

Intersectional Pleasures: An Empirical Study of Embodied Emotions in Video Games

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ABSTRACT

This study deconstructs the complex and multifaceted pleasure experiences in video games by integrating embodied cognition theory with an intersectionality framework. The study applied mixed research methods, found out that multimodal spatial environments form the foundation for activating players' perceptual neural pathways, with their sense of realism deeply intertwined with players' emotional experiences. Identity formation arises from the synergistic interaction between virtual bodies and embodied cognition, manifesting through sustained "role-playing". Culture and embodied emotion exhibit a bidirectional shaping relationship: cultural design provides social contextual scripts for emotion, while bodily practices reinforce their interconnection. The findings demonstrate that game pleasure is not a universal sensation, but an intersectional experience emerging from the dynamic interplay of body, space, identity, and culture, which is grounded in neural systems for empathy, reward, and emotional regulation, of the human brain. This paper provides further conclusions regarding methodology of DiGRA (Conference) and empirical results across interdisciplinary fields.

Keywords

Embodied theory, embodied cognition, intersectional pleasure, mixed-methods research, culture & identity, Multiple Space

INTRODUCTION

Game Cognitive Science constitutes an interdisciplinary field merging cognitive science with game studies, primarily examining how games influence human perception, learning, decision-making, and social behaviors, alongside leveraging game mechanics to enhance cognitive abilities (Green & Bavelier, 2012; Gobel, Wendel, Ritter Feld & Steinmetz, 2010). Its developmental origins trace back to the convergence of multiple disciplines, including psychology, neuroscience, anthropology, computer science, and educational technology (Ritterfeld, Cody & Vorderer, 2009; Lankveld, Schreurs & Spronck, 2019). Within the broader domain of game science, it represents a micro-level research focus centered on players' mental and emotional mechanisms alongside socialization impacts (Weber, Behr & DeMartino, 2014). Recent game experience research has shifted from HCI studies on UI fluidity towards examining "Ludification" and "Playfulness" (Deterding, 2016).

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According to Salen and Zimmerman (2003), as early as the early 2000s, academics had already theoretically called for this shift. Drawing upon Huizinga's (1938) "play" theory proposed in *Homo Ludens*, games are regarded as a foundational form of human culture, centered on the dialectic relationship between rules and freedom. Whilst players' actions are constrained by the designer's prepared framework, they can still innovate strategies and interpret characters through exploration and experimentation within these rules. This constrained freedom constitutes the core of videogame playfulness (Salen & Zimmerman, 2003). This freedom to explore, experiment, and create personal meaning within the framework of rules is a core source of deep "pleasure", understood as "creative pleasure" (Deterding, 2016 May) or "pleasure of autonomy" (Ryan, Rigby & Przybylski, 2006; Deterding, 2016). Embodied cognition theory provides the crucial lens for this study, positing that cognition—including pleasure—is an interactive product of the body, environment, and mind (Varela et al., 1991). This perspective shifts the focus from abstract symbol processing to the situated body as the medium of experience, establishing the biological (Barsalou, 2008) and interactive (Shamay-Tsoory & Mendelsohn, 2019) foundation for analyzing player-game world dynamics.

PLEASANT FEELINGS IN EMBODIED GAMING EXPERIENCE

From "Disembodiment" to "Bodily Presence".

Traditional research regarded the mind as an abstract symbol processor independent of the body (Putnam, 1967). However, an embodied perspective reveals that immersion is intertwined with both the physical body and in-game character (Gee, 2008; Lindley et al., 2008). The body is not a passive vessel but an active medium (Johnson, 2007). Thus, the foundation of gaming experience lies in continuous bodily interaction with the virtual environment. "Pleasure" becomes "embodied pleasure": gained through the body's effective action, perception, and affirmation of its existence in virtual space.

From "Abstract Symbols" to "Situated Experiences".

Embodied cognition posits that cognition is situated and tied to embodied concepts (Da Rold, 2018). Physical action is cognitive (Kirsh & Maglio, 1994), and a character's spatial state influences player perception (Jørgensen, 2013). Bodily position also carries social meaning (Goffman, 1963). By adjusting spatial location and orientation, players manage social interactions (Consalvo, 2009), generating "social pleasure"; precise combat positioning yields "manipulative pleasure" (Nacke & Lindley, 2009). Hence, game pleasure is highly contextual.

From emphasizing "biological consistency" to The Interaction of "Emotion and Culture".

Traditional theories posit universal, biologically based basic emotions (Ekman, 1992; Ekman & Friesen, 1971; Tracy & Randles, 2011), viewed as automated neural responses prior to culture. However, emotion generation and transformation are also dynamically shaped by culture, memory, and social norms (Mesquita & Frijda, 2011).

INTERSECTIONAL THEORY AND APPLICATIONS IN GAME STUDIES

Moreover, to fully deconstruct the complexity of game pleasure, this study argues for the necessity of an intersectionality framework (Crenshaw, 1989). If apply this framework to game studies, proposing that "body, space, identity, and culture" constitute the core, dynamically intersecting dimensions of players' pleasure, the study can move beyond single-dimensional analysis, to examine why different pleasure emotion can systematically and embodied generated. That means, it can provide a critical examination of whose pleasures are prioritized in design.

Therefore, this study deconstructs multifaceted pleasure experiences in video games by integrating embodied cognition theory with an intersectionality framework, employing mixed methods to answer: How the body, space, identity, and culture intersect to produce distinct forms of game pleasure.

