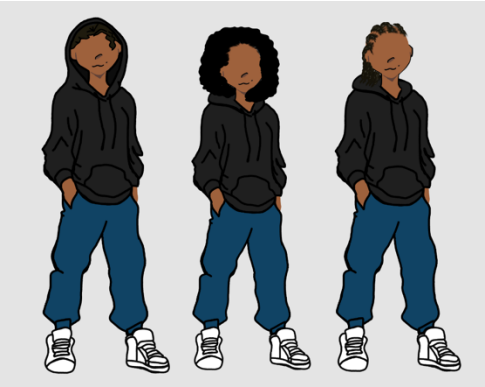


Figure 3: Main character design for My Coily Superpower, made by (digital) artist Valeska Ndayema

Hair as a Source of Power and Representation

A central design element of the game is the association of the character's abilities with their coily hair. By attributing superpowers to the character's hair, the game seeks to establish a positive link between coily hair textures, strength, and versatility. This approach challenges prevailing stereotypes that often portray coily hair as unmanageable or limited, and instead celebrates its uniqueness and adaptability. The game thereby functions not only as a source of entertainment but also as a culturally affirming experience that uplifts underrepresented hair types within digital spaces.

[5] https://larissa-ndb.itch.io/mcs

2.1 Gameplay

The gameplay in *My Coily Superpowers* begins with an introductory level that familiarizes players with the mechanics and objective of the game: returning home on time after school. After completing this introductory level, players are presented with a narrative cutscene. In this scene, the character's guardian, who shares the same coily hair texture, engages in a hair-care routine, washing and styling the character's hair into an afro. The guardian names and praises the hairstyle, establishing a positive association with it.

Following this cutscene, the first level introduces the player's initial superpower via an in-game pop-up notification. The afro hairstyle is transformed into a larger form that covers the character, functioning as a protective shield.

Before going to the second level, another cutscene is triggered. During this scene, the character's hairstyle is transformed from an afro into cornrows, a style of braids that lie close to the scalp. As in the previous cutscene, the guardian both names and compliments the hairstyle, continuing the game's emphasis on positive reinforcement and cultural validation.

At the beginning of the second level, a new pop-up notification introduces the cornrows' superpower: enhanced speed, derived from the aerodynamic appearance of the hairstyle. The level design incorporates time-sensitive platforms that crumble when stood upon for too long, forcing the player to use the superpower to finish the level.

The game concludes with a final scene that recaps the two hairstyles, the afro and cornrows, accompanied by the celebratory message: *"You've discovered your powers!"*. Images from the gameplay can be found in Figure 4.

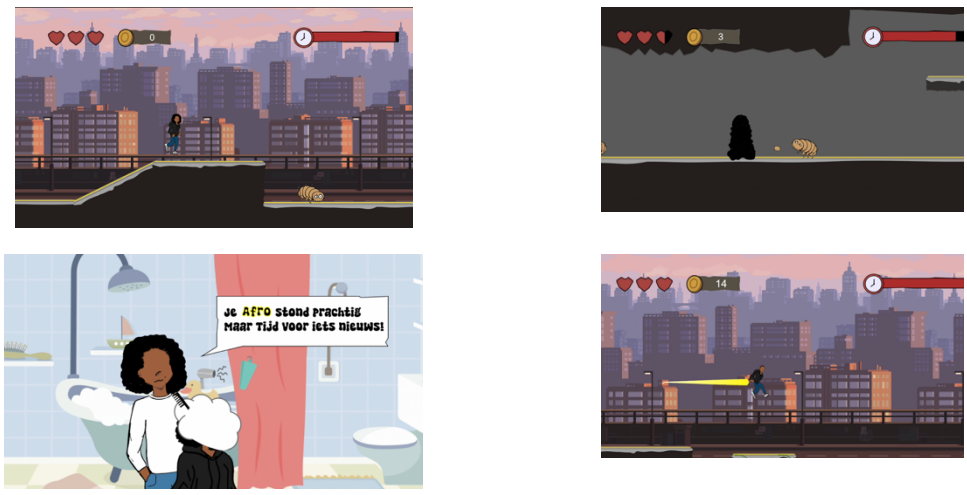


Figure 4: Images of the gameplay from MCS.

3 METHODOLOGY

Participants and Demographics

The participants in this study were children between the ages of six and eight. All were enrolled in the third grade at Dutch primary schools located in Alphen aan den Rijn and Rotterdam.

Qualitative and quantitative research

For this study, qualitative and quantitative research have been put to use.

Qualitative: Use the game as a conversation starter, focusing on why and how children experience it via interviews and observations.

Quantitative: Compare experiences between attitudes towards coily hair before and after the game, using surveys and numerical analysis.

Structure and Timing of Contact Moments

The research design consisted of two contact moments, spaced two weeks apart. This delayed assessment also allows children to contextualize and potentially apply the lessons or attitudes encountered in the game to real-life situations, enhancing the depth of their reflections during the interview. This approach is particularly relevant for educational games or games aimed at social development, where researchers often want to gauge whether children internalize and retain the game's key messages over time (PLOS ONE Staff, 2015).

Group and Individual Interviews

During the first contact moment, a group (classroom-based) session was conducted. Children were first asked about their existing knowledge of coily hair. This included tasks such as drawing coily hair, stating whether they knew someone with coily hair, and expressing their opinions about the hair texture. To assess their opinions, a visual aid featuring four smileys, ranging from a green happy face to a red frowning one **(**Figure 5**),** was used to help children indicate their attitudes.

