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# *Exploring the Pathways to Immersion in Horror Games*

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***Abstract.*** The electronic gaming industry has developed rapidly, with horror games from "Fatal Frame" to "Outlast" gradually emerging, gaining popularity among players and expanding the market size. This study aims to delve into the strategies employed by horror games to achieve high levels of player immersion. At the same time, it analyzes the characteristics of the target audience and the potential effects of these games on player behavior. The results of, this research provides valuable insights for game designers. By optimizing game visuals, design concepts, player emotion manipulation, and integrating real-life integration, game designers can greatly enhance player immersion. Simultaneously, they should also focus on players' perception of immersion in the game and the potential impacts of the games on player behavior. A deep understanding of these factors enables game designers to create games that attract players and enhance their gaming experience. In conclusion, this study offers a new perspective and approach for research in the gaming field, holding significant theoretical and practical implications for game design, player experience, and the impact of games on player behavior.

***Keywords:*** Horror games, Immersion, Game design, Player emotions, Player behavior

## 1. Introduction

In the backdrop of the booming electronic gaming industry, horror games have witnessed a remarkable surge in popularity, accompanied by a steadily growing market size [1]. These games leverage highly refined audiovisual effects and narrative techniques aim to enhance player immersion, thereby evoking experiences of fear and excitement [2]. However, previous research has largely focused on audiovisual presentation and the psychology of fear, with insufficient exploration of immersion as a bridge connecting the game's expression and the player's psychological experience. This paper sets out to explore, from diverse angles, the strategies adopted by horror games to achieve a deep level of player engagement. The research results reveal that various aspects, including game visuals, design concepts, player emotion manipulation, and integration with real life, significantly influence player immersion. For example, horror games commonly employ narrow, dimly - lit scene designs to create an atmosphere of unease and mystery. The current body of research in the gaming field on horror games is relatively limited, often focusing on comparisons between players of different game genres. However, there is a scarcity of research on the design approaches of horror games, player performance, and their reciprocal psychological effects on players. It also seeks to deduce the potential characteristics of the audience and the influence of the

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game on player behavior after gameplay, holding practical significance for conveying values through games and altering player behavioral habits.

## 2. The emotional and immersive impact of game visuals

In horror and hardcore games, the design of game scenes is pivotal in evoking player emotions and enhancing immersion. Effective scene design can better awaken the corresponding emotions in players. Take the “Silent Hill” series as an example. Its environments are replete with with dilapidated, narrow, and dimly lit environments that create a sense of tension even without the presence of enemies, leading to a higher level of immersion during exploration [3]. The visual presentation of a game serves as a direct and uncomplicated means of enhanceing player immersion. Without sufficient visual and auditory quality, conveying a sense of horror and immersion through storytelling becomes more challenging. Typically, horror games use visually stimulating scenes, such as narrow and dark areas, to maintain a sense of fear and tension throughout the gameplay. Games like "GTFO," which is set in enclosed and dark underground mines, and "Outlast," which unfolds in narrow and confining psychiatric hospitals, manage to evoke fear without relying heavily on textual descriptions. This psychological horror approach, though challenging to implement, can provide a deeper and longer-lasting sense of fear and stronger immersion. In fact, I believe that guiding players through scenes to think and search for clues can be a highly effective way to increase immersion, as it encourages players to focus on the game and significantly enhances their sense of presence [4].

## 3. Immersion through game design

In the field of game design, the MDA framework suggests that games achieve aesthetic experiences through the dynamics of player-game interaction, which are made possible by mechanism design [5]. Here, the dynamic presentation can be considered as the positive and negative feedback that players receive during gameplay. Beyond the visual experiences previously mentioned, the aesthetic experiences within horror and hardcore games incorporate elements of challenge, exploration, and self - expression. These aspects add depth and complexity to the overall gaming experience, allowing players to engage with the game on multiple levels. For instance, the challenging gameplay mechanics in hardcore games test players' skills and reflexes, while the exploration elements in horror games drive players to uncover hidden secrets and navigate through eerie environments. The opportunity for self - expression might come in the form of player - chosen strategies or ways of interacting with the game world, further enhancing the uniqueness of each player's aesthetic encounter.