RESEARCH METHODOLOGY

This study employs a mixed-methods research design, aiming to explore in depth the mechanisms of players embodied emotional experience, identity construction, and cultural perception in games through a combination of qualitative exploration and quantitative description.

RESEARCH DESIGN

This study employs an interpretive sequence design as its primary strategy. First, qualitative data collection and thematic analysis are conducted through participant observation and in-depth interviews to gain a deeper understanding of the complexity and contextuality of player experiences. Subsequently, simple descriptive statistical analysis is performed on the experience descriptions extracted from interviews and observations, providing quantitative support for the frequency and distribution of qualitative research findings, thereby achieving triangulation of the research questions and a more comprehensive explanation.

Interactive Model of Embodied Pleasure Emotional Generation and Evolution.

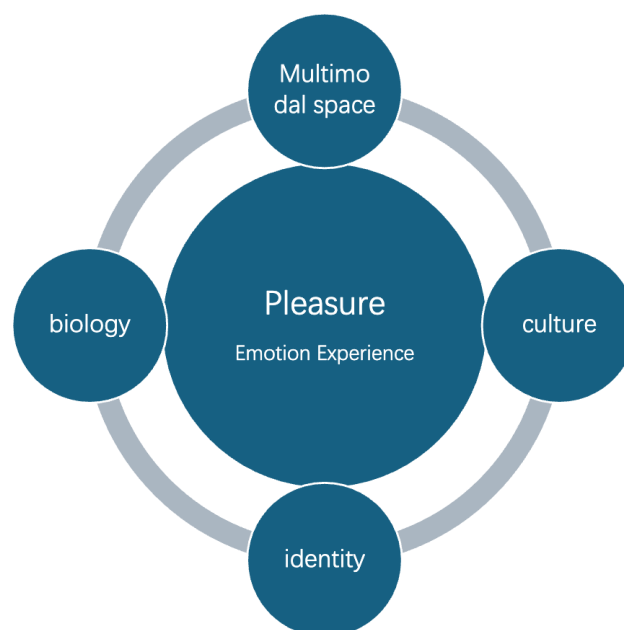


Figure 1: Interactive Model of Embodied Pleasure
Emotional Generation and Evolution.

This combination influences players' gaming memories and experiences in a knowledgeable and embodied manner. Based on this, this study selects five typical game genres and related game cases for case and experiential analysis.

Selection of Game Genres.

Open World

Allows players to freely explore a non-linear virtual space; narrative progression and spatial interaction are highly autonomous.

Action Game

Centered on real-time physics interaction, requiring players to achieve objectives through quick reactions, precise operations, and tactical decisions.

Role-playing Game.

A Players drive the narrative through a character progression system; decisions affect story branches and the world state.

Simulation Game

Reproduces the operating logic of real or fictional systems through aPleasureEmotion Experience Multimodal spacecultureidentitybiologyrule system, emphasizing process rather than goals.

Horror Game

Creates fear experiences through psychological suggestion and physiological stimulation; precise control of safety thresholds is a key design element.

Selection of Game Examples

	Game Experience	Female
Open World	Immersive/Freedom	The Legend of Zelda: Breath of the Wild (2017), etc
Action Game	Challenging/Tactical	Grand Theft Auto: Vice City (2002), etc.
Role-playing Game	Epic/Immersive	MMORPG: World of Warcraft (2004), JX3 (2009), etc.

		RPG: The Legend of the Condor Heroes (1996), Xuan-Yuan Sword series, etc.
Simulation Game	Healing/Control	The Sims, Minecraft (2011), Dragon Quest Builders 2 (2018), etc
Horror Game	Tension/Oppression	Silent Hill, Zero/Fatal Frame series, etc.

Table 1: Selection of Game Examples

Definitions of Terms in the Study.

Multimodal Space.

Referencing Montello's spatial classification theory (1998), a game's multimodal space constitutes a multidimensional spatial ensemble perceptible through player-character interaction. This encompasses ecologically related natural spaces, environmentally based spaces requiring movement learning, and geographically based spaces necessitating interpretation via map representations. Within this research, multimodal space further denotes the virtual entity within the game world where social and cultural environments converge with narrative and mechanics.

"Player" Identity

Through experiential space, players perceive the existential richness of their lived experiences. By connecting their physical and cognitive selves to avatars, players engage with diverse cultural and physical environments. Here, "player" denotes both the gaming studies concept (a settlement identity constructed within social research frameworks) and the psychological studies concept (individuals acting within video games and groups sharing similar experiential histories).

EXPERIENTIAL PARTICIPATION AND OBSERVATION.

Research participants mainly came from two sources:

Community Observation Sample:

Two WeChat gaming communities (A:180, B:160 members), observed for 18 months (July 2023–Dec 2024).

In-depth Interview Sample:

10 core players randomly recruited from these communities, aged 25–35, with long gaming histories and genre-spanning preferences.

Data Collection.

Data was collected through multiple channels to ensure its richness and triangulation.

Phenomenological Interpretation and In-Depth Interviews.

Semi-structured interviews were conducted with the same 10 core players (see inclusion criteria above).