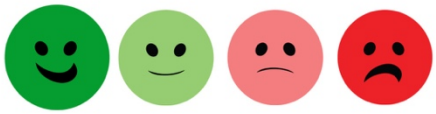


Figure 5: HappyOrNot customer satisfaction smileys, via FourSmileys (https://www.foursmileys.com)

After this initial inquiry, the children played the *My Coily Superpowers* video game. Following gameplay, they participated in a group discussion where they were asked about the superpowers of the main character, how to use them, and where these powers originated from. Finally, their opinion about coily hair was assessed again, and they were asked

whether their perception of people with coily hair had changed as a result of the game. Again, participants were asked to use the visual four smileys aid.

The second contact moment replicated some of the initial questions to estimate retention and potential attitude shifts. Children were asked what they remembered about the game, how they would now describe coily hair, and what their current opinion was regarding the hair texture and people who have it. They were also asked whether they had talked about coily hair with anyone since playing the game.

In addition to the group interviews, individual interviews were conducted during the second contact moment to collect more personal and detailed insights. Before these interviews, informed consent was obtained from the participants' guardians (see Appendix 2). Because of the diverse backgrounds of the participants, both a consent form written in Dutch and one written in Arabic were sent.

Each child was assigned a randomized participant code, which was also included on the consent form, ensuring that all data could be traced or deleted if requested.

In the one-on-one interviews, children were asked about their age, city of residence, and ethnic background. The participants' current hairstyle and skin tone were also recorded. The interview then moved on to the digital games they play, which characters they typically choose, and whether or how they treat people differently based on hair texture. The final set of questions focused on the impact of the game: what they had learned about coily hair, whether their opinions had changed, and whether they would like to see more characters with coily hair in future games. To help the participant define their own hair texture and their opinion on different hair textures, a second visual aid, a drawing similar but more cartoon-based, of the hair type chart was used (Figure 6)

For both all the contact moments with the participants, questionnaires have been used. For the questionnaire used in both classical assessments, see Appendix 3. For the questionnaire used in the individual interviews, see Appendix 4.

Figure 6: Hair texture chart by HairCode, via HairCode (https://haircode.com/articles/hair-texture-chart/)

The detailed procedure of the research can be found in Appendix 1.

4 RESULTS.

Among In total, 28 participants of OBS Blijvliet and 18 participants of OBS de Wereldwijzer participated in this research. These groups differ a lot from each other. The Blijvliet is located in Rotterdam South where a lot of disadvantaged neighborhoods are situated. The children from this school have a very diverse background. The Wereldwijzer is located in Alphen aan den Rijn, a city with predominantly white citizens and very few low-income neighborhoods.

To give a clear overview of the results that were conducted during these tests, some answers will be given as an average of the two schools, and some will be done individually.

Assessment one

During the first session, all students reported occasionally making remarks about other people's hair. These remarks were consistently positive. The compliments from students at the Blijvliet were aimed at people with diverse features. Ranging from black people with coily hair to white people with red hair. The comments from students at the Wereldwijzer were exclusively directed toward individuals with straight hair. The comments typically concerned hair color or length.

All students expressed a strong appreciation for their own hair. Some even stating that it's the "best hair in the world!" and some expressing gratitude towards their hair because their parent have the same texture or color

To assess their baseline knowledge of coily hair, the students were asked to draw coily hair without any visual references. 16 out of the 28 children (57.8%) from the Blijvliet were initially unable to depict coily hair accurately. From the Wereldwijzer, 17 out of 19 (89%) were unable to draw coily hair. After being shown an example, 13 (46.6%) of the scholars from Blijvliet failed to illustrate it correctly, compared to none of the students from the Wereldwijzer.

At the Wereldwijzer, 3 (15.8%) participants reported that they knew people with coily hair, at Blijvliet, 12 (42.9%) students reported that they knew people with this hair type. From this group of students, some had family members with coily hair, had friends with coily hair, or had coily hair themselves.

When asked how they felt about coily hair, 17 (60.7%) children from the Blijvliet selected a positive (green) smiley, while 11 (39.3%) selected a negative (red) one. From the Wereldwijzer, 6 (33.3%) children selected a positive (green) smiley, while 12 (66.7%) selected a negative (red) one.

When asked again about their opinion of coily hair post-gameplay, the results shifted. Students from the Blijvliet shifted to 21 (75%) positive smileys and 6 (25%) negative ones. Students from the Wereldwijzer shifted to 10 (55%) positive smileys and 8 (45%) negative ones.

The students generally found the game enjoyable, but at times challenging. They appreciated the game's environment, characters, and the superpowers featured within. The classes clearly understood how to use these superpowers to progress through the game's levels, and they understood that the characters' powers were derived from their hair. One student noted, "the hair protected us from the caterpillars," while another said, "the braids made us faster." One student directed themselves on the versatility of the hair: "(Their) hair can change sizes and can transform to different styles." Some participants struggled to understand the terminology of the hairstyles, however, they still could connect the hairstyles to the in-game superpowers.

After comparing the in-game hairstyles with real-life representations, the group began to recognize the connection between them. Following gameplay, 33 of the 46 children (71.7%) reported a shift in perception, viewing people with coily hair as individuals capable of protecting themselves or being exceptionally fast.

Assessment two

In the second session, 17 of the 28 students (60.7%) from the Blijvliet were immediately able to draw coily hair accurately without being shown an example. From the Wereldwijzer, 16 of the 19 students (84.2%) were able to draw the hairy correctly (Figure 7).

