

Defining *Pink Games*: The comparable analysis of the design, experience and visual representations in boys' and girls' games

by

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## Abstract

The Girl Games Movement emerged in the 1990s with the aim to create appealing girls' games to engage and maintain the female market with technology and video games (Ochsner, 2015). The success of *Barbie Fashion Designer* (1996) provided optimism for the movement; however, the same success could not be replicated, and the market persisted to be heterogeneous, embracing masculinity and rejecting femininity (Fron et al., 2007; Cassel & Jenkins, 2000). The gender divide between players has been defined by Chess (2017); male players are *Player One*, and other minorities, in particular the female gender, are *Player Two*. *Player Two* are often seen as counterparts in all areas of video gaming from game design to gaming culture. Often femininity is associated with passive consumption and gender assumptions that influence the design of video games that are marketed towards feminine player bases. When feminine representation is depicted in video games, it is often designed as a counterpart to the masculine representing avatars and perpetuates beauty standards and feminine ideals. Despite there being video games uniquely designed for feminine player bases, the concern remains that their design is based on binary gender assumptions and stereotypical depiction. The video games designed for feminine player bases are referred to as *pink games*, however, there is no clear definition of what the video games constitute.

The aim of this research is to analyse and compare the designs of video games that are published by *Outright Games* to establish the characteristics and overall definition of what makes a video game a *pink game*. The video games analysed were divided into two categories: (1) boys' games: *Ben 10: Power Trip* (2020), *Hotel Transylvania: Scary-tale Adventures* (2022), *The Last Kids on Earth and the Staff of Doom* (2021), and *Trollhunters: Defenders of Acadia* (2020), and (2) girls' games: *Bratz: Flaunt your Fashion* (2022), *JoJo Siwa: Worldwide Party* (2022), *L.O.L. Surprise! B.B.s Born to Travel* (2022), and *Rainbow High: Runway Rush* (2023). MDA Framework was implemented to understand the video

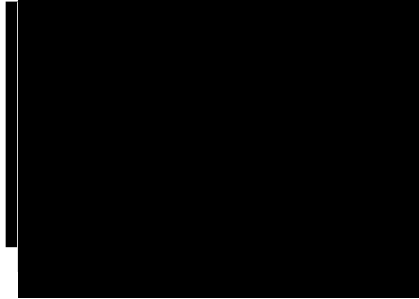
games designs from a mechanic, dynamic and aesthetical (fun) perspective. Further, the Elemental Tetrad was included to provide an analysis of the sound and visual aesthetics, narratives and technology that create the player experience. And lastly, the visual analysis of the feminine representing avatars was conducted to establish themes of gender assumptions and stereotypical depiction.

The results indicated that a *pink game* is a low-risk video game that encourages expression and fellowship with simple mechanics from which minimal dynamics emerge. The visual experience engages players through a cartoon art style with a feminine colour palette, depicting familiar experiences influenced by the Western world whilst engaging players with depictions of technology, mediums, and communication tools. Feminine-associated interests such as beauty and fashion are fundamental themes through the narrative and avatar design, with females representing avatars possessing complete agency throughout gameplay and often performing stereotypical behaviours associated with gender roles. Where diverse representation emerges through physical appearances, there are themes of beauty standards and ideals that Western society influences embedded into avatar designs.

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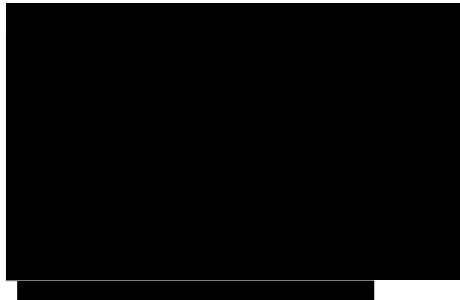


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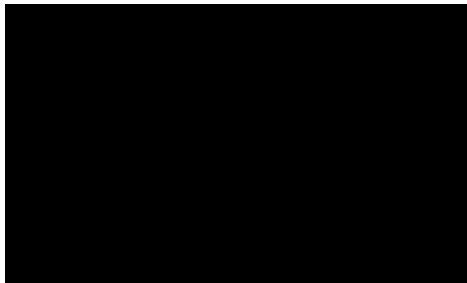


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## Chapter 1: Introduction

The Girl Games Movement began in the 1990s to create more appealing games for girls; however, the video game industry and their developers disagreed of what these games should be (Ochsner, 2015). Video gaming companies have made several attempts to attract more female audiences; however, this is often attempted through the pinkwashing of video game consoles like Sony's creation of the pink *PlayStation 2* and the rebranding of *Gameboy* to the pink *Gamegirl*. The pinkwashing of gaming technology distracted from the fundamental issue: there was not a wide selection of games made with girls in mind to play on their devices. Through the Girl Games Movement, it was hopeful that more game titles would be published in the market with a universal focus on attracting and maintaining feminine interest in technology. Game developers began to create titles explicitly made for girls, but it was not until the success of *Barbie Fashion Designer* (1996) that the feminine market established themselves as a viable market. *Barbie Fashion Designer* sold 500,000 copies in the first two months; for perspective, 'neither *Doom* nor *Quake*, considered titans of video games, sold as many copies in the same amount of time' (Kenney, 2022; Gahr, 1998). However, games made for girls suffered critique and devaluation by gaming communities, game developers, and media critics due to their limited budgets and being created by teams that might not aspire to make games in the girl genre, resulting in poor quality and repetitive gameplay referred to as *pink games*; however, no formalised definition exists (Ochsner, 2015).

Johan Huizinga's (1938/2016) contributions to the idea of play outline that play is detached from reality as players are required to enter their own arena where there are fixed rules and flexible boundaries of time and spaces with no meaningful outcomes. Further expanding on the ideas of Huizinga (1938/2016), Eberle (2014: 222) presents six elements of play, which are 'anticipation, surprise, pleasure, understanding, strength, and poise'. From a psychological

perspective, play can engage the player in an arena that enables the exploration of behaviours, social roles and sense of self while encouraging the development of cognitive and social skills (Piaget, 1952/2013; Erikson, 1950; Goffman, 1974; Henricks, 2003). Despite play offering a wide variety of benefits, the popularity of video games and their presumed markets being male, gender assumptions and stereotypes divide play through hegemony that devalues minority identities in play spaces, such as girls and women (Fron *et al.*, 2007).

The gaming industry has a complex layering of technological, commercial and cultural power structures which reinforce hegemonies; seeing players as heterogeneous has resulted in masculinity being praised and femininity being trivialised (Fron *et al.*, 2007; Cassel & Jenkins, 2000). John Vanderhoef (2013) raised concern that the divide between hardcore gamers being presumed male and casual gamers female causes a marginalising effect on femininity and positions masculinity in a superior position. Video game players can be split into *Player One* and *Player Two*; their identity is designed not by game designers, artists, creators or advertisers but is instead a 'hybrid outcome of industry conventions, textual constructs, and audience placements in the design and structure of video games' (Chess, 2017: p. 31). *Player One* is thought to be part of the heterogenous group that is 'white, cis, heterosexual, young, and abled' (Chess, 2017: 6) and *Player Two* becomes the counterpart whose identity is constructed by the 'hybridised images of who should play, how they should play, and what that play looks like' (Chess, 2017: 6). Games marketed towards *Player Two* (such as Freemium and Match-3) are viewed as casual and lack complexity and quality whilst engaging the player in passive consumption by restricting the players ability to play through time constraints. In contrast, mainstream games are reserved for *Player One's* presumed hardcore playing style, which is often expensive and requires time and skill investment.

The assumptions around gender and competition often assume that females do not enjoy competition in comparison to males, which can lead to two effects: (1) females avoid competitive environments, and in turn, (2) will not succeed in competitive spaces (Booth & Nolen, 2012). Hegemony in competitive spaces and gender assumptions around competition could influence females through nurturing that competitive behaviours are not feminine (Niederle & Vesterlund, 2007; Booth & Nolen, 2012). Through presumed behaviour and taunts such as 'playing like a girl', finding value as a female in competitive spaces is prevented, and the use of cultural stereotypes perpetuates that females are less capable than males, impacting their behaviours towards competition when males are present (Gneezy *et al.*, 2003; Steele *et al.*, 2002; Chess, 2020).

Jesper Juul (2010) provides perspicuity into the presumptions of hardcore and casual players; hardcore gamers are interested in what is presumed to be more masculine interests, they have extensive experience in playing games, and will invest both their own time and money to benefit their position in the game whilst being motivated by competition and difficulty. On the other hand, the casual gamer is intrigued by positivity and feminine designs, soft narratives, and is resistant to investing the same amount of time and resources into the game alongside having a lack of experience with gaming. *Player One* and *Player Two* differ from one another, as do the games intended for them; the gaming industry continues to cater to gender assumptions and stereotypes around femininity through the releases of video games that separate genders and perpetuate the same designs that were critiqued and attempted to overcome through the Girl Games Movement.

Cassell and Jenkins (2000) outline the essential goals and expectations of the Girl Games Movement- which include but are not limited at the time- the economic benefits of girls and women as consumers, bridging the gender gap in science, technology, engineering and

mathematics (STEM), growing the CD-ROM industry, increasing women entrepreneurs, and creating new content, play and aesthetics. Comprehending how these games should be designed and agreeing on what the gameplay should focus on was under conflict; one side thought that market research was more appropriate to utilise, whilst the other side believed it was time to create new technologies and formats instead of catering to the gender divide (Ochsner, 2015). Founded by Brenda Laurel in 1996, *Purple Moon* emerged to create games that solely marketed themselves towards girls. The games created by *Purple Moon* aimed to provide girls with gameplay that was engaging and empowering whilst challenging gender stereotypes and the representation of female characters. Despite the success of titles such as *Rockets New School* (1997) and *Secret Paths in the Forest* (1997), *Purple Moon* closed in 1999 after facing financial difficulties. The experiences that *Purple Moon* valued and found significant differed from what the market research found that girls wanted. Girls wanted gameplay that focused on boys, fashion, and gossip, and in contrast, women had no interest in the low-quality game made with femininity in mind urging for competitive and challenging gameplay (Cassel & Jenkins, 2000).

Cassell and Jenkins (2000) believe it is important to not dismiss what girls are interested in as it diminishes their value and further reinforces the idea that girls' interests come secondary to boys. Market research was considered a pragmatic compromise, meaning that the overall aim of getting girls to use digital media will be met even if it does not align with the values and ideologies of the developers (Cassell & Jenkins, 2000). The pragmatic compromise approach was criticised by many with Theresa Duncan, developer of *Chop Suey*, *Smarty*, and *Zero Zero*, suggesting that catering to market research would have outcomes that are 'more meaningless than slapping the pink bow on *Pacman*' (Cassell & Jenkins, 2000: 24). Nevertheless, the outcome of the Girl Games Movement saw a rise in the number of video games intended for a female market. However, the success of *Barbie Fashion Designer*

(1996) was not replicated and generally the games designed for girls continued to be designed around assumptions about feminine interests. The efforts of the Girl Games Movement failed to place females in a market of their own, but instead continued to be seen as a happy accident if they found interest in mainstream video games (Cassell & Jenkins, 2000; Ochsner, 2015).

The concern arises that marketing games that depict feminine gender assumptions that are explicitly designed for girls and women can result in these games being trivialised or overlooked (Chess, 2017). The Girl Games Movement focused on creating CD-ROM games due to their popularity at the time; with the decline of CD-ROMs and video games made for girls not generating profit, there was not enough justification for mainstream development to create video games with girls in mind. However, the peak in popularity of *Adobe Flash Player* games during the mid-2000s offered free-to-play games accessed through computer web browsers seeing a rise in the number of *Flash* games specifically created for girls. *Adobe Flash Player* technology enabled independent and small developers to showcase and publish their girls' games designs online, providing experiences for those unseen by the mainstream gaming industry. Many girls' games emerged from *Adobe Flash Player* and were hosted on *Dress Up Games*, *Mattel's Everythinggirls.com* (Figure 1), and *Girls Go Games*. Unlike console games, *Flash* games had fewer features with limited and shorter gameplay accompanied by inferior graphics due to lower budgets and independent creation.

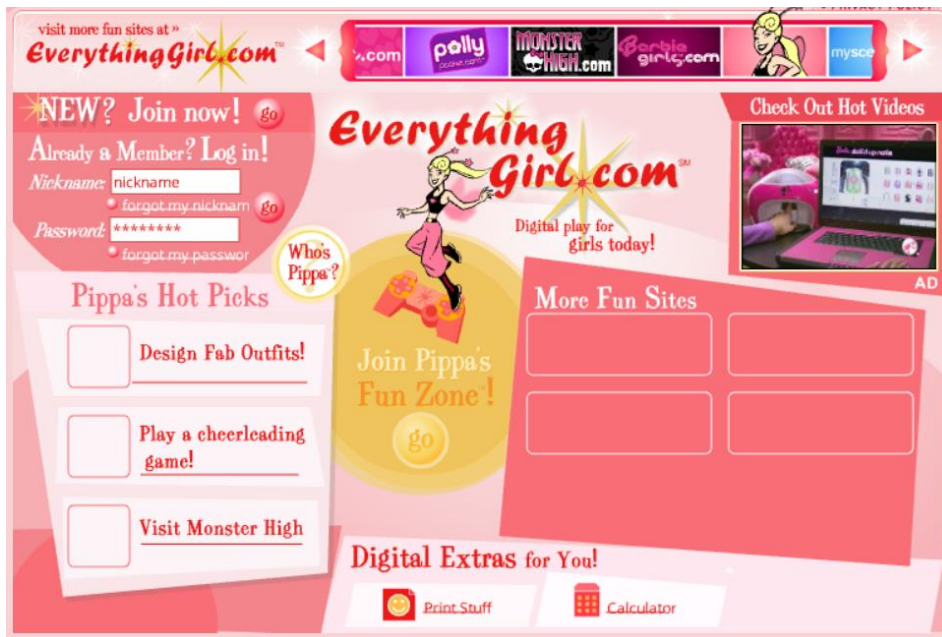


FIGURE 1: *EVERYTHINGGIRLS.COM* HOMEPAGE [SCREENSHOT BY AUTHOR] (*EVERYTHINGGIRLS.COM*, 2010).

In the mid to late 2000s, plushie manufacturers started incorporating their toys with online virtual worlds supported by *Adobe Flash Player* via special codes granted upon purchase. *Webkinz*, *Build-a-bears (Build-a-Bearville)*, *Russ Berrie Shining Stars* and *Beanie Babies 2.0* were animal-designed plushies with online codes that enabled them to come to life in their digital worlds. Plushies are marketed towards children in general; however, the findings from Blakemore and Centers (2005) suggest that plushies are associated with more feminine play as they are associated with physical attractiveness and are played with in nurturing ways, where masculine play was violent, competitive, exciting and somewhat dangerous (Blakemore & Centers, 2005). These digital worlds were inhabited by the plushies and consisted of themes previously found in other girls' games and technology, making it fair to suggest that they contributed to the girls' games genre. Around the early 2010s, browser gaming popularity declined, and on December 30, 2020, *Adobe Flash Player* was closed, causing their games to no longer be playable. The decline of *Adobe Flash Player* is linked to poor performance issues, security and privacy issues, and the lack of a future due to the rise

of newer technology that would not be compatible with *Adobe Flash Player*, particularly *Apple iPhone* and *iPad* products.

Steve Jobs stated in 2010 that *Adobe* and *Apple* had grown apart after the golden era, and technology differences influenced the decision not to incorporate *Adobe Flash Player* into their *Apple* technology (Jobs, 2010). Several factors were highlighted in the statement, including *Adobe Flash Player's* future enhancement and pricing, security issues, impact on performance, compatibility with mobile devices, design implications and third-party interference (Jobs, 2010). The closure of *Adobe Flash Player* resulted in efforts to remaster many *Flash* games; however, the history of undervaluing and trivialising girls' games resulted in many being forgotten and lost.

Efforts have been made to remember girls' games and technology online from the digital museum *FEMICON* (Figure 2). However, *FEMICONs* predominant focus on many titles from the 1990s leaves a significant gap in the perseverance of many console and browser games from the 2000s available in its library. Once *Adobe Flash Player* games began declining, mobile games became a culturally significant mode of playing games, changing digital gaming into something much different from what was used with computer and console gaming (Hjorth & Richardson, 2009). With the implementation of games on mobile devices, digital play began to filter into day-to-day life between commitments and activities at sporadic intervals (Mäyrä & Alha, 2020).



FIGURE 2: *FEMICOM* MUSEUM HOMEPAGE [SCREENSHOT BY AUTHOR] (FEMICOM, 2012).

[HTTP://FEMICOM.ORG/](http://femicom.org/)

Mobile gaming is heavily associated with casual gaming style, which is often trivialised and undervalued in areas of the gaming community; as opposed to hardcore gaming style, mobile games can be played to pass the time, dissociate from daily stressors, or have a little bit of 'me time' (Rees, 2023). Digital games added more to mobile phones' that was separate from connectivity and social functions, with popular games like *Snake* being implemented on the *Nokia 6110*, *Brick Breaker* on *Blackberry* and *Temple Run* on the *iPhone*, which was downloadable from the App Store. The *iPhone App Store* significantly influenced the rise of mobile gaming, offering an app ecosystem to an industry which was used to create games for computer and console play (Mäyrä & Alha, 2020). Currently, the *App Store* offers 460,000 mobile games (21.06% of the App Store) that have challenged the industry and increased development from the simple design of *Snake* to becoming more sophisticated with newer techniques and mechanics such as locations based augmented reality gameplay seen in *Pokémon Go* (Curry, 2023).

*Quantic Foundry* (2017) found that female mobile gamers were drawn to more casual genres of games, such as Match-3 games (*BeJewelled Blitz*), simulation (*HayDay* and *The Sims*), casual puzzle, atmospheric exploration and interactive drama games (*Episode* and *Love*

*Island: The Game*) which tend to be free-to-play and offer in-game microtransaction (Yee, 2018). *Barbie Dream House Adventures* (Figure 3) is free-to-play, but the gameplay is restricted to in-app purchases; if the player wants to unlock more areas of the game, they must purchase a monthly subscription charged at £9.99. Chess (2017) argues that games that girls and women are drawn to expect them to take on a consumptive role focusing on six different types of consumption, which are material (initial purchase or download of a game), content (consuming the game in the parameters of that game world), mechanical (clearing objects or consuming in game energy), in-game purchasing, extra-game purchasing (microtransactions), fashion-based (dressing up), and culinary consumption (Chess, 2017).

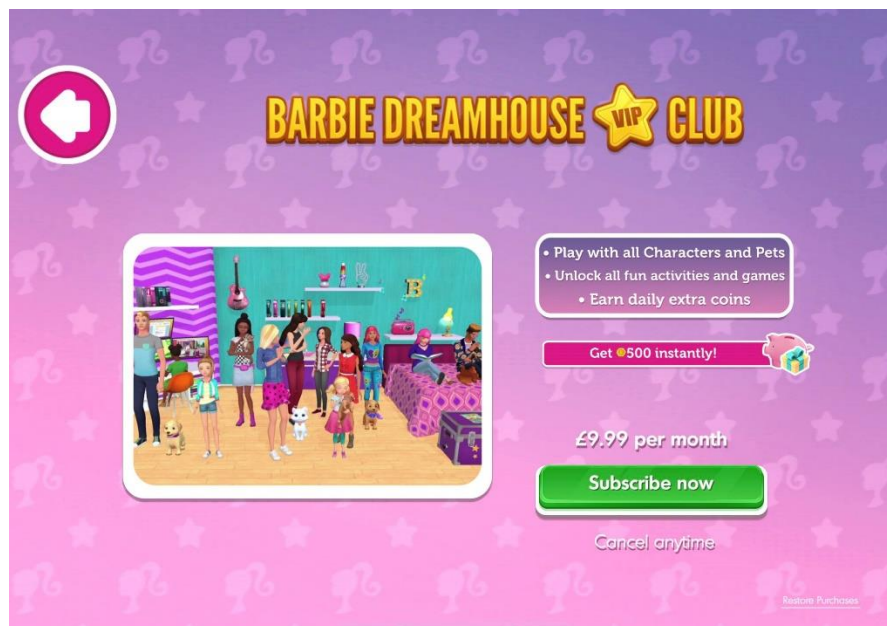


FIGURE 3: *BARBIE DREAMHOUSE ADVENTURES* SUBSCRIPTION [SCREENSHOT BY AUTHOR] (BUDGE STUDIOS, 2018).

Casual games tend to be repeats of the games that were made before them; with the feminine markets urge for more intricate games remaining ignored, the ongoing trends of low-quality, gender assumptive content, and less sophisticated mechanics, indicate these players preferences are unvalued (Mäyrä & Alha, 2020). Nonetheless, the casual gamer has shaken

and changed the gaming industry through mobile gaming. However, the change is not necessarily welcomed in areas of the gaming community and culture that consider *Player Two* an unwelcomed intruder often rejecting any motion that goes against reproducing dominant and hegemonic masculinity (Vanderhoef, 2008; Massarani, 2017).

Gamergate became an internet culture war beginning with the infamous blog '*thezoepost*' that was created by Eron Gjoni to create a publicly negative perception of Zoe Quinn. Gjoni shared personal information about their relationship with Quinn and accused her of trading sexual favours to promote her game *Depression Quest*. The accusations against Quinn filtered onto various social media platforms, sparking discussion about ethics in games journalism but shortly derailed to become a misogynist hate campaign targeting Quinn and other females in the industry (Romano, 2014). The 'witch hunt' resulted in the targeted women receiving an abundance of harassment and abuse in many ways from doxxing and sharing personal information on public forums, and consistent death and rape threats (Dewey, 2014).

The motivation of Gamergate and those who participated are blurred; some believed it to be a genuine cause against unethical game journalism, but on the other hand those who participated in the hate campaign can only be described as misogynistic and anti-feminist, with the widespread 'protests' not relating to ethics or journalism at all (Dewey, 2014). Massarani (2016) considers the events of Gamergate to have happened in a 'toxic technoculture' space which is enabled and propagated through social media networks that are outside of gaming itself that rely on implicit or explicit harassment tactics towards others, demonstrating 'retrograde ideas of gender, sexual identity, sexuality, race, and push against issues of diversity, multiculturalism, and progressives' (9). Despite the size of Gamergate

and its participants being difficult to establish, it effectively illustrated the perception of girls and women within gaming communities and the industry.

McCullough *et al.* (2019) argued that there is a correlation between video game usage and negative beliefs and prejudiced attitudes towards the female gender which has been a recurring focus in academic research. Dietz (1998: 438) uncovered a lack of female avatar presence in video games; and when they did appear, they were portrayed as 'overwhelmingly stereotypical'. Later research from Ward and Friedman (2006) investigated the effects of exposure to media that depicts gender in stereotypical ways; they found that exposure to sexualised women resulted in the audience having greater adherence to gender stereotypes and being more likely to condone the stereotypical treatment of women. Studies have shown that female avatars are vastly underrepresented and are often sexualised when depicted in popular games (Lynch *et al.*, 2016; Downs & Smith, 2010). The representation of female avatars in popular video and digital games is becoming of great concern for the adverse outcomes impacting the self-efficacy of feminine video game players and the inherited belief system that is unfavourable to them (Song *et al.*, 2021; Behm-Morawitz & Mastro, 2009).

Researchers have suggested that the excessive use of femininity in design caters the character to the male gaze and masculine ideals of a male-dominated market (Jansz & Martis, 2007). Laura Mulvey (1975) introduced the idea of the male gaze theory in line with messages that are reinforced through mass media (referring to films at the time). The reinforcement through films is thought to produce 'obsessive voyeurs and Peeping Toms, whose only sexual satisfaction can come from watching, in an active controlling sense, an objectified other' (Mulvey, 1975: 60). Even though Mulvey (1975) was more concerned with film as opposed to video games, it has been found through 'casual examination of the video game landscape [...] that the female characters featured in many of these games may conform to the skinny-

yet-busty ideal featured in other media' (Martins *et al.*, 2009: 826). The design of female game characters reinforces problematic ideals about what it means to be feminine through stereotypes, gender differences and sexualisation indicating a vital concern that game developers are not doing enough to challenge the message of femininity through video game design (Cassell & Jenkins, 2000; Kondrat, 2015).

The female player base is closing the gap and breaking the homogeneity perception of what a gamer is; however, despite the rise in female players, and attempts of progress in the representation of the female gender in games; the concerns that emerged in the 1990s persist (Kafai *et al.*, 2008). Thus far, the terminology *pink game* has been associated with girls' games. However, the characteristics of a girls' game still need to be clarified past the focus on critique of thematic elements and associated perceptions. The aim of this research is to compare the designs of boys' and girls' games to understand the characteristics of a *pink game* to provide a clear definition of the term.

The MDA Framework will be implemented to understand the game design from the mechanic, dynamic and aesthetical (fun) perspective, the Elemental Tetrad Framework will analyse the visual and sound experience, narratives and technology, and the visual analysis of the feminine representing avatars will uncover themes of gender assumptive designs. The video games of focus are from the publisher *Outright Games*' catalogue of PEGI-rated 3-7 and have been divided into two categories: (1) boys' games: *Last Kids on Earth and the Staff of Doom* (2021), *Ben 10: Power Trip* (2020), *Hotel Transylvania: Scary-Tale Adventures* (2022), and *Trollhunters: Defenders of Acadia* (2020), and (2) girls' games: *Bratz: Flaunt your Fashion* (2022), *JoJo Siwa: Worldwide Party* (2022), *L.O.L. Surprise! B.B.s Born to Travel* (2022), and *Rainbow High: Runway Rush* (2023). The conclusions of the research will

uncover characteristics to define the term *pink games* for precise future usage of the terminology in academic literature and beyond.

## Chapter 2: Literature Review

This chapter examines primary debates and findings from the pre-existing literature on play theories, gaming cultures, female avatar designs and representation, the Girl Games Movement, and gendered play experiences. Moreover, the examination uncovered a gap in research that found that the use of the terminology *pink game* when referring to girls' games does not have specific characteristics or a clear definition which formed the aims of this research. The literature review presents ideas from play theorists and their main findings to provide the reader with a background of play's benefits and role in our day-to-day lives. It also discusses the critical events and opinions of the gaming culture, indicating the standpoint that minority players, particularly girls and women, have within the communities and how this they are perceived to engage with video games.

Additionally, the representation, or lack thereof, alongside the stereotypical depiction and sexualisation of female avatars is illustrated to provide the reader with an understanding of the overlap of the ideologies that persist in video gaming culture and its events influence the design of female-representing avatars in games. The research was influenced by the Girl Games Movement which is discussed in detail since the terminology '*pink games*' is associated with the video games that emerged from the movement and provides a historical account of the criticisms associated with girls' games that persist today. Lastly, the literature review concludes with the examination of ideas around the psychological benefits that are derived from video games and how female player bases are at a disadvantage from achieving them.

## 2:1 Philosophising Play and Gender Theory

Playing serves a significant role in the human species; where play is usually an associated activity enacted by children through their development stages, it offers great benefits for all ages. Play theorists present ideas around the benefits of play and consider different aspects of how it contributes to and benefits diverse aspects of human life. Johan Huizinga (1938/2016) indicates that play was learnt from animals and, in turn, influenced the contribution to changing European societies from the classical period to modern times. Outlining five fundamental characteristics of play, Huizinga (1938/2016) argues that play is detached from the ordinary reality of real life whilst the player engages in a game arena that consists of fixed rules and flexible boundaries of time and space with outcomes that do not provoke meaningful consequence or gain. The ideas of Huizinga (1938/2016) and other play scholars have been reviewed by Eberle (2014: 222) to determine a philosophy and definition of play; considering the characteristics proposed by previous scholars, he argues that the six elements of play consist of 'anticipation, surprise, pleasure, understanding, strength, and poise'. Huizinga's (1938/2016) thoughts of play were influenced by history, and where Eberle (2014) expanded on Huizinga, philosophy also influenced his ideas. Furthermore, ideas around play are not constrained to historical and philosophical disciplines and have been researched in further fields such as psychology through the research of Piaget (1952/2013), Erik Erikson (1950), and Erving Goffman (1974).

Piaget (1952/2013) understood play from a cognitive approach; their work on *symbolic* and *practice* play illustrates that the two forms encourage and enable individuals to explore behaviours and ideals while developing abilities and skills. *Practice play* consists of repetitive actions and movements that the individual has mastered, enabling them to continue coordinating and refining their motor skills. In contrast, *symbolic play* develops

imagination and creativity by representing actions and objects in an unordinary way (Piaget, 1952/2013). From a psychoanalytical perspective, Erikson's (1950) development and mastery of skills is a fundamental element of play. However, rather than focusing on the continuation of coordinating and refining skills, Erikson (1950) proposes that the positive outcomes enable individuals to establish a positive sense of self, emotional intelligence, and social skills (Hendricks, 2003). Further influencing the thoughts around the development of social skills, Goffman (1974) proposes that play enables individuals to explore and participate in social roles and situations without the element of consequence. In *Frame Analysis: An Essay on the Organization of Experience* (1974), Goffman introduces the idea of frames as 'definitions of the situation [that] are built up in accordance with the principles of organisation which govern events—at least social ones—and our subjective involvement in them' (Goffman, 1974: n.p.). Therefore, the cultural arenas where frames of play exist enable participants to freely explore and understand ways of anticipating, orientating, and recognising themselves (Hendrick, 2008).

Thus, the theorists discussed propose their ideas of play from a traditional standpoint, with interactive media not influencing their research. Nevertheless, the theorists underpin the importance of play in individuals' understanding of themselves and the world whilst developing within it. Compared to traditional means of play, interactive digital play differs through how individuals engage with it and its visual presentation. However, the characteristics and elements outlined by Huizinga (1938/2016) and Eberle (2014) are still applicable. With the objective of the research analysing the potential differences in design of games made with a specific gender in mind the psychological benefits of play and the impact it has is important to outline as it would indicate a disadvantage caused by gender assumptions and societal norms.

Throughout the 1990s, women had greater access to computers in their daily lives as previously seen before. However, feminist scholars at the time critiqued this progress, arguing that women continued to face marginalisation due to various factors, such as economics, education, literacy, computer design, and gender socialisation (Toffoletti, 2004). The concerns around gender socialisation are more complex than simply suggesting that girls and women are less competent with technology than boys and men with perceptions of gender differences existing long before the advancements of modern technology. The discussion of gender distinguishes itself from assigned biological sex, which is determined by chromosomal configuration, anatomy, and genitalia. Instead, the discussion is focused on how gender is constructed, shaped and expressed; challenging whether anything about identity is ‘core because this implies innate, and is incompatible with cultural construction’ (Yanof, 2015: 1442). Simone de Beauvoir (1949: 283) in *The Second Sex* argued that ‘one is not born, but rather becomes a woman’ separating the ideas around womanhood being a biological fact, rather, it is an outcome of cultural and societal construction. de Beauvoir (1949) outlines in her argument that girls are taught the societal expectations of femininity and womanhood from a young age and to conform with these ideals, positioning them as the other gender. However, gender theory is very complex and is not as clear-cut as de Beauvoir argues; in fact, gender scholars run the risk of oversimplifying and over-generalising gender identity (Yanof, 2015).

Judith Butler (1990) acknowledges the significant contributions of de Beauvoir (1949) to gender theory but critically builds upon the work by introducing concepts such as gender performativity, the critique of binaries, and the notion of fluid identity. Butler (1990: 33) argues gender is achieved through ‘a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance’. Acting gender identity is done through performative ways for individuals to become the intended results; in other

words, *cogito, ergo sum* which translates to 'I think, therefore, I am' (Butler, 1990). Butler (1990) argues that gender identity is not something individuals have before they act; it is created through the performance aligning these ideas to Nietzsche's (1887) claim that "there is no being behind doing, acting, and becoming" (p. 29). Therefore, there is never a stable identity, rather the performance accomplishes the illusion of stable identity, which is never fixed, instead is fluid through stylised repetition of acts (Butler, 2008). However, societies view gender in binary terms where cultural presumptions around sex and gender are dominantly influential, becoming a mutual understanding amongst the population e.g. biological males are boys and grow up to be men, where biological females are girls and grow up to be women (Rahilly, 2015). The mutual understanding can be described as the 'truth regime' proposed by Foucault (2000: 131) to describe the 'general politics of truth... that is, the type of discourse [a society] accepts and makes function as true'.

Butler (1990) critiques the gender binary norms that presuppose the gender as either masculine or feminine in societies, since this suggests 'all bodies are gendered from the beginning of their social existence, which means that there is no 'natural body' that pre-exists its cultural inscription' (Salih, 2002: 55). Butler (2004: 42) proposes that:

'Gender is the apparatus by which the production and normalisation of masculine and feminine take place along with the interstitial forms of hormonal, chromosomal, psychic, and performative that gender assumes'.