Participatory Observation and Fieldwork

Researchers adopted a "player-researcher" identity, deeply immersing themselves in the case study game while participating in discussions and observations across multiple gaming communities. Additionally, a 50-day fieldwork was conducted in an offline youth community in Lishui, Zhejiang, China, where researchers lived with resident players, observing their daily gaming behavior and engaging in informal conversations.

Textual Data Collection.

Approximately 100,000 words of chat logs were collected from the community discussions of the aforementioned 340 players, focusing on descriptions of their gaming experiences. Researchers simultaneously recorded observed design details and interaction processes, creating field notes.

Semi-structured In-depth Interviews.

Ten core players were interviewed, some face-to-face (20-40 minutes) and some online text interviews (40-60 minutes). Interview outlines were constructed around four core dimensions: bodily experience, spatial understanding, identity recognition, and cultural interaction. During the interviews, participants were encouraged to freely recall relevant gaming experiences, and the researchers guided the discussions within the scope of the study. All interviews were recorded and transcribed for analysis.

Data Analysis.

A combined qualitative and quantitative analysis strategy was employed.

Qualitative Data Analysis.

Phenomenological interpretation and thematic analysis were conducted on interview transcripts and field notes. Through repeated reading of the texts, experience descriptions and patterns related to core themes such as "mastery of pleasure," "immersion in pleasure," and "cultural pleasure" were identified, encoded, and summarized.

Quantitative Data Analysis.

To support qualitative findings, simple descriptive statistics were performed. Based on interview and observational data, for each game case (11 cases in total, including experiences from 10 respondents and the researcher), player experience evaluations and preference statements were compiled, totaling 165 responses. Microsoft Excel software was used to analyze participants' demographic characteristics (e.g., age, gaming experience) and descriptive statistics on experience similarity (e.g., preference distribution, frequency of specific experience reports).

Ethical Statement.

The research strictly adheres to academic ethical standards.

Anonymization and Offline Data Storage.

Player personal information was anonymized, with interview subjects designated by codes #1–#10. Original data from community chat logs remains non-public, with unique identifiers such as names and avatars removed. Raw data including interview recordings and chat logs are stored exclusively on the researcher's offline computer hard drive, accessible only to the researcher.

Informed Consent Principle and Opt-Out Mechanism

All players participating in interviews and community observations provided informed consent, clearly understanding the research objectives, data usage, and their rights. Participants were informed they could request data withdrawal or withdraw from interviews at any stage without suffering any adverse consequences.

RESEARCH FINDINGS: A TYPOLOGY OF INTERSECTIONAL PLEASURES

THE PLEASURE OF MASTERY: THE BODY-SPACE INTERSECTION

This form of pleasure arises from the intersection of bodily agency and spatial rules. Players derive satisfaction not from passive compliance, but from actively challenging and reconfiguring the game world through physical manipulation, thereby asserting efficacy across the body-space nexus.

Breaking spatial and physical rules is fundamental.

In many MMORPGs, due to complex social systems and the existence of shared game spaces, players often experience the freedom of existing in another space within the virtual world (Warner, Dorothy, & Raiter, 2005). Therefore, they might do things outside the rules which similar to be in reality. In JX3 (2009), there was a widespread "cheating" gameplay known by players as "mountain jumping": players used the game's light-foot system to explore areas that were not accessible by the designed path by colliding with the terrain's boundaries.

This phenomenon also exists in single-player games. In some cases, it's intentional on the part of the designers who guide players to operate in this way. For example, Open-world environments offer players the freedom to explore the game without necessarily following a storyline (Poggi, 2020). The famous map design of *The Legend of Zelda: Breath of the Wild* (2017) develops the game world's landscape holistically, rather than layering the map along a linear difficulty curve (Poggi, 2020), which almost means that the creators is shouting to the players: "Come and break the rules of the space we designed!". Therefore, almost no players follow the main storyline of the game space to advance the game. This becomes one of the reasons for the game's success—it invites players to break the rules.

Interview data, observational data, and researchers' personal game experiences all consistently support this assertion. Even when they are progressing through levels and exploring, players tend to choose climbing and flying rather than following the pre-designed guides and routes on the world map.

"The game map has lots of lakes and seas. My friend likes to climb a tree and fly over, while I prefer to build ice pillars and jump over them.

-Player #BotW-01"

Investigations into spatial exploration patterns and experiential shifts within open-world games consistently support this conclusion. Players of *The Legend of Zelda: Breath of the Wild* (2017) reported actively exploring the game environment. These behaviors—choosing to "directly traverse the mountain" rather than "follow the 'actual' path marked on the map"—even though it consumes more physical strength and time and lacks a clear purpose, brings immense satisfaction. This perfectly embodies the essence of "the joy of control": it comes not from following the design, but from successfully challenging and transcending the rules and boundaries of space through physical practice and constantly reinforcing them.

Enhancing self-efficacy is that the major to the pleasure.

Repetitive reinforcement.

This process is a continuous and embodied dialogue between the player's intentions and the logic of the game space. *Angry Birds* (2009) and *The Neverhood* (1996) are all physics-based, turn-based strategy games—distill the intersection of physical manipulation and spatial rules into a highly condensed and easily observable core loop.

The study investigated the player experience of the above games.

Player #Ang-01 described the core experience as finding the right angles and structures and noted that repeated physics testing builds intuitive understanding that can be continuously verified and adjusted.