### 3.1. Explore the impact on immersion

Exploration is a necessary component of horror games, whether in open-world settings or limited sandbox environments [6]. These games typically demand that players actively engage in exploration to fulfill tasks and propel the storyline forward. As players embark on this journey, they are met with dimly lit, foreboding scenes, spine - chilling sound effects, and visuals that heighten the sense of dread. The ever - present threat of enemies, which may suddenly emerge or relentlessly pursue the player, further intensifies the fear and tension. This state of anticipation, paradoxically, culminates in a profound sense of pleasure once the exploration is successfully completed. A similar psychological process is similar in hardcore games, which emphasize overcoming difficult tasks or

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adversaries. The motivation for exploration in hardcore games comes from the need to complete tasks or find items, and the pleasure from completing exploration may come from defeating powerful enemies or satisfying the desire to collect. Player self-expression is also included in the exploratory process of these games. Often, such games allow players to freely explore large maps and offer diverse ways to play and progress through the game, enabling players to act according to their desired behavior patterns without being confined to a single style. This is particularly evident in hardcore games like “Ready or Not” and “GTF,”, which allow players to choose their own routes and preparations, enabling them to act more in line with their personal style. This high degree of freedom in gameplay can effectively enhance immersion, making the actions of the in-game characters more similar to those of the players, and making the fictional events in the game more believable. This is a manifestation of “fantasy” in aesthetics.

### 3.2. Enhance immersion by presenting challenges to players

Challenge is a prominent aesthetic feature in horror and hardcore games, where game objectives are set to manipulate player emotions and create a sense of pleasure upon completion. Game objectives can be categorized into long-term goals and numerical goals, which impact player immersion and serve different game mechanics. Long-term goals, such as "escape the house," are not clearly defined and require players to interpret the textual meaning of the goals. They run throughout the game, allowing players to act based on them at any point. Numerical goals, on the other hand, are short-term, clearly defined objectives, such as "open the door," "start the reactor," "achieve XXX points," or "obtain items." They provide a higher level of immersion and allow players to immerse themselves in the role. However, overly clear goal guidance, especially numerical goals, can reduce player immersion and provide short-term pleasure at the expense of long-term engagement. This is more common in games without clear long-term objectives, such as "GTFO." In some games, long-term goals may overlap with current numerical goals after a large number of periodical goals.

### 3.3. Differentiate the ways in which various types of conflicts in games achieve immersion

Another manifestation of challenge is the conflict between players and enemy characters during the game [7]. To evoke fear and tension in players, horror and hardcore games often feature one or more enemies whose abilities are often superior to those of the players, creating a sense of oppression. Players must dodge or fight against enemies to progress, manipulating their emotions. Here, we categorize the effectiveness of players’ counterattacks against enemy characters into three types: ineffective resistance, limited resistance, and effective resistance, to explore the impact of different levels of resistance on game immersion. Ineffective resistance is often found in horror games, such as in the "Outlast" series and the "Amnesia" series, where players have no means of resistance and can only choose to hide and flee when pursued by enemy characters [8]. This game mechanism, which completely restricts the player's ability to resist, makes direct combat impossible, forcing players to progress through stealth and other means. This significantly increases the sense of oppression from enemy characters, making players more tense during infiltration and more frightened when facing enemy characters. However, upon completing periodical goals and entering safe houses, players can achieve a greater sense of accomplishment and pleasure. Limited resistance is a common type of resistance in horror and hardcore games, where players have limited weapons and threats, providing a sense of security but not encouraging high-level strategy. In horror games, limited combat feedback increases pressure on players, highlighting the power of enemy characters. In hardcore games, players face powerful enemies with limited or poor equipment, reducing error