With the assumptions around gender being either/or in society, Butler (2009: xi) suggests that individuals perform gender through a 'process of repetition that is structured by a complicated interplay of obligation and desire, and a desire that is and is not others own'. The obligation of performing binary genders may not always align with how the individual identifies. However, since gender is seen as masculine or feminine, those that do not conform

to the binary 'are as much a part of gender as its most normative instance' (Butler, 2004: 42) since the ideas around gender are embedded into social and cultural norms. Nonetheless, gender is an integral part of identity and how others view themselves and others, which makes it more important to challenge the stereotypical ideals of masculinity and femininity that position the genders as irreversibly separate and different.

Kate Millet (1970) further linked gender to a cultural phenomenon, rather biological, as a product of parents, peers and societies ideals around what is appropriate for each gender e.g. characters, status, and expression. The emphasis on parents is very important; despite critique from Throne (1993) around underestimating children as active agents in understanding and forming their world, parents have a significant role in the exposure that children have to the world from infancy. The video games analysed for this research are marketed in the PEGI 3-7 rating, however, they are just as much marketed towards parents as they are children. Since parents and guardians are the main consumers targeted by sales, it's crucial that video games reflect their views on what is socially acceptable for boys and girls. Kane (2012) outlines that parents who challenge the binary or not fall into the gender trap based on societal norms perceptions of gender. Rahilly (2015: 514) notes that even 'gender progressive parenting encouraged boys and girls to be whatever they wanted to be, regardless of stereotypes, but they were ever and always (as-gendered) boys' and girls'. Drawing on Butler's (1990) ideas around gender performance, Messener (2015: 770) found that children often perform gender as oppositional (boys vs girls) with parents perceiving these performances as inevitable 'differences between the sexes'. From birth, gender identity is assigned, with expectations that align with societal norms and the belief that gender exists within a binary framework (Rahilly, 2015; Yanof, 1999). For this research, when feminine and masculine terminology and gender is applied, this is defined in the binary sense, however, it is worth noting that

generally, the gaming industry production of girl's games requires players to perform femininity through stereotypical assumptions aligning with the truth regime of societies.

## **2:2 Gaming Culture**

Elements of truth regimes can be found in gaming culture; Bogost (2007: 119) employs the concept of the *community of practice* proposed by Lave & Wenger (1991) to play and video games by underpinning the argument that players develop their own set of 'values, strategies, and approaches to play itself'. Nowadays, the ability to communicate and socialise is embedded into many digital game designs and is not confined to local play decreasing the time and space between players. Despite, the inclusion of communication and socialising tools embedded into the design of video games, communities often thrive external to gameplay through the utilization of forums and social media platforms like *Reddit* and *Discord*. Forums and social media platforms serve as a communication arena for players to 'understand, evaluate, and deliberate' (Bogost, 2007: 119) elements of the ideologies and representations of video game arenas and the external world, amongst various other hot topics that are central to gaming culture. However, the topics in gaming culture have a history of often rejecting the presence of minority groups and celebrate the homogeneity perception of the gamer as a white, abled, and heterosexual man (Chess, 2017).



FIGURE 4: *THE GRIEFER FROM MAKE LOVE NOT WARCRAFT* [SCREENSHOT BY AUTHOR RETRIEVED FROM *YOUTUBE*] (SOUTH PARK STUDIOS, 2021). [HTTPS://WWW.YOUTUBE.COM/WATCH?V=TBMG7ERJZ2G](https://www.youtube.com/watch?v=TBMG7ERJZ2G)

The homogeneity perception of the gamer is often represented through the gamer stereotype and enforced onto those who interact with video game whether they identify with it or not. *South Park* represented the prominent understanding of the stereotypical gamer through the *World of Warcraft* (WoW) hardcore gamer *The Griever* in the episode *Make Love, Not Warcraft*. *The Griever* represented a white male who was overweight, unhygienic, bespectacled, lacked verbal communication and appeared to have sustained a wrist injury presumably due to gaming for long periods (Figure 4). The gamer stereotype often causes harm in gaming culture and often holds an influential position in the beliefs, ideologies and values of the cultures' resistance towards diversification of the industry. Minorities have suffered a lack of representation and inclusion throughout video gaming history and where improvements have been made in part, there is still resistance to sharing the gaming spaces with anyone else outside of the homogeneity perception of a gamer (Kafai *et al.*, 2008). Nonetheless, minority groups do exist in diversity and large quantities across all video game spaces; however, this research will be approaching gender identity as binary, and when

biological terms are referenced, they refer to the presumptions that males and boys and females are girls.

Understanding who is considered a minority player is essential and is best described through Chess's (2017) proposal of *Player One* and *Player Two*. *Player One* is a white, abled, heterosexual man who the industry caters to and values as their primary market and often plays video games over extensive periods. In comparison, *Player Two* is the counterpart that is made up of everyone else. *Player Two* is often associated with casual gaming, whose placement in gaming culture is often thought to be a cheap and easy alternative, often 'presenting small stories with small outcomes' (Chess, 2017: 6), becoming the inverted version of the widely accepted hardcore gamer (Vanderhoef, 2021). Kubik (2012) argued that hardcore gamers are perceived as valuable and masculine, and casual gamers are illegitimate and somewhat unwelcomed products representing 'passive consumption and femininity' (Vanderhoef, 2021: 1). Relevancy and threat to the gaming experience are common concerns that hardcore gamers raise; however, casual gaming shows no sign of becoming illegitimate, possessing a significant hold on the U.S. video game market with an estimated worth of 248 out of the 374 billion U.S. dollars total of the gaming industry in 2022 (Clement, 2024; Vanderhoef, 2021). The thoughts and perceptions of femininity in gaming culture come from the dominant ideologies of hegemony and masculinity that deny and exclude broader representation and groups that do not fit into the narrative of who games are made for (Vanderhoef, 2021).

Fron *et al.* (2007) address the '*hegemony of play*' in gaming by noting that the representation of masculinity projects a construction of what the ideal player is and its direct impact on variables in video games, such as the underrepresentation of genders and homogeneity preference outside of games in communities that are formed (cited in Waskiewicz, 2019).

Research by Kerr (2003) uncovered evidence to suggest that video game design caters to masculinity with minimal progression away from the presumed target market of homogeneous male players at the time, correlating with the resistance towards diversification of players and their opinions and needs. Understanding the resistance to diversity and femininity in gaming is best approached through the examination of the core belief and value systems of gamer and geek culture. Gamer and geek cultures tend to overlap in the communities' beliefs, ideologies, and values, with both cultures often being dominated by male presence with limited diversification of other representations.

Despite being dominated by male presence, geek culture repeals traditional masculinity but 'often embraces facets of hyper-masculinity' (Massarani, 2016: 7), resulting in Geek-masculinity becoming hegemonic in its culture. Since hegemonic masculinity is favoured, the problem arises that femininity and minorities are often outcasted and rejected from participating in the culture, especially when they challenge the status quo of the belief and value systems that the culture celebrates. Consalvo (2012) presents several representations of misogyny that emerge from challenging the core beliefs, ideologies and values embedded in gaming culture. However, the infamous #Gamergate provides prolific evidence of the extent of dismissal and rejection of criticism and minorities in gaming culture.

The events of #*Gamergate* represent a resistance towards the diversification of player bases, ignorance to minorities experiences, and celebration of hegemony. #*Gamergate* emerged after the blog *thezoepost* was uploaded by Eron Joni, accusing Zoe Quinn of trading sexual favours with game reviewers for favourable reviews on her game *Depression Quest* (Salter, 2017). Despite Joni's claims never being verified, conversations about ethical game journalism emerged under the term *Quinspiracy*, later dubbed #*Gamergate* by Adam Baldwin (Salter, 2017). Whilst #*Gamergate* might have started criticising the ethics in gaming

journalism, it was not too long before it was hijacked and used to represent misogynistic beliefs and ideologies, becoming a hate campaign with coordinated harassment and attacks on women within the industry, such as Quinn and her supporters, Briana Wu and Anita Sarkeesian (Mortensen, 2018). The coordinated attacks included doxxing and swatting the women and verbal abuse and harassment from death and rape threats which soon escalated concerns over the women's safety with Quinn fleeing their home and Sarkeesian cancelling a guest speaker event at Utah State University over an anonymous threat to harm her and the attendees (Gray *et al.*, 2016). Through *#Gamergate*, it became evident there would be resistance towards the industry being challenged, and those who participate in the critique could face severe consequences through organised hate campaigns.



FIGURE 5: *VIVIAN JAMES* IN *AFTERLIFE EMPIRE* [SCREENSHOT BY STEAM] (AUTOBOTIKA & GAME NATION INC, 2015). [HTTPS://STORE.STEAMPOWERED.COM/APP/367710/AFTERLIFE EMPIRE/](https://store.steampowered.com/app/367710/Afterlife_Empire/)

The events of *#Gamergate* primarily took place external to video game design; however, it was not long until the avatar *Vivian James* of *Afterlife Empire* (Figure 5) emerged from the

crowdsourcing campaign by *The Five Young Capitalists (TFYC)* on the *IndieGoGo* platform becoming a visual signifier of the expectations of girls and women in gaming culture. The character *Vivian James* is a visual representation of *#Gamergate* supporters' resistance towards the conversations emerging around the placement and treatment of women within the industry. Through visual analysis, Butt and Apperly (2018: 46) illustrate that avatars have more depth than literal representation and can signify beliefs and values; with a specific focus on *Vivian James*, the authors argue that the avatar represents a message that acts as 'regulatory fiction that polices women in gaming, particularly by commanding silence'.

The *IndieGoGo* campaign required donors to choose a charity that would receive the proceeds collected, and if donations exceeded \$2,000, an avatar design submission would be included in the *Afterlife Empire* game. Through the */v/forum 4chan*, users raised \$23,000 for the chosen charity *The Colon Cancer Alliance* becoming the highest contributors (Butt & Apperly, 2018). When raising the contributions, the users would refer to it as 'Operation Chemo Butthurt' which was inspired from the charity's name, and their mission to design an avatar for *After Life Empire*. Butt and Apperly (2018: 43) outline that the title *Operation Chemo Butthurt* is an expression of edgy behaviour found in these communities that acts as 'offensiveness that is tasteless and unsubtle, even forced joke that contrives a barrier against accountability'. Eventually, the avatar of *Vivian James* was created and became a counterpart in the *#Gamergate* narrative, representing beliefs and ideologies of the */v/ forum* users' expectation of girls and women to be welcome counterparts in 'their' gaming community.

The design concept of *Vivian James* was calculated and designed to mask the perception of the *#Gamergate* supporters' motives representing:

'Just an average female gamer to troll everyone [...] all the tards in the media will expect some sort of pedocrap or LOLSORANDOM shit and we will just give them a simple average girl' (Butt and Apperly, 2018: 43).

*Vivian James'* personality was calculated to reflect the beliefs and ideologies of the supporters of *#Gamergate's* resistance to criticism of video game culture and their beliefs around inclusion and participation (Butt and Apperly, 2018). Through the calculated design of *Vivian James'* personality, the beliefs and ideologies of the supporters indicated that participants of gaming culture should 'Tough-loves video games; Loathes dishonesty and hypocrisy, Low-affect grumpy, perpetually fed up and tired' (Butt and Apperly, 2018: 43) correlating with the characteristics associated with the gamer stereotype and the *v/forum's* belief system. The belief system embedded into the design of *Vivian James* signifies the resistance to critique found in the *#Gamergate* movement as the avatar 'doesn't care about rights, agenda, or how you feel [...] she will only speak with you if you grab a controller and play' (Butt and Apperly, 2018: 44), and to be an active participant in gaming culture individuals should be prepared to just 'just shut up and play' (unofficial slogan coined for *Vivian James*). Through the design of the avatar's belief system, the signified outcome reinforces silence and resistance to conversations that exist to challenge hegemony and the mistreatment of minorities within gaming culture.

The analysis of *Vivian James* provides an insight into the belief systems and motivations of *#Gamergate* supporters from a video game perspective; however, similar 'edgy' and resistance of *4chan* users emerged through the academic literature, providing further insight. Chess and Shaw (2015: 200) addressed that feminist game scholars at the time of *#Gamergate* 'followed, researched, and sympathised with the targets' but did not expect their academic research to become a target. Academic literature becoming a target of a

coordinated hate campaign is relatively unheard of, until Chess and Shaw (2015) discovered that their *DiGRA* conference event document that focused on addressing gaming culture was receiving edits and comments from *4chan* users. Among the edits of changing titles to 'I f\*\*\* kids- op' and replacing words with 'sucking cock' and 'penis', a comment emerged urging the editors to 'use the comments thingy, leave the thing unedited please. It won't look credible to anyone outside of *4chan* if doctored around' (Chess and Shaw, 2015: 211). Shaw was a target in the *#Gamergate* campaign with claims that the scholar was part of a broader government conspiracy as other feminists and journalists who were challenging the game culture status quo were influenced by her 'school of thought' (Chess and Shaw, 2015: 213). Chess and Shaw (2015) outline that academic literature needs to be more understood, in this instance, their own, arguing that there is a place for celebrating and critiquing hegemonic masculinity in gaming. However, the resistance to diversifying the culture and minorities' experiences finds the conversations centred around critique.

### **2:3 Femininity, Misrepresentation and Sexualisation**

Through content analysis of 33 popular *Nintendo* and *Sega Genesis* games, including popular franchises like *The Legend of Zelda*, *Super Mario*, and *Sonic the Hedgehog*, Dietz (1998) concluded that character roles were influenced by gender stereotypes, female avatars were often underrepresented or sexualised, and violence was central to gameplay. The study's results uncovered that female avatars were absent from 41% of the game titles, and when the avatars were included, 28% were sexualised and objectified (Dietz, 1998). Further, aggression and violence were found to be a fundamental motivator for objectives in 80% of the video games with 21% of the recipients of those behaviours being female representing avatars (Dietz, 1998). Replicating similar finding, Ivory's (2006) results concluded that the presence of female avatars was underrepresented in the titles analysed through uncovering

evidence of differences in active and passive roles based on gender representation. When the avatars were male representing, they appeared to be active in 75% of the game titles; in contrast, when avatars represented the female gender, they were active in 33%. The study continued to specify the playability of avatars representing specific genders and found that 22% of the games featured playable females representing avatars, differing vastly from the 65% of playable males representing avatars. The result indicates that the embodiment of female representing avatars is unlikely to emerge in game titles and, in general, is likely to be presented through passive roles compared to the male representing avatars. However, it is worth noting that when the female and male representing avatars were passive, there was almost an even representation (Ivory, 2006).

Ivory (2006) and Dietz (1998) found that representation of the female gender within video games is far less subordinate to male-representing avatars. When they are included, the tone is set through the representation that they are there to enhance the player's experience through their sexualised femininity and subjection to hyper-masculinity. The media's depiction of the sexualisation of femininity was criticised through Laura Mulvey's *Male Gaze* theory in *Visual Pleasure and Narrative Cinema* (1989), a foundational concept in film and feminist theory. Mulvey critiques cinema, particularly Hollywood, for producing films that cater to a heterosexual male experience and perception of femininity appealing to male desires through female representation and narratives (Mulvey, 1989). A critical aspect of Mulvey's (1989) work outlines that Hollywood caters to male spectatorship by objectifying women to provoke desire and pleasure through roles that offer minimal agency and active presence within the narrative. Drawing on Freudian ideology, Mulvey (1989: 68) argues that Scopophilia is a reoccurring theme in films catering to the 'neurotic needs of the male ego', resulting in the production of 'obsessive voyeurs and Peeping Toms, whose only sexual satisfaction can come from watching, in [an] active and controlling sense, an objectified other'. Despite the *Male*

*Gaze* theory being published in 1989, the criticisms and concerns remain; through media critique, Greenwood and Lippman (2010) express concerns that depiction of aggression and sexual advances are often presented to value pain over pleasure for women and the message this conveys around the worth of the female gender in society. Nonetheless, there have been notions in Hollywood that have seen more diversity conveyed through representations and stories. However, with the emergence of the internet and social media, pornography and personal imagery is easily accessible on demand, which can represent harmful messages around gender makes that 'Laura Mulvey's analysis of the *male gaze* [...] more relevant and dangerous than ever' (Oliver, 2017: 455).

Lynch *et al.* (2016) analysed sexualisation in video games between 1992 and 2006; where the results indicate industry progression, the overall finding found that it is not substantial (Lynch *et al.*, 2016). Lynch *et al.* (2016) findings raise significant concerns over the understanding players derive from the messages presented through the representation of gender and appearance along with the tolerance towards these messages in society external to the game world. Continuing this notion, Dill *et al.* (2008) examined the exposure to sexualised video game avatars impact on participants' belief systems and judgement of sexual harassment. The study participants varied in age and gender, with 120 females and 61 males averaging an age of 18.82; through the experimental study, they were shown sex-typed video game characters, and the findings suggest that the 'media images of demeaned women cause men to advocate keeping women "in their place," while they cause women to advocate for social justice' (Dill *et al.*, 2008: 1406). When measuring the resistance towards sexual harassment, the participants were provided with a real-life story adapted from *The Silent Treatment* (Wolf, 2004), which is based on sexual harassment received by a student from their college professor to measure their tolerance towards sexual harassment. Upon reading the story, participants were provided seven questions, and it emerged that the male

participants were more tolerant of sexual harassment in comparison to the female respondents (Dill *et al.*, 2008). The study by Dill *et al.* (2008) indicates the potential outcomes derived through observation of gendered sexualisation, and further research indicates that the same themes emerge when analysing agency. LaCroix *et al.* (2018) examination of sexist behaviours that emerged after engagement with video games that require the agency of the player to enact aggression towards sexualised female opponents found that sexism increased in its players. However, the variables of exposure found that the increase in sexism was linked to psychological immersion, where the participants who achieved higher immersion attitudes were more impacted (LaCroix *et al.*, 2018).

Following LaCroix *et al.* (2018), McCullough *et al.* (2020) investigated the connection between time spent playing hardcore video games and the emergence of internalised misogyny with and without the influence of the synthesis of feminist identity. Overall, the study consisted of 319 videogame-playing female-identifying participants (315 cis-gendered, two trans-gender, and two who preferred not to say), with the result uncovering that time spent playing video games impacted the internalised misogyny of the participants (McCullough *et al.*, 2019). Despite the results providing evidence that internalised misogyny was connected to time spent playing video games, the participants with a positive feminist identity were less likely to be impacted (McCullough *et al.*, 2019). The findings raise concern over prolonged exposure to the medium. McCullough *et al.* (2019) results indicate that players can become resistant to negative representations by having a positive feminist identity; however, the concern remains over the messages that players are presented for younger audience.

The annual survey provided by Ofcom found that in 2023, the most popular social media amongst young people aged 3-17 was YouTube, with 88% engagement; however, video

games exceeded that engagement with 89%, indicating that video games are surpassing social media popularity amongst the younger generation (Ofcom, 2023). The findings from Ofcom (2023) suggest that generally, children play video games until the age of 16-17 before a minor gender-specific decrease indicates that boys are more likely to continuously play video games (94% compared to 80%). Much like all popular mediums before, there is a continuation of problematic representations around gender-specific beauty standards and roles that emerge through video games and social media, which raise significant concerns when young people engage with these mediums regularly.

Despite the heightened engagement with younger people using video games, children do not have representation in game worlds. Raey (2019) studied 506 video games published between 2009 and 2019; the majority (65%) of the titles contained zero representation of children. From the video game titles studied, 97 had significant child representation; however, when looking at the playability of the avatars for the games' duration, this was only present in 45 titles (Raey, 2021). However, child representation in video games has fluctuated over time; in 2009, the study found that children were represented in 24% of the game titles, which later increased to 56% in 2018. These results appear to reflect the progress that the industry made to create representation for their growing pre-teen players, but this percentage dropped the following year to 36% falling under the ten-year average of 38% (Raey, 2021). Genres and PEGI ratings correlated to the amount of child representation in the game titles; it was found that child representation was more likely to appear in games rated PEGI 16 and 18 and in specific genres, such as '51% of Action games, 58% of Adventure games, and 78% of Role-playing games [...] albeit not necessarily in significant roles' (Raey, 2021). It emerged that the lower the PEGI rating was, the more likely there would be a lack of representation, with 15% of PEGI 3 and 36% of PEGI 7 games depicting child characters (Raey, 2021). When younger people are engaging with PEGI-rated video games that reflect their ages, it is

apparent that they are far less likely to see a representation of themselves, but rather they embody adults who thematically represent ideal beauty standards and heightened sexualisation (Raey, 2021).

Jansz and Martis (2007) investigation into gender and race representation of 22 characters over twelve game titles corroborated the findings of Ivory (2006) and Dietz (1998). The authors concluded that when investigating themes of idealism and sexualisation, female avatars were more likely to display the traits; however, these themes also emerged through the male-representing characters (Jansz and Martis, 2007). The evidence indicated that female avatars were sexualised through their clothing. However, where this was found on occasion with the male representing avatars, they were more likely to depict hyper-muscular body proportions. Therefore, unrealistic body representations of male avatars were more likely to represent the ideal body image through being extremely muscular, and in comparison, the female avatars were large-breasted and thin with revealing clothing to extenuate the proportions (Jansz & Martis, 2007).

Further corroborating the findings mentioned thus far, Lynch *et al.* (2016) identified a prolonged history of sexualisation and representation of female avatars within videogames of specific ESRB ratings from 1981 to 2014. The results of the study concluded that Teen-rated games (ages 13 and above) featured more sexualised avatars in comparison to mature-rated games, indicating that adolescent's exposure to sexualised female representation is more frequent, which provides an unrealistic expectation of female appearance. The implication is that digital games feature the same themes of unrealistic and unachievable beauty standards with themes of sexualisation and objectification. Lynch *et al.* (2016) do not suggest that there are influential impacts of these depictions; however, it is worth noting that the representations

reflect problematic themes of unrealistic and unachievable beauty ideals to a group of individuals who are susceptible to body dissatisfaction.

Research has concluded that the representation of beauty standards and thin ideals presented through media has had negative impacts on the association of beauty and thinness on success and future optimism of women and psychological positivity, e.g., body satisfaction, confidence, self-esteem, and happiness, with women with mental illnesses being more impacted (Pinhas *et al.*, 1998; Evans, 2003; Engeln-Maddox, 2006). However, body dissatisfaction associated with media depiction of the thin ideal is not universal to women. Blowers *et al.* (2003: 229) found that girls aged 10-13 often 'associated with body dissatisfaction via internalisation of the thin ideal', and López-Guimerà *et al.* (2010) correlated similar findings in adolescent girls' body dissatisfaction when exposed to media imagery. Furthermore, body dissatisfaction appears to be a universal experience in females and males with Karazsia *et al.* (2017) results corroborating that females experience body dissatisfaction from the thin ideal; however, over time the dissatisfaction decreased. In contrast, male dissatisfaction is influenced by muscular ideals that over time do not significantly decrease. Despite being a universal experience influenced by media exposure and specific gender ideals, other factors emerge through the physical development as adolescents and young adults experience increased body dissatisfaction when their BMI changes, increasing the risk of low self-esteem emerging in girls and the development of depression in boys over time (Paxton *et al.*, 2006; & Bucchianeri *et al.*, 2013).

## 2:4 Girls 'Pink games' and The Girl Games Movement



FIGURE 6: PSEUDO ADVERT *CHESS FOR GIRLS* FROM *SATURDAY NIGHT LIVE* [SCREENSHOT BY AUTHOR RETRIEVED FROM *YOUTUBE*] (*SATURDAY NIGHT LIVE*, 1997/2013).  
[HTTPS://WWW.YOUTUBE.COM/WATCH?V=A1YSQJXMBUI&T=15S](https://www.youtube.com/watch?v=A1YSQJXMBUI&t=15s)

The *Saturday Night Live* (*SNL*) skit '*Chess for Girls*' represents a brother and sister playing chess; the sister becomes frustrated and considers the game to be 'stupid' in reaction to the competitive play from her brother before pushing all the chess pieces off the board with another girl shouting 'chess is a boy's game' (*Saturday Night Live*, 1997/2013). After this, the pseudo-advert '*Chess for Girls*' plays (Figure 6); the chess pieces are mounded on top of doll bodies, and the girls begin to brush the pieces hair, nurturing the 'babies' and prancing around the ponies- doing anything but playing chess. Introducing the pseudo-advert in their literature, Cassell & Jenkins (2000) draw comparisons around the gender assumptions, video game play and the industry's approach to advertising video games to predominantly boys. Cassell & Jenkins (2000) argue that the separation of gender through stereotypical assumptions of gender explicitly continues the notions that video games are a boy's activity, and the devaluing of girls' interests becomes problematic. Despite the issues that arise from

stereotypical depictions, there has become further acceptance, which sees girls being able to transgress between gender norms through play in comparison to boys (Cassell & Jenkins, 2000). The emergence of the Girl Games Moment provided an indication that the industry was changing in attempts to break barriers and offer play away from gendered stereotypes. However, the concern remained that the Girl Games Movement could ‘run the risk of flattening the diversity of girls’ cultural interests’ (Cassell & Jenkins, 2000: 27).

A frequent form of gender stereotyping is done through colour association, where colours associated with femininity and masculinity directly impact how boys and girls engage with play through gender compliance. Through their study, Fulcher and Hayes (2017) observed the behaviours of 68 boys and 48 girls through instructed and free-play tasks of LEGO building to conclude the impact of gender-associated colours on creativity and play. The LEGO bricks were separated into two categories: (1) Classic Creative Supplement (masculine)= White, grey, yellow, orange, red, blue, green, and brown bricks, and (2) Classic Creative Supplement (feminine)= Grey, white, red, orange, yellow, green, light blue, purple, and pink. In the instructed task, the children were given black and white instructions on feminine and masculine builds: Cat and cake (feminine), rocket and dinosaur (masculine), with randomly assigned purple and pink or blue and green bricks. The instructed task found that the boys took less time to construct the builds; however, both genders constructed the feminine cat build faster than the masculine dinosaur build, indicating that the feminine build was less challenging (Fulcher & Hayes, 2017). In the free-play task of the study, boys were more inclined to make masculine-rated designs on average regardless of Classic Creative Supplement bricks they played with; however, a difference emerged for the girl group (Fulcher & Hayes, 2017). When the girls created builds with the masculine-rated bricks, they created more masculine-rated designs than when they played with the feminine bricks,

indicating that gender association impacts how girls engage with play (Fulcher & Hayes, 2017).

Blumberg and Sokol (2004) investigated the potential gender differences in approaches to playing video games; the study depended on self-reported experiences from ethnically diverse and middle-class children in America, specifically in second (46 children= 20 girls and 26 boys) and fifth (58 children= 23 girls and 35 boys) grade. The approaches were defined as internally oriented, indicating that the participants approach learning video games through trial and error and reading game manuals, and externally oriented, referring to asking for help and watching others (Blumberg & Sokol, 2004). Out of 44% of frequent video game players, 72% were boys; however, there was no gender difference regarding the 63% of respondents who reported using internally orientated approaches to video games (Blumberg & Sokol, 2004). Children in both grades referenced internally orientated approaches over external approaches, which suggests that children have independent approaches to learning how to play video games regardless of their gender, raising concern about the gender-engaging tactics in a 'separate-but-equal gesture' (Fulcher & Hayes, 2017: 283). The findings of Blumberg and Sokol (2004) and Fulcher and Hayes (2017) conclude that girls are at a disadvantage when participating in gender-associated tasks due to presumptions and minimal challenge.

Jenson *et al.* (2007) were interested in education, gender, and gaming; their focus was driven by boys' introduction to video games in their earlier stages of development and the increase of video games used in educational contexts. The stereotypical presumptions that have separated boys and girls pose a risk when video games are implemented in educational settings. Reinvestigating the presumptions of gender provides further insight into the ability of girls to participate fully and equally; the survey and interviews conducted found that the

number of boys that had played with girls was significantly low, whereas both genders reported playing with boys the most (Jenson *et al.*, 2007). In contrast, the female participants were likelier to play with other girls; however, this was infrequent (Jenson *et al.*, 2007). In their mixed gendered play session part of Jenson *et al.* (2007) study, only one out of nine boys approached two other female participants to play video games with; where it is not stated why this happened, this provides insight into the gender divide and the ability to transgress in play due to stereotypes that are not explicitly stated but exist. Lucas and Sherry (2004) examined the gender differences in video game use through a large-scale survey of 534 (375 male) participants, with a specific focus on 'interpersonal needs for inclusion, affection and control, as well as socially constructed ideas of gendered gameplay' (499). The findings uncovered a significant difference between how often the male and female participants played every week. The male participants played on a mean average of 11 hours a week; in contrast, females played for 4.25 hours (Lucas & Sherry, 2004). Both genders valued challenge for the gratification derived from playing games; however, the female players scored social interaction as their lowest gratification, whereas this was the second most popular among the male participants (Lucas & Sherry, 2006).

Further examining the gratifications of players, Kondrat (2015) surveyed and interviewed video game professionals from Uppsala University based on the theoretical framework of uses and gratification, cultivation, and feminist theory. The survey gathered 234 (77.78% male and 21.79 female) participants from being promoted on various social media platforms. Overall, the respondents' gratifications from video game play were influenced by relaxation, fantasy, and diversion/escapism. The participants were asked about their perception of female gender stereotyping in video games, 76.9% believed there was gender stereotyping in video games with sexual objectification and provocative representation as specific examples (Kondrat, 2015). However, 58.55% of participants did not believe that the stereotypical

depiction of the female gender leads to repercussions, and 67.09% did not believe that video games impact real-life behaviours (Kondrat, 2015). On the other hand, experts say that there are consequences for the stereotypical depiction of women. Adam Mayes (2014) states:

We don't have developers creating strong women, so publishers and developers don't think that games with women sell, so they don't make games with strong women (Kondrat, 2015: 186-187).

The experts outlined that there is a misrepresentation of the female gender, with Ulf Benjaminsson adding that the stereotypical depiction is a universal issue that impacts the male and female characters (Kondrat, 2015). At the time of the study, there was an acknowledgement that the video game industry was improving. However, the concern is that this may not be a moral choice but a way to increase their consumer market for economic benefit (Kondrat, 2015). Expanding on the ideas of Funk (n.d.), Taylor (2003: 18) indicates that gender-specific game content can have a negative impact on girls' exploring video games outside of the gendered genres' that focus on friendship and socialising overlooking the issue that 'girls are looking for games which also push them to take risks and where there is a chance to be absolutely and unequivocally dominant'.

Booth and Nolen (2012) investigated the role of nurture in girls' approaches to competition to understand further the belief that females avoid competition. The participants were adolescents from mixed-sex and single-sex schools assigned to groups and offered rewards upon completing tasks (Booth & Nolen, 2012). Overall, compared to boys, girls were more likely to shy away from competition; however, this was more prevalent in the girls who attended mixed-sex schools (Booth & Nolen, 2012). The girls who attended same-sex schools behaved more like the boys as they were likelier to opt into competing (Booth & Nolen, 2012). These findings support the junction that the gender stereotypes that divide boys and

girls could be nurturing children and adolescents' ideas about gender roles and expectations of behaviour. Bryce and Rutter (2005) argue that femininity and masculinity are not fixed concepts; instead, they are defined by gendered interaction, urging the need to resist the stereotypical concepts of masculinity and femininity. Jenkins (2000: 291) encouraged the need to make game and play spaces more universal between boys and girls since girls will benefit from navigating game spaces that are traditionally thought of as boys' interests, exploring high-risk scenarios to increase confidence and competitive behaviour to 'be able to play games where *Barbie* gets to kick some butt'.



FIGURE 7: PHOTO OF BARBIE FASHION DESIGNER CD-ROM GAME PACKAGING [PROVIDED BY AUTHOR].

The Girl Games Movement appeared more relevant than ever after the success of *Barbie Fashion Designer* (Figure 7) as the female market defined itself as both profitable and

interested in digital games. Toys, video games and software companies challenged developers to create products with girls in mind, with the motivation being to create new sales opportunities from a relatively untapped market whilst attracting more females towards STEM careers (Maughan, 2020). Stross (2008) reported a decrease in females participating in computer science undergraduate degrees; in 2001-2002 the percentage of females enrolled on computer science was 28% and later decreased to 22% in 2004-2005. There are trends in the United Kingdom that suggest the gap between male and female undergraduates is decreasing, with the ratio of male students to females being 4.7:1 in 2021, steadily closing to 4.3:1 in 2022, and record-breaking closure of 3.8:1 in 2023, but this ratio remains quite large (British Computer Society *et al.*, 2022; British Computer Society, 2023). However, the decrease is still apparent in the United States; as of 2022 the number of women receiving computer science undergraduate degrees had decreased to 20% (Cheryan *et al.*, 2022).

Stross (2008) draws on the thoughts of Jonathan Kane, a professor of mathematics and computer science from the University of Wisconsin Whitewater. Kane recalls a decrease in students majoring in management computer systems, seeing an overall 75% decrease and an even further decrease of female students; he speculates that 'young women earlier had felt comfortable pursuing the major because the male subculture of action gaming had yet to appear' (Kane paraphrased by Stross, 2008). The Girl Games Movement had the objective to introduce and encourage females to play video games; however, the movement ultimately failed as Cassell and Jenkins (2000) argued, "the girl games movement failed to dislodge the sense among both boys and girls that computers were 'boys' toys' and that true girls did not play with computers." (Cassell and Jenkins, cited by Stross, 2008). Ochsner (2015) attributes the insignificant budgets and the lack of aspiration of game developers assigned to design games for girls as they did not see these projects as valuable compared to 'regular games', encouraging such games to become inferior and a market counterpart.