—Interview transcript Player #Ang-01

Another one similar experience is *The Neverhood* (1996). Player #Ang-01 noted *The Neverhood* (1996), where constant shaping alters terrain and customizes movement rules—contrasting with *Angry Birds*' control of force and angle to conquer static structures.

Changing the environment.

Grand Theft Auto: Vice City (2002), the vehicles that constitute the modern urban landscape (cars on the streets, boats on the docks) are no longer neutral environmental elements but can be directly "hijacked" by the player and transformed into weapons to attack enemies. The more players use vehicles, the more chaotic the game environment becomes, and the stronger the crime-ridden urban atmosphere becomes. This is a deliberate move by the game designers to encourage players to break the rules of space.

Regarding interior scenes, *The Sims* series (2000, 2004, 2006, 2014) requires players to personally participate in the placement of furniture and the design of the flow of movement within the home space. Interview data reveals how players gain a sense of control by embodied practice in reconstructing spatial rules.

"I like its construction, building and decorating.

-Player #Sims-04"

In The Sims 4 (2014), players don't passively accept house layouts but actively optimize their virtual living spaces through a "build-observe-adjust" cycle:

"Researcher: Yesterday I interviewed a member of a group chat. She said she removed the stairs to the swimming pool while playing and forgot there were people in the pool. The NPCs were yelling, which was quite funny.

Player #Sims-02: I've experienced something similar. My Sim had a baby, and I set up the parents' and nursery on the top floor. However, because the space was small, we used a ladder to go up and down, not stairs. The toddler could only be carried or crawled by the parents and couldn't go downstairs, so they were trapped upstairs. They couldn't eat or take a bath.

Researcher: Oh no. How to deal with it?

I redesigned the house layout [facepalm] to ensure everyone's movement is smooth.

-Interview transcript Player #Sims-02"

This processes from "planning mistakes" to "actively solving them" highlights the close interaction between the body (designing actions) and space (house layout). Players' enjoyment stems from their physical actions directly and effectively altering the spatial state, thus validating their agency within the game world.

Proactive creation.

The phenomenon of players actively creating or modifying the game environment represents the highest level of player agency. Minecraft (2011) and Dragon Quest Builders 2 are typical examples of this paradigm. In Minecraft (2011), the enjoyable crossover reaches a metaphysical level.

The core game loop of them is essentially about creation and modification. The player's most basic physical actions of 'destruction and placement' directly interact with the world's most fundamental 'block rules.' Behind this seemingly simple action lies immense creativity. Players don't merely command the construction of a structure; they build it brick by brick. What they must navigate the ever-changing space they create present that the deepest pleasure of Autonomy.

"Player #Mine-01: its underlying logic allows you to achieve things that are difficult to do in other games or other genres. Besides the complex circuits and various mechanisms brought by its Redstone system, the mods and the positive atmosphere of the community give it almost limitless extensibility.

Researcher: Do you think this kind of interaction with space can be applied to reality?

Player #Mine-01: Yes, it can. I used to be an architecture major, and I sometimes use the Maker mod to create some practice models to check its spatial relationships.

Co-cooperation creation.

Players become co-creators of the world through embodied practice. Worms (1995), which is physics-based, turn-based strategy games as well, showcases the highest level of tactical crossover. In a dynamic space filled with variables (wind, destructible terrain, diverse weapons), player enjoyment comes from executing those "strokes of genius" that require precise calculation and control, thereby achieving absolute control over the battlefield environment.

"Player #Worm-01: But what impressed me more was probably Worms, Worms requires players to utilize the properties of items, their acceleration, wind direction, and the terrain to kill as many worms as possible to win. This requires considering all these aspects.

Researcher: Did you feel the charm of realistic physics?

Player #Worm-01: Yes, I did. I could feel a similar sense of realism. And it added the weapon properties of thrown items, resulting in a very diverse range of ways to kill.

Researcher: I think many excellent small games are very moving in this respect. The mapping of realistic spatial relationships is very interesting. They're not big titles, but they're just brilliant.

Player #Worm-01: Yes, I agree.

That means, even in scenarios lacking complex role-playing or immersive narratives, propound and satisfying experience can be enhanced through direct, strategic dialogue between the body and spatial rules. This neurochemical reinforcement not only makes the act of mastery feel pleasurable but also motivates players to seek out further challenges, thereby reinforcing the "pleasure of control". This proves that when physical manipulation of space can stimulate positive social interaction, the resulting enjoyment is multi-layered and incredibly intense. Therefore, they are more likely to engage in behaviors outside the rules. The greater the sense of pleasure derived from gaining autonomy and control, the stronger the feeling of accomplishment.

IMMERSIVE PLEASURE: COUPLING OF BODILY PERCEPTION AND MULTIMODAL SPACE

This kind of pleasure stems from the dynamic coupling between the body's sensory system and the game's multimodal spatial design. When the virtual space matches the player's physical expectations through multi-channel information such as sight, hearing, and touch, a spontaneous and pleasurable "sense of presence" is generated. In contrast, "Benevolent masochism" is a special variant of this mechanism in the negative emotional dimension.

Environmental design constitutes embodied constraints.

The game space, through meticulously designed visual, auditory, and environmental narratives, constitutes an interactive system deeply integrated with the player's bodily perception. For example, in *The Legend of Zelda: Breath of the Wild* (2017), the extreme weather mechanic is not merely a visual presentation, but also an embodied constraint:

Player #3: "(Extreme weather) didn't bother me because I 'learned/had figured out' how to deal with it." (Interview transcript #BotW-03)"

This design forces players to apply their real-world survival knowledge (physical dimension) to understanding and adapting to the game's spatial rules (spatial dimension), and successful adaptation brings a deep sense of control and immersion.