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margins and increasing pressure during planning and execution. This design enhances immersion and provides a sense of accomplishment upon completing goals. Effective resistance is rarely seen in horror and hardcore games. Overly effective resistance methods transform players from prey to predators, significantly weakening the sense of fear and tension from less powerful enemy characters, causing players to disengage from the game and significantly reducing immersion. In hardcore games, effective resistance often aims to balance players and enemies. For example, in "Ready or Not," players, as police officers, often face enemy characters wearing bulletproof vests and armed with automatic rifles. While players can effectively resist enemy targets, enemy characters can also pose a significant threat to players, making effective resistance reduce the pressure on player actions but not lower the sense of oppression from enemies. Players still play with a high sense of tension, and the game content becomes more realistic,making up the lack of immersion caused by effective resistance.

## 4. Immersion through emotional engagement

Both horror and hardcore games primarily create immersion by inducing fear and tension in players during gameplay, and in the case of hardcore games, even causing an adrenaline surge. Upon completing the game, players experience a sense of achievement and pleasure that is closely tied to the fear and tension they experienced throughout the game. This sense of achievement is particularly pronounced in horror games, where players must be constantly stimulated to remain in a state of fear to be rewarded with a greater sense of accomplishment upon completion. This fear and tension can be generated through various means and are directed at different objects; we can categorize them into fear of the unknown and fear of the known [9].

The Fear of the unknown is one of the most fundamental fears, as humans instinctively be vigilant and feel fear towards the unknown to protect themselves. Take "Outlast" as an example, with its mysterious experimental facility and strange enemies [10]. These elements, which are beyond players' common knowledge or understanding, instinctively evoke fear. For example, in "Outlast," players are chased by a clear enemy, and even though they know the enemy's location and behavior habits, and the enemy is not a monstrous creature but a hostile human, players have no means of resistance and will be caught in a chase if discovered. Once discovered, they will be caught in a chase, which makes players feel anxious and fearful even in ostensibly safe areas. Games like this don't necessarily make the enemies more terrifying; instead, they make the players more vulnerable, resulting in a pervasive sense of unease throughout the game. Games like "Outlast," which completely prevent resistance, often design routes for players to avoid direct confrontation with enemies through escape and hiding. Players' fear often arises when they are discovered by the enemy. On the other hand, hardcore horror shooters like "GTFO" do endow players with some resistance capabilities, but the gap between players' resistance and the enemy's combat power is significant, requiring players to carefully plan and use their resources. Unlike the "Silent Hill" series, which provides players with resistance capabilities but does not encourage direct attacks on enemies, the weapons and tools in "GTFO" are often used to delay rather than defeat enemies, and the game encourages players to advance the story through escape. In "GTFO," players are required to use extremely limited ammunition, a small number of tools, and strict tactical cooperation to withstand waves of enemies or powerful mutants. Players do not have the option to avoid combat or continuously escape, which makes them feel fear even though they know the number and type of enemies, due to the significant gap in power and the inability to avoid combat. The game often features enemies that spawn indefinitely at regular intervals, compelling players to remain tense and

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focused throughout the typically 1-2-hour gameplay, maintaining a state of fear and excitement. This psychological state serves to enhance players' immersion.

## 5. Enhancing player immersion through real-life integration

Horror games often link their content to real life to enhance player immersion. This approach is common in Chinese, Japanese, and Indonesian horror games, which derive horror stories from local folklore and legends. Players are already familiar with the stories before starting the game, and the game presents scenes similar to real life, allowing them to gradually verify the legendary stories they know. This creative approach awakens their memory of real scenes through the virtual game experience, enhancing their fear and immersion. On the other hand, Western-style horror games often enhance player immersion by connecting to real-life cases, such as "Outlast2" and "Ural Mountains," which are adapted from the "Jonestown Massacre" and "Dyatlov Incident." Players connect the game content to real-life cases or rumors through the game title, scene, and plot. In this context, players have a certain understanding of the game's story content but still face it actively, maintaining a state of fear and unease throughout the gameplay. This approach allows players to remain in a state of tension for a long time during gameplay without significantly decreasing their fear after the horror scene ends, and does not require too much prior setup for players to feel uneasy due to their real-life cognition. In conclusion, horror games often link their content to real life to enhance player immersion, allowing players to explore and verify the truth of the stories they encounter. During gameplay, if players are in a state of high immersion, they often experience "presence illusion" and "plausibility illusion," believing that they are indeed in the game scene and that the abnormal phenomena in the game are reasonable. By combining the game scene and story with real-life scenes and stories, or simulating real-life scenes and events, players can more efficiently experience these two illusions, thereby enhancing their immersion.