Johnson (2016) considers *Barbie Fashion Designer* to have casted a 'large pink shadow' where publishers did not provide adequate budgets and continued to replicate beauty and fashion-oriented games, which, in turn, diminished the Girl Games Movement. In recent years *Mattel* have diversified their doll range to feature larger body types, diverse ethnicities and representations of disabilities, and the *Barbie Movie* (2023) included a diverse cast that were all *Barbie*, but the prominent representation of *Barbie* remains to be 'the icon of true white womanhood and femininity' (du Cille, 1994: 50). Toffoletti (2004: 59) outlines that *Barbie* is a figuration that encourages wider understanding about 'the body and self as a transformer rather than bound to an established system of meaning'. In this sense the toy doll represents aspects of an adult-world where children create a reality through their imagination to construct and understand the meaning of adulthood.

Discoll (2005: 225) outlines that *Barbie* itself does not represent girls, rather '[demonstrates] the limits and possibilities of gender'. However, *Barbie* has been critiqued for the impact that the doll can have on children and adults' perceptions of femininity, in particular girls and women. Messener (2015) argues that progressive and conservative parents are aligned with the assumption that *Barbie* possesses a significant cultural meaning and signifies femininity that could be imitated by young girls. *Barbie's* representation of beauty and ultra femininity accompanied by the messages of feminine empowerment can be seen as contradictory. Rogers (1999: 14) argues that *Barbie's* representation of the feminine appearance and demeanour is unsustainable, and when representing masculinity, the doll still remains feminine, avoiding the 'danger of becoming one of the boys'. Regardless of the message that *Barbie* can transgress between societal and cultural norms, *Mattel* has always kept the white, blonde, thin and beautiful appearance as *Barbie* in the spotlight (Rand, 1998).

However, *Barbie* was not the only name pursuing the Girl Games Movement as developers from *Purple Moon* created video games based on *Rockett's World* that offered a literature experience focusing on girls' values, interests and attitudes gathered from social research (Yates & Littleton *et al.*, 1999). Brenda Laurel was the founder of *Purple Moon* and believed that:

Boys tend to have an advantage with computers because they achieve a certain comfort level with the technology by virtue of being motivated by video games to put their hands on it... Girls weren't getting that chance to the same degree because they didn't have things that motivated them in the same way that video games motivated boys (Laurel, 1998, cited by Yates & Littleton *et al.*, 1999).

Theresa Duncan also challenged the standards of girls' games through *Chop Suey*, *Smarty*, and *Zero Zero* and was later pronounced as 'one of the most critically acclaimed game designers for young girls' (Ramirez, 1997). Jenkins (2000) compares the games of Laurel and Duncan and finds similarities in the slower pace of play, lack of danger, acquisition investigation and discovery, and encouragement of social relations, all whilst centring the play around emotional connections with characters. Despite the criticisms of presenting games differently to the games that boys play; Jenkins (2000: 290) does consider that these designs expand 'what computers can do and what roles they can play in our lives'. During the Girl Games Movement, companies' understanding of the market was essential as they gathered insights into girls' interests through social and practised ethnographic research to achieve the desired goals and objectives (Ochsner, 2015). Cassell and Jenkins (2000) outline that the goals and objectives were economic, political, technological, entrepreneurial, and aesthetically fuelled. From an economic standpoint, females were becoming a viable group of consumers of games, granted by the success of *Barbie Fashion Designer* and the increase of

female video game players. From the political standpoint, the Girl Games Movement would transgress further than girls being encouraged to play video games; it could result in females becoming more confident with using computers and influence females to consider STEM-related careers whilst offering entrepreneurial options and skills during a time when women were starting up businesses in higher numbers that had been seen before (Ochsner, 2015).

Despite the optimism and drive, the Girl Games Movement became complicated and contradictory in settling on the best way to achieve games explicitly designed for girls. Using market research was encouraged to get an overall sense of what it was that interested girls and women; however, this was not necessarily interesting to developers and instead a pragmatic compromise was suggested. The pragmatic compromise would cater to the objectives of the Girl Games Movement, however, would not consider diverse interests of girls and women (Cassell & Jenkins, 2000). Theresa Duncan was critical of the use of market research, believing it focused on gaining profit by understanding the average interests of the market, considering it to be 'perfunctory feminism' that was 'more meaningless than slapping the pink bow on *Pacman*' (cited by Cassell & Jenkins, 2000: 24). Instead of challenging the presumed differences between boys' and girls' interests, the answer through market research was to cater to the difference, which was heavily criticised by Grrrl Gamers (Cassell & Jenkins, 2000; Yates & Littleton *et al.*, 1999). Grrrl Gamers argue that their preferences are not as different to boys and men as the Girl Games Movement presumed; they wanted danger, violence, and action but felt as if the movement was telling the industry that was not the case unintentionally marginalising games targeted to girls (Cassell & Jenkins, 2000).

The Girl Games Movement came to an end when *Purple Moon* went bankrupt and was bought by *Mattel* in 1999; further content was not produced, and the monetary success of *Barbie Fashion Designer* was never replicated. Ironically, *Mattel* encouraged the Girl Games

Movement to fruition, and in turn, ended it. Cassell and Jenkins (2000) raise concerns over the industry viewing boys' and girls' interests towards play and games as separate, which in turn directly impacts the positive skill building and feeling that video games can instil. Despite the movement's optimistic start, it needed to influence the gaming industry more to be seen as a viable and successful genre of games. From the literature, it is apparent that during the Girl Games Movement, there was a misunderstanding of how girls wanted their video games to be designed through market research or gender assumptions. However, the shortfalls of the Girl Games Movement provide a comparison that can be used to compare the games available on the market for girls currently uncovering whether there have been lessons learnt from the past.

## **2.5 Gameplay for Girls**

Flow is achievable in various activities and experiences where focus and fulfilment needs are met; in a state of flow, time variables become jaded due to focus enhancement, maximising arousal, and performance to the activity at hand (Chen, 2007). Flow is a universal experience for everyone and can be achieved in various areas of our lives; Csikszentmihalyi (1990) proposes the idea of adaptive play and flow being influential to achieving an optimal experience in a state. Csikszentmihalyi (1990) outlines eight components of flow: (1) complete focus on the activity/task, (2) transparent goals/rewards and immediate feedback, (3) altered sense of time, (4) rewarding experience, (5) effortless and ease, (6) a balance of challenge and skill, (7) loss of self-consciousness, and (8) sense of control. Not all eight components are necessary to meet the optimal flow experience; when considering video gaming, it is essential to balance challenge and skill to engage players in 'the zone', which positively influences the achievement of flow (Chen, 2007). Video game play needs to meet the player's demand for the challenge and their ability to overcome it; making the challenge

too tricky will negatively impact the player's sense of ability and loss of self-consciousness, but if players do not feel challenged enough there is a heightened risk of boredom (Chen, 2007). Chen (2007) proposes four elements that are intentional in game design to promote interactive experiences: (1) a mix and match of Csikszentmihalyi (2003) components, (2) an aim to keep players' experience in line with the flow zone, (3) offer adaptive choices and (4) embed choices in core activities/tasks. Player skill sets vary; hardcore gamers can be more familiar with game mechanics and have a higher skill set due to more significant time investment and familiarity with video games than casual gamers. Balancing challenge vs. skillset is essential to engage both hardcore and casual gamers in a flow state. However, casual gamers are often perceived for girls and women, and the indication of their games from the Girl Games Movement literature indicates that these games tend to lack elements of challenge through their designs raising the risk of female players reaching a state of flow.

Michailidis *et al.* (2018) argue that the dimensions of flow are more descriptive than definite, and until there is further behavioural and neurophysiology evidence in experimental settings, detangling the difference between flow and immersion remains interchangeable. Granic *et al.* (2013) argue that to have a nuanced understanding of video games on childhood development requires considering both potentially negative and positive influences; the research findings outline that video games can promote well-being and offer prevention and treatment for mental health problems that appear in youths. Granic *et al.* (2013) drew on literature that suggests that specific video game genres can help develop spatial, creative, and problem-solving skills (Uttal *et al.*, 2013; Prensky, 2012; Jackson *et al.*, 2012). Motivation encouraged through video games is found to encourage persistence and an optimism-driven motivation style, which can feed into other areas of development institutions like schools (Granic *et al.*, 2013). Where the emotional benefits remain unclear; most accepted research is focused on the negative impacts of video games, and the gaps in literature around the positive benefits.

Ferguson (2015) notes a gap within the literature on the potential negative and positive impact of video games on children and adolescents, specifically violent behaviours, as most studies have been focused on young adults and adult gamers. Through meta-analysis, Ferguson (2015) discovered that violent and non-violent video games have minimal impact on children's well-being, with the results decreasing further when the variables are controlled. The analysis of 101 studies concluded that video games generally had a small relationship with aggression and reduction of prosocial behaviours; however, when this was in a controlled environment these impacts were minimal (Ferguson, 2015). Ferguson (2015: 658) concludes that the lack of examining game effects outside of violent video game content does not provide a range of understanding of video game impacts indicating bias in the publication of literature in the field of video games. Despite the positive impact of video games being foreshadowed by literature focusing on negative outcomes, it is evident that video games can provide rich experiences that benefit their players through flow and immersion or even just the act of play itself. Investigating the gendered experiences of play and video games is at the forefront of this research with the aim and objective to gain further understanding towards a clear definition of what a '*pink game*' is and what gendered play is designed to be in video games rated PEGI 3-7.

## **2.6 Gaps in Literature**

The literature review uncovered gaps in literature around the mechanics and dynamic designs of video games, however, there was extensive literature that discussed the visual content and the narratives that the player observes whilst playing video games. Understanding the mechanics and dynamics of games designed for girls compared to boys' games will uncover the potential differences in video game design and gender assumptions about players' abilities to interact within the game areas. Where there has been extensive research into the

representation and sexualisation of female avatars, this research will focus on games between the PEGI rating 3-7 and look at the display of a stereotypical representation of femininity through games designed specifically for boys and girls. Where the research indicates that there are problematic themes that emerge in game design, there is no extensive research into games specifically designed for children and the stylistic choices that designers implement to reinforce gender assumptive play. The expectation is to uncover evidence of the evidence of gender designed play; however, the aims and objectives of the research will consider, rather than critique, the implications of gendered play whilst defining what a '*pink game*' is.

## Chapter 3: Methodologies

The aims and objectives of the research are to explore gender assumptions and their influences on the designs of video gameplay, and to identify the stereotypical representation embedded into games rated PEGI 3-7 to establish the definition of a *pink game*. Three research questions are proposed, which will investigate the separate areas that are paramount to concluding the research aims, these are:

- RQ1: MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those targeted at boy players?
- RQ2: Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?
- RQ3: Avatar Representation and Behaviours: How does the representation of femininity emerge through avatar design and encouraged behaviour through gameplay in games made for girls compared to boys?

Each question requires its own approach to establish the distinct characteristics and themes that emerge from gendered game designs. The analysis into the mechanics, dynamics and aesthetics of video games will be done through applying the MDA Framework. The MDA Framework will provide results to conclude the possible assumptions of the level of skill that game designers presume are reflection of each gender. Similarly, the Elemental Tetrad will indicate the presumed experiences that players want compared to their gender. However, instead of analysing game systems, this will provide evidence through visual representations, narrative themes, and technology. Lastly, the representation of femininity will be looked at through a visual analysis to understand the position of feminine representing avatars in boys' and girls' game worlds and the possible stereotypical influence embedded into their design.

Overall, the analysis of the three questions will provide characteristics of *pink games*, which will contribute to video game academia by clearly defining the terminology.

### **3.1 Research Philosophy**

The research philosophy approach for this study adopts a realist explanation; Putnam (1977: 483) outlines that a realist explanation is 'not that language mirrors the world but that speakers mirror [...] their environment - in the sense of constructing a symbolic representation of that environment'. Further, Sobh and Perry (2005:1999) state that 'realism refers to this external reality as consisting of structures that are themselves sets of interrelated objects, and of mechanisms through which those objects interact'. In essence, realists believe that there are mechanisms that drive social phenomena and events that are autonomous yet constructed by society (Magee, 1985). The realistic approach becomes ontological because the pre-determined convictions are statements awaiting factual evidence. Through the literature review, it was pre-determined that there are valid explanations to suggest that there is a gender difference in how games are designed with boys and girls in mind. The results from this study will analyse to uncover explanations and evidence to support the statement, which must be considered from the outset to be inline with the research philosophy (Ackroyd, 2009). Adopting a realist approach aims to provide evidence to support convictions and, at minimum, 'penetrate below the surface to identify underlying social mechanisms or generative processes' (Ackroyd, 2009: 534). The intended outcome of adopting a realism approach in this research is to develop a 'family of answers' (Pawson & Tilley, 1997: 152) that will answer the research questions at hand, supporting realism ideologies through an inductive approach to the research.

### **3.2: Research Approach**

Inductive research principles will guide the methodology in this research; the approach is a systematic procedure employed to analyse qualitative data with set objectives based on observations and thematic patterns (Thomas, 2006). Unlike a deductive approach that intends to analyse and test data against previous assumptions, theories, or hypotheses, the inductive approach follows a 'bottom-up' perspective that uses data to build themes and generate theories (Crewell & Plano Clark, 2007; Thomas, 2006). Traditional visual, verbal, and written communication mediums have been analysed in-depth in academic research; however, as mediums become more interactive with audiences possessing greater agency by engaging in the adaption, alteration, and production of content, resulting in analyses becoming more challenging (Skalski *et al.*, 2017). Videogame studies present many challenges, from the lack of widely accepted theories and terminologies to the complexity of video game audiences being influenced by interactivity and immersion being motivated by self-determined decisions, individualism, and experience. The inductive approach relieves anticipated restrictions from structured methodologies to allow the exploration of unexpected insights and themes to emerge (Thomas, 2006).

### **3.3: Research Design and Theoretical Framework**

The MDA framework focuses on three aspects of a video game design: mechanics, dynamics, and aesthetics, and was proposed as a framework for understanding video games from a game designer's perspective to identify design intentions, gaps in literature and criticism in technical game research (Hunicke *et al.*, 2004). Video games are like all consumable goods, and it is essential to have frameworks that help identify gaps in their design; games are designed and developed, purchased, and consumed by players, and after they have been used, they are cast away (Hunicke *et al.*, 2004). Video games have found their place as a mass

communication medium; however, their complexity separates them from the former communication mediums that have been analysed and researched thoroughly in academia for many years. Hunicke *et al.* (2004) consider it crucial when using the MDA framework that game complexity is noted and is separated from the traditional way of treating mediums. Instead, video games should be considered as artefacts where the behaviour of the game content towards the player is analysed, not the content that is outputted from the technology (Hunicke *et al.*, 2004). The MDA framework formalises the consumption of games by categorising their three distinctive components: Mechanics, dynamics, and aesthetics; the components are considered a 'lens' or a 'view' with each being separate with causal links (Leblanc, 2004). The three distinctive components are designed as follows:

1. Mechanics (rules) refers to describing specific components of the game, such as data representation and algorithms.
2. Dynamics (systems) focuses on the description of the run-time behaviour of mechanics on the player's input and the output of one another over time.
3. Aesthetics (fun) represents the intended emotional responses evoked through play when players interact with the gaming system. (Hunicke *et al.*, 2004)

The aesthetics component is concerned with what makes a game fun. Hunicke *et al.* (2004) have proposed a vocabulary that offers a more in-depth understanding of 'fun' and 'gameplay'; eight were proposed in the paper, but are not limited to:

1. Sensation- game as sense-pleasure.
2. Fantasy- game as make-believe.
3. Narrative- game as drama.

4. Challenge- game as an obstacle course.
5. Fellowship- game as a social framework.
6. Discovery- game as uncharted territory.
7. Expression- game as self-discovery.
8. Submission- game as a pass-time (Hunicke *et al.*, 2004: 2).

Dynamics are proposed to create aesthetical experiences for the players. The influence of the dynamics within a game result in the aesthetics being able to be categorised into one of the proposed definitions of fun (Hunicke *et al.*, 2004). The MDA framework concludes with mechanics, defined as 'various actions, behaviours and control mechanisms afforded to the player within a game context' (Hunicke *et al.*, 2004: 3).

The Elemental Tetrad proposed by Jesse Schell (2008) will be applied alongside the MDA framework as it approaches the analysis of video games differently with the focus on sensations, visuals, technology, and narrative. The Elemental Tetrad is well-accepted amongst academics and practitioners; the framework considers four components: Mechanics, aesthetics, story, and technology (Schell, 2008). The Elemental Tetrad considers mechanics and aesthetics in its framework, much like the MDA framework; however, the difference between the two frameworks is that Schell (2008) considers the counterparts of the framework to be connected, unlike the causally linked components of the MDA Framework (LeBlanc, 2004).

Schell (2008) considers there to be a direct relationship between aesthetics and experience; experience is not considered in the MDA framework as the focus lies on emotional response. Where emotion is not excluded in experiences, Schell (2008) is more focused on the artistic

value of games, which is essential to understanding the player's expectations visual arousal through the players' perception. Aesthetics connect to technology with its amplification and reinforcement of aesthetics through technology used to create and display games, and further the game's narrative supports the emergence of aesthetics (Schell, 2008). The narrative of a video game becomes its story which the timeline of events creating the basis for the game premise and avatar development. Overall, the Elemental Tetrad outlines that mechanics, aesthetics, story, and technology are all directly connected with the aesthetics being readily visible, with the mechanics and storyline being discovered through gameplay, and technology that is less visible but is fundamental to the creation of the game (Figure 8).

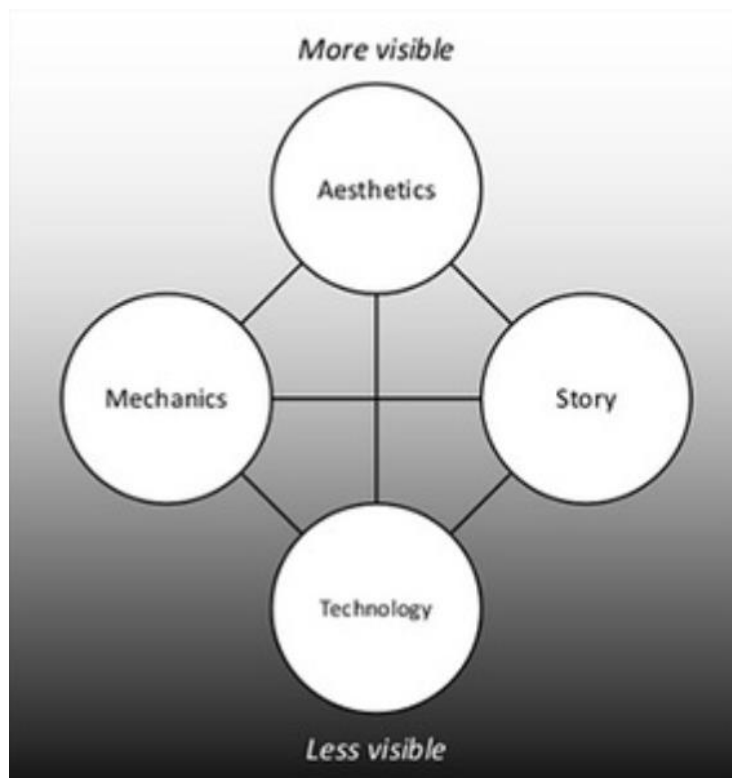


FIGURE 8: *THE ELEMENTAL TETRAD* (SCHELL, 2008, P. 42).

The visual analysis of the game titles will provide evidence of the representation of female avatars following similar guidelines of content analysis. Following advice by Schmierbach (2009) on content analysis, a selection of the games has been chosen as a focal point of the

visual analysis. Further, the games will be broken down into frames to enable the results to be focused on the most impactful content by dividing the video games into beginning, middle, and final segments. Fortunately, the games that were analysed maintain the same storyline with little diversion throughout the gameplay; however, if this was not the case, dividing the games into frames may result in missing influential data. On the other hand, there will be elements of the games that will not be included due to their lack of significance, which does not provide an overall review. Nonetheless, following the advice of Skalski *et al.* (2017), the researcher will become fully immersed in the games prior to and during analysis to understand what content is the most influential.

### **3.4: Research Method**

During data collection, it was evident that many video games are designed to appeal to a child-based audience. When finalising the data, it was essential to avoid arbitrarily, which resulted in titles from the reputable 'family-friendly' publisher *Outright Games*, being selected. In 2023, *Outright Games* became the first video game industry partner of UNICEF, received a nomination to be a finalist of the *Major Publisher of the Year for the MCV/DEVELOP Awards 2023*, and received several awards in the Baby and Pre-school category from the *Ukmums.tv Game Awards 2023* for three of their game titles: *Pepper Pig World Adventures*, *Gigantosaurus: Dino Kart*, and *Paw Patrol: Grand Prix* (UNICEF ARTICLE, Outright Games, 2023). Outright Games companies' ethos is focused on publishing game titles that do not exceed the age rating of PEGI 3-7 and are based on franchises marketed towards children that guarantee family-friendly and safe experiences. Outlined in the literature review, it is indicated that video games can contain gender assumptions of play; choosing games that have the common gender assumptions found in games intended for a girl-based audience would fail to provide anything new to the area of

research; and would provide no comparable data to the research objectives. Therefore, despite the research objectives intending to provide results based on girls' games, it is crucial to cross-analyse with games designed for boys to understand their differences.

The data selection requirements were limited to enhance the analysis outcomes to answer the research questions: (1) games published by *Outright Games* and (2) games designed with characters that are not anthropomorphic. Anthropomorphism refers to a non-human agents or inanimate objects representing human-like attributes such as physical or non-physical feature and human-like behaviours and emotions (Epley et al. 2007). The decision to not include video game titles with anthropomorphic design was to avoid assumptive conclusions as the methodologies would not uncover players' identification with these avatars. Without having participants in the study, it would remain unclear whether the impact of anthropomorphic designs have a positive effect on the players' identification process or encourage 'feelings of unease through the phenomenon known as uncanny valley' (Kao, 2019:1). Kao (2019) states that there is a gap in the literature of whether anthropomorphism positively affects experience related outcomes which could have resulted in bias outcomes. The greater amount of research on human-representing avatars provides more opportunities to corroborate the findings from this research which will result in more conclusive evidence.

However, the decision not to use anthropomorphic avatars vastly reduced the number of publishers and video game titles that could be analysed. *Nintendo* and *Sega* have published many games that are rated PEGI 3-7 and offer family-friendly experiences; however, their representations of avatars are vastly anthropomorphic. Further, the titles are considerably older than *Outright Games* which may not display responses to critique that may have influenced game design and play experiences over the years.

The selected games were published between 2020 and 2024 for relevancy and were chosen randomly from the game catalogue outlined in Table 1.

<b>Game</b>	<b>Publisher</b>	<b>PEGI</b>	<b>Description</b>
<i>Ben 10: Power Trip</i> (2020)	<i>Outright Games</i>	7	<i>Ben 10</i> (protagonist) goes on a family vacation in Europe before being faced with <i>Hex</i> (antagonist) who awakens a curse threatening the towns of Europe.
<i>JoJo Siwa: Worldwide Party</i> (2022)	<i>Outright Games</i>	3	Explore <i>JoJo Siwa</i> 's worlds to unlock various songs by the artists and perform the songs in concert.
<i>Bratz: Flaunt your Fashion</i> (2022)	<i>Outright Games</i>	3	Complete quests to become the world's best fashion reporter whilst travelling to various locations and hanging out with various <i>Bratz</i> from the franchise.
<i>Hotel Transylvania:</i>	<i>Outright Games</i>	7	Progress through three

<i>Scary-Tale Adventures</i> (2022)			classic stories with a spooky twist by defeating monsters and solving problems.
<i>L.O.L Surprise: B.B.'s Born to Travel</i> (2022)	<i>Outright Games</i>	3	Create <i>L.O.L Surprise!</i> dolls for fans in various locations around the world.
<i>Last Kids on Earth and The Staff of Doom</i> (2021)	<i>Outright Games</i>	7	Explore the town of Wakefield in a post-apocalyptic setting and defeat zombies and monsters.
<i>Rainbow High: Runway Rush</i> (2023)	<i>Outright Games</i>	3	Explore the school whilst achieving assignments with your friends.
<i>Trollhunters: Defenders of Arcadia</i> (2020)	<i>Outright Games</i>	7	Defend Acadia from <i>Porgons</i> time-apocalypse by defeating trolls and enemies.

**Table 1: Video game titles by Outright Games that will be analysed in this research.**

When dividing the games into categories of either boys' or girls' games, the titles were separated based on the binary gender representation of the title's protagonist. *Hotel Transylvania: Scary-Tale Adventures* did not meet the condition due to the inclusion of two protagonists representing femininity and masculinity that are compulsory to play during gameplay. In this instance, the franchise that the game is based off was looked at and it was concluded that the main protagonist is *Drac*- a male representing character- concluding this game to be considered a boys' game.

When analysing the games through the MDA Framework, the mechanics were established across all the games and then filtered down to focus on most frequently emerging ones across titles to draw comparisons. After the mechanics were filtered down, nine categories were focused on movement and navigation, combat and action, quests and objectives, exploration, resource management, multiplayer, achievement and progress tracking, set collections, and character customisation. The mechanics enabled the emergence of dynamics, and to stay in line with the MDA Framework proposal of components being casually linked, the dynamics in each game that emerged from the mechanics were focused on. Lastly, the aesthetics component of the MDA Framework was analysed. With reference to the eight aesthetic feelings that can emerge from games, parasocial connection was added due to the pre-existing franchise nature of the games.

The analysis of the Elemental Tetrad focused on the aesthetical experience, narrative and technology; to avoid repetition, the analysis of the mechanics for the MDA framework covers mechanics in the Elemental Tetrad. The aesthetical experience is achieved through visuals, sounds, feeling, smell and taste; following the same approach, all games will be looked at individually, and then the significant themes will be merged to supply the best results for understanding comparisons. When it comes to the analysis of the narratives, all the games

will be treated as individuals, as their storylines are unique and slightly comparable. The usual practice towards the data analysis previously seen will be used for the technology element, and the comparable will be addressed through the results chapter. When looking at technology, no resources were available to understand how technology influenced the designs of the video games. Instead, when it comes to technology, an analysis will be conducted to understand what technology is compatible with the game and what restrictions are imposed on the player.

The final section focuses on the representation of femininity in the video games. When looking at the intended representation, one of the avatars from each of the girls' games will be picked since the general designs of the avatars are replications of one another, and focusing on a larger sample would not uncover any different results. Regarding the boys' games, the avatars picked for the analysis were either playable or actively mentioned in the storyline to maintain fluency. Lastly, the final question consists of the agency the player partakes in while playing female-representing characters, and the behaviours that the core feminine representing avatars depict through gameplay and narratives.

### **3.5: Ethical Considerations**

Due to the data being analysed being part of the public domain, there will be no ethical considerations when obtaining and retaining the data.

### **3.6: Methodology Limitations**

The MDA framework is popular and widely used amongst game designers in particular; however, since its publication, critical analysis uncovered several limitations of the framework to be considered. There have been efforts to rework and produce new frameworks to counteract the limitations, yet they have not been reputable contenders of the MDA

framework (Walk *et al.*, 2017). Whereas the MDA framework is beneficial to answering the research questions of this paper, some of the limitations are worth recognising. Professor Brian Winn (2008) has concluded that the MDA framework is limited to addressing game design related to gameplay; therefore, storytelling, player experience, and how technology influences game design remains unaccounted for. The DPE Framework illustrates the relationship between game designers and players much like the MDA Framework; however, it considers additional design aspects (Winn, 2008). Despite the games that will be analysed within this study falling outside the serious game genre, it is still worth noting that Winn (2008) also criticised the MDA framework for focusing on entertainment games, making it incompatible with serious game genres. Winn (2008) considers the DPE framework appropriate for serious games, proposing that 'designs do not simply comprise gameplay mechanics, but also include pedagogical content to be learned; characters, settings and narratives of the story to be told; and a user interface' (Walk *et al.*, 2017: 3-4).

Walk *et al.* (2017) analysed both the MDA and DPE framework and proposed the Design, Dynamics, and Experience (DDE) framework to advance the frameworks further. The DDE Framework considers design aspects in sub-categories: Blueprint, interface and mechanics. Blueprint is concerned with concepts of the game world; this includes: 'cultures, religions, physics and other rule sets; the free form notation of the game mechanics; and the developed styles of art design, narrative design, character design, and sound design that together create the aesthetical experience' (Walk *et al.*, 2017: 6). Mechanics are still part of the framework but are concerned with the game's 'code architecture, the input/output handling, the object handling, the implementation of the game rules and object interaction, and other code-related elements' (Walk *et al.*, 2017: 6). The interface focuses on the video game world design and production of communication with the player, focusing on the visuals, sounds, reactions and interactions between the player and the game (Walk *et al.*, 2017).

The other component of the framework is dynamics which is best defined in an automotive breakdown, as Walk *et al.* (2017) express:

Dynamics is all of the parts of a car in unified action, plus any external influences, but it is not the driving experience. Inside the original MDA framework, the player's experiences would be referred to as Aesthetics, but there are a lot of reasons why Aesthetics is an even worse term than Mechanics – and why we consider Experience the superior term (Walk *et al.*, 2017: 8)

The final component is the experience, which considers players to experience aesthetics individually, subjectively and uniquely to enable the framework to be universally applied to all games (Walk *et al.*, 2017). In line with Jesper Juul, Walk *et al.* (2017) branch away from how the MDA framework defines aesthetics and proposes that they should be viewed as an experience instead. Experience is split into sub-categories, which include senses (organoleptic journey), Cerebellum (emotional), and cerebrum (intellectual), which filter down to the player subject, who then interprets the experience, which results in perception. The player subject is a theory that individuals do not play games; rather it is a subset of the individual where they can interact with ethically and mentally challenging situations in the safe space (Walk *et al.*, 2017). Lastly, perception is when the designers are no longer in control of the game design's influence where other external aspects can be influential, such as the player's current mood and preferences.

### **3.7: Methodologies Summary**

In summary, to achieve the definition of what constitutes a *pink game*, the MDA and Elemental Tetrad Framework and a visual analysis of the representation of female avatars will be conducted, answering the three questions which are:

- RQ1: MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those targeted at boy players?
- RQ2: Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?
- RQ3: Avatar Representation and Behaviours: How does the representation of femininity emerge through avatar design and encouraged behaviour through gameplay in games made for girls compared to boys?

The research will use a realist philosophy and an inductive approach, allowing thematic patterns to emerge alongside the methodologies to conclude what gender assumptions and representations are embedded in the game designs. The game's rules, systems and fun will be analysed through the MDA Framework to establish the differences between games designed with girls and boys in mind. Further, the Elemental Tetrad will provide results around player experience, focusing on mechanics, aesthetics, narrative, and technology. Since the MDA and Elemental Tetrad frameworks consider mechanics, this component will only be focused on in the MDA framework section to avoid repetition. In contrast, aesthetics is viewed differently; the MDA framework considers aesthetics to provoke emotional responses, whilst the Elemental Tetrad considers aesthetics to be player experience. For the final method, the female representing avatars that are playable or have a role in the narrative will be analysed through a visual analysis.

For the data collection, video games published by *Outright Games* were chosen due to their company ethos for family-friendly content, PEGI 3-7 rated games, and relevancy. Further, the video game titles were chosen based on their human representing avatars. In contrast, other publishers specialise in children and family video games often include more anthropomorphic

designs, which will not provide significance in the results. Eight games that met the requirements were chosen randomly from the *Outright Games* catalogue: *Ben 10 Power Trip*, *Hotel Transylvania: Scary-Tale Adventures*, *Last Kids on Earth and the Staff of Doom*, *Trollhunters: Defenders of Arcadia*, *JoJo Siwa: Worldwide Party*, *Bratz: Flaunt your Fashion*, *L.O.L. Surprise! B.B.s Born to Travel*, and *Rainbow High: Runway Rush*. Each game is placed into a category of either a boys' or girls' game based on the binary gender represented through the main protagonist; where *Hotel Transylvania: Scary-Tale Adventures* features both genders; the overall franchise was looked at to conclude it is a boys' game. In conclusion, this research employs an inductive approach alongside established theoretical frameworks to explore gendered designs in video games, aiming to define characteristics of *pink games*.