A deep understanding of the environment can influence a character's choice of actions.

Players actively alter character actions due to deep environmental perception. The *Legend of Zelda: Breath of the Wild* 's map is laid out based on the distribution of the central continent and the four Guardian Beasts (2017), giving players the ability to travel to all areas at any time. 89% of respondents cited "enjoyment of walking" as the core criterion for evaluating open-world design quality. Interviewee Player #BotW-03 remarked that their profound memory of *The Legend of Zelda: Breath of the Wild* (2017) 's walking mechanics stemmed from experiencing a "meaningless outlet" that offered "a respite from the pressures and confusion of contemporary life" – a bodily experience that aligns closely with Lay's (2022) perspective - an early COVID-19 analysis of *The Legend of Zelda: Breath of the Wild* (2017)'s game philosophy revealed that its mechanism requiring deeper seclusion paradoxically gained renewed popularity years after release, coinciding with widespread feelings of helplessness and isolation.

Another participant contrasted this with another open-world game *Elden Ring* (2022), stating why they found immensely enjoyable in *The Legend of Zelda: Breath of the Wild* (2017).

"Hmm, I think the biggest problem with *Elden Ring* is that the developers are teaching players how to play the game. Frankly, they're using a punishment-driven core philosophy to constantly push players to collect items, because if you don't collect items, you'll get killed by monsters in two hits.

-Player #BotW 01,03,08"

This argument emphasizes that immersion must be based on the player's perspective. The true impact of multimodal space only emerges when players can more easily describe themselves as playing a game without being overly concerned with their player identity or position. Cognitively, players construct new sensory spaces through Fuzzy Cognitive Mapping (FCM) during action-induced changes (Dickerson & Kosko, 1993), thereby proactively organizing their embodied travel experiences across the Hyrule continent. This successful cognitive coupling—that is, the operating logic of the virtual world conforms to the bodily cognitive model—is key to generating a sense of deep immersion and the pleasure of a "believable world."

Physical Realism: The Cognitive Coupling of Body and Space.

The emotional resonance of game spaces stems from their 'physical realism'—a design principle that aligns with players' embodied understanding of the world rather than merely replicating reality. In terms of external scenes, in *The Legend of the Condor Heroes* (1996), players can go to classic locations from the original novel, such as Mount Hua, Shaolin Temple, and Xia Ke Island, and participate in classic events from the original novel, such as the Mount Hua Sword Tournament and the siege of Bright Peak by the six major sects. Those familiar with Chinese Wuxia culture or Jin Yong novels would be curious about the visualized sect scenes and the appearance of NPCs and will then actively explore these scenes - researchers' personal experience, observations of player behaviors, and interview data (Player #Wuxia) support the consistent recurrence of these behaviors.

Players' emotional and behavioral shifts are highly correlated with the "physical realism" of the game environment. This realism aligns with the player's embodied perception of the physical world: beyond environmental stimuli, players' subjective experience of the symbolic meaning within natural settings can also activate emotions aligned with their environmental associations. For instance, the distant sound of "grass rustling in the wind" allows players to perceive the presence of grasslands before entering the scene, freely imagining a sense of unrestrained freedom. Cognitively, players construct new sensory spaces through Fuzzy Cognitive Mapping (FCM) during action-induced changes (Dickerson & Kosko, 1993), thereby proactively organizing their embodied travel experiences across the game worlds. This successful cognitive coupling—that is, the operating logic of the virtual world conforms to the bodily cognitive model—is key to generating a sense of deep immersion and the pleasure of a "believable world."

This fully demonstrates the profound influence of a game's multimodal space on generating and altering player emotions. The sense of "physical presence" and immersion is not merely a psychological construct but has observable neural correlates.

The Pleasure of "Benign Masochism": Immersion Through Negative Arousal.

The "benign masochistic" pleasure in horror games is a special form of deep immersion and emotional release achieved through negative physical stimulation. It is also a product of the close coupling between bodily perception (biological dimension) and spatial design (spatial dimension).

Horror games emphasize authenticity to strive to recreate authentic elements off right.

Horror stimuli (such as sudden sound effects or pitch-black environments) trigger physiological responses (accelerated heartbeat, perspiration), reinforcing fear of the unknown through this feedback loop. For instance, the fog and ambient noise in *Silent Hill* (1999) activate the sympathetic nervous system, inducing anxiety while heightening alertness. This heightened state of vigilance, in turn, makes players more sensitive to subsequent horror cues, intensifying their focus on environmental stimuli.

The multimodal design of horror games exhaustively activates players' negative associations.

It employs environmental psychological cues to drive a "stimulus-embodiment-stimulus reinforcement" cycle of terror.

"To build an ethical atmosphere... in the Zero series, the house layout is such that although some places aren't in your current playthrough, going there will lead to enemy battles, or the house's structure itself will have some kind of hidden narrative. Players can gradually fill in the gaps in the game's character relationships and story background through these elements, which also contribute to building the game's ethical atmosphere.

Many narrative elements are completed through scene construction. Although these scenes may not necessarily give you rewards or have enemies, the scene construction is there, and you combine it with items you get elsewhere and their descriptions to deduce what happened there.