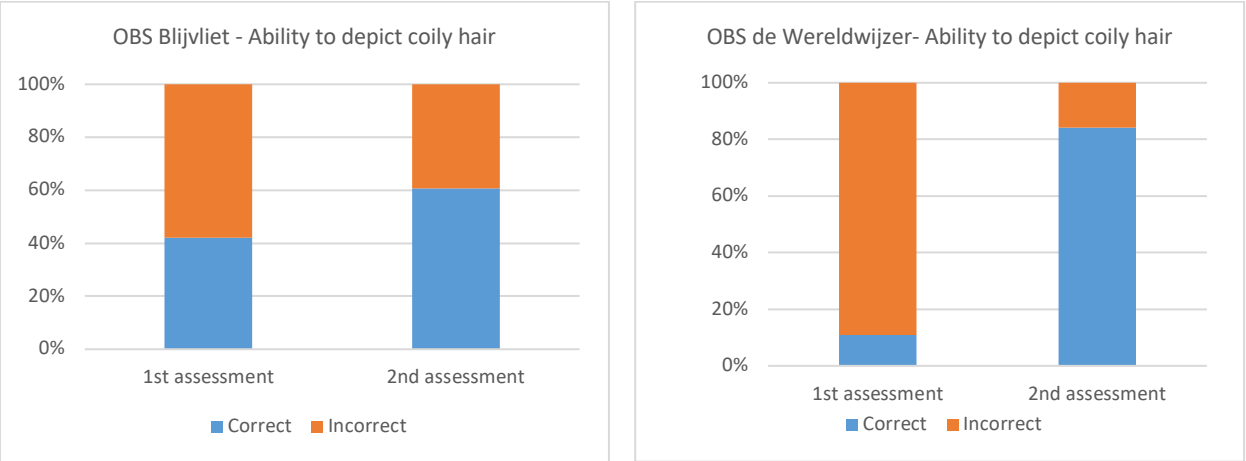


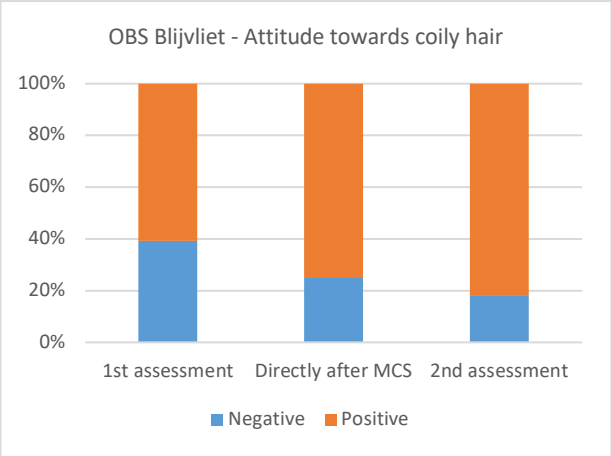
Figure 7: Ability to depict coily hair.

All participants recalled the game's mechanics well and could name the various superpowers and their origins.

When asked what they had learned from the game, in total, 36 out of the 46 (78%) students reported acquiring new knowledge, specifically about the definition of coily hair, and the range of hairstyles it can include.

When asked how they felt about coily hair two weeks after playing the game, from the Blijvliet, 23 (82%) children selected a positive smiley, 5 children selected a negative smiley (18%). From the Wereldwijzer, 6 students selected a positive smiley (37%) , 13 students selected a negative smiley (63%) (Figure 8).

All participants were now better able to distinguish coily hair from other hair types and thus found it easier to form opinions. 32 out of the 46 (70%) children reported that they had spoken to others about coily hair following the game and had started recognizing people with coily hair more frequently in their environment.



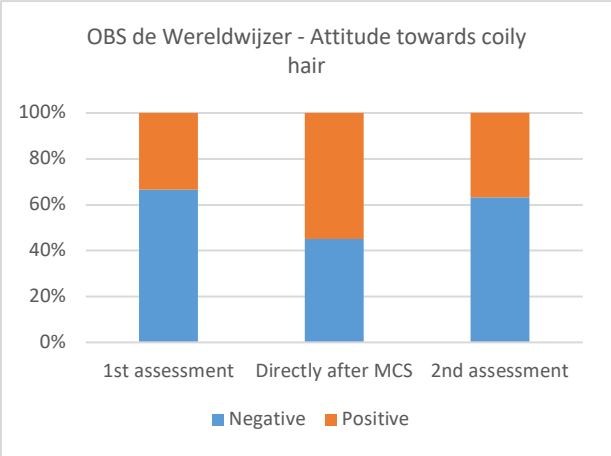


Figure 8: Attitude regarding coily hair.

Individual Interviews

Individual interviews were conducted with a total of 28 students. With 11 out of the 28 Blijvliet students and with 17 out of the 18 Wereldwijzer students. The individual interviews were held to explore their insight more deeply.

The 11 Blijvliet students all had diverse backgrounds, with most have white light skins. The backgrounds of these pupils ranged from Bulgarian and Romanian to Cape Verdian and Surinamese. The 17 Wereldwijzer students were mostly Dutch with four ethnically diverse participants. Most of these participants were white. All participants had straight hair, ranging from 1 to 2c. Except for one, they had 4a type hair.

When asked how important their own hair was to them, 14 children said it was not important, 2 said it was somewhat important, and 12 children said it was very important.

On average, students reported playing online games fairly often. However, students from the Blijvliet reported to play more frequently. When asked to rate this on a 5-star scale, the average was 4.91 out of 5 for students of the Blijvliet and 3.83 out of for students from the Wereldwijzer. Of the characters in the games that are supposed to represent people, in total, 10 (35.7%) children noted that characters typically had light skin and blonde, red, or blue hair, and 12 (42.9%) said the characters had varied skin tones and hair colors, mostly referring to the game Brawl Stars or Toca Boca. However, regarding the representation of coily hair in the video games they played, the participants stated that they “rarely” or “never” saw characters with the hair type.

When asked whether it was important to see themselves represented in digital media, the average rating from all participants was 2.27 out of 5. Some students reported they had never considered the issue, while some expressed frustration when characters didn’t look like them, and some made their character resemble them using customization options. When asked how important it was to see diversity in games more generally, the average score was 3.22 out of 5.

15 children (53.6%) believed that people with different hair types are not treated equally, 2 didn’t know (7.1%), and 6 (21.4%) believed everyone was treated equally. Of these 15 children who believed in inequality based on hair types, 10 of those noted that individuals with coily or curly hair (from type 3a/b and above) were treated worse than those with straight hair.