## Chapter 4: Results

### **RQ1- MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those at boy players?**

This section presents the findings that address the question that the mechanics, dynamics, and aesthetics are different when in games designed for girls from those tailored for boys. The analysis begins with a focus on; nine mechanics *that* draw comparisons between both categories; these include movement and navigation, combat and action, quests and objectives, exploration, resources, multiplayer, achievement and progress tracking, set collection, and character customisation. As outlined in the MDA Framework, which conceives that "mechanics give rise to dynamic system behaviour" (Hunicke *et al.*, 2004: p.2), the dynamics examined will link to the mechanics previously analysed. Concluding the results for this section will be the aesthetic analysis, which is the element that makes the games fun by evoking emotional responses (Hunicke *et al.*, 2004). While Hunicke *et al.* (2004) outlined eight forms of fun in the *MDA: A Formal Approach to Game Design and Game Research*, however, focus will be on the ones most suitable for this analysis which are fellowship, expression, discovery, challenge, and narrative, with an additional focus on parasocial and competitive emotional responses.

#### **4.1: Mechanics**

##### **4.1.1: Movement and Navigation**

Movement and navigation mechanics were found to be fundamental in all the video games analysed and served a crucial role in their design. Where it was noted that the movement and navigation mechanics are diverse and appear different depending on the video game being

played, commonalities did emerge. Open movement mechanics that enabled players to move in any direction were found in *Ben 10 Power Trip*, *Bratz: Flaunt your Fashion*, *Hotel Transylvania: Scary-Tale Adventures*, *L.O.L. Surprise! B.B.s Born to Travel*, *Rainbow High: Runway Rush* and *The Last Kids on Earth and the Staff of Doom*. Through open movement mechanics, players are allowed to explore the video game arenas without restriction and can approach movement at multiple angles. On the other hand, side-scroller movement mechanics which restricts players to left-to-right-up-to-down movements which was found in the remaining two games—*JoJo Siwa: Worldwide Party* and *Trollhunters: Defenders of Arcadia*.

Jumping mechanics were predominantly featured in boys' games, with all four titles incorporating the movement into the gameplay. In contrast, *JoJo Siwa: Worldwide Party* was the only girls' games allowing players to jump. The ability to dodge was another movement mechanic identified through the analysis which was present in all the games that included jumping mechanics and was not found in the other game titles. Another notable movement mechanic was the ability to climb that was facilitated in *Ben 10 Power Trip* and *Hotel Transylvania: Scary-Tale Adventures*, whereas there are cases in *Trollhunters: Defenders of Arcadia* where the player looks to be climbing, but this is rather a dynamic response due to the use of jumping and is not applicable for this section. For movement and navigation where commonalities did emerge, it is evident that diverse mechanics were exclusive to the games from the boys' category as the girls' games featured less movement and navigation mechanics.

#### **4.1.2: Combat and Action**

The analysis revealed that combat and action mechanics were absent from all the designs of the girls' games, contrasting with their fundamental position within the boys' games. Combat and action were found in *Ben 10 Power Trip*, *Hotel Transylvania: Scary-Tale*

*Adventures*, *Trollhunters: Defenders of Arcadia*, and *The Last Kids on Earth and the Staff of Doom* and are considered fundamental since it is a requirement to engage with the mechanics to progress through the run-time of the game and its completion. All the boys' games implement combat and action mechanics through the design of enemies that hinder the player by intending to prevent them from progressing through the gameplay and completion, which impels the player to engage in attacks. A feature of all the games was that the player could only engage in combat generally through close-contact melee attacks; however, as the games progressed, the emerging dynamics enabled more attack diversity. Despite the commonalities evident through the mechanics of combat and action of the boys' games, their dynamics differ vastly which is discussed in further detail in later sections.

#### **4.1.3: Quests and Objectives**

The observations of the quests and objectives mechanics found that they emerge through stages represented as levels or through narrative tasks such as quests and side quests. The games that presented objectives as stages were *JoJo Siwa: Worldwide Party*, *L.O.L. Surprise! B.B.s Born to Travel* and *Trollhunters: Defenders of Arcadia* as they require the player to play through the same content but in different variants as they progress through the gameplay and quests were found in the remaining games with *Trollhunters: Defenders of Arcadia* implementing side quests as well. Despite the games having similarities through the emergence of quests and objectives, the quantity in the games differed; the games that featured stages found that girls' games were more likely to have larger quantities, and the opposite was found when looking at quests since the boys' games had more than the girls' games titles. *JoJo Siwa: Worldwide Party* features 40 stages and *L.O.L. Surprise! B.B.s Born to Travel* features 30 stages, whereas *Trollhunters: Defenders of Arcadia* feature 14. In comparison to the girls' titles *Trollhunters: Defenders of Arcadia* has a significantly a smaller

number of stages, however, the narrative is more prominent in the game which extends the length of the objectives as opposed to the little and often approach found in the girls' games.

The quantity of quests was diverse as well; it was found that *The Last Kids on Earth and the Staff of Doom* featured 30 quests in total (16 main (m) and 14 side (s)), *Ben 10 Power Trip* had 42 (23 m, nine s, five passives (p), and 15 *Lord Decibel* quests), and *Bratz: Flaunt your Fashion* featured 21 (six m and 15 s) in total. The titles that only had main quests available were *Rainbow High: Runway Rush* that had 20 and *Hotel Transylvania: Scary-Tale Adventures* that had 13, and *Trollhunters: Defenders of Arcadia* featured eight side quests. When looking at the quests and objectives available it is far more likely that when stages are implemented that they are used in larger quantity through the girls' games and wide ranges of quests and objectives are reserved for boys' games. When main quests are the only feature, the girls' games were more likely to have more available; however, this is not significant enough as there are other factors to consider like the quantity of objectives within the quests that the game asks the player to complete.

#### **4.1.4: Exploration**

Exploration mechanics were found in all the games analysed; however, differences emerged due to the games' designs and the constraints imposed through their gameplay. *Ben 10 Power Trip*, *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, and *The Last Kids on Earth and the Staff of Doom* open-world design enables players to explore game arenas with minimal restrictions, and upon completion of core objectives, players are encouraged to continue exploring the arenas. Alternatively, *Hotel Transylvania: Scary-Tale Adventures*, *L.O.L. Surprise! B.B.s Born to Travel* and *Trollhunters: Defenders of Arcadia* impose restrictions in their game arenas, directly impacting the players' ability to explore. *Hotel Transylvania: Scary-Tale Adventures* introduces a menu-based exploration system, allowing

players to explore the menu and select levels in an open world design before entering the game arena, but each arena is separated and restricted.

*Trollhunters: Defenders of Arcadia* restricts players to linear play where the player cannot explore during gameplay, however, the open-world menu and additional level selection page is a feature indicating that players are limited to how they can explore. The analysis of *L.O.L. Surprise! B.B.s Born to Travel* found that exploration mechanics were featured, however, players were restricted to the confined game arenas. In contrast, *JoJo Siwa: Worldwide Party* lacks exploration mechanics. Despite the narrative positioning players to explore different arenas and the inclusion of level selection, players cannot move beyond the fixed position imposed by the follow-camera assigned in the game arenas. In summary, when looking at the exploration mechanics, it emerged that there were two games from both categories that imposed little restriction, indicating no significant difference in this mechanic.

#### **4.1.5: Resources**

The analysis uncovered that resource mechanics were featured in six of the game titles, with all the boys' games incorporating resources into their design, whereas *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush* were the only ones from the girls' category. The games made for boys offered a variety of resource mechanics by including health, currency and additional resources; however, the girls' games only had currency incorporated into their designs.

#### 4.1.6: Multiplayer



FIGURE 9: MULTIPLAYER MECHANICS IN *TROLLHUNTERS: DEFENDERS OF ARCADIA* [SCREENSHOT BY AUTHOR] (WAYFORWARD, 2020).

Multiplayer mechanics, when present, were confined to local play, and were found in three out of four of the boys' titles compared to only one of the girls' games. When present, multiplayer mechanics were confined to local play. *Ben 10 Power Trip* and *Trollhunters: Defenders of Arcadia* (Figure 9) enables an additional player to embody an avatar and contribute to gameplay. Notably, players are restricted from playing the main protagonists *Ben Tennyson* or *Jim Lake Jr.* in multiplayer; instead, they embody secondary characters *Kevin Levin* in *Ben 10 Power Trip* and *Claire* in *Trollhunters: Defenders of Arcadia*. *The Last Kids on Earth and the Staff of Doom* enables an additional three players to join gameplay who can choose from four characters for multiplayer that are currently not in gameplay. Despite lacking multiplayer mechanics in most girls' games, *L.O.L. Surprise! B.B.s Born to Travel* multiplayer mechanics enable up to three additional players to contribute to the gameplay without restrictions on embodying avatars currently in gameplay,

as illustrated in Figure 10. The analysis has indicated that multiplayer mechanics, when present, are constrained to local play and were more likely to be seen in the boy's games. However, when multiplayer was included in the girl's games, they offered multiple players to join with no restrictions which was not a feature in the boys' video games.



FIGURE 10: MULTIPLAYER MECHANICS IN *L.O.L. SURPRISE! B.B.S BORN TO TRAVEL* [SCREENSHOT BY AUTHOR RETRIEVED FROM *YOUTUBE*] (PLAYSTATION, 2022).  
[HTTPS://WWW.YOUTUBE.COM/WATCH?V=QOW7RAPVKTM](https://www.youtube.com/watch?v=QOW7RAPVKTM)

#### 4.1.7: Achievement and Progress Rewards

Achievement and progress reward mechanics were found in all the games analysed; however, there were notable differences in the number of achievements in the boys' and girls' games. The analysis of the girls' games illustrates that there are fewer achievements that the player can complete; *L.O.L. Surprise! B.B.s Born to Travel* features 14 achievements, *JoJo Siwa: Worldwide Party* features 15, *Bratz: Flaunt your Fashion* features 19, and *Rainbow High: Runway Rush* features 29. In comparison, players of the boys' games can achieve 28 rewards in *Ben 10 Power Trip*, 28 in *Hotel Transylvania: Scary-Tale Adventures*, 30 in *Trollhunters: Defenders of Arcadia*, and 43 in *The Last Kids on Earth and the Staff of Doom*. The results in Table 2 illustrate the achievements that are accessible to players in each title; when

considering the boys’ game with the least number of achievements, they still offer twice the amount when compared to the girls’ game title with the least amount. Notwithstanding that *Rainbow High: Runway Rush* has one more achievement available for players than the lowest-scoring boys’ games. Overall, the mean average of achievements available in boys’ games is 32.25 per game and 19.25 for girls’ games, illustrating that boys’ games are more likely to have more achievements available for the player to gain.

Boys Games		Girls Games	
<i>Ben 10 Power Trip</i>	28	<i>L.O.L. Surprise! B.B.s Born to Travel</i>	14
<i>Hotel Transylvania: Scary-Tale Adventures</i>	28	<i>JoJo Siwa: Worldwide Party</i>	15
<i>Trollhunters: Defenders of Arcadia</i>	30	<i>Bratz: Flaunt your Fashion</i>	19
<i>The Last Kids on Earth and the Staff of Doom</i>	43	<i>Rainbow High: Runway Rush</i>	29
MEAN AVG	32.25	MEAN AVG	19.25

**Table 2: The number of achievements available in boys’ and girls’ games with the inclusion of mean average.**

#### 4.1.8: Set Collection

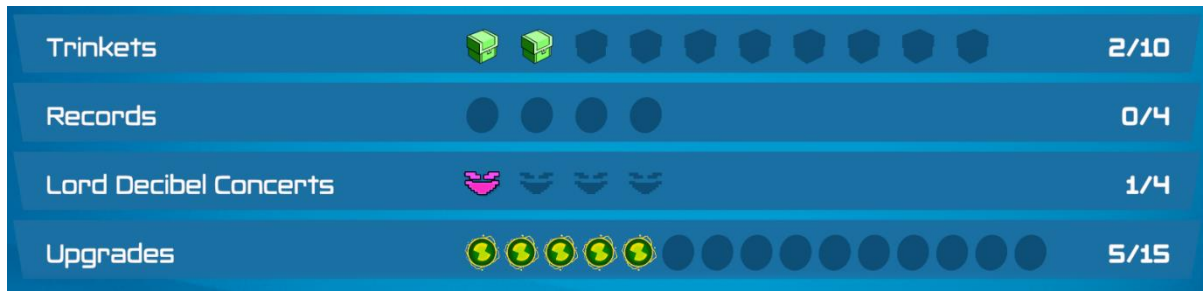


FIGURE 11: SET COLLECTION MECHANICS IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE., 2020).

Set collections are a prevalent game mechanic across the analysed titles, with the majority offering two sets. In *Hotel Transylvania: Scary-Tale Adventures* and *Trollhunters: Defenders of Arcadia*, players are challenged to complete two set-collections. In contrast, *Ben 10 Power Trip* uniquely incorporates three distinct set collections (Figure 11), while *The Last Kids on Earth and the Staff of Doom* include one. *JoJo Siwa: Worldwide Party* and *Rainbow High: Runway Rush* are the two girls' games where set collections were found. It is worth noting that in *Bratz: Flaunt your Fashion* there are hidden chests (Figure 12) that have achievement-value attached to them; however, players are unable to monitor them unlike the other set collections discussed. *L.O.L. Surprise! B.B.s Born to Travel* features avatars and vanity changes; however, these offer no achievement value and are not actively monitored and checked off in gameplay, serving as rewards instead of collectables.



FIGURE 12: HIDDEN CHESTS IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

Each game's set collections are distinct; for example, *JoJo Siwa: Worldwide Party* involves collecting tour outfits and bows, *Trollhunters: Defenders of Arcadia* includes gnomes and socks, *Ben 10 Power Trip* encompasses records, upgrades, and trinkets, *Hotel Transylvania: Scary-Tale Adventures* features cards (Figure 13) and pieces of Frank's body, *Rainbow High: Runway Rush* focuses on selfies and clothing patterns, and *The Last Kids on Earth and the Staff of Doom* revolves around collecting comic books. The collectable items are very different in comparison to each other; however, they all share the commonality of being designed based on the franchises. However, there is a notable difference observed in the girls' games as they featured more feminine-related items which will be revisited later in this chapter.



FIGURE 13: CARD COLLECTION IN *HOTEL TRANSYLVANIA: SCARY-TALE ADVENTURES* [SCREENSHOT BY AUTHOR] (DRAKHAR STUDIOS, 2022).

#### 4.1.9: Character Customisation

Concluding the mechanic analysis is character customisation; when referring to character customisation, the analysis focused on whether the player can change their avatar appearance in the game and how the player can interact with this mechanic. When analysing the girls' games, it was found that the player can customise all playable avatars, but this was more sophisticated in *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush*, as characters that are not active in gameplay can be customised by the player at any given time. In *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush* and *JoJo Siwa: Worldwide Party*, the avatars were able to be customised through their clothing, which was restricted to fixed outfits in the other games apart from *Bratz: Flaunt your Fashion*, which divided clothing customisation into categories such as hats, top, trousers, shoes, and glasses (Figure 14).



FIGURE 14: CHARACTER CUSTOMISATION MECHANICS IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

Additionally, in *Bratz: Flaunt your Fashion* and *JoJo Siwa: Worldwide Party*, the player was able to customise their avatar's make-up following the same rules as the clothing with the make-up customisation in *JoJo Siwa: Worldwide Party* being fixed form, whereas in *Bratz: Flaunt your Fashion* the mechanics was divided into eyeshadows, lipstick, blush, face paint, and haircuts. Character customisation in *L.O.L. Surprise! B.B.s Born to Travel* enables players to select a fixed avatar (unable to change outfit and make-up); however, players can change the avatar skin tone and eye colour, aura, and the form of avatar influenced by the chase design seen in their surprise boxes being silver or gold (Figure 15).

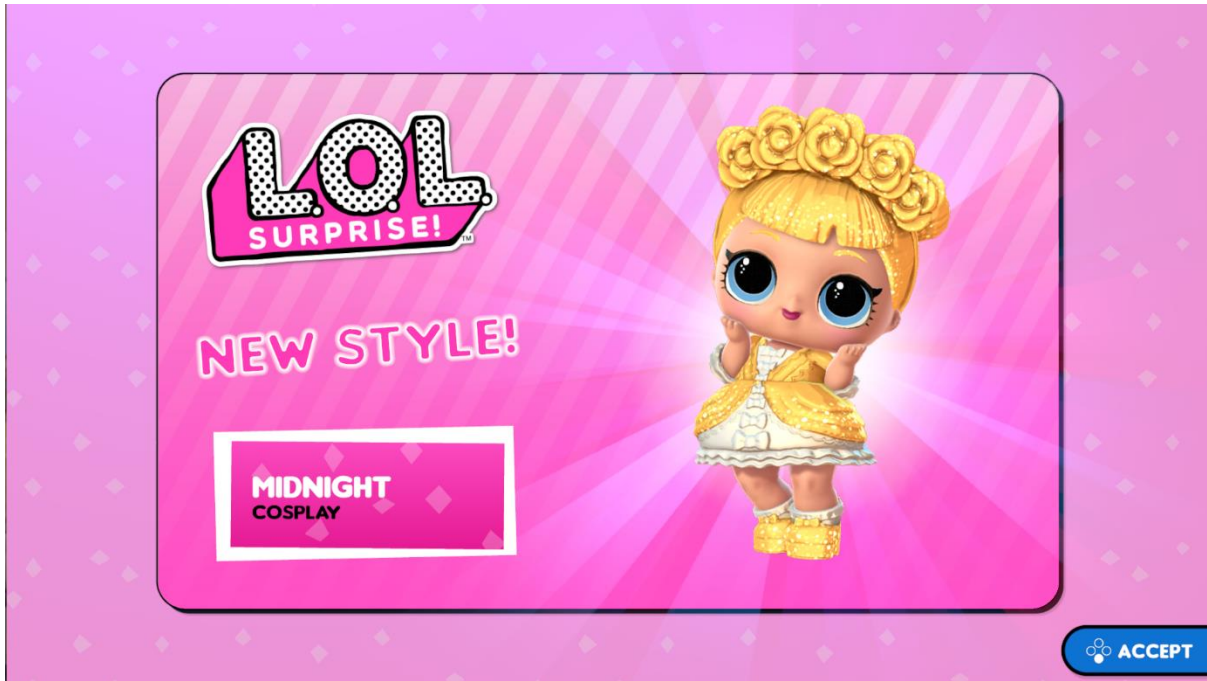


FIGURE 15: GOLD VARIANT AVATAR IN *L.O.L. SURPRISE! B.B.s BORN TO TRAVEL* [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022).

Like the *L.O.L. Surprise! B.B.s Born to Travel* fixed avatars; *Ben 10 Power Trip* enables the player to inhibit various aliens in their fixed form but offers no control over customising the aliens' appearances. Armour customisation is incorporated in *The Last Kids on Earth and the Staff of Doom* and *Trollhunters: Defenders of Arcadia* as the player can change between a selection of armour available in the game (Figure 16). Overall, the customisation mechanics in girls' games are less restrictive and offer more freedom over the avatars appearance with the player being able to change individual parts of an outfit in *Bratz: Flaunt your Fashion*, fixed outfits in *JoJo Siwa: Worldwide Party* and *Rainbow High: Runway Rush*, and a fixed selection of avatars in *L.O.L. Surprise! B.B.s Born to Travel*. Customisation mechanics serve different purposes in both categories; boys' games implement customisation to assist with combat, whilst girls' games focus on the vanity aspect.



FIGURE 16: ARMOUR MECHANICS IN *TROLLHUNTERS: DEFENDERS OF ARCADIA* [SCREENSHOT BY AUTHOR] (WAYFORWARD, 2020).

## 4.2: Dynamics

### 4.2.1: Movement and Navigation



FIGURE 17: MAP DYNAMIC IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

Movement and navigation mechanics were identified in all games; whilst there was a variance in the number of mechanics featured, the dynamics that emerged from the mechanics were diverse and game specific. While running is a familiar dynamic across many of the game titles, the other results provide distinctive dynamics that are more suitable for answering the research question. For instance, Figure 17 features the map dynamics in *Bratz: Flaunt your Fashion* that enables players to teleport within the game. This map dynamic is tied to the location arena and enables players to click and teleport to five different arenas in that location, and switching locations is possible through the airport arena by interacting with NPCs (Figure 18). A similar dynamic was observed in *Ben 10 Power Trip* through the implementation of the SUV (*rust bucket*) which can be utilised as a teleportation dynamic through NPC interaction for destination selection map (Figure 19). Players are restricted from using the teleportation dynamic in the games while the accessibility of locations is contingent upon previous player visits or unlocking of the area.



FIGURE 18: AIRPORT DYNAMIC IN BRATZ: FLAUNT YOUR FASHION [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).



FIGURE 19: SUV TRANSPORTATION DYNAMIC IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).



FIGURE 20: SPEED ENHANCING DYNAMIC IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

The option to invest in speed-enhancing equipment is a recurring dynamic. *Ben 10 Power Trip* and *Bratz: Flaunt your Fashion* provide players with this opportunity featuring a scooter and other equipment for increasing speed (Figure 20); and, furthermore, *Ben 10 Power Trip* introduces the alien *XLR8* that offers character specific enhanced speed abilities. In contrast, *The Last Kids on Earth* and *the Staff of Doom* integrate driving dynamics (Figure 21), allowing players to move and navigate through the game arena in the truck *Big Mama*. The dynamics that emerge from movement were seen more in the boys' games and featured in diverse forms through the implementation of character abilities and driving. However, *Bratz: Flaunt your Fashion* was the only game identified through the analysis that offered players statistics regarding speed, acceleration, and handling for speed enhancement.



FIGURE 21: DRIVING DYNAMIC IN *THE LAST KIDS ON EARTH* AND *THE STAFF OF DOOM* [SCREENSHOT BY AUTHOR] (STAGE CLEAR STUDIOS, 2021).

The analysis of navigation dynamics found arrow pointers emerged frequently directing players to quest requirements and points of interest when in open-world gameplay. Despite the open-world design of *Bratz: Flaunt your Fashion*, arrow-point guidance was not a

feature, which could be an intentional design due to the smaller proximity of open-space in the game arenas. There were differences in the dynamic functionality depending on the game; *Rainbow High: Runway Rush* grants players control over when to activate guidance (Figure 22), while *Ben 10 Power Trip* and, *The Last Kids on Earth and the Staff of Doom* offer no such control. Generally, arrow-pointing dynamics associated with navigation mechanics were identified in open-world games, and were predominantly found in those designed for boys. Whilst the games designed for girls partially incorporated arrow-pointer guidance it was an optional dynamic in *Rainbow High: Runway Rush*, and without being featured in *Bratz: Flaunt your Fashion*, it indicates that girls' games are less reliant on in-game guidance.

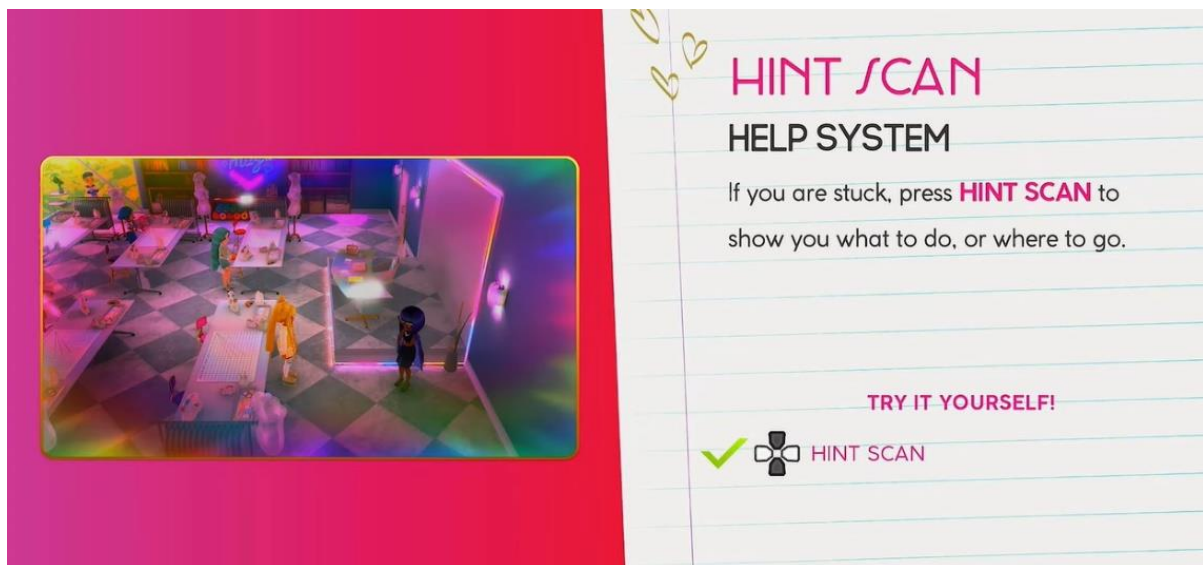


FIGURE 22: ARROW-POINTER DYNAMIC FEATURED IN *RAINBOW HIGH: RUNWAY RUSH* [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2023).

#### 4.2.2: Combat and Action

The dynamics that emerged from combat and action included enemy staggering systems where each form of enemy required specific damage to defeat, character special abilities, combo attacks, damage dealing items, damage bar and health bars. In all the games the staggered enemy approach was observed; depending on the size and form of the enemies in

the game meant that they would require more damage to defeat. Boss fights were too an element in all the games where the player would progress onto defeating an enemy that requires a significant amount of damage to defeat unlike the enemies found around the arenas. The enemies found around the arenas and the damage required to defeat them was distinguishable through their design. For example, Figure 23 shows the smaller and less vicious looking enemies from *Ben 10 Power Trip* and how they develop through their appearance indicating how the player should approach attacks. The changes in how players attack the enemies is notable in all games; for example, the enemies from *Hotel Transylvania: Scary-Tale Adventures* requires the players to stun them as without doing this the player would induce damage in the proximity of the enemy.



FIGURE 23: COMBAT FEATURED IN *BEN 10 POWER TRIP* [SCREENSHOT BY STEAM] (PHL COLLECTIVE, 2020). [HTTPS://STORE.STEAMPOWERED.COM/APP/1063040/BEN\\_10\\_POWER\\_TRIP/](https://store.steampowered.com/app/1063040/BEN_10_POWER_TRIP/)

Special abilities and combo attacks are embedded into gameplay and become crucial to how the player strategizes and engages with combat in the games due to the staggered alien

system and the boss fights. However, *Last Kids on Earth and the Staff of Doom* was the only game that featured objects that can be thrown to inflict damage to multiple enemies without the player being in close-proximity, and whilst driving the player can eliminate enemies whilst running them over. Damage and health bars were present in all the games analysed; when dealing damage, the player will see the damage bar of the enemies to indicate what attacks should be inflicted and when receiving damage, the player can monitor their health to strategize how they will continue to approach the fight. Furthermore, when considering the health bar, it is important to include that the games feature a way for the player to increase health themselves by collecting extra lives that are found around the maps or purchase them from the in-game store. Furthermore, combat and action are important to consider, as it is only present in the boys' games there is no comparable similarities that emerged with the girls' games.

#### **4.2.3: Quest and Objectives**

Quest and objective mechanics differed in quantity across the games analysed; however, the dynamics that emerge from the mechanics are similar across all the games regardless of their category. One dynamic that emerged are presented through a guide or checklist system, enabling players to track their progress and understand requirements throughout gameplay. Guides are found in *Ben 10 Power Trip*, *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, and *The Last Kids on Earth and the Staff of Doom* which check off the players' achievements and illustrate what the next part of the quest is. However, *Bratz: Flaunt your Fashion* included a dynamic that provided players with clues that helped them achieve quest requirements (Figure 24). In *Rainbow High: Runway Rush* and *The Last Kids on Earth and the Staff of Doom* players have prompts that appear on the screen to provide information additionally to the in-game guides.



FIGURE 24: CLUE DYNAMIC IN BRATZ: FLAUNT YOUR FASHION [SCREENSHOT BY AUTHOR]. (PETOONS STUDIO, 2022).

Other dynamics emerged that enable players to access requirements outside of guides, like *Ben 10 Power Trip* and *Bratz: Flaunt your Fashion* where players could revisit and engage in conversation with the quest-issuing NPC as another method to engage with quest dynamics without relying on the in-game guides. The checklist systems in *Trollhunters: Defenders of Arcadia*, *L.O.L. Surprise! B.B.s Born to Travel*, *JoJo Siwa: Worldwide Party* and *Hotel Transylvania: Scary-Tale Adventures* are different since there is no quest guide; however, upon stage completion the area will be checked off; for example, the completed stages in *JoJo Siwa: Worldwide Party* and *L.O.L. Surprise! B.B.s Born to Travel* (Figure 25) will be labelled ‘complete’ and lit with a star.



FIGURE 25: COMPLETED STAGES TRACKER FEATURED IN *L.O.L. SURPRISE! B.B.S BORN TO TRAVEL* [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022).

The simple checklist system in these games is appropriate as the games do not have quests. Despite *Trollhunters: Defenders of Arcadia*, *JoJo Siwa: Worldwide Party*, and *Hotel Transylvania: Scary-Tale Adventures* positioning the player in a quest-like narrative, the objectives do not change as the levels progress. Quests and objectives getting more challenging was observed in *The Last Kids on Earth and the Staff of Doom*, *Ben 10 Power Trip*, *Trollhunters: Defenders of Arcadia*, *L.O.L. Surprise! B.B.s Born to Travel*, *JoJo Siwa: Worldwide Party*, and *Hotel Transylvania: Scary-Tale Adventures*. In conclusion, it appears that all games featured a checklist, and generally get progressively harder; however, increased difficulty was mostly seen through the boys' games.

#### 4.2.4: Exploration



FIGURE 26: LOCATIONS OF INTEREST DYNAMIC FEATURED IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

The analysis of exploration dynamics uncovered map features in all games; however, players could interact with and utilise these differently depending on the video game. *Ben 10 Power Trip* (Figure 26), *The Last Kids on Earth and the Staff of Doom*, and *Rainbow High: Runway Rush* enabled players to pinpoint their location in the game arena and identify points of interest through the map. In contrast, *JoJo Siwa: Worldwide Party*, *Trollhunters: Defenders of Arcadia*, *L.O.L. Surprise! B.B.s Born to Travel* (Figure 27) and *Hotel Transylvania: Scary-Tale Adventures* restricted players to teleportation between game stages. This restriction mirrors the map feature in *Bratz: Flaunt your Fashion* previously discussed in the movement and navigation section, where players navigate the game world with multiple locations rather than distinct stages. Despite these differences, the maps in each game function to encourage exploration across both boys' and girls' game titles.

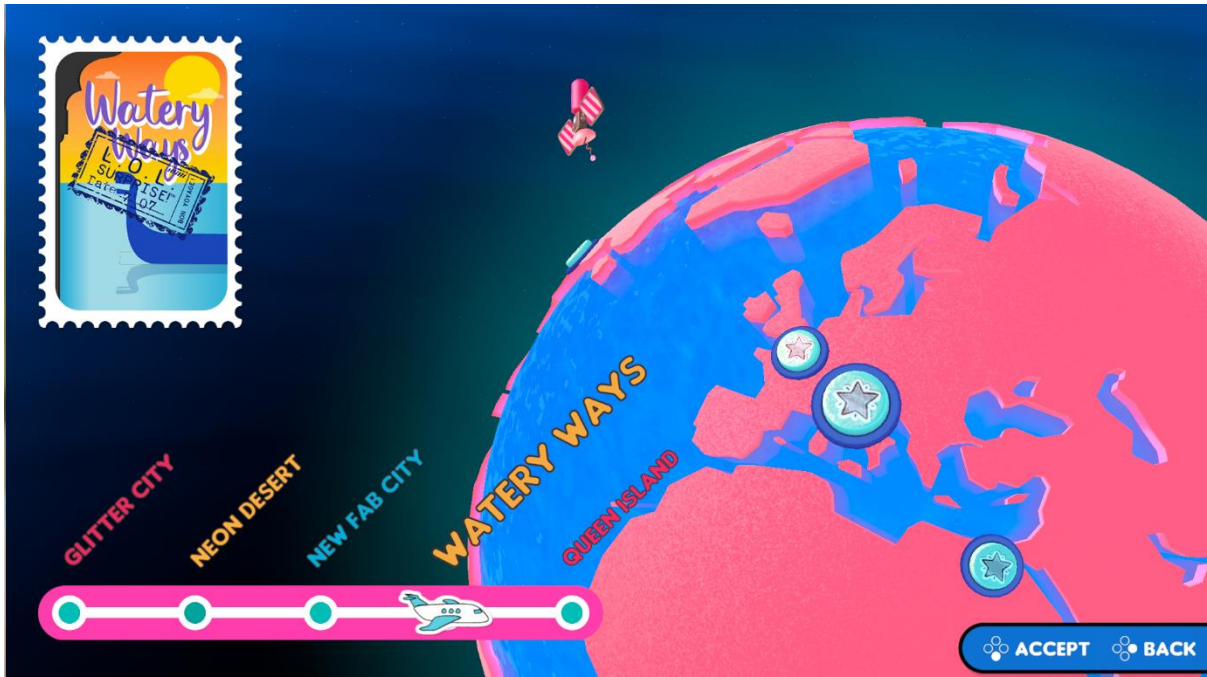


FIGURE 27: LOCATION TELEPORTER FEATURE IN L.O.L. SURPRISE! B.B.S BORN TO TRAVEL [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022).