-Player #Horrg-04"

The Zero/Fatal Frame (2001) series is renowned for its "ma" horror aesthetic. The game replaces direct scares with physical details such as silence, whispers, and light-and-shadow effects within its scenes. Interviewed players reported becoming more tense and sensitive upon hearing the game's eerie sounds. Simultaneously, researchers observed heightened player awareness of subsequent environmental shifts, drawing them deeper into the designers' intended terror stimuli.

Dynamic Difficulty Adjustment (DDA).

If the experience becomes excessively uncomfortable, players indicated they would temporarily exit the game. Some horror game designers employ Dynamic Difficulty Adjustment (DDA) to maintain fear stimuli within safe thresholds. This "benign masochism" stems precisely from horror games blending physical stimuli with psychological cues linked to genuine dread. Based on that, Horror games, through multimodal design in the spatial dimension, systematically manipulate the physiological and emotional states of players. This experience of placing the body in a state of high alert and discomfort can be transformed into "pleasure" because, within a safe virtual environment, players can experience and ultimately "control" intense negative emotions.

This shift from fear to relief brings a profound, immersive pleasure akin to emotional catharsis. Therefore, the pleasure of 'benign masochism' is an extreme example that shows that even immersion based on negative emotions depends strictly on the precise and dynamic cross-coupling between the physiological-psychological response in the physical dimension and the atmosphere and rule design in the spatial dimension.

The Pleasure of Culture: The Negotiated Resonance of Identity and Symbols

If "the pleasure of control" and "the pleasure of immersion" primarily reveal different intersections of the physical and spatial dimensions, then "the pleasure of

culture" highlights the central role of the intertwining of identity and cultural dimensions. It further demonstrates that pleasure is not only physical, but also social and meaning constructing. This kind of pleasure arises at the intersection of player identity (identity dimension) and game cultural symbols (cultural dimension). Pleasure does not exist statically in the symbols but rather emerges dynamically in the intersection where identity and cultural scripts meet, negotiate, and ultimately resonate.

Cultural Practices and Identity Reproduction: Compatibility and Barriers.

A deeper level of cultural enjoyment arises from the compatibility between a player's personal cultural identity and the cultural roles enacted through their virtual body. This compatibility, or the lack thereof, determines the depth of the embodied experience and can either foster profound resonance or create significant barriers. The pleasure derived from cultural resonance and identity projection is deeply rooted in the brain's social and empathic networks. When players encounter culturally familiar symbols or successfully perform culturally coded actions, it facilitates a deeper embodied simulation. This process likely involves the mirror neuron system, which is active both when performing an action and when observing another perform it, and is implicated in understanding intentions and empathy (Rizzolatti & Craighero, 2004).

Compatibility: Resonance of Identity and Culture.

The positive pole of this dynamic is evident when game mechanics seamlessly align with a player's cultural background, a deep cultural immersion is created. In the MMORPG JX3(2009), each profession's unique "lightness skill" movements of various sects incorporate cultural symbols such as the Tai Chi symbol and fan dance. For players who identify with this cultural background, this is not just animation, but an "embodied expression of identity (heroic character) and culture (Eastern body philosophy)," greatly enhancing enjoyment.

From a neuroscience Perspective, this resonance may involve mirror neuron systems, which help players understand the intentions behind cultural actions when imitating and observing them, and default mode networks, which are activated when recalling personal experiences related to the culture, jointly reinforcing a sense of belonging and immersive enjoyment.

Barriers: Alienation and Transformation of Identity and Culture

Conversely, the negative pole manifests as cultural barriers when such alignment fails. Ghost of Tsushima (2020) presents a powerful example. The game offers the embodied practice of performing a samurai's ritual seppuku. However, for many contemporary players unfamiliar with the samurai ethos, this act presents a significant barrier to identification. The cultural significance of seppuku as a "tribute to death and loyalty" often remains intellectually understood but not emotionally resonant. As a Chinese once suffered from Japanese militarism in history, it leads to a sense of alienation or dislocation rather than deep engagement when I was a player rather than a researcher. This case illustrates that when the cultural dimension and the identity dimension fail to intersect successfully, the immersion expected by the designer collapses.

However, some games transform obstacles into learning environments. For example, Sekiro's combat system, derived from Japanese Kendo, requires players to adapt to its unique rhythm through repeated physical practice (physical dimension). The satisfaction derived from ultimate "mastery" is also an embodied identification with and understanding of a specific martial arts culture (cultural dimension). This demonstrates that the interweaving of culture and identity in gaming experiences can be negotiated, recreated, and adapted across cultures through embodied experiences.

The Pleasure of Nostalgia: Identity Revisited and Cultural Memory.

The perception of embodiment forms through real-time interaction with the game environment, permeating every role-playing experience. The pleasure of nostalgia is a pleasure that activates cultural memory (cultural dimension) through identity revisiting (identity dimension). Eastern fantasy single-player RPGs typically grant players a "time machine"-like artefact mid-game, enabling them to revisit and traverse areas previously locked in the linear narrative progression. Through revisiting these locations after completing certain storylines, players could re-explore or witness the impact of their actions on the world or simply indulge in nostalgia.