When asked about their own behavior toward others based on hair type, 21 children (75%) said they never treat others differently based on hair, 3 (10.7%) said they sometimes do, 1 (3.6%) was unsure, and 2 stated they always do (7.1%). The children who stated to sometimes treating others differently clarified that they were not unkind to those with different hair,

but were friendlier toward peers with similar hair. The children who stated they always treat others differently said they were less kind to people with coily hair.

On the question of whether they had learned something new from the game, 24 children (85.7%) answered yes, 4 (14.3%) said no. Of those 24 who said yes, 5 (20.8%) referenced the game mechanics, 19 (79.2%) mentioned learning about the appearance, definition, or styles of coily hair.

When asked whether their behavior toward people with coily hair had changed after playing the game, 10 children (90,9%) from the Blijvliet and 10 children (58,8%) from the Wereldwijzer reported being kinder or friendlier (e.g., giving compliments or choosing to play with children with coily hair). The remaining total of 9 children said their behavior remained the same, usually because they had not interacted with anyone with coily hair. None of the children reported a decline in behavior (Figure 9).

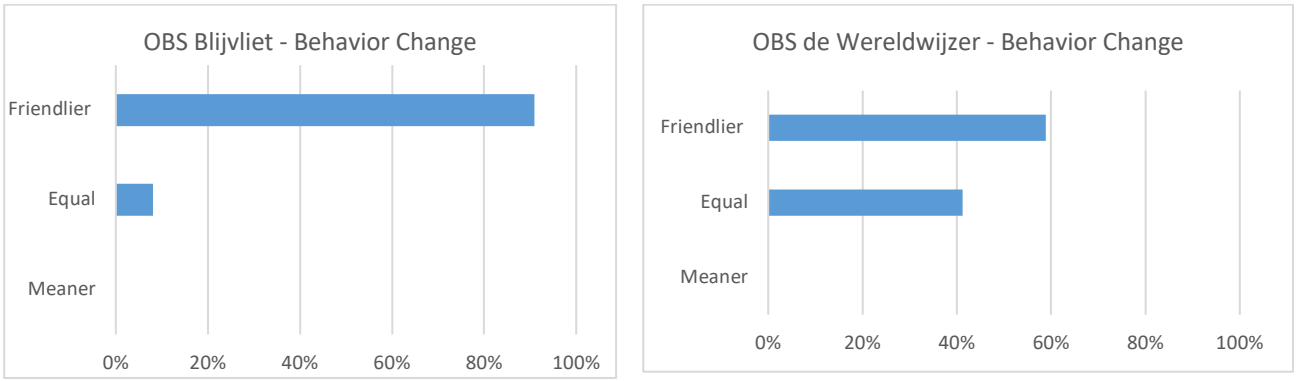


Figure 9: Behavior change two weeks after playing MCS

Regarding character representation in games, 21 children (75%) expressed a desire to see more characters with coily hair in online games, while 7 (25%) did not share this preference. Among the first group, one child said they enjoyed the study's game and wanted to see similar characters elsewhere, while others commented that they liked how the coily hair looked in the game. Among the second group, all cited a personal dislike of coily hair as the reason they did not want to see it more frequently in games.

5 CONCLUSION

This study explored whether an educational video game could enhance the acceptance of coily hair among third-grade primary school students. Grounded in Critical Race Theory, the game aimed to counteract the persistent lack of authentic representation of Black hair textures in digital media, especially in video games, by positioning coily hair not as a disadvantage but as a unique source of superpowers

The study's findings suggest that *My Coily Superpowers* had a measurable impact on the participating children's knowledge, attitudes, and behaviors regarding coily hair. Before playing the game, few students from either school could accurately depict or define coily hair. Following gameplay, however, a substantial increase in understanding was observed, most notably at Wereldwijzer, where 84% of students could correctly identify or draw coily hair compared to just 11% before gameplay. At Blijvliet, this improvement was also significant, increasing from 42% to 60%.

In terms of attitudinal change, students at Blijvliet demonstrated a 20% increase in positive opinions about coily hair. While students at Wereldwijzer did show a shift of 20% increase in positivity right after playing the game, it did not show the same shift through group-based measurements two weeks after the first assessment. However, the individual interviews revealed that 58.8% had adopted a more positive stance towards individuals with coily hair. At Blijvliet, this behavioral shift was even more pronounced, with 90.9% of individually interviewed students indicating that they had positively changed their behavior. The students who answered that they had a more positive attitude towards people with coily hair, said that they offered them more compliments or initiated interaction.

Demographics played a notable role in these outcomes. Blijvliet, located in a culturally diverse area, provided a context in which students could become more familiar with coily hair and thus more readily apply the lessons of the game. In contrast, Wereldwijzer, situated in a predominantly white area, showed less behavioral change, though cognitive understanding still improved.

Furthermore, having 75% of individually interviewed participants answer that they would like to see more coily haired player-controlled characters in video games shows that the current video game industry lacks diversity, and more is wanted. This points to the game's potential not only as an educational tool but also as a medium for fostering positive identity formation.

Despite the limitations which will be discussed in the discussion section, this study provides compelling evidence that the representation of coily hair in video games can positively influence children's perceptions of this marginalized trait. It therefore supports previous research on the importance of representation in media and aligns with key principles of Critical Race Theory, particularly the power of counter-stories. By centering coily hair as a source of pride, versatility, and power, *My Coily Superpowers* not only offered an entertaining gameplay experience but also contributed meaningfully to the larger conversation about identity, inclusion, and digital representation in educational contexts. Moreover, the game showed that representation in video games can add to the knowledge and behavior of children aged 6 to 7.