FIGURE 28: QUEST LIST DYNAMICS FEATURED IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

Players are incentivised to explore game arenas further through set collections, mini-games, and side-quests found in *Ben 10 Power Trip* (Figure 28), *Bratz: Flaunt your Fashion*, *Trollhunters: Defenders of Arcadia*, *The Last Kids on Earth and the Staff of Doom*, and *Hotel Transylvania: Scary-Tale Adventures* with players being able to optionally interact with the features. As discussed earlier, not all games incorporate side-quests and mini-games; additionally, exploration dynamics can be fostered through interactable objects, platforms, and buildings within the game arena. *L.O.L. Surprise! B.B.s Born to Travel* introduces interactable platforms in a confined space, prompting players to explore these platforms and discover alternative approaches to gameplay. Interactable buildings and fixture dynamics are present in *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, and *Ben 10 Power Trip* where interaction with these dynamics presents players with rewards and additional content. Exploration dynamics are present in all the games analysed; where there are some differences these were minimal and insignificant since the games implement similar dynamics.

#### **4.2.5: Resource**

##### *Health Dynamics*

Through the implementation of health bar indicators, resource management dynamics are crucial in some of the games analysed, specifically the ones that require the player to engage with combat and action. In *Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, *Trollhunters: Defenders of Arcadia*, and *Hotel Transylvania: Scary-Tale Adventures*, players can actively monitor their health through the health bar indicator. In all the game titles mentioned, players can collect health replacement items around the map or purchase them from in-game shops which enables players to reduce the possibility of being eliminated when mitigating the risk of combat and action.

However, once the player exceeds their health they will regenerate without consequences, expect from *Trollhunters: Defenders of Arcadia*. In *Trollhunters: Defenders of Arcadia* repeated elimination in boss fights will affect the progress, triggers health regeneration and elimination during the game stages will divert players back to a checkpoint. Health bars exist in variations among playable characters, for example, *Ben 10 Power Trip* has a fixed-form health bar which means even when morphing into different aliens the health will remain the same and overtime the health regenerates. In contrast, *The Last Kids on Earth and the Staff of Doom* adapt health bars based on character changes. Notably, combat and action dynamics are exclusively present in games designed for boys, as combat and action mechanics were not featured in girls' games.

#### *Currency Dynamics*

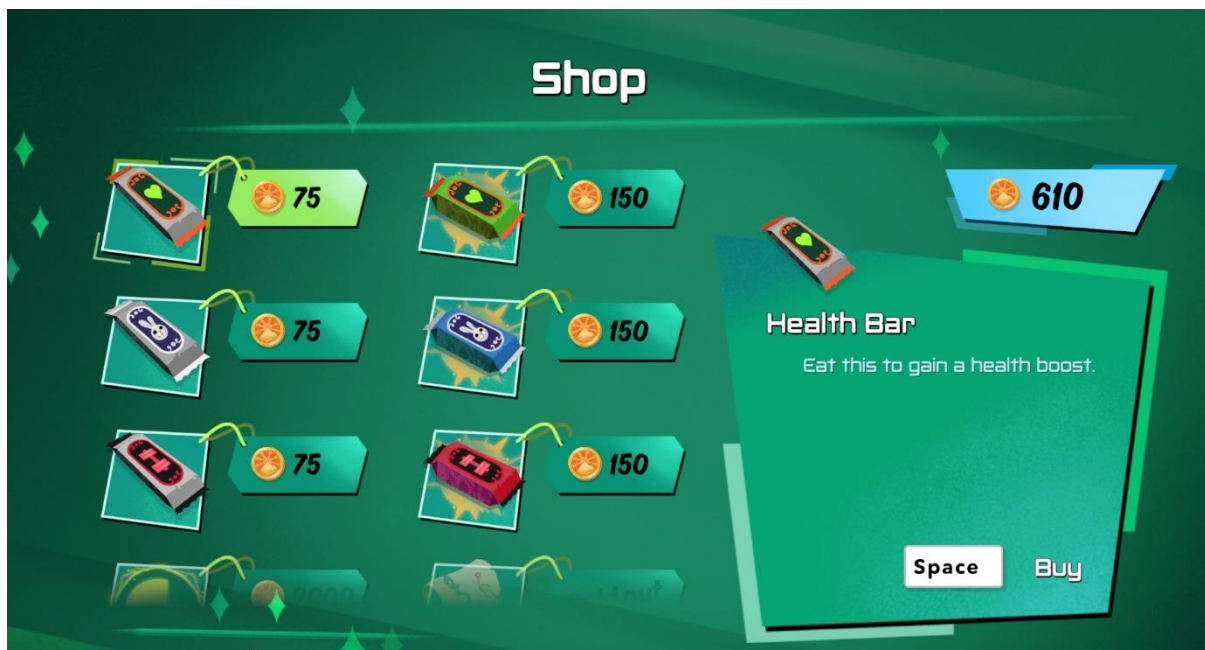


FIGURE 29: PURCHASING DYNAMICS FEATURED IN BEN 10 POWER TRIP [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

Currency is featured in all analysed games except *JoJo Siwa: Worldwide Party* and *L.O.L. Surprise! B.B.s Born* allowing players to track their finances through counter dynamics

within shop menus, game-guides and meters during gameplay. In games like *Rainbow High: Runway Rush*, *Bratz: Flaunt your Fashion*, *Trollhunters: Defenders of Arcadia*, *Ben 10 Power Trip* (Figure 29), *Hotel Transylvania: Scary-Tale Adventures*, and *The Last Kids on Earth and the Staff of Doom*, visiting shops prompts a currency counter, facilitating a quick comparison between available funds and potential purchases. The resource management aspect can be accessed through the game-guide in *Ben 10 Power Trip* and *Rainbow High: Runway Rush* allowing players to easily keep track their currency management outside the shop facilities. *L.O.L. Surprise! B.B.s Born to Travel* and *JoJo Siwa: Worldwide Party* do not have currency and purchasing processes, suggesting a less sophisticated resource management dynamic in girls' games.

#### *Additional Resources*

Expanding upon combat and action dynamics, the analysis addresses the inclusion of additional resources that assist in combat and action influencing the defence, damage, and luck. Management of these resources is maintained through the inventory and is a requirement in *Trollhunters: Defenders of Arcadia*, *The Last Kids on Earth and the Staff of Doom*, and *Ben 10 Power Trip* (Figure 30). These features are exclusively present in games designed for boys, emphasising a notable distinction in resource management dynamics between the two categories.



FIGURE 30: INVENTORY FEATURED IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

#### 4.2.6: Multiplayer

Multiplayer mechanics were found in *Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, *Trollhunters: Defenders of Arcadia*, and *L.O.L. Surprise! B.B.s Born to Travel*; despite the games allowing different numbers of players to assist in gameplay, the additional player(s) impact run-time behaviour in the similar ways. Combat and action are primary elements of *Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, and *Trollhunters: Defenders of Arcadia*; the additional player(s) assist in combat and action reducing both challenge and difficulty since the games do not implement an increase in enemies and the difficulty it takes to defeat them. Additionally, the extra player(s) will have their own resource management system where they monitor their health and damage that they inflict on the enemies. However, in *The Last Kids on Earth and the Staff of Doom*, *Trollhunters: Defenders of Arcadia* and *Ben 10 Power Trip*, the additional player is restricted to sharing the same currency and inventory system with the primary player.

There is no element of combat and action mechanics in *L.O.L. Surprise! B.B.s Born to Travel*; however, additional players decrease the challenge and difficulty since more players much like the previously discussed games. *Ben 10 Power Trip* offers an additional change to the run-time behaviour of the game when another player is introduced through the implementation of split-screen view, unlike the other games that require players to share the screen. Requiring players to share a screen restricts the way additional players can engage with exploration mechanics away from the primary player, which is not seen in *Ben 10 Power Trip* as the additional player can explore the open world without being restricted to the primary player view. Overall, the run-time behaviour of the games changes as interacting with multiplayer mechanics enables additional players to interact with various mechanics at a restricted rate while also offering relief and a decrease in difficulty.

#### **4.2.7: Achievement**

The dynamics that emerge from in-game achievements engage the player with optional content by offering rewards outside of the core gameplay; all the games analysed were run through the *Steam* client which offers a sub-section for each game that lists the achievements that can be obtained. Despite being outside of gameplay, *Steam* will provide the players with a pop-up notification in the bottom-right corner of the screen once achievement requirements have been met. Players can only refer to the *Steam* list to see their achievements (Figure 31), which is visualised through a percentage metre where they can compare their individual and global progression with other players. Therefore, players are encouraged to engage with optional content and add a level of competition by enabling players to compare achievement percentages at a global level.

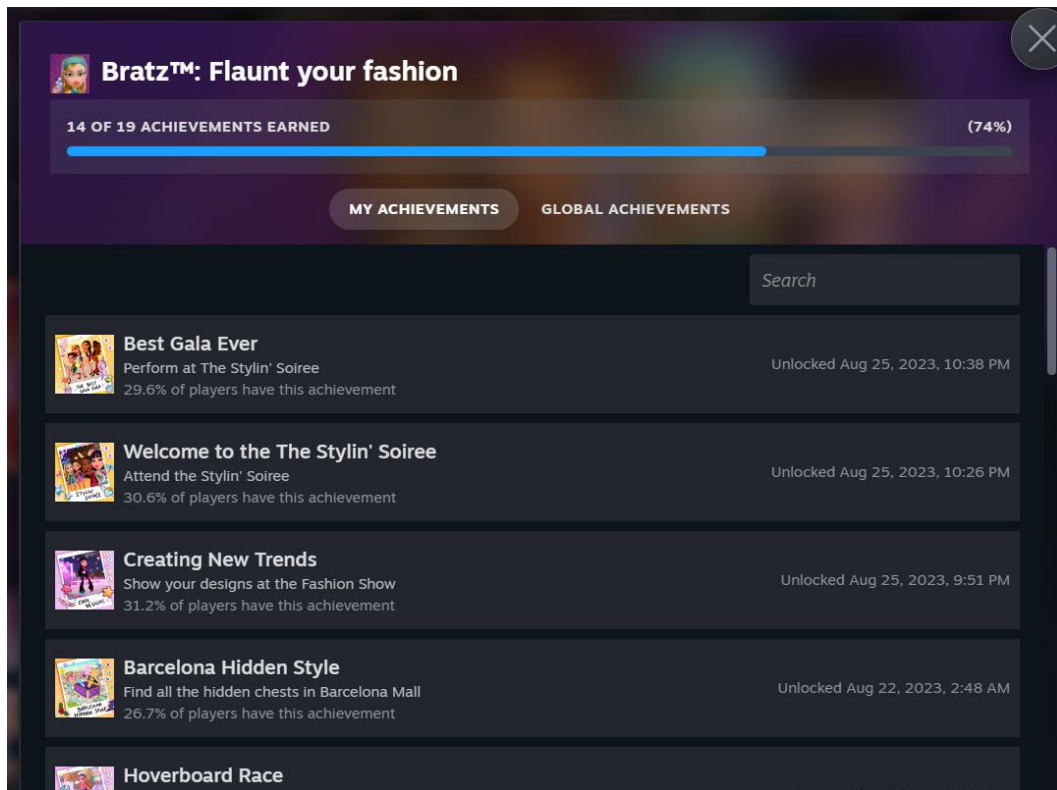


FIGURE 31: UNLOCKABLE ACHIEVEMENTS IN BRATZ: FLAUNT YOUR FASHION [SCREENSHOT BY AUTHOR]. (STEAM, 2024).

#### 4.2.8: Set Collection

The dynamics that emerge from set-collection enable players to visualise their progress, which does differ depending on what game is being played. However, the format of the dynamics takes one of two formats: calculated through the in-game guide or illustrated as an out-of-x amount indicator (e.g. 100/100). Set collections that are visualised through in-game guides are found in *Hotel Transylvania: Scary-Tale Adventures*, *Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, and *Rainbow High: Runway Rush*. The analysis of in-game guide dynamics suggests that boys' games are more likely to incorporate set-collection tracking through guides since *JoJo Siwa: Worldwide Party* and *Trollhunters: Defenders of Arcadia* implement the out-of-x amount indicator when observing specific levels outside of the game arena. On the other hand, *Hotel Transylvania: Scary-Tale Adventures* implements

the out-of-x amount indicator depending on what set-collection the player would like to monitor, offering diversity in the dynamics.

*L.O.L. Surprise! B.B.s Born to Travel* has a form of set-collection; however, since the set-collection acts as a reward and not an additional piece of content in comparison to the other games analysed. In *Bratz: Flaunt your Fashion* a set-collection mechanic was identified, however, no dynamics emerge from the additional content as players cannot track their progression. The analysis concludes that girls' games, despite including set-collection mechanics, are less likely to have any dynamics emerge from them. In contrast, the games in the boys' category always had dynamics emerge from the mechanics in the form of either guides, indicators, or both for players to track their progress.

#### **4.2.9: Character Customisation**

Previously discussed in the mechanics section was the analysis that found character customisation was present in most games analysed except for *Hotel Transylvania: Scary-Tale Adventures*; however, the impact on the run-time behaviour was significantly different. The elements of character customisation in *L.O.L. Surprise! B.B.s Born to Travel*, *Rainbow High: Runway Rush* and *JoJo Siwa: Worldwide Party* impacted the run-time behaviour through visuals instead of merging with other mechanics. *Bratz: Flaunt your Fashion* was the only girl game that provided players additional benefits for customising their character through rewards and requirements. The style-points system in the game restricts players from moving forward in main quests until they meet the requirements; by customising their avatar, the player can be rewarded style-points that the player then converts into followers to overcome the restrictive barriers seen through engaging with the side-quest led by NPC *Felicia* (Figure 32) and photo-stops in various game arenas.



FIGURE 32: FELICIA QUEST REQUIREMENTS IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

In the boys' game category, *Ben 10 Power Trip*, *Last Kids on Earth* and *The Staff of Doom*, and *Trollhunters: Defenders of Arcadia* character customisation mechanics enable dynamics to emerge benefiting the player when engaging in combat and action. Customisable armour and weapons were found in the *Last Kids on Earth* and *The Staff of Doom*, and enabled players to upgrade the items impacting their efficiency in defence and attack metrics whilst engaging with enemies. Similarly, in *Trollhunters: Defenders of Arcadia*, players can customise their character to have better attack, defence and luck attributes whilst engaging in combat and action. Furthermore, *Ben 10 Power Trip* character customisation impacts the run-time behaviour of combat as the player can morph into different aliens that have special abilities and counter specific enemies. Overall, the dynamics that emerged through the customisation mechanics and their impact on the run-time behaviour of the games is more

likely to occur in games designed for boys, whereas, when found in girls' games, dynamics are far less likely to have a significance influence in gameplay

### **4.3: Aesthetics**

#### **4.3.1: Competition**

The analysis of the mechanics and dynamics uncovered that competition is provoked through combat and action, achievements and progression tracking, and multiplayer since players are encouraged to gauge their performance inline with the game requirements and compare themselves against other players abilities.

Global achievement dynamics were a common feature in all games, utilising a meter to provide players with insights into their global position motivating them to surpass other rankings prompting a sense of competition. Where multiplayer is a feature in some games, competitive feelings are not always provoked which was found in the *L.O.L Surprise! B.B.s Born to Travel* since there are no comparable dynamics, instead multiplayer in this instance provokes feelings of fellowship amongst players which is explored later in this section.

Moreover, in games featuring multiplayer, individual statistics like health and damage meters encourage competition as players can assess the level of damage inflicted and obtained. Combat and action mechanics drive engagement by positioning enemies strategically for defeat, a crucial aspect for progressing in the games designed for boys. The findings highlight that feelings of competition are consistently provoked through achievement and progress-tracking dynamics outside gameplay. However, feelings of competition were only encouraged internally to gameplay in the boys' games analysed due to the inclusion of combat and action that is fundamental to their gameplay, and the multiplayer requirements.

### **4.3.2: Fellowship**

Quest and objectives, and multiplayer mechanics and dynamics were linked to the fellowship aesthetics. The multiplayer feature is incorporated into *Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, and *L.O.L Surprise! B.B.s Born to Travel*, encouraging players to work together to meet the game's requirements through cooperative play, strategy and teamwork to achieve the mutual goals and objectives. Quests and objectives further nurture a sense of fellowship as players interact with NPCs to receive quests and objectives. NPC quests are found in *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, *The Last Kids on Earth and the Staff of Doom*, *Ben 10 Power Trip* and *Trollhunters: Defenders of Arcadia*, indicating that fellowship is derived through NCPs in boys' games compared to girls' games. Players are positioned in heroic and helpful roles whilst engaging with quests and objectives; despite the quest masters being NPCs, this fosters a sense of community within the game.

### **4.3.3: Parasocial and Expression**

Expanding from fellowship aesthetics that emerged from quests and objectives mechanics and dynamics is the concept of parasocial connection, wherein players establish a one-sided relationship with the game world and its community. Despite not being outlined in the eight established feelings of the MDA framework, the aesthetic of parasocial connection was essential to include as the design of the games is based on pre-existing franchises where the characters that inhabit the game world have their narratives and developed identities before the games were designed. Parasocial connection is provoked through customisation by games like *Bratz: Flaunt your Fashion*, where clothing options mirror those from the franchise, allowing players to emulate their favourite characters and deepen their connection in the interactive arena. On the other hand, in *Ben 10 Power Trip*, players can opt not to play as certain aliens based on their preferences from the series. While offering interaction with the

franchises outside its original format is significant, parasocial feelings are provoked by the ability to control and embody characters, further encouraged by quest objectives and customisation features.

Not all players may be familiar with the franchise's intricacies or characters and may be impartial to the influence that the pre-existing lore and character personalities hold. However, through embodying the characters and interacting with character customisation the aesthetic feeling of expression can be achieved. In games with customisation options, players can customise their avatars according to their preferences, whether for creative expression or to resemble themselves or others they know whilst influencing gameplay. This autonomy allows players to express themselves within the game world, irrespective of their prior franchise knowledge.

#### **4.3.4: Discovery**

Exploration mechanics were a feature in all the games analysed, and various dynamics naturally emerged to provoke feelings of discovery; however, the extent of this aesthetic was less intense in-game that presented restriction. Games such as *Ben 10 Power Trip*, *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, and *The Last Kids on Earth and the Staff of Doom* are proficient at evoking feelings of discovery through their open-world designs by encouraging players to interact with diverse aspects. The planned inclusion of set collections and optional quests and objectives further fosters engagement with the aesthetic of discovery as players embark through gameplay.

Movement and navigation dynamics and mechanics are vital in facilitating feelings of discovery by connecting players with their surroundings, as without these abilities, players will be confined to a fixed position in the game arena. Games like *JoJo Siwa: Worldwide Party* and *Trollhunters: Defenders of Arcadia*, with their side-scroller movements, impose

restrictions that limit players' ability to engage fully with the discovery aspect in comparison to the other games. And, due to the restricted area of the game arenas found in *L.O.L Surprise! B.B.s Born to Travel* and *Hotel Transylvania: Scary-Tale Adventures* the emotions derived from discovery are not encouraged as much as the other games that have similar movement mechanics. In summary, while all games incorporate elements of discovery, the effectiveness of evoking this aesthetic vary depending on the game's mechanics and dynamics, with specific titles offering more immersive experiences as the player is faced with less restrictions through gameplay.

#### **4.3.5: Challenge**

Feelings of challenge are encouraged through the levels and stages progressively getting more complex, ensuring a steady flow of engagement. Therefore, the aesthetical feelings of challenge are evident across all games designed for boys; however, it is also observed in *L.O.L Surprise! B.B.s Born to Travel* and *JoJo Siwa: Worldwide Party*. The consistent emergence of challenge among titles designed for boys is closely conjoined to the dynamics arising from resource management, and combat and action. Where resource management includes currency, it engages with health and damage metres that heighten players' feelings of challenge more than currency management. Once enemies appear, the player engages with combat and action mechanics and dynamics as obstacles arise to divert gameplay progression as difficulty increases from various enemy types and boss fights creating challenge aesthetics. With combat and action being absent from the girls' games, challenge is achieved through the implementation of increased difficulty.

#### **4.3.6: Narrative**

The games' narratives will be discussed in further detail in the Elemental Tetrad section of this analysis; however, the MDA framework does outline narrative as an aspect that can

encourage aesthetics. Narrative refers to the player's immersion into the storyline of the gameplay; this analysis uncovered that the games achieved narrative aesthetics by engaging with quest and objective mechanics and dynamics. As soon as the games begin, players are introduced to the narrative, which provides meaning to gameplay and influences the quests and objectives players undertake to contribute, develop, and reconcile storylines in the games. Players are engaged regularly with the storyline through cut-scenes in games like *Hotel Transylvania: Scary-tale Adventures*, *The Last Kids on Earth and the Staff of Doom*, and *Ben 10 Power Trip*, as well as NPC interactions in *JoJo Siwa: Worldwide Party*, *L.O.L Surprise! B.B.s Born to Travel*, *Bratz: Flaunt your Fashion*, *Rainbow High: Runway Rush*, and *Trollhunters: Defenders of Arcadia*. However, although there is a general explanation of the narrative at the beginning of *L.O.L Surprise! B.B.s Born to Travel*, it is not repeatedly reinforced throughout the game, consequently impacting players' engagement and immersion into the narrative. Overall, it appears that the girl's games are far more likely to rely on NPC interaction to provoke aesthetical narrative experiences, whilst the boy's games engage players through cut-scenes that reinforce the narrative and included NPC interactions too (found in *The Last Kids on Earth and the Staff of Doom* and *Ben 10 Power Trip*).

In conclusion, the analysis of mechanics and dynamics in the games examined revealed notable differences and similarities between boys' and girls' games. Similarities emerged through the movement and navigation mechanics; however, it was evident that the boys' games implemented more diverse movement mechanics and dynamics. Combat and action mechanics and dynamics were integral to game design of the boys' games and served no inclusion in the girls' games. The analysis found that other mechanics such as achievement tracking, set-collections, exploration, and multiplayer were less prevalent in girls' games which has a direct impact on the dynamics that can emerge in gameplay. On the other hand, quests and objectives were more common in girls' games, though the significance of this

difference remains unclear. Character customisation and set-collection inclusion was widespread across all games, with minor variations before the dynamics were observed.

The observation of dynamics uncovered that the dynamics related to speed enhancement and arrow-pointing, tended to be more prevalent in boys' games; and this continued to be a theme when analysing dynamics related to set-collections, resources, and multiplayer. The aesthetic analysis brought the MDA Framework analysis to an end by revealing that boys' games often evoked stronger aesthetics of competition and fellowship, while girls' games offered more creative freedom in avatar customisation to enhance expressive experiences. Narrative elements were fundamental across all games though how they were implemented. Overall, the analysis highlights differences in the quantity and depth of mechanics, dynamics, and aesthetic experiences between boys' and girls' games providing understanding into the importance of considering gender in game design and player experience.

**RQ2: Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?**

The Elemental Tetrad framework consists of four components when analysing the design of games: mechanics, aesthetics, narrative and technology. However, due to the mechanics being analysed through the MDA framework, they will not be included in this analysis section. Where aesthetics is considered in the MDA framework, the Elemental Tetrad considers aesthetics to be about experience through visuals, sound, smell, taste and touch as opposed to solely connected to fun. The aesthetics are discussed individually as opposed to combined due to the vast differences that emerged through the game titles. Where smell and taste may be applicable for board games as discussed by Schell (2008), this was not applicable for the video games and could not provide conclusive evidence. Furthermore, the narratives for the games are discussed individually due to their uniqueness to provide an

overview of the games before drawing conclusions. The last consideration of the Elemental Tetrad for this analysis section is the technological component where the results will follow the same collective approach as previously seen.

#### **4.4: Aesthetics**

##### **4.4.1: Visuals**

The analysed games have many visuals that engage players in experiences; however, this study will focus on a limited selection that provides the most significance to the research question. The analysis of the visual experience indicates that the game titles are influenced by the art styles of their pre-existing franchises. Since all the games are adaptations, some pre-established visuals and themes are embedded into the design, immersing players through interactive digitalised play. The titles in the boys' games categories were gamified versions of television series' (*Ben 10 Power Trip*, *The Last Kids on Earth and the Staff of Doom*, and *Trollhunters: Defenders of Acadia*), books (*The Last Kids on Earth and the Staff of Doom*), and films (*Hotel Transylvania: Scary-Tale Adventures* and *Trollhunters: Defenders of Acadia*); however, the titles that were found in the girls' games categories were largely based on toy franchises. *JoJo Siwa: Worldwide Party* was the only title that differed from in the girls' games category since the game is based around a public figure/influencer rather than a medium or toy line. Nevertheless, the titles in the boys' category already exist in a media format that players could interact with but not actively impact the run-time behaviours, and the girls' games being based largely on toy lines engages the player in digitalised play creating a different play experience.

Despite the video games in both categories having a pre-existing influence from their own franchises, commonalities emerged with all games featured a bright, colourful palette of vibrant and playful colours in a cartoon art style. The creative decision to design games in a

colourful and cartoon art style creates an inviting and joyful experience for players. Since the games are marketed towards players aged 3-7, this would be the most appropriate art style to immerse players into the game arenas. The games designed for girls were more likely to feature feminine colours such as pink and purple in either vibrant or soft ways. Where feminine colours were frequently incorporated, rainbows were a common feature which diversifies the colour palette overall. The boys' titles featured more masculine colours as vibrant and dark blues and greens which were a common theme across all the titles analysed. Despite purple being identified as a feminine colour, the colour was observed in *Ben 10 Power Trip* and *Trollhunters: Defenders of Acadia*. Despite purple being observed in the titles it is important to note that in *Trollhunters: Defenders of Acadia* it was connected to the character *Claire* indicating feminine use of the colour, and in *Ben 10 Power Trip*, it was an extension of the enemy of the game, *Hex*, indicating masculine use. Overall, the analysis uncovered that there were similarities between the categories when observing the general art styles of the games and the influence of the pre-existing franchises. However, there were differences between the colour palettes that uncovered that feminine colours were more commonly seen through the girls' games.

The observations derived from the visual experiences in game found that there was a common theme of western-world styled locations implementing familiarity through their design to provoke the player to understand the game from a familiar perspective. With the games being based on American franchises and media personality, *JoJo Siwa*, it is evident through the observation that this influenced the designs of the games. Further indicating evidence of Western-world influence in the games design was there occurring theme of travelling featured throughout some of the video game narratives that were largely exclusive to Europe or America. Thus, the missed opportunity to include diverse locations outside of

the Western world indicates that the intended player for these games would be children of the Western world and the design motivation would be to create familiar experiences for them.

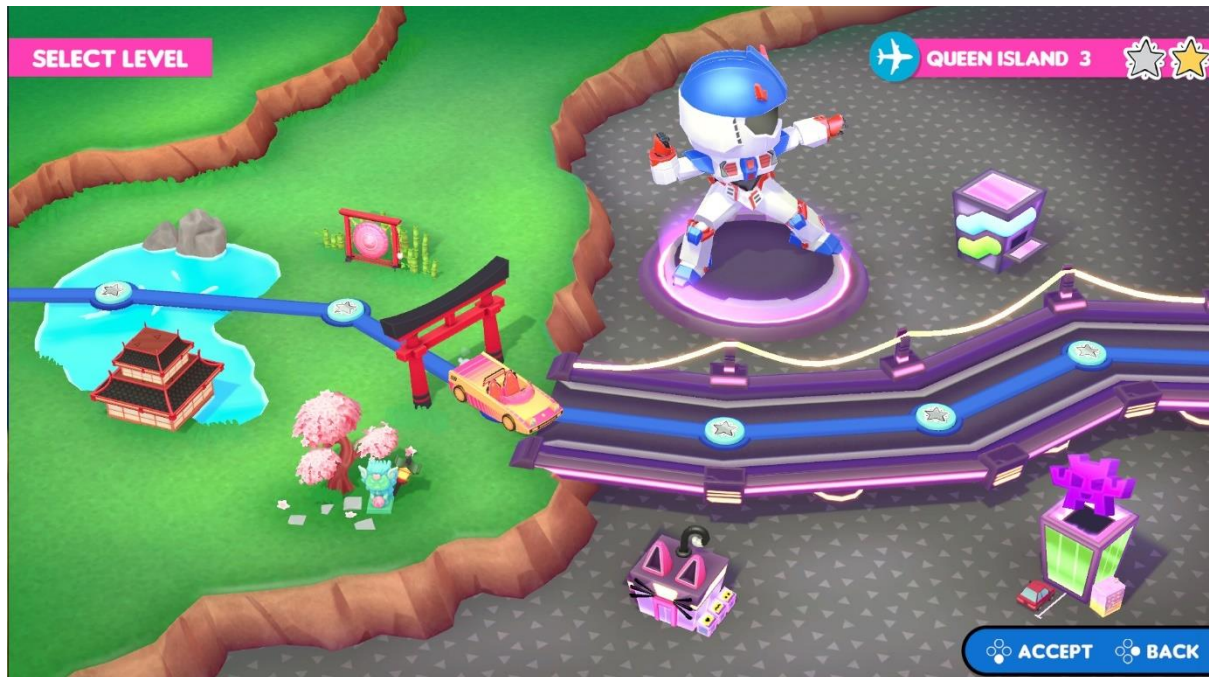


FIGURE 33: JAPAN-INFLUENCED ARENA FEATURED IN *L.O.L. SURPRISE! B.B.S BORN TO TRAVEL* [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022).

On the other hand, *L.O.L. Surprise! B.B.s Born to Travel* includes locations based on locations outside of the Western world such as India, Egypt and Japan. The map has cultural references to the locations they are replicating based on the most known landmarks designed in the *L.O.L. Surprise! B.B.s Born to Travel* art style (Figure 33). The inclusion of different locations that is not seen through the other games is speculated to be linked to the global success of *L.O.L. Surprise! B.B.s Born to Travel*, which 2020 reported a profit of \$ 4 billion (Lieber, 2020); nevertheless, the game design influences are accessible worldwide. With the girls' games being fashion-oriented (discussed in further detail in the narrative section), the clothing available in the game for players to customise their avatars is based upon Western-world popular fashion and includes no cultural clothing. *L.O.L. Surprise! B.B.s Born to Travel* does have elements where the avatars are designed with cultural reference in their

outfits; however, it was observed that designs were stereotypical and did not appear to serve purpose of cultural appreciation.

From the observations of the Western-world design, it was identified that there was a significant lack of representation of diverse skin tones and ethnical features. Throughout the games analysed, there was a greater representation of white-skin tones compared to any others. Avatars in *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush* were ethnically diverse through their skin colour; however, the design of the physical features of the characters were not designed to be different on the diverse skin-tones. The lack of ethnical physical features was especially identified in *Bratz: Flaunt your Fashion* through then avatars *Jade* and *Sasha*. *Sasha's* design intends to represent an African American woman, and *Jade* represents an Asian woman; both avatars do not include ethnic features, and without being familiar with the franchise, *Jade* does not appear to be Asian but rather White when compared to the other White avatars in the game like *Cloe* (Figure 34). *L.O.L Surprise! B.B.s Born to Travel* was the only game that offered players to customise their avatar's skin tone; however, much like *Rainbow High: Runway Rush* and *Bratz: Flaunt your Fashion*, their physical features were not impacted, and with most generated avatars in the game arena being White, this indicates that the avatars designs are based on a White ideal.



FIGURE 34: AVATARS IN *BRATZ: FLAUNT YOUR FASHION* THAT REPRESENT DIFFERENT SKIN TONES [SCREENSHOT BY AUTHOR]. (PETOONS STUDIO, 2022).

The analysis of the boys' games found one playable avatar of colour in *The Last Kids on Earth and the Staff of Doom*, and *Ben 10 Power Trip* includes NPCs of colour around the game arena. *Ben 10 Power Trip* differs from the other games analysed, as the NPCs around the map are all individually designed and include physical features that are related to the ethnicity that they represent. In particular, the NPC illustrated in Figure 41 from *Ben 10 Power Trip* represents a black person, as noted by his skin tone and physical features like texturized hair (Figure 35) associated with their ethnicity that differentiates from other White characters. Through the observations it was noted that the girls' games were more likely to have a diverse representation of skin tones in their game designs; however, when looking at physical features there was no design element implemented to differentiate the avatars of colour apart from their skin tone alluding to the designed White ideal of the avatars. Regardless of the physical features identified in *Ben 10 Power Trip*, there was no frequent representation of people of colour in the boys' games to provide significance to the analysis but does highlight concerns around lack of representation overall.