### 5.1. The impact of fear tolerance on immersion in horror games

Players' ability to perceive immersion in games is closely related to their individual tolerance for fear. A survey by the Tourism College of Sun Yat-sen University in China revealed that during gameplay, players experience the generation and transformation of emotions, with fear, surprise, and interest being more prevalent than joy. Before gameplay, this joy often stems from curiosity about the events and scenes that might occur in unknown areas. However, during the course of gameplay, 72% of players reported a significant decrease in joy due to excessive fear. In contrast, remaining 28% of players, who have a higher tolerance for horror content, did not immediately experience a reduction in joy. Instead pursued fear further due to the stimulating psychological experience [5]. Horror games often incrementally increase players' fear and immersion by gradually introducing them to the story, which also serves as a test of players' psychological threshold for fear. Players with limited tolerance for fear are often scared by the game's atmosphere, sound effects, and lighting early on. As a result, their joy diminishes significantly, and they become immersed in a state of fear. These players are not the intended audience for horror games. Conversely, players who pass this test are more likely to seek further exploration of the game content and pursue the fear experience, further exciting their fear through jump scares, chase sequences, and other horror stimuli. Players with limited tolerance for fear often have a limited ability to accept psychological suggestions, but they are more likely to achieve a stronger sense of immersion during gameplay. Since these players are more easily immersed in a state of fear, they are more likely to empathize with the characters in games that feature excellent narratives or those that are connected to real-life events, experiencing

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the characters' fear firsthand, which enhances their sense of immersion without much psychological preparation. On the other hand, players with a higher tolerance for fear often maintain their usual gameplay style throughout the game. These players often overlap with the audience for hardcore games, having a higher desire for exploration but not fully immersing themselves in the game characters or empathizing with them. They tend to play from their own perspective, often remaining calm or even cheerful during horror scenes, failing to produce the fear that the creators intend. Compared to horror games, their gameplay style may be more akin to sandbox games, where they explore the game content to a greater extent but often lack a high sense of immersion.

## 6. Conclusion

This study has delved into the methods by which horror games achieve high levels of player immersion, and has analyzed the characteristics of the target audience as well as the impact of games on player behavior. The findings indicate that game visuals, design, emotional engagement, and the integration of game content with reality all significantly influence player immersion. Horror games, with their narrow and dark scene designs, can effectively enhance player immersion. Moreover, the elements of challenge and exploration within the game, along with its relatable real - life connections, further contribute to heightening player immersion.. Additionally, it has been revealed that a player's capacity to perceive immersion in games is closely tied to their individual fear tolerance. This paper analyzes and summarizes various methods and their potential effects used in horror games to enhance player immersion. The study did not conduct large-scale surveys of horror game players worldwide, thus the potential impact of individual and cultural differences on immersion in horror games was not deeply investigated. The research on horror game immersion is limited to PC and console games, without in-depth exploration of emerging AR and VR horror games. The study merely delves into the game design and psychological aspects related to the manifestation of immersion and player experience in horror games, without venturing into cognitive science, media studies, and other relevant disciplines. Additionally, some horror games include social content and accessibility settings for people with specific phobias, whose impact on player immersion was not thoroughly examined.Subsequent research will focus on questionnaire surveys of horror game players and the impact of real life on players' immersion, further refining this topic.

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