6 DISCUSSION

The findings of this study suggest that while the game's concept and mechanics were generally well understood by the students, the level design sometimes presented challenges. Participants from the Wereldwijzer reported that time constraints made it difficult to complete levels without assistance from teachers. This indicates that, for Grade 3 students at Wereldwijzer, the time element in the game was quite hard, which could have distracted them from the goal. Future iterations should consider simplifying the gameplay or offering adjustable difficulty settings to ensure accessibility for all skill levels.

An additional insight emerged regarding platform preference. Many students indicated that they are more accustomed to playing games on tablets or smartphones rather than desktop computers. This suggests a potential mismatch between the game's platform and the players' typical gaming experience, which may have influenced engagement and ease of play. For broader usability and impact, future versions of the game should prioritize mobile optimization.

Regarding the data collection process, a noteworthy observation was the influence of group dynamics during classroom discussions. In group settings, children's responses were sometimes shaped or altered by their classmates, potentially leading to less candid answers. However, when interviewed privately, students offered different perspectives. While this shift in responses may reflect increased comfort in one-on-one settings, it is important to acknowledge the possible influence of researcher bias. Given that I share similarities with the game's protagonist, including coily hair and darker skin, participants may have felt compelled to give socially desirable responses that align with expectations.

The small sample size is another limitation of this study. While schools were strategically chosen to ensure geographic diversity and representation across different classes per school, the overall sample remains limited. Therefore, while the results offer promising indications, they should be interpreted with caution. Replication with a larger and more diverse cohort is necessary to confirm the findings and assess regional variation.

Despite these limitations, the results provide early evidence that representation in video games can contribute positively to young children's acceptance of coily hair. The fact that students used the hair-based superpowers correctly and had a positive behavior change after playing the game suggests a strong level of engagement with and understanding of the central concept.

ACKNOWLEDGMENTS

I would like to thank my family and friends for supporting me through this journey. This thesis has been one of the academically most challenging and enjoyable projects I've done so far in my life. And during this, I could always count on their unconditional love and support, which I will forever be grateful for. I also want to thank my supervisors, Dr. Max van Duijn, for his amazing knowledge and expertise in guiding me through the academic part of the project, and Nicky Heijman, whose knowledge of games regarding marginalized groups provided me with a great framework. Furthermore, I want to thank Valeska Ndayema for her commitment and creativity concerning the character development, which proved to be an important factor in my research.

REFERENCES

A. Mills, K., & Godley, A. (2018). *Race and racism in digital media: What can critical race theory contribute to research on Techno-Cultures?* https://library.oapen.org/viewer/web/viewer.html?file=/bitstream/handle/20.500.12657/52626/9781315465258_10.4324_9781315465258-12.pdf?sequence=1&isAllowed=y

Block, K., Gonzalez, A. M., Choi, C. J. X., Wong, Z. C., Schmader, T., & Baron, A. S. (2022). Exposure to stereotype-relevant stories shapes children's implicit gender stereotypes. *PLoS ONE*, *17*(8), e0271396. https://doi.org/10.1371/journal.pone.0271396

Chopra, J. S. (2022). The Sociology of Video Games in Contemporary Society. *Zenodo (CERN European Organization For Nuclear Research)*. https://doi.org/10.5281/zenodo.7437767

Christakis, D. A., & Hale, L. (2024). *Handbook of Children and Screens: Digital Media, Development, and Well-Being from Birth Through Adolescence*. Springer Nature.

Cokley, K., PhD. (2023, 12 december). Fighting notions of respectability and race-based hair discrimination. *Psychology Today*. https://www.psychologytoday.com/us/blog/black-psychology-matters/202312/the-politics-of-black-hair

Colorblind racism. (2019). Google Books. https://books.google.nl/books?id=0Ht-DwAAQBAJ&lpg=PT5&ots=BG-zMDjPp2&dq=colorblind%20racism&lr&hl=nl&pg=PT12#v=onepage&q=colorblind%20racism&f=false

Critical race theory. (z.d.). Google Books. https://books.google.nl/books?hl=nl&lr=&id=lLXTyrlM59MC&oi=fnd&pg=PR11&dq=critical+race+theory&ots=2Ds_1Ldufl&sig=JB-9PFZ9kdp-Hth8QORIe25RGsE#v=onepage&q=critical%20race%20theory&f=false

Dietrich, D. R. (2013). Avatars of Whiteness: Racial Expression in Video Game Characters. *Sociological Inquiry*, *83*(1), 82–105. https://doi.org/10.1111/soin.12001

Dietrich, D. R. (2023). Reexamining Avatars of Whiteness: Changes in Racial Presentation of Video Game Player Characters. In *Sociation* (Vols. 1–1, pp. 21–31) [Journal-article]. https://sociation.ncsociologyassoc.org/wp-content/uploads/2023/03/avatarwhiteness_proof_final.pdf

Glaubke, C. R., Miller, P., Parker, M. A., Espejo, E., Children Now, Heintz-Knowles, K., & Henderson, J. (2001). Fair Play? Violence, gender and race in video games. In *Children Now*. https://files.eric.ed.gov/fulltext/ED463092.pdf

Gray, K. L. (2014). *Race, Gender, and Deviance in Xbox Live: Theoretical Perspectives from the Virtual Margins*. Routledge.