FIGURE 35: NPC FEATURED IN *BEN 10 POWER TRIP* PRESENTING THE ETHNIC INFLUENCE OF AVATAR DESIGN [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

Most games analysed featured three-dimensional (3D) design elements for characters, arenas, and in-game objects adding depth and textures, and the two-dimensional (2D) games often featuring flat visual seen in *Trollhunters: Defenders of Acadia* and *JoJo Siwa: Worldwide Party*. The 3D games implement multiple angles to avatars, buildings, and decorative elements of the game arenas, adding to the player's experience. The avatars, buildings and decorative items around the areas are shaded and highlighted with shadows and light-catching points to create a dimensional visual experience in the game; however, the highlighting and shading technique is found in a simplified way in the 2D games. Despite the 2D games lacking depth, the designs offer textures in *Trollhunters: Defenders of Acadia* and both games implement more decorative elements to engage the players to game arenas. Much like the influence of the aspect of 3D design appearing in 2D games, this is seen in vice-versa. In the 3D games through the accessible guides and other dynamics were designed in 2D. From the analysis, it appears that most games have 2D and 3D design aspects; when the element is

designed in 2D, it is meant to reinforce accessibility and ease, and when there is a 3D design, it offers a more complex and optical experience.

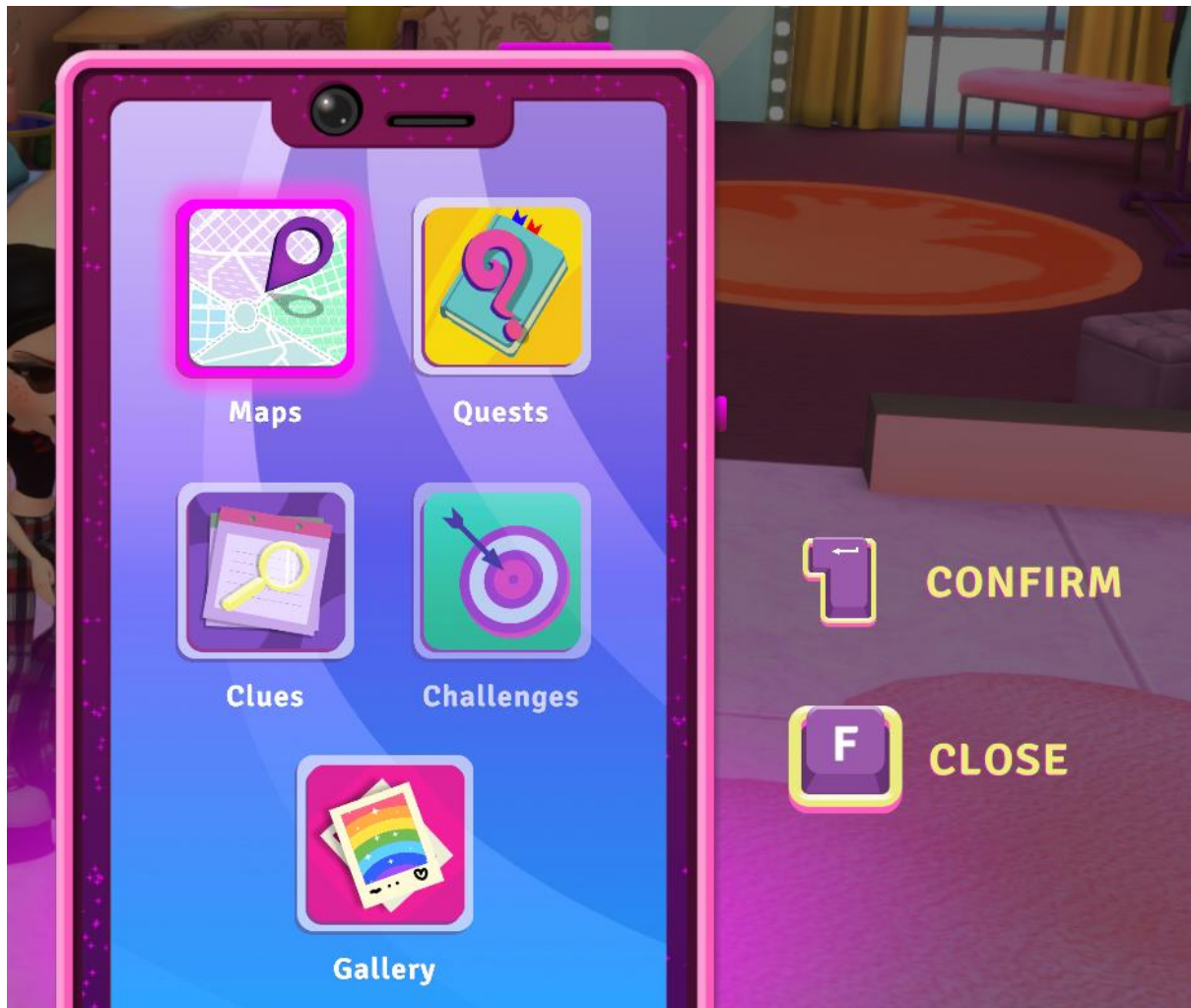


FIGURE 36: MOBILE PHONE FEATURED IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

Technology representation was identified more frequently in the girls' games with the inclusion of mobile phones and computer operating systems being essential to the players' experience. In *Bratz: Flaunt your Fashion*, various design elements engage the players with technological equipment. The guide is accessible through a mobile phone (Figure 36) that enables players to use the camera feature to take selfies and photos throughout the game, and

the computer that is in the apartment of each location that rewards players through followers, likes and money for publishing their stories online. Previously stated in the dynamic section, the technology shop in *Bratz: Flaunt your Fashion* enables players to invest in better technology (Figure 37) to gain more rewards becoming an aesthetical experience replicating the buyer experience in real life when looking at technology specifications.

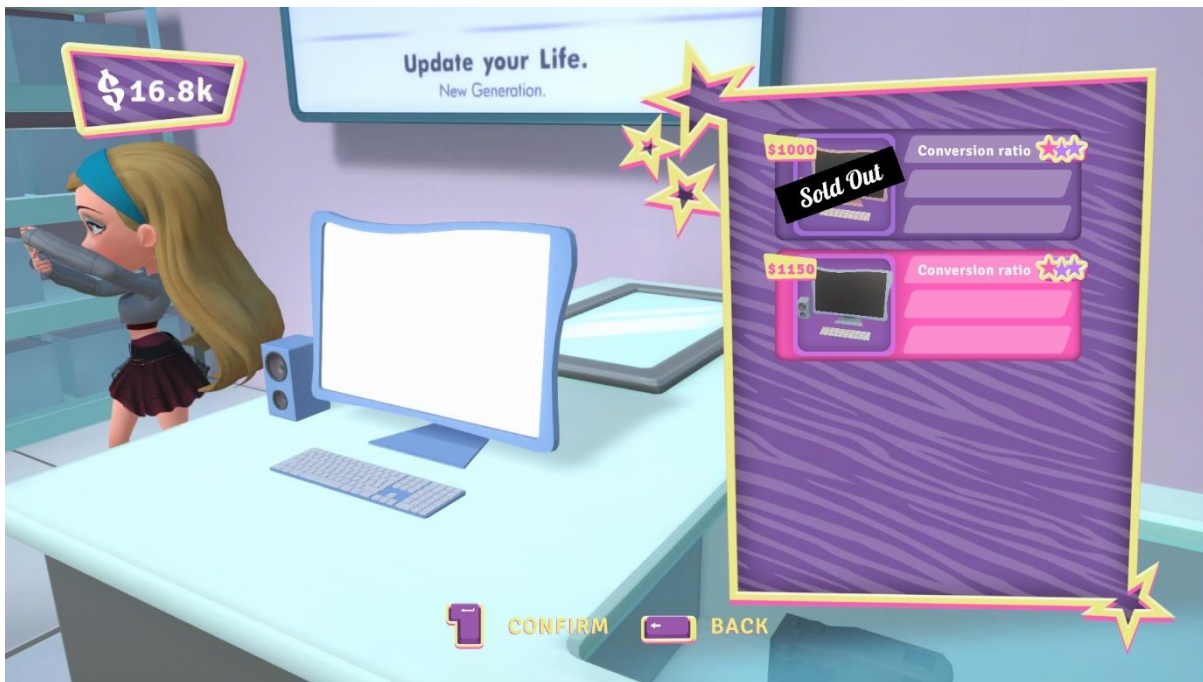


FIGURE 37: TECHNOLOGY STORE FEATURED IN BRATZ: FLAUNT YOUR FASHION [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

*L.O.L. Surprise! B.B.s Born to Travel* implements the mobile phone design to guide the player through the game narrative through emojis. And, through the quests in *Rainbow High: Runway Rush*, players engage with various technology equipment such as mobile phones, computers and cameras, continuing the findings of technology visuals being a fundamental element to the players' experience. *JoJo Siwa: Worldwide Party* was the only game that did not feature technological visuals at any point in gameplay which was surprising as the game is based around a social media influencer often associated with *YouTube* and *TikTok*. In comparison, the boys' games did not include a significant amount of technology that we see

in our day-to-day lives; rather they were most likely to include fictional technology, e.g. *Ben 10's Omnitrix* that enables players to morph into aliens.

With combat and action being central to the player's experience in the boys' games, it is essential to highlight the visual representation in the titles analysed. The girls' games included soft and cute visual aesthetics, but the boys' games featured monstrous and sci-fi-influenced visuals through the enemies around the game arenas. All the boys' games implemented an enemy staggered system featuring different designs to represent the difficulty it would take to defeat the enemy and their native location. As the player progresses through enemies in the game arenas, they face boss fights that are designed differently to the other enemies. When engaging in combat, there is no allusion to bodily harm through scuffs, bruises, cuts, and blood, which shows the player that the combat they are engaging with is just eliminating enemies and the damage they are receiving and inflicting causes no harm. These stylistic choices are linked to the age rating of the games that have been analysed since any detailed representation of physical impacts of combat would not be appropriate for the intended visual experience for these audiences.

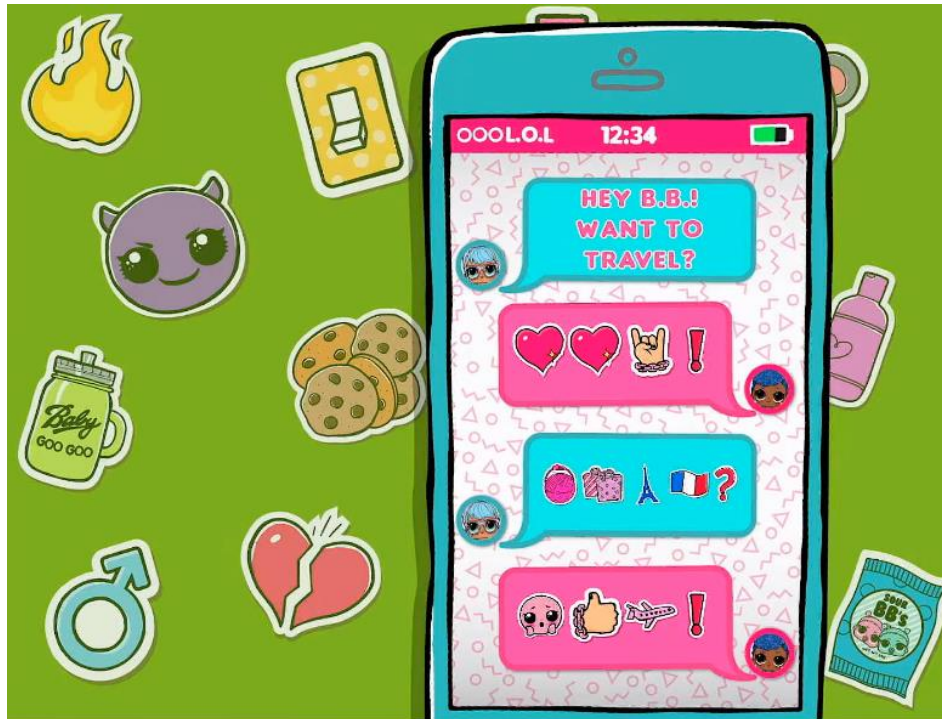


FIGURE 38: MALE GENDER SYMBOL FEATURED IN *L.O.L. SURPRISE! B.B.s BORN TO TRAVEL* [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022A).

Miscellaneous design elements picked up in the analysis found that girls' games featured decorative icons representing cutesy and feminine objects, with stars and hearts being a standard set of icons used across all games. Interestingly, it was observed in *L.O.L. Surprise! B.B.s Born to Travel*, there is a genetic icon for the male gender that appears on the loading screen (Figure 38); despite including little narrative and the entire female avatar representation, the use of the icon represents that boys are of interest to the player in the game world. Outlined in the set-collection mechanic analysis was the difference between the collection items that players are expected to collect in the boys' and girls' games. When looking at the boys' games, the player is expected to collect body parts, socks, and more, which are masculine compared to the bows, clothing, and accessories found in the girls' games. Despite the set-collection items being designed in gender-affirmative ways, this is a direct influence of the pre-existing franchise rather than a stylistic decision of the game designers where the inclusion of the items could be intended to provoke familiarity for the

players. Nonetheless, with the franchises already having their desired markets, it is evident that their pre-existing ideas around gender and compliance are influenced by ideas of femininity and masculinity that filter into the game design.

#### **4.4.2: Sounds**

The analysis of the sounds found in the game titles illustrates that all games incorporate sound into their games to create an aesthetic experience, with all the boy's games' music being influenced by techno and specific genres and the girls' games having popular music influences. Music was an element that was included in most games apart from *Bratz: Flaunt your Fashion*, where the player is not accompanied by background music throughout the gameplay. Since *Bratz: Flaunt your Fashion* does not implement music in the background of the gameplay, it was observed that they included ambient noises that would typically be found in the representation of the locations in real life, e.g. sounds of wind and birds chirping in the park. The use of ambient noises was found in part of *Ben 10: Power Trip*, where each location did have music, while in the void, the atmosphere was eerie without music. Furthermore, depending on the character's location and what they are asked to do in the gameplay, titles would change the sound, whether it be music or ambient noises, which was found in all games.

The analysis found that when engaging in combat and action, the music would often increase in tempo creating a tense atmosphere. With the absence of combat and action in the girls' games, when included, the music was often diverse and changed per location; this was mainly seen through *JoJo Siwa: Worldwide Party* as the game is based around her music, and *L.O.L. Surprise! B.B.s Born to Travel*, where each location featured music inspired from the represented country *JoJo Siwa: Worldwide Party* was the only game that featured music with lyrics that the player could learn and sing along to; this is likely due to the nature of the game.

When considering the narration of the games *Trollhunters: Defenders of Arcadia*, *Rainbow High: Runway Rush*, *Ben 10: Power Trip*, *Bratz: Flaunt your Fashion*, and *Hotel Transylvania: Scary-Tale Adventures* were fully narrated; where *The Last Kids on Earth and the Staff of Doom* does have narration through the cut-scenes, there were elements of the game that required the player to read narrative prompts that appeared on the screens. JoJo Siwa only engages the player with text-to-speech narration at the beginning of the game, the completion of stages, and at the end of the game; much like *The Last Kids on Earth and the Staff of Doom*, the player is required to read the quest points throughout the gameplay; however, this is accompanied by sighs and jibberish at the start of the written prompts which was not seen in the other games.

In the arenas, NPCs were voiced in *Ben 10: Power Trip*, *Rainbow High: Runway Rush*, *The Last Kids on Earth and the Staff of Doom* and *Bratz: Flaunt your Fashion*; their open-world design and the implementation of NPCs to create community in the arenas enables players to immerse themselves into the game arenas. The use of sounds to indicate that the player is interacting with elements of the map was found in all games, and when engaging in jumping and dodging movement, navigation mechanics and combat and action were accompanied by grunts to emulate the real-life expressions. Overall, there are no significant differences in how the games implement sounds in their designs; where the genres differ, they all achieved the atmosphere the games are intended to create.

#### **4.4.3: Feeling**

The player(s) can have diverse aesthetical experiences of feeling depending on how they choose to play the game; for this analysis, all the games were played with a controller, which influences the sensation of feeling. However, this is only relevant for this analysis and would not be a comprehensive experience due to cross-platform and the diverse ways players

interact with the games. Therefore, the feeling experience is not intentionally provoked in the design element. On the other hand, *Trollhunters: Defenders of Arcadia* offers the player to enable controller sensations which intentionally provokes feelings as the game incorporates the controller's ability to vibrate when engaging in combat and movement during gameplay. Although including the vibrating sensations is appropriate for feeling aesthetics, it was only present in *Trollhunters: Defenders of Arcadia* and does not provide significant findings to the analysis.

#### **4.4.4: Smell and Taste**

Smell and taste aesthetics were not provoked through the games that were analysed.

#### **4.5: Narratives**

Due to the diverse and unique narratives in each of the video game's titles they will be discussed individually before concluding with the recurring themes and differences between the categories. With the aims of the research being focused on girls' games the concluding points will be focused on their narratives with slight reference to the boys' games.

##### **4.5.1: *L.O.L. Surprise! B.B.s Born to Travel***

*L.O.L. Surprise! B.B.s Born to Travel* positions the player as a toy maker that travels the world to create and distribute toys to consumers (called fans in the game) to make their 'dreams come true' (Outright Games, 2022). Despite the narrative illustrating that the player is taking on a labour-intensive task, they receive no currency-based payment; they are rewarded with a variety of *L.O.L. Surprise!* dolls upon completing each stage. The consumers found in several locations allude to the global success of the franchise, which was previously outlined (Lieber, 2020). Upon completing stages and areas, players are encouraged through affirmations such as 'WOW! UR AMAZING', 'FANTASTIC JOB', and 'WE LOVE IT!'

(Figure 39) displayed through the digital-messaging-styled narrative on the mobile phone and cut-scenes. With the narrative displayed through the mobile phone, the linguistics of the written communication within the game is based on little written words relying on the sequencing of emojis for the players to decipher. However, with the basic storyline, the player does not have to rely on written communication to understand where they are in the narrative. Furthermore, it was evident that the narrative positions the player as a worker who engages with labour to distribute the toys around the world to meet the needs of consumers and the player is motivated through positive affirmations rather than a progressive storyline.



FIGURE 39: L.O.L. SURPRISE! AVATAR AFFIRMATIONS [SCREENSHOT BY AUTHOR] (XALOC STUDIOS, 2022).

#### **4.5.2: JoJo Siwa: Worldwide Party**

During the opening sequence of *JoJo Siwa: Worldwide Party*, the player is engaged with the narrative through JoJo Siwa narrating the storyline with her dog, Bow. The player embarks through the stages that are designed around JoJo Siwa's 'rhythmic world' made of ten make-belief locations that include but are not limited to *Candyland*, *BowBowland*, and

*Rainbowland*, with the player travelling through each embodying *JoJo*, and on occasion *Bow*. Despite the player embodying *JoJo* and *Bow*, they are referred to as a helpful assist in the narrative at the end of each stage. Each stage finds the player engaging in communications that revolve around the idolisation of JoJo Siwa from the fans in each location. JoJo exchanges similar affirmations previously discussed and tells fans that she will be putting on a concert for them in their homeland, which they become overwhelmed with excitement and cannot wait to attend.

During the time that the player progresses through the narrative, the adoring fans collect themselves together to meet her at the end of the game for the final concert concluding with the themes that the player had learnt with *JoJo* in each location, such as dreams, uniqueness, teamwork, slaying and playing, being sweet, shining, and being yourself, being kind to one another, dancing, and developing friendships as there is ‘always more friends to meet’. Overall, the narrative focuses on assisting JoJo Siwa as she travels to diverse locations to meet her fans who idolise her and teach positive qualities such as kindness, individuality and building positive relationships, which is reaffirmed by the player at the end of the game.

#### **4.5.3: *Bratz: Flaunt your Fashion***

The narrative of *Bratz: Flaunt your Fashion* immerses the player in the game by providing meaning and motivation behind the player’s actions. Players must engage with the narrative to achieve the set number of achievements and goals to progress further in the game. Overall, the player is situated in a narrative where they are growing their social media following online in support of their journalistic career in fashion; as the game progresses, the player embarks on quests to resolve conflicts, help friends and career beneficiaries, and engage with fashion. The player is situated in their hometown of *Stiles Ville* at the beginning of their career; however, as their social media following increases following the success of their

career, they can travel across the world to various locations such as Barcelona, Seoul, *Stylin'* *Soiree* (New York). Players are rewarded with social success and coverage throughout the core narrative and receive currency from taking selfies, participating in competitions, and publishing articles online. Despite the narrative positioning the importance of succeeding and career growth, this is done by assisting those around the game arena, whether that be the fashion designer, concert organiser and fashion show director, or hometown friends. Fashion and friendships are heavily referenced throughout the narrative, which correlates with the franchise with the gameplay positioning the player to find value in career growth and success from their hometown to bigger cities.

#### **4.5.4: *Rainbow High: Runway Rush***

*Rainbow High: Runway Rush* narrative is based in the school *Rainbow High*, where the player embodies one of the six avatars at a time to achieve the art-related subject quests. Upon starting the game, the players engage with *Ms Morton* and frequently revisit her throughout the game to receive quests in the form of school assignments. The overall aim is to get to the end of the game whilst completing all the assignments the teacher gives and mending and supporting friendships along the way. The game positions the player in the narrative as an expert in fashion with a creative flare for design and popularity amongst their peers. The franchise influences the storyline as the characters have different specialities in the school, with *Poppy* focused on music, *Ruby* on graphic design, *Jade* on makeup, *Skylar* on fashion design, *Violet* on digital media, and *Sunny* on animation. All the subjects that are specialities of the characters are arts-related but are tailored to fashion through the quests and objectives. Overall, the game's narrative is heavily influenced by the school system, where players engage with a teacher for assignments and maintain their friendships and popularity throughout the narrative with the focus on.

#### **4.5.5: *Ben 10 Power Trip***

In *Ben 10 Power Trip*, the narrative positions the player as a heroic protagonist who defeats the enemies while helping and assisting the locals with their troubles while on a family vacation. The game starts with a cutscene that introduces the antagonist, *Hex*, who opens various voids threatening the townspeople and places *Ben 10's* aliens in unknown locations, which the player must find whilst fighting off enemies. The corporation of the aliens and establishing them at the beginning of the game sets the tone that the player will be embodying *Ben 10* and engaging in combat. The overall aim is to learn and reveal the truth behind the crystals that *Hex* has found that open the void rifts and close them before it's too late.

Despite the player helping the townspeople from each of the four locations to progress in the narrative, combat and action is a core focus within the story to be heroic. *Gwen* is the primary assistant throughout, guiding the player through the narrative; when there are aspects unknown to the player, like the crystals, *Gwen* will work behind the scenes to find information that enables the player to progress. The narrative motivates the player to defeat *Hex* and the other bosses to restore order in all the locations whilst being celebrated by the townspeople before inevitably continuing the vacation. Once the player has defeated *Hex*, they can still venture around the 3D world, instilling the experience of enjoying the European vacation without risk while remaining heroic by helping the townspeople through side-quests.

#### **4.5.6: *Hotel Transylvania: Scary-Tale Adventures***

The narrative of *Hotel Transylvania: Scary-Tale Adventures* is based on fairy tales inspired by *Little Red Riding Hood*, *The Emperor New Clothes*, and *Ali Baba and the Forty Thieves*. *Drac* narrates the stories to his grandchildren whilst babysitting for *Mavis*; during the story, *Winnie* and *Dennis* interrupt the story, causing obstacles and encouragement to the players as they embark on their adventures. Throughout the narrative, the player will meet various other

characters from the franchise that act as guides and comrades enabling the player to move through the narrative, but the narrative's protagonists are *Drac* and *Mavis*. Each story incorporates various levels that are presented as chapters to instil the experience of being inside a story book.

The protagonists are centred as heroes with various obstacles and antagonists who hinder their objectives throughout the three storylines. The three storylines are different to one another; in the *The Emperor New Clothes*, the player embodies both *Drac* and *Mavis* who together to find a surprise gift for the *Emperor's* party, who later gets embarrassed, leading them to be trapped and needing to escape. *Ali Baba and the Forty Thieves* ends with *Drac* being trapped in the treasure tomb after embarking on a mission to prove he is worthy of joining the gang of thieves. And *Mavis's* storyline finds her on a mission to find ingredients and help various characters along the way. Unlike the other storylines, *Mavis's* quests revolve around helping others; however, this will be later discussed in more detail in the section that presents the results around agency differences in boys' and girls' games. The overall game ends with *Mavis* and *Johnny* coming to collect the children and put them to bed; but individual storylines end with the *Emperor* finding humour in the situation and granting the players a happy ending, for *Ali Baba and the Forty Thieves* the treasure was fake and upon defeating the boss in that area the player escapes, and *Mavis* embarks on another quest to help one of the characters who had eaten too much of the pie she had made.

#### **4.5.7: Trollhunters: Defenders of Arcadia**

The narrative begins in New Jersey with *Jim Lake Jr*, *Toby* and *Claire* on a quest to prevent enemies from taking over before *Porgon*, the main antagonist, banishes *Jim* into a *Time-apocalypse*. The player transported to *Acadia*, where the community and *Jim's* friends no longer recognise him, as *Porgon* teleported and stuck him to a moment in time when they did

not know who he was yet. As the player progresses through the stages and battles with *Porgon* and his allies, they will be teleported to another loop creating a non-linear storyline.

The player is challenged to help the community of *Acadia* and their friends from *Porgon* by defeating him, preventing his plans from becoming a reality and inevitably becoming a hero. The narrative references the heroism angle as the community and quest leaders celebrate the player's victories through affirmations and, upon completing the gameplay, a victory party to celebrate *Jim's* birthday and his hard work. During the first introduction to the narrative, *Claire* expresses that she needed *Jim's* help as she was unable to fight off the enemies, which the player then completes and gets celebrated, affirming that the player is acting out of selflessness and heroism in the face of danger. Due to the stage-based nature of the game the narrative is developed at the beginning of the game and then is referenced as the player progresses.

#### **4.5.8: *The Last Kids on Earth and the Staff of Doom.***

The player is transported to a post-apocalyptic town in Wakefield, Massachusetts, where they embody one of four independent teenagers who navigate the world without parental guardians or adult supervision. Each character has their pre-established personality and specialities from the franchise they are based on; *Jack* is the leader, *Quint* is the intelligent one, *Dirk* is strong, and *June* has no real speciality but is rather good at everything. The motivation to exceed through the gameplay is from the antagonist *Malondre*, who plans on obtaining the *Staff of Doom* to summon a destroyer of worlds. Despite *Malondre* already possessing the staff, it shatters into four pieces, which creates motivation for the player to collect all four pieces before *Malondre*. Players must partake in quests set by friendly monsters that assist them through the gameplay as they discover new districts that lead them closer to the end goal of obtaining the staff. The player is positioned as brave, heroic and

independent as they clear the streets of Wakefield from zombies and monsters trying to prevent them from getting to the staff pieces. Inevitably, upon completing the gameplay, the player is rewarded for their efforts before returning to their tree house to survive another day.

#### **4.5.9: Summary**

The results indicate that the girls' games narratives were more likely to engage the player with tasks that are based around serving the needs of other people in contrast to the boys' games that motivate the player to engage in heroic behaviours. When considering how players are motivated through the narratives by affirmations are present in *L.O.L. Surprise! B.B.s Born to Travel* and *JoJo Siwa: Worldwide Party*. Affirmations were found in the boys' games; however, these are displayed as thankful recognition for engaging in dangerous situations for the greater game community that needs help. Travel is a fundamental element in the girls' games as the player is transported to various locations in *L.O.L. Surprise! B.B.s Born to Travel*, *JoJo Siwa: Worldwide Party* and *Bratz: Flaunt your Fashion* where the player assists and serves the local communities. *Bratz: Flaunt your Fashion* positions the player as a fashion reporter that starts off in their hometown and assists other characters to gain social capital to progress in their career. The only girls' game that does not feature a travel aspect is *Rainbow High: Runway Rush* which is based in a school but follows the same themes as the other games. Overall, the girls' games encourage the player to engage with themes of fashion and beauty whilst assisting others, maintaining relationships, developing positive qualities, and career aspirations. When compared to the boys' games that present the player as heroic as they engage in risky behaviours to help the game arena communities, the narratives of the girls' games represent low-risk outcomes.

#### 4.6: Technology

Concluding the Elemental Tetrad is technology; from the games analysed, it was challenging to uncover in-depth evidence for this section as only *Ben 10 Power Trip* had an accessible developer interview that discussed the game's making. However, Schell (2008: 42-43) outlines that the technology section does not necessarily need to be over-thought as it is just a 'medium in which the aesthetics take place, in which the mechanics will occur, and through which the story will be told'. All the games analysed are digital games that are accessible through diverse platforms; the technology used to play these games for this analysis was an *HP Pavilion* gaming laptop using the *Steam* client; however, the games can be played on the *Nintendo Switch*, Personal Computer Systems, *PS4/PS5*, *Xbox One* and *XBOX Series X/S*.

All games were played using a controller; whereas this was a personal preference choice, using a controller was a requirement for *L.O.L. Surprise! B.B.s Born to Travel* and *Hotel Transylvania: Scary-Tale Adventures* as they did not support mouse and keyboard play. *Bratz: Flaunt your Fashion*, *L.O.L. Surprise! B.B.s Born to Travel* and *Hotel Transylvania: Scary-Tale Adventures* had full controller support, which indicates that the games 'can be downloaded, launched and played using only a controller [...] titles do not require a mouse or keyboard on hand for any configuration or in-game setup' (*Steam*, n.d.). On the other hand, *JoJo Siwa: Worldwide Party*, *Ben 10 Power Trip*, *Trollhunters: Defenders of Arcadia*, *Rainbow High: Runway Rush* and *The Last Kids on Earth and the Staff of Doom* had partial controller support, indicating that 'installation, configuration and overall user interface may only be optimised for mouse and keyboard' (*Steam*, n.d.). Overall, there is no significant difference in the technological differences between the analysed games.

#### 4.7: Summary

The results illustrate that the visuals of the games were influenced by the pre-existing franchises they were based on; however, it is worth noting that *JoJo Siwa: Worldwide Party* is different as the game is based around a public figure rather than a traditional medium or toy line. The boys' games were extensions of media formats that already exist which immerses the player into having more agency and interactive experiences; where the girls' games were extensions of toy lines digitalising the play experiences they would usually associate with the franchises. The observation of art-style and colours uncovered that all games featured a bright, colourful palette and a cartoon art style, creating an inviting atmosphere suitable for the target age group of 3-7-year-olds. However, there are differences in colour palettes between girls' and boys' games, with girls' games more likely to feature feminine colours like pink and purple. The design of Western-world styled locations in the games aims to create familiarity for players, indicating that the primary market is children of Western world. However, *L.O.L Surprise! B.B.s Born to Travel* breaks this pattern by including locations outside the Western world, which could be associated to its global success. Avatar representation in terms of diverse skin tones and ethnic features is limited across all games, with a prevalence of white avatars. Girls' games are slightly more diverse in skin tones but lack differentiation in ethnic features, with boys' games generally featuring less representation of people of colour.

Diverse representation of technology was more prevalent in girls' games, often incorporating mobile phones and computers as essential to the player's experience. With combat and action being only present in boys' games they feature more aggressive and sci-fi influenced aesthetics, while girls' games have softer and cutesy aesthetics. Sound design in the games serves to enhance the aesthetic experience, with boys' games often featuring techno and

specific genres, and girls' games incorporating popular music influences with no other significant differences emerging through the narration, ambience and use of music. The analysis of feeling found that the experience in games is influenced by using controllers, and controller vibrations which was only found in *Trollhunters: Defenders of Arcadia*; with smell and taste aesthetics completely absent. Narratives in the games vary, with themes ranging from fashion and social media success in girls' games to heroic adventures in boys' games. Despite differences in narrative settings and objectives, the overarching aim of the Elemental Tetrad is to engage players in enjoyable and immersive experiences tailored to their interests and age group. Where the themes uncovered in the Elemental Tetrad indicates that there is gender assumptions established and the use of stereotypical representations, this will be discussed under the final research question.

**RQ3: Avatar Representation and Behaviours: How does the representation of the femininity emerge through avatar design and encouraged behaviour through gameplay in games for girls compared to boys?**

The results from the analysis found that the avatars in the girls' games that represented femininity in line with beauty standards and ideals; despite themes of sexualisation observed, this appeared subjective and was not conclusive in all games.

## 4.8: Visual Analysis

### 4.8.1: Body Proportions



FIGURE 40: AVATAR JOJO SIWA FEATURED IN JOJO SIWA: WORLDWIDE PARTY [SCREENSHOT BY STEAM] (COCODRILLO DOG, 2022).

[HTTPS://STORE.STEAMPOWERED.COM/APP/1910300/JOJO\\_SIWA\\_WORLDWIDE\\_PARTY/](https://store.steampowered.com/app/1910300/JoJo_Siwa_Worldwide_Party/)



FIGURE 41: PLAYABLE AVATARS FEATURED IN BRATZ: FLAUNT YOUR FASHION [SCREENSHOT BY STEAM]. (PETOONS STUDIO, 2022).