Designers provide players with a "backdoor" to openly re-explore the past and future of this linear world, transforming the linear character progression into a player-driven, disorderly, personalized re-identification of their role. This process reactivates their character identity and autobiographical memories, immersing them anew in the original contexts and complex emotions. This "return" experience reactivates the player's character identity (identity dimension) and the cultural memories bound to the game world (cultural dimension). Players return not only to a virtual space, but also to a "place" that carries their personal gaming experiences and cultural emotions. The resulting pleasure does not come from new challenges or narrative progression, but from an emotional comfort and identity affirmation based on a sense of cultural belonging.

All interviewed players in Gulian series (2010 - 2018) Xuanyuan Sword series (1990 - 2020) The Legend of Sword and Fairy series (1995 - 2021) reported at least one instance of actively using items to traverse scenes inaccessible during the main storyline, while dedicated players experienced 3-5 such traversals per playthrough.

Although only 38% of respondents expressed strong preference for this design, even deeming it indispensable to the genre's experience (data influenced by methodology and sample size), Interviews revealed players returned to beloved environments to wander aimlessly or simply converse with NPCs to pass the time when weary in real life. Because it would enter their virtual avatars' identities to refresh themselves (Player #RPG-01-03 & researcher). It eloquently demonstrates that pleasure does not exist statically in the cultural symbols themselves, but rather dynamically arises at the intersection where the player's identity and the cultural script meet, negotiate, and ultimately resonate.

That means, compatibility leads to resonance, while separation leads to alienation.

DISCUSSION

THE EXCLUSIONARY 'STANDARD BODY': WHOSE PLEASURE IS DESIGNED AWAY?

The first issue is that current game design implicitly assumes players possess standard physical abilities, creating a form of exclusion through 'cognitive privilege'. The needs of disabled players are frequently excluded from design considerations; action games, Souls-like titles, and platformers all demand players execute complex sequences of high-difficulty actions within tight timeframes, creating a barrier to entry for those who self-deprecatingly label themselves as "clumsy" (#1). Whilst the environmental stimuli in horror games can heighten the sense of anxiety, thereby enhancing the experience, for neurodiverse individuals this can be a source of distress (#6). This standardized bodily assumption contradicts the core tenet of embodied cognition, which emphasizes bodily diversity as the source of experiential diversity. If game experience research fails to account for the perceptual and experiential characteristics of players with differing physical capabilities, conclusions drawn from embodied cognition theory within game studies will perpetually suffer from sample bias, rendering them difficult to generalize to broader player demographics.

This study elevates the discussion to the level of "intersectionality of pleasure": the assumption of a "standard body" in game design fundamentally determines "whose pleasure is prioritized and whose is systematically overlooked." The diverse forms of pleasure the identify—such as the "pleasure of mastery" from freely climbing in *The Legend of Zelda*, or the "pleasure of benign masochism" in horror games—have starkly different accessibility thresholds due to variations in players' physical and neurocognitive states. This warns us that the distribution of pleasure is a profound intersectional ethical issue, concerning the interplay between physical capability and social identity.

NEGOTIATING CULTURAL POWER: BETWEEN DISCIPLINE AND RESISTANCE

The second issue is that game mechanics often implicitly project cultural power structures (Shaw, 2014; Šisler, 2008; Consalvo, 2009). Players' perceptions of the "game landscape" are transformed into mental representations through cognition offering possibilities for deconstruction. However, the cultural nature of the landscape and the bodily inscription of power mean that any embodied analysis of experience remains constrained by the assumption that power is inherently embedded within culture. The Japanese samurai ritual of "seppuku" performed through the player's physical actions constitutes an implicit discipline of cultural identification and transmission (Šisler, 2008). Fortunately, the game's portrayal of power structures is not merely passively received (Shaw, 2014). Taking the same game as an example, "seppuku" is an optional interactive action within the game; players may complete the ritual or choose to interrupt it. This case suggests that power relations in games are not absolutely fixed, and that players operate within a space that is not a rigid "magic circle" but a site for negotiation (Consalvo, 2009). Such designs that return the power of choice to players can stimulate discussion on whether the excessive infiltration of cultural power into game design is justified. The reality is that players possess control over their virtual bodies, thereby gaining the

freedom to either embrace or reject their virtual identities and the associated experiences.

Consequently, within the embodied practices of gaming, players possess sufficient cognitive capacity and agency to resist the inherent cultural power structures embedded within game mechanics. In the real world, players can disseminate and even reconstruct cultural symbols from games (through fan creations or participation in cosplay performances), engaging in physical and role-playing activities that reshape the relationships between the body and the self, power and culture. This issue profoundly reveals the complexity of "cultural pleasure." The pleasure players derive from cultural practices exists along a dynamic continuum spanning from "accepting discipline" to "resisting deconstruction." On one hand, players gain the pleasure of cultural identification by understanding and embodying cultural roles (such as samurai or chivalrous heroes). On the other hand, if game mechanics permit players to question, interrupt, or even subvert these cultural scripts (such as choosing not to perform seppuku), they are granted a pleasure rooted in resistance and critique. This tension reveals that cultural pleasure is not unidirectional indoctrination, but rather the outcome of intersectional negotiation between player agency and cultural power structures. Players' embodied practices thus become crucial arenas for renegotiating cultural identity and power across virtual and real worlds.