Greensword, S. N. (2022). Historicizing black hair politics: A framework for contextualizing race politics. *Sociology Compass*, *16*(8). https://doi.org/10.1111/soc4.13015

Illinois State Board of Education. (2021). *Black hairstyles* [Historical]. Historical Significance And Etymology. https://www.isbe.net/Documents/Historical-Significance-of-Black-Hairstyles.pdf

Ivănescu, A. (2020). Flow it, show it, play it: Hair in digital games. In *Proceedings Of DiGRA 2020*. Authors & Digital Games Research Association DiGRA. https://bura.brunel.ac.uk/bitstream/2438/22335/1/FullText.pdf

Jordan, R., & Oduro, K. (2023). Coils & Curls: A mathematical tapestry of black hair: Within every curl, there is a pattern that has yet to be explored. *Algorithmic Pattern*. https://doi.org/10.21428/108765d1.11365d67

Journal of Futures Studies. (2019, 22 december). *The Erasure of Virtual Blackness: An Ideation About Authentic Black Hairstyles in Speculative Digital Environments * Journal of Futures Studies*. Journal Of Futures Studies. https://jfsdigital.org/articles-and-essays/vol-24-no-2-december-2019/the-erasure-of-virtual-blackness-an-ideation-about-authentic-black-hairstyles-in-speculative-digital-environments/

Laamarti, F., Eid, M., & Saddik, A. E. (2014). An Overview of Serious Games. *International Journal Of Computer Games Technology*, *2014*, 1–15. https://doi.org/10.1155/2014/358152

LaLone, N. (2014). Racism in Video Gaming: Connecting Extremist and Mainstream Expressions of White Supremacy. *Unomaha*. https://www.academia.edu/460620/Racism_in_Video_Gaming_Connecting_Extremist_and_Mainstream_Expressions_of_White_Supremacy

Langat, M. (2022). *Don't Touch My Hair: Examining the Natural Hair Movement Among Black Women*. The Asbury Journal. https://place.asburyseminary.edu/asburyjournal/vol77/iss1/5

Lashley, M. (2020). The importance of hair in the identity of Black people. *Nouvelles Pratiques Sociales*, *31*(2), 206. https://doi.org/10.7202/1076652ar

LEATHER FROM HUMAN SKIN. - [Philadelphia News. (1888, 17 maart). Trove. https://trove.nla.gov.au/newspaper/article/9144128

Lee, J. R. (2014). Does virtual diversity matter?: Effects of avatar-based diversity representation on willingness to express offline racial identity and avatar customization. *Computers in Human Behavior*, *36*, 190–197. https://doi.org/10.1016/j.chb.2014.03.040

Legal Defense Fund. (z.d.). *Natural hair discrimination*. https://www.naacpldf.org/natural-hair-discrimination?

McGill Johnson, A., D. Godsil, R., MacFarlane, J., R. Tropp, L., & Atiba Goff, P. (2017). The "Good Hair" study: Explicit and implicit attitudes toward Black women's hair. *Perception Institue*. https://perception.org/publications/goodhairstudy/

McGill Johnson, A., Godsil, R. D., Godsil, R. D., MacFarlane, J., Tropp, L. R., Goff, P. A., Perception Institute, Seton Hall University School of Law, University of Massachusetts Amherst, & John Jay College of Criminal Justice. (2017). *THE "GOOD HAIR" STUDY: Explicit and Implicit Attitudes Toward Black Women's Hair* (New York University, University of Washington, Workers Center for Racial Justice, Progressive Era Project, Little Red School House & Elizabeth Irwin High School, University of Pennsylvania, University of California, Berkeley, Rutgers University at Newark, SPACEs, University of California, Los Angeles, School of Law, University of California, Irvine College of Law, Ford Foundation, W.K. Kellogg Foundation, SheaMoisture, & New York University's SPAM Lab, Reds.). https://perception.org/wp-content/uploads/2017/01/TheGood-HairStudyFindingsReport.pdf

Mulvey, K. L., Hitti, A., & Killen, M. (2010). The development of stereotyping and exclusion. *Wiley Interdisciplinary Reviews Cognitive Science*, *1*(4), 597–606. https://doi.org/10.1002/wcs.66

NBC News. (2025, 7 januari). *Meta's new hate speech rules allow users to call LGBTQ people mentally ill*. https://www.nbcnews.com/tech/social-media/meta-new-hate-speech-rules-allow-users-call-lgbtq-people-mentally-ill-rcna186700

Ravitch, S. (2021, 24 november). *Critical Race Theory, Fire, and Dangerous Things — Sage Research Methods Community*. Sage Research Methods Community. https://researchmethodscommunity.sagepub.com/blog/critical-race-theory-fire-and-dangerous-things

Richard, N. G. T., & Gray, N. K. L. (2018). Gendered Play, Racialized Reality: Black Cyberfeminism, Inclusive Communities of Practice, and the Intersections of Learning, Socialization, and Resilience in Online Gaming. *Frontiers A Journal Of Women Studies*, *39*(1), 112. https://doi.org/10.5250/fronjwomestud.39.1.0112

Rostagno, E. (2022, 19 mei). *Why racial and cultural representation matters – Monroe County CASA*. Monroe County CASA. https://monroecountycasa.org/why-racial-and-cultural-representation-matters/#:~:text=Lack%20of%20representation%20can%20also,of%20these%20groups%20are%20accurate

Shaw, A. (2015). *Gaming at the Edge*. https://doi.org/10.5749/minnesota/9780816693153.001.0001

Solange Knowles. (2016, 3 oktober). *Solange - Don't Touch My Hair (Video) ft. Sampha* [Video]. YouTube. https://www.youtube.com/watch?v=YTtrnDbOQAU

Thomas, T. (2013). "Hair" They Are: The Ideologies of Black Hair. *The York Review*. https://www.york.cuny.edu/english/tiffanythomashair9-1.pdf

Wilkerson, K. (2017). *The natural hair movement* (A. Carlisle & A. Adamson, Reds.) [Continuum Undergraduate Research Journal, Atlanta University Center Robert W. Woodruff Library]. https://hdl.handle.net/20.500.12322/auc.spelcont:0008

A APPENDICES

1. Research protocol

Groot protocol

Er is contact met de scholen gezocht door fysiek langs te gaan en te vragen naar de directie. Hier is het onderzoek gepitcht en is er gekeken of er interesse en tijd is om dit project uit te voeren. Na een positieve reactie vermeldde de scholen hoeveel klassen van groep 3 of 4 zullen participeren waarna de consentformulieren, zowel in het Nederlands als Arabisch, worden verstuurd.