[HTTPS://STORE.STEAMPOWERED.COM/APP/2088340/BRATZ\\_FLAUNT\\_YOUR\\_FASHION/](https://store.steampowered.com/app/2088340/Bratz_Flaunt_Your_Fashion/)

The observation of the feminine representing avatars in the girls' game category discovered that their designs were more likely to be petite and slim in *JoJo Siwa: Worldwide Party* (Figure 40) and *Bratz: Flaunt your Fashion* (Figure 41); however, this was not found in *Rainbow High: Runway Rush* as the avatars were designed to have a medium build (Figure 42). The observations derived from *L.O.L. Surprise! B.B.s Born to Travel* was more complex since they represent babies, which are usually fatter in proportions making the results non-comparable to the other games avatars. *JoJo Siwa: Worldwide Party* includes an avatar of a gamified person; when compared to JoJo Siwa in real-life, it is evident that her body proportions in the game have been altered to be unrealistically slim.



FIGURE 42: AVATAR RUBY FEATURED IN RAINBOW HIGH: RUNWAY RUSH [SCREENSHOT BY STEAM] (XALOC STUDIOS, 2023).

[HTTPS://STORE.STEAMPOWERED.COM/APP/2007520/RAINBOW HIGH RUNWAY RUSH/](https://store.steampowered.com/app/2007520/Rainbow_High_Runway_Rush/)

Another physical stylistic choice found throughout the games was the larging of the avatar's heads in comparison to the other bodily features. When comparing the design to the franchise, it appears that the larging of the head is influenced by the pre-existing designs

based on the toy franchises; however, since the toys designs are influenced by pre-existing beauty ideals this is still a significant finding. The gamified *JoJo Siwa* featuring a larger-sized head is a stylistic choice, whether that decision was made to enhance the player's visual experience in the game by making the avatars features more identifiable, or to provide a base for the enhancing and slimming facial features in line with beauty ideals. Despite sexualisation observations being minimal, it is worth noting that they were exclusively found in *Bratz: Flaunt your Fashion* through the largening of the buttocks and breasts whilst the slimming of the waist to represent a busty and voluptuous feminine form. Where it was previously identified that the stylistic choices were based on the pre-existing dolls from the franchise, the extent to how the body is gamified was not observed thoroughly when compared to *Bratz* dolls.

#### **4.8.2: Facial Features and Skin Tone**

The differences in the portrayal of the body in the girls' games was found again through their facial features. All games featured the largening of the eyes; however, it is worth noting, due to the medium, this may be a design choice to enable players to distinguish the features quickly and are stylistic choice that emerged from the franchises. Nonetheless, large eyes are usually associated with ideal beauty standards for females, and as previously stated, the franchises are influenced by beauty standards. The other facial features provided no significant comparable due to inconsistencies in the game's avatar designs. *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush* were the only games featuring large lips, and *Bratz: Flaunt your Fashion* was the only game featuring a nose smaller than usual proportions. Again, there was difficulty in establishing conclusive results from *L.O.L. Surprise! B.B.s Born to Travel* due to the designs being influenced by babies that usually have smaller face proportions and large eyes (Figure 43).

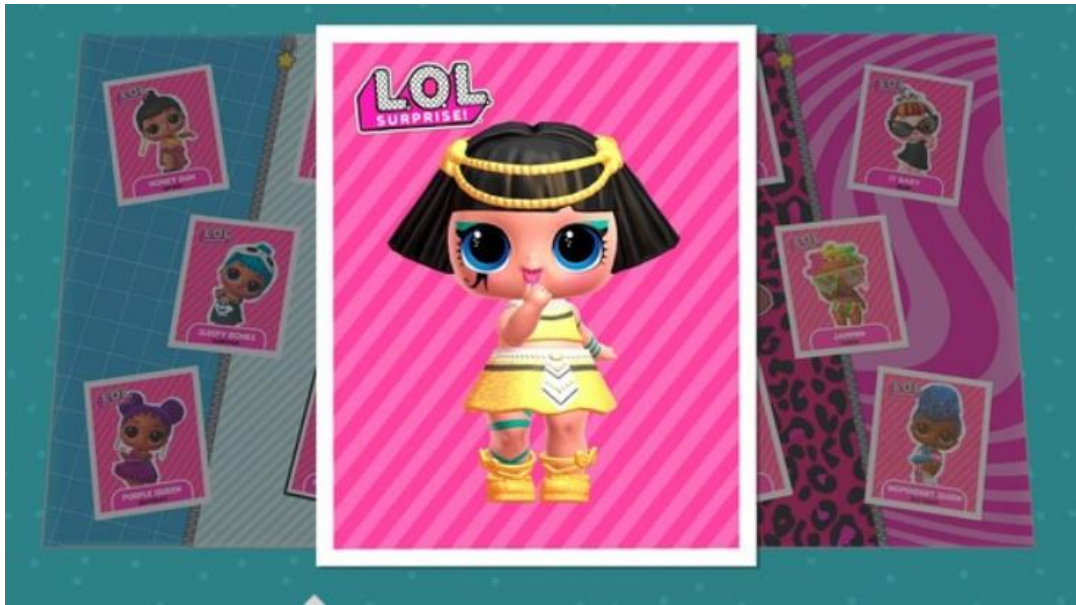


FIGURE 43: *L.O.L. SURPRISE!* AVATAR FEATURED IN *L.O.L. SURPRISE! B.B.S BORN TO TRAVEL* [SCREENSHOT BY STEAM] (XALOC STUDIOS, 2022).  
[HTTPS://STORE.STEAMPOWERED.COM/APP/1785270/LOL SURPRISE BBS BORN TO TRAVEL/](https://store.steampowered.com/app/1785270/LOL_SURPRISE_BBS_BORN_TO_TRAVEL/)

Previously discussed in the aesthetical section of the Elemental Tetrad was the lack of representation of diverse skin tones and ethical features. Where the girls' games (apart from *JoJo Siwa: Worldwide Party*) did offer a range of diverse skin tones, they lacked ethnical facial and hair features that were diverse in comparison to the White representing avatars that were more commonly seen in the games (Figure 34). The lack of diverse ethnical features indicates that the avatars are replicating a beauty standard that favours White features over ethnic diversity.

#### 4.8.3: Make-up and Hair Styling

When analysing the vanity of the avatars (makeup and hairstyles), it was evident that all games present the avatars with makeup and long hair, with some featuring purposely styled hair. Makeup was featured in the designs of the avatars in all the girls' games; displayed with eyeshadow, thicker lash lines to allude to the use of mascara, and coloured lips to represent the use of lipstick. Unlike the difficulties previously discussed with *L.O.L. Surprise! B.B.s*

*Born to Travel* it was found that despite the designs being based on babies, they implemented the use of make-up more than what was found in *JoJo Siwa: Worldwide Party* which is based on an adult woman. The use of make-up was found in *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush* to enhance the facial features and is designed based on the beauty standards of the make-up industry. However, *Bratz: Flaunt your Fashion* enables players to customise the avatars make-up which can be used to go against ideal beauty standards (Figure 44). The make-up in *L.O.L. Surprise! B.B.s Born to Travel* was not as obvious as the other games but is evidently used. *JoJo Siwa: Worldwide Party* appeared to use make-up in a different way through to form shapes and patterns on the avatar which added a theatrical aesthetic as opposed to abiding by beauty standards.



FIGURE 44: MAKEUP AND HAIR CUSTOMISATION FEATURED IN *BRATZ: FLAUNT YOUR FASHION* [SCREENSHOT BY AUTHOR] (PETOONS STUDIO, 2022).

The observation of the avatars hairs in the game concluded that they all had long hair in all the girls' games. *Bratz: Flaunt your Fashion* was the only game that allowed players to customise their hairstyle freely which included hair of short lengths and diverse styles which

enables the player to go against beauty standards, however, the standard avatars design favoured long length hair. The representation of hair in *L.O.L. Surprise! B.B.s Born to Travel* persisted to have the same theme as found in the other girls' games which goes against the babies features as they tend to have little to no hair. Despite, *JoJo Siwa* having long hair; it was not found that the hair was styled accordingly to a beauty standard but rather a stylistic choice based on replication of her real-life hairstyle which is a staple of her appearance.

#### **4.8.4: Clothing**

The analysis of the clothing choices in the games found that they were all fashionable and diverse outfits; but some of the cuts of the clothing in *Bratz: Flaunt your Fashion* and *L.O.L. Surprise! B.B.s Born to Travel* could be seen as sexualised since the clothing featured is designed to be slim-fitted and revealing. Despite, the player having the ability to choose what clothing they would like their avatar to wear in *Bratz: Flaunt your Fashion*, most of the clothing is designed to be revealing and tight fitted. The similar theme of revealing clothing is seen in *L.O.L. Surprise! B.B.s Born to Travel*; however, the avatars frequently wear leotards which is not a typical outfit choice for day-to-day life, nonetheless, this is still revealing on the avatars. Again, the depiction of the avatars in *L.O.L. Surprise! B.B.s Born to Travel* being based on babies does not follow the traditional outfits that are seen on babies, and there have been many controversies about the franchise sexualising through their designs (Cavender et al, 2020).

It is important to include that the clothing choices based on the franchises is not exclusive to *L.O.L. Surprise! B.B.s Born to Travel* and is replicated through *Bratz: Flaunt your Fashion* and *Rainbow High: Runway Rush*, but to reiterate, the franchises are influenced by popular beauty standards. *JoJo Siwa: Worldwide Party* did not feature revealing clothing, but the

outfits were observed to be tight; however, due to the body proportions of the avatar it was not found to be sexualising.

#### **4.8.5: Female Representation in Boys Games**

Looking at the same areas of focus in the girls' games analysis, similarities of representation emerged from the physical proportions and features; however, when observing vanity and clothing, there were significant differences. The representation of body proportions in boys' games found that the build of the core feminine representing avatars was petite and slim across all game titles; where this was only found in some of the girls' games, it still presents an overall theme that the game titles collectively represented the female body through a slim-ideal with minimal deviation from that. When observing the avatars head sizes in the boys' games it was discovered that their heads were larger, however, when compared with the girls' games avatars they were smaller in proportion. From the analysis of the girls' games, it was noted that the head sizes could be enlarged for multiple reasons, whether this be based on the franchises pre-existing designs, or whether it is a stylistic choice for the player to be able to easily distinguish the avatars facial features. However, the boys' games found little similarities with the facial features when compared to the findings of the girls' games as the standard found that the noses were small in all titles excluding *The Last Kids on Earth* and *the Staff of Doom*, the eyes were large in all games, and the lips were a normal proportion (Figure 45).



FIGURE 45: AVATAR JUNE FEATURED IN *THE LAST KIDS ON EARTH AND THE STAFF OF DOOM* [SCREENSHOT BY AUTHOR] (STAGE CLEAR STUDIOS, 2021).

When considering the size of the heads being smaller and the facial features apart from the larger eyes being present in the avatars design, it suggests that the feminine features are not extenuated to be a focal point of the avatars design diverting away from representing a beauty standard. The avatar *June* in the *The Last Kids on Earth and the Staff of Doom* and *Gwen* from *Ben 10 Power Trip* (Figure 46) were notably less feminine through their design when compared to the other titles in this category and the girls' category through their physical and facial features which is further exemplified through the observations of vanity and clothing.



FIGURE 46: AVATAR GWEN FEATURED IN *BEN 10 POWER TRIP* [SCREENSHOT BY AUTHOR] (PHL COLLECTIVE, 2020).

Expanding on the notion of femininity being represented through vanity, the female avatars in boys' games were not likely to include make-up at all. The vanity of the characters found that make-up generally was not present in most of the games and was only found in *Hotel Transylvania: Scary-Tale Adventures*, however, its purpose was to add to the avatars aesthetic rather than displaying a beauty standard. A bolder lash-line was identified on all the feminine avatars as opposed to the masculine avatars which alludes to longer lashes which is often associated with femininity. All the avatars in the boys' games had short hair apart from *June* in *The Last Kids on Earth and the Staff of Doom*, however, her hair was not styled which is an indication that the avatars designs were not influenced by beauty standards.

Moreover, when observing the clothing that the avatars wore it appeared that they were more likely to provide coverage with only their lower arms and legs skin visible, and the clothing choices were not fashionable but rather casual and fit-for-purpose which was not identified in the girls' games. Overall, it is evident that there are significant differences in the design of

avatars when looking at girls' and boys' games; the results show that the feminine representation in the boy's games is far less extenuated display of femininity that does not conform to beauty standards in comparison to the girl's games.

#### **4.9: Behaviours and Agency**

The analysis of the feminine representing avatars agency and behaviours in gameplay uncovered a thematic difference depending on the category the video games were from. When focusing on the core feminine representing avatars, it was uncovered that all the avatars in the girls' games category had influence in the gameplay narratives, and when playable, the player could only act with agency through them. However, when analysing the boys' games, it was found that the core feminine avatars were less likely to have the same influence and agency. The avatar *Gwen* in *Ben 10 Power Trip* has influence over the narrative as she guides the player through the storyline; however, she does not add anything to the core gameplay through interactivity, rather is an assisting character that adds to *Ben Tennyson's* storyline. In this instance, should *Gwen* be replaced in the narrative it would not cause any difference to the gameplay that the player interacts with indicating that she is not as valuable as the other avatars in the game which are designed as masculine.

On the other hand, when looking at *The Last Kids on Earth and the Staff of Doom* avatar *June*, she is playable throughout the narrative; however, due to the game being narrated by *Jack*, if *June* was removed from the game there would be minimal impact to the narrative. Unlike *Gwen*, *June* is a playable avatar and enables the player to engage with agency throughout the gameplay. Despite *June* being a feminine playable avatar, the agency and influence that she has in gameplay is no different to the masculine representing avatars which indicates that the representation of the avatar is not important. When analysing the avatar's individual ability statistics, *June* was designed to be less strong and defensive than her

masculine representing counterparts which may deter players from seeing her as a viable avatar since the game is based around combat and action.

*Trollhunters: Defenders of Arcadia* follows a similar pattern to what has been outlined thus far; however, unlike the *Last Kids on Earth and the Staff of Doom*, *Claire* is only available to play through co-op play and does have a significant role in the narrative. The co-op play ability features as an assist to the masculine lead avatar, which continues the theme of the feminine representing avatars serving an assistive role. Since the in-game multiplayer is local play and depends on players using the same console system, should *Claire* be taken out of the game, it would not have any influence on the gameplay outside of co-op play. In terms of narrative, *Claire's* significance is minimal, and when she is included, the purpose is to progress the narrative of the masculine representing characters.

The only video game in the boys' games category where the player must play a feminine representing avatar is *Hotel Transylvania: Scary-Tale Adventures*. Through the game, there is an even split of the time playing *Mavis* and *Drac*, providing evidence that *Mavis's* agency in the game is as equally important as the masculine representing avatar. However, the quests that the avatars partake in are different to one another. Through *Mavis's* quest, the player is required to gather ingredients to make a cake for *Granny*, who is later discovered to be *Drac* in disguise trying to teach *Mavis* a lesson that the woods are far too dangerous and full of strangers that cannot be trusted. In comparison, *Drac's* quests are based around the self-interest and danger. The differences between these quests position *Mavis* as motivated by other people's needs continuing the theme of assisting rather than having a fundamental and meaningful role. Similarly to *The Last Kids on Earth and the Staff of Doom*, the narrative is provided by the masculine representing avatar *Drac*, but this is based on the idea that he is reading a bedtime story to his grandchildren as he babysits for *Mavis* indicating that should

she not be included in the game there would be a significant change. Overall, it is evident that *Mavis* shares the same level of agency in the game as *Drac* and is essential to the narrative; however, the concerning factor is the differences in what the players are asked to do when embodying her avatar.

The girl' games include no playable masculine avatars at any point in the gameplay and are only seen to be progressing the narrative in *Bratz: Flaunt your Fashion*. Although the gameplay is solely influenced by feminine representing avatars in all games, the themes of assisting uncovered in the boys' games were discovered. In *L.O.L. Surprise! B.B.s Born to Travel* the player is only able to play a feminine representing avatar, providing complete agency over the game. The player is asked to serve others by partaking in labour-intensive tasks, providing no sense of personal growth and reward but progressing through the narrative based on acts of service for others. *JoJo Siwa: Worldwide Party* follows the same acts of service motivation as the player is required to rehearse JoJo Siwa's songs to provide a performance to the community of the location where they are based.

When playing *Rainbow High: Runway Rush*, the player is required to maintain and manage friendships by reconciling arguments and assisting friends by finding items or acts of service, as well as achieving academic success. The quests found within the video game build the narrative which motivates the player to completion, with the end goal being to work as part of a team to showcase a fashion show. Similarly, *Bratz: Flaunt your Fashion* requires the player to partake in similar tasks as the player is required to make connections through acts of services to benefit their social and professional growth. And through side quests, they are required to assist friends, which also rewards the player favourably through social capital with the end goal of a fashion show. Personal growth through acts of service is a critical element of all the girl's games; the feminine avatars have complete agency in which the

player is required to progress through the game relies on the helping of others and motivation to gain a sense of reward through assisting others.

#### ***4.10: Summary of Visual Analysis***

Overall, the analysis concluded that there were similarities between the girls' and boys' games through their physical body proportion designs; however, there were more significant differences across all designed representations of skin tone, facial features, makeup, hair, and clothing. Despite there being similarities through the representation of body proportions being slim and petite in titles made for girls and boys in mind, the girls' games featured larger heads than what was seen in the boys' games. Through observing facial features, it was evident that the girls' games featured larger eyes and lips, whereas the boys' games had far less exaggeratedly feminine features.

The boys' games had a distinct lack of skin tone diversity, and the avatar's features were not influenced by ethnicity when present in the boys' and girls' games. They followed the standard design of other avatars in the game that were predominately White, indicating a White ideal in the avatar's designs overall. The analysis of the vanity of the avatars focuses on makeup and hair representation; the girls' games featured makeup and styled long hair in line with popular beauty standards, whilst the boys' games featured makeup to add aesthetic to one of the avatars observed, whilst the other remained natural in their appearance and all had short hair with low-effort hairstyles. The analysis of the physical representation concluded with a focus on clothing choices; where the girls' games offered the player the opportunity to customise their avatar's clothing, the choices were often revealing and tight fitted whilst being fashionable. In comparison, the boys' games clothing representation found that the avatars were not necessarily fashionable but practical for casual wear and were not revealing or tightly fitted to extenuated body proportions.

Lastly, the analysis of behaviours and agency found some agency differences across the game titles; however, the themes that emerged from the behaviours were very similar. The observation of the girls' games found that the player often has agency in gameplay due to the only playable avatars being feminine representing. However, compared to the boys' games, feminine representation and agency were only found to be optional in *The Last Kids on Earth and the Staff of Doom* and *Trollhunters: Defender of Acadia* but were required in *Hotel Transylvania: Scary-Tale Adventures*. Although *The Last Kids on Earth and the Staff of Doom* feature a feminine representing playable avatar which is optional, the narrative is not impacted by the choice, which indicates that the avatar is an assist to the masculine characters narrative. A similar emergence was found in *Trollhunters: Defender of Acadia*; the playable avatar depends on whether another player can engage with the multiplayer mechanic; otherwise, the avatar cannot be played and remains an assist in the masculine representing avatar narrative.

When analysing *Hotel Transylvania: Scary-Tale Adventures*, playing the feminine representing avatar was not optional. However, the masculine representing character narrated the game. Where the storyline makes sense for the masculine representing character to narrate the storyline due to the feminine characters absence, it still indicates that the feminine character is an assistant in the narrative. The theme of feminine representing characters being an assist to the masculine characters narrative was found in *Ben 10 Power Trip* and *Trollhunters: Defenders of Arcadia*, indicating that it is a common theme in the narrative design of boys' games.

The behaviours found in the girls' and boys' games were stereotypical in different ways, but similarities often emerged. Despite the girls' games having greater agency in gameplay than the boys' games, the player was still asked to participate in tasks that revolved around

assisting others and being motivated by stereotypical interests that are often associated with femininity, such as maintaining friendships, achieving academic success, or participating in fashion-related activities. The behaviours seen throughout the boys' games were difficult to analyse through gameplay since what the player is asked to do in *The Last Kids on Earth and the Staff of Doom* and *Trollhunters: Defenders of Arcadia* is the same as the masculine representing avatars, but they were an optional choice. *Hotel Transylvania: Scary-Tale Adventures* found that when playing the feminine representing avatar, players were challenged to part-take in quests that revolved around learning lessons about safety, engaging with tasks to benefit others, and collecting ingredients for cooking in comparison to the self-serving and dangerous tasks that the masculine representing avatar enacted. Overall, the analysis highlights differences in the representation and treatment of feminine avatars in girls' and boys' games, with girls' games often emphasising femininity with the depiction of beauty standards influencing the designs of the avatars and stereotypical interests that motivate the player to succeed.

## Chapter 5: Discussion

This chapter presents the key findings for each research question and links to pre-existing literature outlined in the literature review with limitations and recommendations illustrated throughout. Gender diversity is increasing in gaming with the rise of female players, which challenges the homogeneity perception of the gamer; however, the concerns around stereotypical and sexualised gamification of gender still exist (Kafai *et al.*, 2008). This research aimed to answer three individual questions that would help contribute to defining what *pink game* is. The MDA Framework was implemented to analyse the mechanics, dynamics, and aesthetics of four boys' and girls' games to discover similarities and differences through their video game design. Following the same approach, the Elemental Tetrad analysis focused on the aesthetical experience from a visual and sound perspective, analysing narratives in further detail to establish recurring themes, and uncover technological influences. The final methodology implemented was a visual analysis that analysed the feminine representing avatar designs in boys' and girls' games and compared their agency and behaviours throughout gameplay.

The results found that a *pink game* is defined as a low-risk video game that encourages expression and fellowship with simple mechanics from which minimal dynamics emerge. The visual experience engages players through a cartoon art style with a feminine colour palette, and depicts familiar experiences influenced by the Western world whilst engaging players with depictions of technology. Where diverse representation emerges through physical appearances, themes of beauty standards and ideals are influenced by Western society embedded into video game design. Feminine-associated interests such as beauty and fashion are fundamental themes through the narrative and avatar design, and feminine

representing avatars possess complete agency throughout gameplay but often depict stereotypical behaviours associated with gender assumptions.

**5.1: RQ1- MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those targeted at boy players?**

The mechanic analysis found that movement and navigation mechanics were fundamental in all video games analysed, with no significant differences in the basic movements of the avatars in both categories. However, it was apparent that the analysed video games were often designed as open worlds that included open movements rather than slide-scrollers. Diverse movement mechanics like jumping, dodging, and climbing were discovered; however, these were less likely to be a feature in the girls' games compared to the boys' games. The analysis of the dynamics that emerged from movement and navigation mechanics uncovered that girls' games were more likely to have minimal dynamics. Speed enhancement dynamics were discovered in *Bratz: Flaunt your Fashion* but were not found in the other girls' games featuring more in the boys' games. Arrow-pointer dynamics were discovered in *Rainbow High: Runway Rush* but were optional depending on the player activation, however, when found in the boys' games, these were always compulsory. Overall, the movement and navigation mechanics and dynamics designs were less sophisticated in the girls' games than in the boys' games.

The results found that combat and action mechanics and dynamics were only featured in boys' games. The consequences and rules around harm when engaging in combat and action in the boys' games enable players to participate in aggressive behaviours with minimal consequences outside the usual suspensions of daily life (Huizinga, 1938/2016). When damage is inflicted, there is no representation through bodily fluids, bruising, or death,

indicating that the player can explore the game arena without considering life-impacting consequences. Despite combat and action not being featured in the girls' games, the boys' games enabled players to engage with the mechanics and dynamics through feminine representing avatars in *Trollhunters: Defenders of Arcadia*, *Hotel Transylvania: Scary-Tale Adventures*, and *The Last Kids on Earth and the Staff of Doom*. Regardless of the player embodying a feminine representing avatar, the motivation remains to engage in combat to eliminate enemies to progress through the narrative, which does not align with gender assumptions.

Nonetheless, the embodiment of feminine representing avatars is optional, with the primary playable avatar representing masculinity in *Trollhunters: Defenders of Arcadia* and *The Last Kids on Earth and the Staff of Doom*. However, it is compulsory in *Hotel Transylvania: Scary-Tale Adventures* as the player is required to play both masculine and feminine avatars. Despite including feminine representing avatars, they are marketed towards the male gender, indicating that female players can explore combat and action in PEGI 3-7 titles through games not intended for them and in secondary roles. Criticism emerged during the Girl Games Movement from Grrrl Gamers that challenged the perception that girls did not want to engage in combat and action, with Jenkins (2000: 291) suggesting that girls will benefit from engaging with game spaces that are reserved for boys and 'be able to play games where Barbie gets to kick some butt'.

Combat and action influenced resource mechanics and dynamics, resulting in more resources, such as health and power-up assists which were found in the boys' games but did not emerge in the girls' games. Nonetheless, currency mechanics were found in both categories, but the emergence of purchasing dynamics varied. Purchasing dynamics were found in all the boys' games and two of the girls' games, enabling players to interact with in-game shops to buy

items for their inventories. Further differences were found when analysing set collection mechanics and dynamics with the girls' games not offering the ability for player to track their findings. The girls' games presented the collections through rewards with no dynamics emerging from the mechanics. In comparison, the boys' games featured set collection mechanics that contributed to the gameplay completion and were trackable throughout. Through the analysis of resources and set collection mechanics and dynamics, the results found that girls' games are less sophisticated in their design when compared to boys' games, which contributes to the definition of a *pink game*.

The quest and objective analysis found that across both categories, there was a mixture of main, side, and stage quests; however, stages were found to be more likely to occur in the girls' games. When comparing the number of stages found in the video game titles from both categories, it was found that girls' games implemented larger quantities of stages in their designs. In contrast, the boys' games featured more quests focusing on main and side quests. The research is limited through the analysis of quests and objectives since other variables such as task quantity and time duration were not considered; it remains unclear if quests were found in smaller quantities in the girls' games due to the tasks and narratives being more detailed, or if stages were featured in larger quantities due to shorter completion time. Nevertheless, the difficulty increased dynamics that emerged from the quests and objectives mechanics were fundamental features in all the boys' games compared to the girls' games.

The number of achievements available in the girls' games categories was significantly lower across all game titles compared to the boys' games. Despite the differences in quantity, the trackable dynamics that emerged were the same across the two categories as they were trackable through the *Steam* client. The *Steam* client engages players through forums, reviews and progress tracking, engaging players with through a *community of practice* (Lave &

Wenger, 1999). Despite not being fundamental to this research, future research should investigate the engagement and value that PEGI 3-7 video game players derive from external features that contribute to a *community of practice* (Lave & Wenger, 1999; Bogost, 2008).

Multiplayer mechanics and dynamics were featured more in the boys' than girls' games. The results show that multiplayer is not featured consistently in the girls' games, as the mechanic was only observed in *L.O.L. Surprise! B.B.s Born to Travel*. Research indicates that girls are less likely to be approached by boys to engage in video game play; without having multiplayer mechanics embedded into girls' games, it is suggested that female players are less likely to experience cooperative play (Jenson et al., 2007). The limitation of the study is that the researcher could not experience the multiplayer mechanics and dynamics firsthand while engaging with another player due to local play restrictions. Future research should consider gathering more data on the consumer habits of female players' engagement with multiplayer to establish whether multiplayer mechanics and dynamics are important to their play experiences.

Character customisation was found to be a fundamental mechanic in all the girls' games and was featured in most of the boys' games. When compared to one another, the girls' games offered a less restrictive character customisation experience enabling players to at times customise individual elements of an avatar appearance such as clothing and vanity. The inclusion of character customisation varies in each category; in the girls' games, character customisation influences quests, objectives and achievements, whereas, in the boys' games, it serves as a dynamic granting the player an advantage when engaging in combat. Critique from the Girl Games Movement outlined that beauty and fashion were commonly featured in girls' games with little deviation from that form of play; the analysis of the character

customisation mechanics and dynamics indicate that those themes are still fundamental to their design.

Overall, when considering the mechanics and dynamics, some similarities arise between the categories; however, their designs are vastly different. The evidence indicates that girls' games are less likely to include sophisticated mechanics and dynamics when compared to boys' games. Therefore, *pink games'* mechanic and dynamic designs are far less sophisticated, less engaging and unlikely to be diverse in design compared to boys' games. A fundamental mechanic in '*pink games*' is character customisation, which functions primarily to change the avatar's appearance rather than influencing the games' run-time behaviour. Despite being critiqued in the Girl Games Movement, combat and action are fundamental in boys' games and absent in girls' games with the themes remaining to revolve around beauty and fashion.

The aesthetic analysis revealed that the girls' games provoked competitive behaviours externally to gameplay through achievement and progress tracking, and multiplayer mechanics. Achievement and progress tracking instil a sense of competition through leaderboards, which encourage players to compare their status on the global leaderboards featured in the *Steam* client. Further, multiplayer mechanics create a sense of competition between the players; however, the provoked aesthetic depends on the ability to engage with local play. Gender assumptions indicate that female players are less likely to want to engage in competitive spaces; however, Booth and Nolen (2009) consider nurture a contributing factor to females avoiding competition through their findings that indicate this occurs when nurtured with the opposite sex. Despite the inclusion of feminine representing avatars through multiplayer features in the boys' games, the concern remains that the video games are

marketed towards males, and when females play in mix-gendered settings they are less likely to engage with competition and in turn experience it.

Fellowship aesthetics emerged from multiplayer mechanics; the additional players instil this experience through sharing the same aims and objectives as the core player, however, this is dependent on the local availability of the secondary player. Nonetheless, fellowship was also provoked through quest and objective mechanics and dynamics as the player engages with NPCs. Assisting NPCs engages players with the arena communities; however, in this instance, no significant differences emerged between the boys' and girls' games. Fellowship is a common aesthetical experience embedded in games rated PEGI 3-7; despite no significant differences emerging, the repetitive behaviours and narratives in the girls' games designs indicate that fellowship is thematic throughout all the games titles, which is discussed later in this chapter and illustrates that fellowship contributes to the definition of a *pink game*.

The analysis of parasocial connection uncovered that the aesthetic emerged universally across all the video games analysed, regardless of the title since they were based on pre-existing franchises. A limitation of the study is that the focus on games based on pre-existing franchises contributed to the parasocial aesthetic being predominant in all the video games analysed. Future research should consider establishing the parasocial connection between players and video games based on original ideas to conclude whether video games encourage parasocial connection. Nevertheless, expression aesthetics were featured more in girls' games due to the lack of restrictions on the player when engaging in character customisation. Since character customisation was found to be a fundamental element in the girls' game designs, it is believed that '*pink games*' offer more expressive aesthetic experiences.

Challenge aesthetics emerged from the increased difficulty dynamics that were found more in the boys' game designs than the girls, indicating that *pink games* are less challenging.

Behaviours around gender association have been challenged by Blumberg and Sokol (2004) and Flucher and Hayes (2017). Their findings uncovering that when play is designed around gender assumptions, girls are at a disadvantage from deriving challenge as their approaches to play and developing skill sets is impacted by gender association (Blumberg and Sokol, 2004; Flucher and Hayes, 2017). Despite the lack of challenge found in the girls' games, it has been found that girls derive gratification through challenge while playing video games. However, the evidence indicates that these experiences are less likely to emerge when compared to the boys' games (Lucas & Sherry, 2006). Challenge is considered an essential element for players to achieve a state of flow; the absence of the challenge can cause the experience to become dull, preventing the player's abilities and loss of self-consciousness (Chen, 2007). Therefore, '*pink games*' are less likely to challenge players where the experience becomes low risk whilst preventing players from reaching a state of flow, improving skill sets, and preventing boredom.

The narratives between the categories are vastly different, and they will be discussed in further detail later in this chapter; however, they do contribute to aesthetic design. The differences that emerged found that boys' games often positioned the player as heroic, whereas girls' games positioned the player to depict forms of stereotypical gender roles. Chess and Shaw (2015) argue that there is a place to celebrate the hegemonic masculinity in gaming; should this research be based on the boys' games, there would be many opportunities to discuss positive outcomes. The boys' games offer mechanics and dynamics creating various aesthetical experiences, enabling the player to engage and connect with the medium in diverse ways. When looking at the narratives, it is evident that the player is presented in a heroic light and acts selflessly by engaging in dangerous scenarios to help arena communities. The narrative aesthetic in the boys' games is not considered to be bad; however,

they represent how the industry constructs experiences for male markets by offering richer experiences.

The analysis uncovered that the mechanics and the dynamics that emerged from the gameplay throughout the girls' games are minimal compared to the boys' games. With mechanics and dynamics being found in minimal quantities, the provoked aesthetics further result in less adequate designs in the girls' games. Overall, the gendered assumptions of feminine interests and abilities are contributing factors in the designs of girls' games despite the critiques from the Girl Games Movement. Themes of beauty and fashion are fundamental to girls' game designs, with character customisation mechanics and dynamics having greater sophisticated designs compared to the features in boys' games. Fellowship and expression are provoked through various mechanics and dynamics, with other aesthetics such as challenge and competition not being thematic in the girls' games' designs. Therefore, the characteristics derived from RQ1 indicate that *pink game* mechanics are found in small quantities and are simplistic in design, with a lack of diverse dynamics emerging from them. The aesthetics provoked through the game designs are focused on fellowship and expression, with challenge and competition appearing in minimal quantities, providing low-risk experiences that do not encourage competitive behaviours through challenging scenarios.