THE COMMODIFICATION OF PLEASURE: HOW COMMERCIAL DESIGN FLATTENS EXPERIENCE

The third issue is that cultural interaction and embodied experiences are often reduced to marketing gimmicks designed to attract consumers, leading to a supercivilization of cultural and identity experiences. This de-somaticized embodied design consequently fragments the gaming experience. Developers focus more on whether "actions look cool" and "effects are explosive" rather than "how to help players realize that action combinations embody the meaning of cultural design and gameplay experience". Conversely, the rise of mobile gaming has led many practitioners to prioritize the cognitive appeal of UI interfaces, neglecting the re-embodiment of foundational game systems.

Take the "quest navigation" system as an example: in the 2007-2008 versions of World of Warcraft (2004), quest notifications provided only textual clues (e.g., "locate an NPC east of the forest"), requiring players to navigate using landmarks, directional judgement, or other methods. Some even resorted to consulting guides or repeatedly cross-referencing in-game information to complete tasks. 61 In interviews, players reported "frequently taking detours due to misremembered routes" or needing to repeatedly correct discrepancies between character orientation and self-perception (#2, #4). This distortion of spatial cognition significantly diminished gameplay experience yet simultaneously fostered prosocial behaviors—mutual assistance among strangers—within early online communities (#4), forming a distinct embodied experience characteristic of early online social cultures. Most contemporary games guide player movement through quest arrows and auto-pathfinding systems, with tasks automatically executed and submitted upon reaching objectives. Player agency is reduced to choosing whether to "follow instructions," with minimal need for active spatial reasoning. This design confines players' spatial memory to symbolic UI interfaces (Jørgensen, 2013), even spawning a specialized class of "map layer" designers. It not only deprives players of

opportunities to construct new cognitive experiences through embodied practice during gameplay (Varela, Thompson, & Rosch, 1991; Gee, 2008) but also represents a shift from deep “manipulative pleasure” (Nacke & Lindley, 2009) to a superficial convenience.

This phenomenon reveals the narrowing and alienation of “pleasure” in contemporary commercial design. Modern automated design replaces this with efficient, symbolic “convenience-driven pleasure.” Yet this shift fundamentally deprives players of the deeper, more meaningful, and enduring joy gained through embodied practice and profound cognitive engagement with space. When embodied cognition theory is reduced to a catalyst for “sensory entertainment,” and when experience research becomes a tool for mining player conversion metrics, the joy games can offer becomes fragmented and commodified. This warns us that design choices driven by commercial interests are systematically eroding the intersectionality and depth of pleasurable experiences, flattening them into singular consumer stimuli.

FUTURE RESEARCH DIRECTIONS

From these perspectives, embodied cognition theory appears reduced to a catalyst for “physical entertainment,” while experiential research becomes a tool for mining player conversion metrics. The positive value of commercial games is diminished to a competitive moat, and game cognitive science struggles to find fertile ground for practical application or widespread dissemination.

Player-generated derivative works, and embodied practices serve as pivotal vehicles for the reproduction of gaming culture, while also representing the extension of embodied cognition from the virtual to the real world. These phenomena warrant greater attention in future research. For instance, investigations could focus on the mechanisms of emotional transference within derivative creations, or how embodied practices expand upon game narratives (such as exploring how bodily postures in cosplay reinterpret character emotions); or employing neuroscience technologies to reveal the neural mechanisms of embodied gaming experiences at a microscopic level. Recording cognitive neural responses among different player types across varied control modes (e.g., controller buttons, motion-sensing interaction) could provide empirical data for inclusive game design research, competitive gaming, or medical rehabilitation.

Based on the findings of this study, the future research should focus more on the mechanisms underlying the generation and regulation of “intersectional pleasure.” Specific directions include:

1. Employ neuroscience tools to map the distinct neural activity patterns associated with different types of intersectional pleasure.
2. Explore how to design accessible pleasure experiences for players with diverse physical, cognitive, and cultural backgrounds, incorporating intersectionality as a core design principle.
3. Deeply investigate how players transform virtual pleasure into real-world practices through derivative creations (e.g., cosplay, fan fiction), revealing how embodied cognition bridges virtual and real boundaries.

Only through such approaches can game studies truly comprehend and honor the complexity and diversity of player experiences, thereby propelling design practices toward a more humanistic and inclusive future.

CONCLUSION: TOWARD A PARADIGM OF INTERSECTIONAL PLEASURE

This study, through the lens of embodied cognition, has deconstructed the mechanisms of pleasure generation in video games. Findings demonstrate that game pleasure is far from a homogeneous, universal sensation; rather, it is deeply embedded within dynamic, intersecting network of body, space, identity, and culture. Mastery pleasure arises from body-space interplay, immersion from perceptual-spatial coupling, and cultural pleasure from identity-symbol negotiation.

However, the deeper contribution of this research lies in how the lens of "intersectionality" exposes a tripartite crisis in contemporary game design and research: exclusionary design predicated on a standardized body, unidirectional cultural indoctrination that overlooks player agency for resistance, and a commercial superficiality that alienates deep pleasure into convenient consumer stimuli. These crises collectively indicate that by ignoring the intersectional nature of pleasure, we not only perpetuate inequity but also stifle the richest and most profound emotional and intellectual experiences that games as a medium can offer.

Consequently, this study culminates in a call for a paradigm shift. This necessitates not only an analytical but also an ethical commitment to intersectionality, ensuring that the profound joy games can offer is not a privilege for the few, but a meaningful possibility for them any.

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