De ouders hebben een maand de tijd om de toestemmingsformulieren te tekenen en in te sturen. Hierna zal het eerste contact moment plaatsvinden. Bij dit eerste contactmoment zal de onderzoeker de klas betreden en zich voorstellen. De testgroep zal daarna beginnen met het spelen van het spel [zie klein protocol 1; pre-test groep].

Na het spelen van de game zal er een kringgesprek gehouden worden waar er wordt gevraagd naar de dingen die de testgroep zijn opgevallen. De vragen zijn vooraf zorgvuldig samengesteld. De antwoorden worden schriftelijk genoteerd. Er worden geen video of geluidsopnames afgenomen.

Na het eerste contactmoment volgt na minimaal twee weken een tweede contactmoment. In deze tweede ontmoeting zal de experimentele meting uitgevoerd worden. De onderzoeker stelt zichzelf opnieuw voor en zal de vooraf samengestelde vragen stellen in een tweede kringgesprek [zie klein protocol 2; post-test]. Na het kringgesprek zullen ook kinderen, waarvan het toestemmingsformulier is ingevuld, een individueel gesprek aangaan met de onderzoeker [zie klein protocol 3; post-test individueel]. Als de onderzoeker klaar is met de individuele onderzoeken zal er een debrief verstuurd worden naar de school met dank voor hun participatie.

Klein protocol 1: pre-test groep

De onderzoeker komt de klas binnen en stelt zichzelf voor. De onderzoeker zal daarna een korte uitleg geven over de universiteit en waar zij zich mee bezig houden. De onderzoeker zal dan beginnen met voorbereidende vragen. Deze vragen zijn bedoeld om de testgroep hun basiskennis en mening te meten over het onderwerp. Om de vragen duidelijker te maken en om het makkelijker te maken voor de testgroep om zich te uiten, worden er afbeeldingen gebruikt en wordt de testgroep gestimuleerd om te tekenen.

Als de 0-meting vragen zijn afgelopen wordt de game gespeeld. De onderzoeker zal bij de game in de buurt blijven en surveilleren voor eventuele vragen of technische problemen.

Na het spelen van de game zal er gevraagd worden naar de bevindingen van de testgroep. Ook hier zullen afbeeldingen gebruikt worden om de vragen te verduidelijken. Na het gesprek zal de onderzoeker de testgroep bedanken voor hun tijd en het lokaal verlaten.

Klein protocol 2: post-test groep

Bij het tweede contactmoment komt de onderzoeker het klaslokaal in en stelt die zichzelf voor. Er volgt weer een kringgesprek met de testgroep. Er zullen afbeeldingen gebruikt worden van de game oom makkelijker terug te refereren naar het eerste gesprek. Nadat de onderzoeker klaar is met alle vragen zal de onderzoeker de klas bedanken en vertrekken.

Klein protocol 3: post-test individueel

De onderzoeker zal de testpersonen waarvan het toestemmingsformulier positief is teruggegeven aan de leerkracht individueel spreken. De onderzoeker zal de testpersonen een voor een spreken. De onderzoeker zal het toestemmingsformulier van de testpersoon aannemen en hen begeleiden naar een aparte ruimte. Hier stelt de onderzoeker zich nogmaals voor.

Voordat het interview begint zal de onderzoeker een geanonimiseerde code geven aan de testpersoon. Alle informatie dat wordt opgedaan tijdens dit onderzoek zal op deze manier gekoppeld worden aan een code en niet aan de naam van de testpersoon. De onderzoeker neemt het interview af door gebruik te maken van qualtrics. Na het interview bedankt de onderzoeker de testpersoon waarna die het testpersoon terug brengt naar hun lokaal en daarna dit proces herhaald met de volgende testpersoon.

2. Consent forms

My Coily Superpowers
Informatiebrief en Toestemmingsformulier

De school van uw kind werkt samen met student-onderzoekers van de Universiteit Leiden in het project “My Coily Superpowers”. In deze brief licht ik het project toe en wil ik u vragen om toestemming voor deelname.

Voor mijn master thesis richt ik mijn onderzoek op de rol van videogames bij het bevorderen van acceptatie en zelfvertrouwen bij kinderen van kleur: kan representatie in videogames kinderen van kleur helpen met de acceptatie van kroes/krullend haar? Om deze vraag te beantwoorden doe ik twee dingen:

1) Ik kom een uur langs in de klas om een gastles diversiteit, acceptatie en videogames te geven. Kinderen worden vervolgens gevraagd om een game te spelen rond deze thema’s. Er worden geen geluidsopnames, foto’s of video’s van de kinderen gemaakt. Na het spelen van de game wordt er een kringgesprek gehouden om de kinderen naar hun mening te vragen.
2) Ik wil een gedeelte van de kinderen die meedoen graag apart nemen en nog wat vragen stellen aan de hand van deze thema’s. Hiervoor doorloop ik met het kind nog een keer door de game en stel ik wat vragen over het karakter en hun kwaliteiten. Dit zal ongeveer 30 minuten duren.

Antwoorden op de vragen worden gebruikt voor het beantwoorden van de onderzoeksvraag of en hoe videogames kunnen bijdragen aan het zelfbeeld en de acceptatie van kroes/krullend haar. Data wordt anoniem en veilig verwerkt.

Voordat kinderen kunnen meedoen aan onderdeel 2 is toestemming van een ouder of verzorger noodzakelijk. Ik hoop dat u toestemming wilt geven voor deelname van uw kind door het formilier op de achterkant van deze brief te ondertekenen. Eén handtekening van een ouder/verzorger is voldoende voor deelname.