## **5.2: RQ2- Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?**

The Elemental Tetrad analysed aesthetics from an experience perspective that considered the visual, sounds, feeling, taste and smell of a game; however, since video games do not provoke taste and smell, these provided no conclusive evidence in this research. Furthermore, the analysis did not find conclusive results for the feeling of video games and did not contribute to the characteristics of a *pink game*. Through the analysis of the visuals, it was

discovered that cartoon art styles and soft graphics influenced the girls' game designs. The analysis found that the colours frequently found in the girls' games tended to be bright and colourful, with prominent use of feminine and pastel colour palettes, whereas boys' games were more likely to feature masculine colour palettes. During the Girl Games Movement, the colour pink in video game design was associated with low-quality games that received small budgets and engaged players with experiences based on beauty and fashion. The results that emerged from this research found the frequent use of feminine colours and themes of beauty and fashion in the girls' games; however, limited data around the design briefs and budgets makes it unclear if the visual designs correlate with associations during the Girl Games Movement. Fulcher and Hayes (2017) found that when presented with tasks associated with feminine colours, female participants were less likely to transgress between femininity and masculinity; the same concerns arise with the visual experiences of girls' games being feminine in design. Drawing back to the MDA Framework finding, the lack of emergence from the components in comparison to the boys' games indicates that girls' games could risk being seen as nothing more than 'passive consumption and femininity' (Vanderhoef, 2021: 1).

Most of the girls' games' designs were replications of successful toy franchises, creating digitalised play experiences that vastly differ from how a player would interact with the toys, transforming the act of play. The digitalisation of play was not observed in the boys' games, as their franchise influences were based on television programmes, films, and books. The digitalisation of play found in the girls' game designs offers unique experiences influenced by real-life play, indicating how gaming mediums can transform experiences by repositioning the roles computers can have in our lives (Jenkins, 2000). Through the digitalisation of play in girls' games, players are encouraged to engage with technology to experience different play experiences correlating with the Girl Games Movements' attempts to encourage females to engage with technology and video games by offering different experiences. Nonetheless,

due to the aims of the research being focused on deriving characteristics of *pink games*, it is unclear if the digitalisation of play through toys was found due to the franchise's influence or whether it is a fundamental element of girls' games design.

Computer and technology usage is integrated into our day-to-day lives significantly more than during the Girl Games Movement, indicating that the aim of attracting females to use technology is no longer as significant. By providing young girls with video games made with them in mind that depict experiences that are familiar and interesting, girls are engaged with the gamer identity from a young age, encouraging their confidence with the medium that can be transferred in educational contexts. However, there are still gender assumptions around video game players, and video games present hegemony through play placing females at a disadvantage when engaging with video gaming in educational contexts and developing spatial, creative, and problem-solving skills (Uttal *et al.*, 2013; Prensky, 2012; Jackson *et al.*, 2012; Jenson *et al.*, 2007).

Social media references were a recurring theme in the girls' game designs that required players to engage with mobile phones, text-talk, publish selfies, gain a social following and receive likes. Oliver (2017: 455) applied Laura Mulvey's Male Gaze Theory to social media and concluded that the theory is 'more relevant and dangerous than ever'; with the girls' games being PEGI-3, concerns arise over the influence that social media has on the player experience. Ofcom (2023) found that young people were likelier to engage with video games and social media than other technologies. Given the popularity among young people, social media has a dominant position as a communication tool in everyday life; through the girls' games, players can experience elements of social media in a controlled environment that is restricted and age-appropriate, providing positive experiences.

The video game designs offered experiences based on the exploration of the Western world, which was found in most games across both categories. The results from the analysis found that the girls' games were influenced by Western societies and depicted this through building architecture, locations, environments, and cultural standards.

The girls' games depict countries in the Western world through landmarks and architecture, which engages players with familiar experiences of the external world through gameplay that replicates theirs but is detached and poses no meaningful consequence or gain (Huizinga, 1938/2016). The replication of Western cultural norms influenced the design of the avatars in the girls' games; despite the girls' games having a greater diversity of skin tones across their avatars in the game arenas, ethnic features and wider cultural references were not implemented. The designs of avatars raise concern that a large proportion of White avatars representing avatar game worlds result in the depiction of White ideals and societal beauty standards. Further, the clothing reflected popular fashion in Western cultures without referencing cultural clothing. The gamified Western-world experience provides familiar experiences which indicates that the desired player base of the girls' games is Western-world children. Further analysis should measure the Western influence in girls' games and the value that players derive from the depictions of familiarity by analysing the arena environment, populations, and cultural representation.

Overall, the visual experience analysis uncovered that girls' games are designed to be forms of digitalised play based on pre-existing toy franchises; however, due to the limitations of the study, it is not clear if this is universal to girls' games and, therefore, is not considered a contributor to the *pink game* definition. Furthermore, it was found that *pink game* designs are influenced by cartoon art styles and soft graphics represented through feminine and pastel colours. Western-world influences are embedded throughout the designs which engages

players with familiar experiences by replicating architecture, locations, and cultural norms in gameplay arenas. The references to technology and social media are frequently found in the girls' game designs; despite the integration of technology and social media in day-to-day life, *pink games* offer the safe exploration of these in a controlled and age-appropriate environment.

The sound analysis discovered that popular music was an ambient feature in the girls' games; however, *JoJo Siwa: Worldwide Party* featured music as a fundamental component of gameplay, combining instrumental and lyrical songs. Compared to the boys' games, when narrative text emerged in the gameplay of the girls' games, text-to-audio voiceover was not implemented. The analysis did not find a conclusive reason as to why text-to-audio was common in the boys' games and not in the girls' games; however, due to the industry's perception of audiences and the market performances of girls' games, it was likely that the budgets were small and financial liabilities had to be made. Compared to the visual design, the sound analysis did not uncover prominent characteristics of the definition of a *pink game* since the reasoning behind the lack of sound remains unclear. Feeling, smell and taste did not provide any conclusive results due to the limitations of the Elemental Tetrad, indicating that the framework needs to be revised in line with video gameplay to uncover further aesthetical experiences.

Narratives were analysed in-depth through the Elemental Tetrad, which uncovered that girls' games embedded themes of maintaining relations and assisting others while being motivated by beauty and fashion. The narratives encourage the players to develop positive qualities and success by assisting the game arena communities. The behaviours and agency that the player engages with through the narrative is discussed further in the visual analysis section and draws comparisons between the girls' and boys' games. Nonetheless, the narrative analysis

provided evidence of key themes that cater to the definition of a *pink game*. The girls' games narratives were often based on maintaining relationships and assisting in game arena communities whilst being motivated by beauty and fashion. The concluding component of the Elemental Tetrad is technology; however, due to the lack of resources available that were accessible to the researcher, no conclusive results emerged. Due to the lack of resources available, indicate that future research should consider accessing and analysing video game design briefs and other technological documents to establish how game design decisions influence the player's experience.

### **5.3: RQ3- Avatar Representation and Behaviours: How does the representation of femininity emerge through avatar design and encouraged behaviour through gameplay in games made for girls compared to boys?**

The findings from the analysis uncovered that the body proportions of the feminine representing avatars were diverse depending on the title in the girls' game category, whereas the boys' game titles only depicted slim and petite proportions. Body proportions were only seen in the girls' games to be diverse when looking at the titles as a collective; however, when looking at video games individually, there was a norm in all games of what the ideal body proportion was in that game arena. Body ideals in the video game arenas are problematic; the results indicate that when avatars are designed that do not conform to the thin ideal, they still perpetuate a preferred body throughout the design of the avatars. Blowers et al. (2003) and López-Guimerà et al. (2010) uncovered that young adolescents are vulnerable to body dissatisfaction derived from media depiction of the thin ideal; a limitation of this research is that body dissatisfaction was not measured in players that the PEGI 3-7 rating leaving the impact of the avatar designs unknown. Future research should investigate the impact of body proportions through avatar designs in PEGI-3 girls' games to establish if body dissatisfaction

becomes present in young players and what influence these depictions have over a prolonged period to corroborate with Karazsia et al. (2017).

Sexualisation and objectification were not common themes found in the boys' and girls' games; however, this is influenced by the PEGI rating for the video games and was not expected to emerge thematically. Despite sexualisation not being frequently observed, the allusion to sexuality in the revealing clothes in the girls' games indicates that the avatars are showcasing their bodies as fashionable extensions of themselves. The clothing in the girls' games is revealing and stylish compared to the practical and casual wear in the boys' games, indicating the influence of social norms and standards enforced on the girls and women. Nonetheless, some elements did allude to sexualisation in the girls' games titles through the extenuation of the breasts and buttocks accompanied by revealing clothing correlating to the results found by Jansz and Martis (2007). Despite emerging in small quantities, the results indicate that players are introduced to allusions to sexualisation through video game design in PEGI 3-rated girls' games.

Continuing the allusion to societal beauty standards throughout the girls' games, the representation of makeup and hair styling through the avatar's designs was a fundamental element accompanied by the largening of the eyes and lips in most girls' games. Compared to the boys' games, the female representing avatars in the girls' games amplified their features through makeup and hairstyles, whilst in the boy's games, the avatars were natural and had size-appropriate facial features. Interestingly, the design of the female representing avatars in the boys' games correlates with the design of *Vivian James*, where the 4chan users created 'a simple average girl' (Butt & Apperly, 2018: 43). The ideas around beauty standards present different messages depending on the player base they are marketed to; the girls' games appear to discourage natural beauty through their avatars designs in comparison to the boys' games

titles that celebrate natural depictions. Further research should focus on a larger sample of feminine avatars across games marketed towards boys and girls to discover more significant results and establish the messages of beauty ideals projected to each player base. Overall, feminine representing avatars in *pink games* display the beauty standards that are projected in society and can be introduced to sexualisation in small quantities, but this is not considered towards the overall definition.

Feminine representing avatars in the girls' games possessed complete agency over the game as there is no playable masculine representing avatars were available through gameplay. In contrast, the boys' games featured playable feminine representing avatars, but they were optional and secondary compared to the masculine representing avatars, which inflicted small amounts of agency. The results support the findings of Ivory (2006), which concluded that feminine representing avatars served more passive roles in video games; however, this research indicates that genres and marketed player base derive different results. The girls' game categories go against the findings of Ivory (2006), as there is a high prevalence of feminine representing avatars that are playable in active roles. When looking at the boys' game category, it is evident that the feminine representing avatars serve as counterparts to the masculine avatars. A limitation that arises is the prevalence of feminine and masculine avatars within the game worlds that are non-playable and playable, which was not addressed in the study. Further corroboration with Dietz's (1998) and Ivory's (2006) findings around the overall prevalence of gender representation, and Raey (2021) specific focus on PEGI rated games are advised to uncover the overall presence of gender representations.

The behaviours that the feminine representing avatars enacted had similarities across the boys' and girls' games discovered through visual analysis and the narrative section of the Elemental Tetrad. However, when looking at themes that emerged through the girls' games

solely, they assisted others, maintained relationships, driven by success, found a sense of self, and were motivated by feminine interests such as beauty and fashion. Booth and Nolen (2012) found that gender stereotypes divide boys and girls, which was evident through the behaviours enacted through the girls' games that are linked to assumptions around what interests and motivates girls. In the boys' games, the feminine representing avatars were found to assist others and maintain relationships without having any distinct self-motivated discovery, interests or success. The results found in the boys' games correlate with the gaming culture ideologies that often reject femininity, as the avatars are designed with a lack of depth. Duncan raised concerns over perfunctory feminism that considers the interests of the average audience interests to generate the most profit. The lack of feminine interests embedded into the boys' games indicates that the feminine avatars are- in the words of Duncan- "more meaningless than slapping the pink bow on Pacman" (cited by Cassell & Jenkins, 2000).

The narratives support the behaviours of the avatars by creating motivation through storytelling to encourage the player to progress in the game. Approaching this research, it was essential to avoid devaluing depictions of femininity compared to masculinity in the games as this will continue the notion that boys' games are better than girls. However, it emerged that there was a lack of heroism and self-motivated narratives and behaviours displayed through girls' games avatars; instead, their designs support 'small stories with small outcomes' (Chess, 2017: 6). Cassell and Jenkins (2000) believed that viewing gendered interests and playstyles separately can affect achieving feelings that video games can instil. Future analysis into video game narratives should focus on larger samples to uncover thematic evidence around the impact that gender assumptions have on the players' experience, motivation, and flow.

The girls' games featuring more feminine interests correlate with the gender stereotypes noted through the cross-analysis of Laurel and Duncan by Jenkins (2000). The games Jenkins (2000) analysed were directed at female audiences with the emergence of risk-free experiences for players whilst encouraging social and emotional connections through the in-game avatars. The analysis into the girls' games uncovered positive messages around achieving success, finding a sense of self and navigating relationships in a risk-free environment. Future research should examine the young players' experiences with relationship and sense of self building themes against the feminist identity model seen through McCullough *et al.* (2019) research. The feminist identity model has been proven to heighten tolerance to misogyny which could provide significant results around what female players find interesting as opposed to the assumptions of their interests, and their level of conformity to these designs. Nonetheless, girls' games feature feminine representing avatars that are playable, have agency over the game and enact behaviours supported by the narrative often associated with femininity, indicating these are core elements that contribute to the definition of a *pink game*.

Gender assumptions can be problematic, especially when exposed to younger audiences as the messages conveyed can be internalised. However, the influence of femininity and masculinity in video games offers an environment where players can explore both identities without consequence (Goffman, 1974). Nonetheless, it is still important to consider the limitations of exploring gender identities:

1. The games only allow players to explore themes of femininity in the girls' games and masculinity in the boys' games.
2. When femininity can be explored, the game's design is far less sophisticated than the boys' games, which indicates that masculinity is still a preference.

3. It is a designed construct of what is an expression of femininity and masculinity.

The three limitations outlined can be linked to the standpoint of Chess and Shaw (2015) that claimed video game academic literature often centres around critique and misunderstood. Chess and Shaw (2015) made this claim after their work was targeted during Gamergate and argued that there is a side to celebrate but also critique the industry's lack of drive to become more inclusive. The claim relates to this research since through several research methodologies it was found that the games targeted to the female player base were far less sophisticated in design. The results contribute to the discussion around femineity, inclusion and game design as it is apparent there is an ongoing theme of femininity and its player base being a separate counterpart that is taken less seriously when compared to video games designed based on masculinity.

#### **5.4: Conclusion**

Whilst analysing the video game chosen for this research it was evident that ideas of Huizinga (1938/2016) were relevant as play was voluntary, separated from real life, had their own rule systems, and encouraged fun without impactful consequences. Through the MDA Framework analysis, it was uncovered that girls' games were less likely to have sophisticated mechanics and dynamics compared to boys' games which had an impact on the emerging aesthetics that create fun experiences. The combat and action mechanic and dynamic analysis uncovered significant differences between the categories as they were only uncovered in the boys' games. It was discovered that combat and action had direct connections to other mechanics and dynamics that were analysed which often resulted in fun based around challenge and competition in the boys' games compared to the girls' games. On the other hand, when analysing character customisation, it was evident that the girls' games had fewer restrictions than the boys' games heightening the expression aesthetic.

Regardless of the category, it was uncovered that all the video games arenas analysed had their own set of rules, consequences, and norms. Previously stated was the video games connection to Huizinga (1938/2016) ideas of play being separated from real life, however, beauty standards and gender role stereotypes that occur in the real world were thematic when representing femininity through the video games' designs. The girls' games perpetuated stereotypes associated with femininity through avatar designs and their narratives. The avatars that represented femininity in the boys' games category were found to be secondary players or not playable at all. However, when feminine representing avatars were compulsory in play, their narratives were based around stereotypes and gender role assumptions. Since combat and action was fundamental in the boys' games designs, and its association with masculinity, it was uncovered that player could explore masculine themes with feminine representing which was not present in the girls' games category. In contrast, the feminine representing avatars in the girls' games were primary playable avatars and did not feature any playable masculine representing avatars that could engage with feminine themes.

The parasocial connection aesthetic was found to be fundamental in both categories since the video games were designed on pre-existing popular franchises accompanied by their narratives, characters and visual aesthetics. With the girls' games being mostly based around toy franchises traditional playstyles were digitalised through the video games' designs encouraging technology engagement. Themes of social media and technology were recurring throughout the girls' games category; through the video game arenas, the player is engaged with these themes at a young age and can safely explore in a controlled environment without consequence. However, the beauty standards and feminine ideals that are often critiqued in social media research were found frequently throughout both video game categories.

The analysis of the feminine representing avatars in the boys' games uncovered that they represented White ethnicity, slim body proportions, natural in beauty, and practical through their casual clothing. In contrast, it was found that the girls' games were more likely to represent diverse body proportions and ethnicities, the use of makeup and hairstyling, and more fashionable clothing which was less practical and more revealing. Despite the girl's games featuring diverse ethnicities, their designed physical features did not have any ethnic influence, and despite less restrictive character customisation, there was no clothing that served as cultural appreciation. The analysis uncovered several themes of Western society influence and lack of diverse representation of ethnic cultures throughout different elements of the video game designs indicating that the video games are made for Western children.

Overall, the results that have emerged indicate that the characteristics of *pink games* are:

1. Low risk with minimal challenge and competition aesthetics,
2. Small quantities of mechanics that are often simple and do not allow diverse dynamics to emerge,
3. Visual experiences are often influenced by cartoon art styles that are designed through soft graphics and feminine colour palettes,
4. Encourage fun based on expression and fellowship,
5. Replicate familiar experiences and allow safe exploration in a controlled environment,
6. Arenas and avatars designs influenced by Western culture and people,
7. Engage players with technology and communication tools,

8. Female representing avatars have high agency but often depict behaviours associated with stereotypical gender roles, and
9. Themes of maintaining relationships, beauty and fashion are fundamental to the storyline and design of the avatars.

Compared to the criticism from the Girl Games Movement, a *pink game* still depicts stereotypical tropes and gender assumptions that separates girls and boys through the video game designs and themes embedded into the narratives. Johnson (2016) considered *Barbie Fashion Designer* responsible for casting 'large pink shadow' in the girls' games market through its depiction of feminine interests and narratives themes which has been found to be still relevant.

## Chapter 6: Conclusion

Through this research, a selection of video games published by *Outright Games* were analysed to uncover differences in their designs when marketed towards boys and girl to understand what characteristics are fundamental to defining the terminology '*pink games*'. Eight video game titles were selected from the *Outright Games* catalogue, which were categorised as either boys' or girls' games to be analysed through the MDA Framework to answer RQ1 (*RQ1: MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those targeted at boy players?*), Elemental Tetrad to answer RQ2 (*Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?*), and visual analysis for RQ3 (*Avatar Representation and Behaviours: How does the representation of the female gender emerge through avatar design and encouraged behaviour through gameplay in games made for girls compared to boys?*). The results supported the research aims; however, limitations did appear and will be discussed alongside future recommendations later in this chapter. There is a place in academic literature to celebrate femininity in video game design; however, a 'large pink shadow' (Johnson, 2016) from *Barbie Fashion Designer* is still as relevant as ever through the stereotypical depiction of feminine interests alongside the assumptions of gender influencing the design of girls' games.

**6.1: RQ1- MDA Framework Analysis: How does the designed incorporation of mechanics, dynamics, and aesthetics differ between games targeted at girl players and those targeted at boy players?**

The MDA Framework uncovered the differences and recurring themes in the mechanics, dynamics, and aesthetics that indicate that girls' games are less sophisticated in design when compared to boys' games. Despite movement and navigation mechanics being fundamental in all video games, the analysis uncovered that girls' games tended to include open-movement mechanics and were less likely to include diverse movement mechanics such as jumping, climbing, and dodging. Since the movement and navigation mechanics were basic, this impacted the emergence of dynamics which were found to be minimal when compared to the boys' games. The identified dynamics included speed enhancement and arrow pointers; however, they were not found to be thematic across the girls' games. The analysis of combat and action mechanics found that they were not featured in the girls' games which impacted the emergence of the dynamics which had a knock-on effect on the resource mechanics and dynamics. When combat and action was found in the boys' games, it was accompanied by health and additional resource mechanics and dynamics, opposed to only currency that was found in the girls' games. Further, the analysis of set collection mechanics uncovered that they did emerge in the girls' games; however, compared to the boys' games, these achievements were not trackable and did not serve as additional game content towards overall game completion.

Through the observation of quest and objective mechanics, it was noted that the girls' games offered larger quantities of stages and fewer quests; however, due to limitations, the differences in quantity did not provide significant insight into the differences in the mechanics across categories. Nonetheless, the dynamics that emerged from the quest and objectives were measurable, and it was discovered that increased difficulty alongside game progression was fundamental in boys' games but mainly was absent in girls' games. Like quests and objectives, the achievement mechanics were present in all the games; it was identified that the girls' games featured significantly fewer achievements, and the dynamics

that emerged were universal across all video game titles regardless of their category. Multiplayer mechanics and dynamics were more likely to emerge in the boys' games as they were only identified in one of the girls' game titles, indicating that they are not fundamental to the characteristics of a *pink game*. In contrast, character customisation was featured in the boys' and girls' games; however, the mechanics and dynamics were far less restrictive in the girls' games and were fundamental towards overall gameplay and aesthetics.

The aesthetics provoked in the girls' games were competition, fellowship, parasocial connection, expression, and narrative. Competition aesthetics were identified in connection to the girls' games; however, these were encouraged external to gameplay through the achievement tracking dynamic; with the study focused on video game design, this is not considered a contributing factor. Challenge was not significantly provoked compared to the results from the boys' games; these two findings indicate that girls' games encourage low-risk gameplay that demeans competitive behaviours and challenging scenarios. Further, the discovery aesthetics analysis uncovered that they were present in both categories with no significant differences providing no conclusive results. In contrast, fellowship was a fundamental aesthetic encouraged through quest and objective mechanics that engaged players with NPCs that required assistance throughout the girls' gameplay narratives.

Additionally, narrative aesthetics emerged from quests and objectives through NPCs and storytelling that motivates players to progress through the gameplay and its narratives. The results discovered that parasocial connection was a fundamental aesthetic in all the video games analysed. However, parasocial connection was not determined as a contributing characteristic towards the *pink game* definition due to the video games being based on pre-existing franchises and not original ideas. Compared to the boys' games, it was discovered that expression was a fundamental aesthetic provoked in the girls' game titles through the

character customisation mechanics and dynamics enabling players the ability to have greater freedom over the avatars appearances.

The main results from RQ1 provided characteristics of a *pink game's* mechanics, dynamics and aesthetics. The mechanics of a *pink game* are found in small quantities and are simplistic in design, with a lack of diverse dynamics emerging from them. Diverse aesthetics can be derived from girls' games; however, the intensity varies. The most fundamental aesthetics towards the definition of a *pink game* are expression and fellowship, with challenge and competition being found in minimal quantities, providing low-risk experiences that do not encourage competitive behaviours through challenging scenarios.

## **6.2: RQ2- Elemental Tetrad Analysis: How do the aesthetics, narrative, and technology differ between games targeted at girl players and those targeted at boy players?**

The Elemental Tetrad analysis collected results that disguised the players' experience through aesthetic design, narratives, and technology influences. The results concluded that the visual design of girls' games consisted of cute and soft visuals depicted through a cartoon art style with a feminine colour palette. The graphics were designed to be primarily 3D with 2D elements throughout; however, this was universal across both categories and did not provide significance as an individual characteristic. The pre-existing franchises influenced the design of the video games which was thematic in all games in each category. Regardless of the universal finding, it was decided not to be seen as a contributing characteristic as the video games analysed were designed off franchises rather than original ideas. An objective from the Girl Games Movement aimed to engage female players with technology whilst maintaining their interest (Cassell & Jenkins, 2000); it is assumed that the same aim exists through the depiction of technology, mediums, and communication tools throughout the girls' games. By depicting technology and social media influences, players are introduced to fundamental

communication tools and technology that are part of day-to-day life in a controlled environment engaging the player with safe exploration.

Further familiar experiences are generated through Western-world designs that engage players with familiar locations, architecture, and ideals. The Western-world design was found in both categories which indicated that the player bases these games are marketed towards is White Western-world children. Furthermore, beauty standards and Western ideals were depicted and engaged players with the norms and values of Western societies, providing insignificant designs around race, ethnicity and diverse cultures. Through the analysis of the sounds, insignificant results emerged; the girls' games differed through their use of popular music and were not narrated compared to the boys' games. However, these findings still need to be made clear and only through speculation could a characteristic be derived. Furthermore, the other elements of the aesthetics components are feeling, smell, and taste; due to video games being digitised, these senses were not provoked. The analysis referenced using a video game controller as an influence on feeling. However, it was only sometimes a requirement, and due to cross-platform, a universal feeling could not be derived.

The analysis of the narrative component uncovered significant differences between the boys' and girls' games narratives that motivate the players to create their experience. The feminine representing avatars in both categories were accompanied by narratives that engaged players with experiences that required them to assist other. Differences emerged when looking at the girls' games as the player is motivated through stereotypical feminine interests such as fashion and beauty, assisting others, maintaining relationships and developing positive values and qualities. The final component of the Elemental Tetrad was technology; however, due to the lack of resources available, no relevant results were uncovered to derive the characteristics towards the *pink game* definition.

The results achieved through RQ2 uncovered characteristics of the players' experience through visuals and narrative that separate a '*pink game*' from a boys' game. Through the visuals, a *pink game* is designed through a cartoon art style accompanied by soft graphics and a feminine colour palette. Further design elements engage players through a Western world influenced design that provides familiarity and depicts technology and communication tools that offer safe exploration in a controlled environment. The analysis of the narratives concludes that *pink games* depict stories influenced by maintaining relationships, fashion and beauty which were thematic throughout gameplay.

### **6.3: RQ3- Avatar Representation and Behaviours: How does the representation of the female gender emerge through avatar design and encouraged behaviour through gameplay in games made for girls compared to boys?**

Through the visual analysis, the core and playable feminine representing avatars were analysed alongside their designed agency and behaviours which uncovered the perpetuation of stereotypes associated with femininity and beauty standards. The feminine representing avatars possessed complete agency through gameplay in the girls' games since there were no playable masculine representing avatars. The recurring theme of perpetuated beauty standards was apparent in the girl's games, depicted through makeup, hairstyling, and stylish, somewhat revealing clothes. Body proportion diversity was uncovered when analysing the video game titles as a collective; however, individually, the titles had their own body-ideal standards perpetuated through the avatar designs. Additionally, diverse skin tones were common in the girls' games; however, the avatars designs did not include ethnic features and there were no references of cultural appreciation. Previously discussed in the narrative component of the Elemental Tetrad, the behaviours the feminine representing avatars enacted aligned with

traditional assumptions of gender roles, with the feminine representing avatars being motivated by maintaining relationships, assisting others, and interests in fashion and beauty.

The results from RQ3 provided characteristics towards the *pink game* definition through the female representing avatar visual design, agency, and behaviours. Influences of Western culture was found to influence the avatar designs; whereas diversity of skin tones was apparent, avatars lacked ethnic diversity through appearance and cultural clothing. Despite the female avatars possessing complete agency throughout the gameplay in girls' games, they were often found to depict behaviours that are associated with gender roles and femininity. Players were positioned to depict behaviours associated with femininity through the feminine representing avatars, such as maintaining relationships whilst being motivated by beauty and fashion.

#### **6.4: Limitations and Recommendations**

This chapter section illustrates the limitations that emerged from the results that should be addressed for further clarity in future research. The analysis of the mechanics of the quests and objectives found differences in quest and stage quantities amongst the boys' and girls' games. Despite the emergence of the results indicating there were differences between the two categories, no conclusive evidence emerged as other variables were not considered during the time of the analysis. Future research should consider other variables that influence the quest and objective mechanics, such as the duration and quantity of tasks within the quests and stages for conclusive differences to emerge that could contribute to the characteristics of a *pink game*.

Further limitations emerged within the mechanic analysis when focusing on multiplayer. Due to the local play restrictions, the researcher needed help to engage with another player to experience the mechanic firsthand, impacting the analysis of the dynamics that emerged from

multiplayer mechanics. When approaching multiplayer mechanics and dynamics in future research, the researcher is encouraged to explore multiplayer from firsthand experience for the most impactful results. The parasocial connection was significantly found in the game titles, and it is worth noting that the aesthetic emerged as the video games were based on pre-existing franchises that players could have had prior experience with. Since the fundamental selling point of the video games analysed was their depictions of franchises, it is advised that future research should focus on video games based on original ideas to determine whether parasocial connection aesthetics are present in *pink games*.

The dynamics that emerged from achievement and progress mechanics found that external achievements outside of gameplay were present in all video games analysed. The researcher used the *Steam* client to run the video games, which has a section in the personal player library outlining attainable achievements against personal and global leaderboards. Since all the video games analysed are playable across different platforms, it is recommended that the achievements and how they are tracked are assessed further to establish if PC users have a different experience. Despite not being relevant in this research, forum sections were linked to each video game title accessible through *Steam*, correlating with Bogost's (2007) ideas around community practice. Therefore, it would be worth expanding on Bogost (2007) by investigating PEGI 3-7 game players' engagement with online forums and communities.

The visual analysis found that beauty standards influenced the design of the feminine representing avatars; since this was a visual analysis, it is worth noting that the researcher subconsciously influenced the results through their experience, knowledge and perceptions. The subconscious influence can be challenged through research ethics and following best practices, but the impact is unmeasurable. Nonetheless, the results can be corroborated through a large-scale analysis of feminine representing avatars in girls' games. Through

quantitative interviews and surveys, the impact these representations have on players will uncover the importance of their design. The representation of body proportions in PEGI-3 games marketed towards girls should be further investigated to establish if their depictions are linked to body dissatisfaction and the influence these depictions have over a prolonged period to corroborate with Karazsia et al. (2017). Further themes emerged through the results that found that girls' game designs often embed stereotypical interests associated with femininity throughout gameplay; an investigation into the impact on players' perception of femininity after engaging with the gameplay is recommended to establish these designs' influence on young players.

In the methodology chapter, the proposed limitations of the MDA Framework by other authors were discussed; however, the limitations that emerged through this research provide further concerns. The MDA Framework research outlines that the components are causally linked. However, the analysis of video games in this research paper indicates that they are closely linked through the designed mechanics that encourage the emergence of dynamics that provoke aesthetic experiences. However, it is worth noting that this research aimed to identify differences and similarities amongst specific mechanics, dynamics, and aesthetics; therefore, future analysis should apply the MDA Framework without the aim to uncover differences and similarities to establish the intensity of how the components interact.

Significant restrictions were met when applying the Elemental Tetrad because the video games did not meet the criteria for some elements within the aesthetics component. The restricted elements were feeling, smell and taste, which are not provoked through video gaming; therefore, it is encouraged that the Elemental Tetrad is revised to be more compatible with video gaming. Despite not being a direct downfall of the Elemental Tetrad, the technology component could not be analysed due to the lack of access to information that

illustrates specifics about the video games' designs. The technology could not be analysed due to the lack of resources available; it is unclear if the information would be legally accessible; however, if it is accessed, it would strengthen this research.

Regardless of the limitations, the research aims were successfully met, and characteristics that contribute to the definition of a *pink game* were identified. The findings from this research should be investigated through larger girls' game samples from diverse developers and publishers to corroborate the findings and further refine the *pink game* definition. Furthermore, future researchers are encouraged to explore different frameworks that break down game design and analyses that uncover recurring themes. The application of diverse frameworks will continue to improve the results achieved through girls' games research by offering different approaches to identifying fundamental elements in video game design. With the gender gap decreasing between female and male players, it is more important than ever to research feminine influence in video games, from culture and industry to design and innovation.

### **6.5: *Pink game* Definition**

Overall, the aims of the research were met and the characteristics that define the terminology *pink games* are:

1. Low risk with minimal challenge and competition aesthetics,
2. Small quantities of mechanics that are often simple and do not allow diverse dynamics to emerge,
3. Visual experiences are often influenced by cartoon art styles that are designed through soft graphics and feminine colour palettes,

4. Encourage fun based on expression and fellowship,
5. Replicate familiar experiences and allow safe exploration in a controlled environment,
6. Arenas and avatars designs influenced by Western culture and people,
7. Engage players with technology and communication tools,
8. Female representing avatars have high agency but often depict behaviours associated with stereotypical gender roles, and
9. Themes of maintaining relationships, beauty and fashion are fundamental to the storyline and design of the avatars.

Therefore, the results indicate that a *pink game* is a low-risk video game that encourages expression and fellowship with simple mechanics from which minimal dynamics emerge. The visual experience engages players through a cartoon art style with a feminine colour palette, depicting familiar experiences influenced by the Western world whilst engaging players with depictions of technology, mediums, and communication tools. Feminine-associated interests such as beauty and fashion are fundamental themes through the narrative and avatar design, and females representing avatars possess complete agency throughout gameplay but often performing stereotypical behaviours associated with gender roles. Where diverse representation emerges through physical appearances, themes of beauty standards and ideals are influenced by Western society embedded into avatar designs.

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