Voor vragen kunt u contact opnemen met mij, Larissa Boerenstam, l.n.d.boerenstam@umail.leidenuniv.nl (student-onderzoeker) of Dr. Max van Duijn, m.j.van.duijn@liacs.leidenuniv.nl (supervisor). Daarnaast kunt u voor (vertrouwelijke) opmerkingen of klachten, voor en na het onderzoek, terecht bij Dr. Joost Broekens, die niet bij dit onderzoek is betrokken en als onafhankelijk contactpersoon optreedt.

- Ik heb deze brief over de rol van mijn kind in het onderzoek gelezen en heb genoeg tijd gehad om te beslissen. Ik kon aanvullende vragen stellen en deze zijn voldoende beantwoord.
- Ik weet dat deelname van mijn kind vrijwillig is en dat ik of mijn kind de deelname zonder reden kunnen intrekken gedurende het onderzoek.
- Ik weet dat mijn gegevens en de gegevens van mijn kind anoniem en veilig worden verwerkt.
- Ik geef toestemming om de antwoorden van mijn kind en de persoonlijke gegevens die ik invul in deze brief, te gebruiken voor de onderzoeksdoelen die in deze brief staan.
- Ik geef toestemming om de gegevens van mijn kind en mijn eigen gegevens anoniem te bewaren voor tot na afloop van het onderzoek.

Ik geef toestemming dat mijn kind aan dit onderzoek meedoet:

Naam kind: _____

Geboortedatum kind:_____/_____/_____ Geslacht kind:_____

Naam ouder/verzorger:_____

Handtekening: _____

Datum: _____/_____/_____

❏ Met het inkleuren van dit vierkant geef ik aan dat ik nieuws over het onderzoek wil ontvangen via het volgende e-mailadres: _____

Hartelijk dank voor uw deelname aan het onderzoek!
Wilt u alstublieft dit ingevulde formulier weer aan de leraar van uw kind geven?

Larissa Boerenstam

Student-onderzoeker Universiteit Leiden

3. Questionnaire classical assessments

Interview kringgesprek 1e contactmoment:

- Heb jij wel wat gezegd over iemand hun haar? Was dit lief of gemeen? Hoe zag hun haar er uit?
- Wat vinden jullie van je eigen haar?
- Weten jullie wat kroes of krullend haar is? Hoe ziet dat er uit denk je? Teken wat jij denkt
- Kennen jullie iemand met kroes of krullend haar? Wie dan?
- Wat vinden jullie van kroes haar? Smileys Waarom?

[MCS spelen]

- Wat vonden jullie van het spel dat je net hebt gespeeld?
- Wat viel jullie op aan het spel dat je net hebt gespeeld?
- Welke superpowers had het karakter?
- Waar kwamen die superpowers vandaan?
- Hoe zijn jullie met die superpowers omgegaan?
- De superpowers kwamen vanuit het haar, zie jij soms met mensen met zulk haar?
    - Ja veel familie
- Als jij mensen ziet met zulk haar, nadat jij dit spel hebt gespeeld, wat denk jij nu?

Interview kringgesprek 2e contactmoment:

- Weten jullie wat kroes of krullend haar is? Hoe ziet dat er uit denk je? Teken wat jij denkt
- Herinneren jullie het spel nog dat jullie pas hebben gespeeld? Wat weet je nog van het spel?
- De vorige keer vroeg ik jullie wat jullie van kroes haar vonden. Wat vinden jullie nu van kroes haar nadat jullie het spel hebben gespeeld? Smileys Waarom?
- Heb je iets nieuws geleerd van het spel?
- Stel dat jij nu iemand met kroes haar ziet lopen, wat denk jij dan?
- Heb jij nadat je de game hebt gespeeld vaker iemand zien lopen met kroes haar?
- Heb jij nadat je de game hebt gespeeld iemand verteld over kroeshaar? Wat zei je?

4. Questionnaire individual interview

Toegewezen code:

Op welke school zit je?

- ○ De Wereldwijzer, Alphen aan den Rijn (1)
- ○ Blijvliet, Rotterdam (2)

Hoe oud ben je?

- ○ 5 (1)
- ○ 6 (2)
- ○ 7 (3)
- ○ 8 (4)

Wat is je afkomst?

Welke taal of talen worden er thuis gesproken? Wat is je huidskleur?

Wat is jouw haartype? Besteed je veel aandacht aan je haar?

Speel jij online spelletjes?

weinig - vaak

Hoe zien de poppetjes waarmee jij deze spelletjes speelt er uit?

Vind je het belangrijk dat wanneer jij tv kijkt of online spelletjes speelt, dat jij poppetjes ziet die op jou lijken?

niet - heel erg

Waarom wel/niet?

Denk je dat het belangrijk is dat personages in spellen er verschillend uitzien?

niet - heel erg (1)

Zie je vaak personages met kroes of krullend haar?

	0 10 20 30 40 50 60 70 80 90 100
Niet vaak- vaak ()	

Denk jij dat iedereen met hetzelfde haartype gelijk wordt behandeld?

- Ja (1)
- Misschien (2)
- Nee (3)
- weet ik niet (4)

Waarom denk jij van wel/niet?

Behandel jij iemand met een ander haartype anders?

- Ja, altijd (1)
- Soms (2)
- Nee, nooit (3)
- Weet ik niet (4)

Waarom?

Heb jij iets nieuws geleerd over kroes haar door de game?

- Ja (1)
- Nee (2)

Wat heb jij geleerd over kroes haar door de game?

Ben jij leuker/liever omgegaan met mensen met kroes haar door de game?

- ○ Ja (1)
- ○ Nee (2)
- ○ Hetzelfde (3)

Waarom wel/niet?

Zou jij nu vaker mensen met kroes haar willen zien in spelletjes?

- ○ Ja (1)
- ○ Nee (2)

Waarom wel/niet?