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IS IMMERSION DURING THE FIRST MISSION ASSOCIATED WITH WILLINGNESS TO CONTINUE PLAYING?

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Abstract

The opening hours of gameplay represent a critical period during which players form initial impressions of a game and decide whether to continue playing. Despite the importance of this stage, limited research has examined the relationship between immersion during a game's introductory sequence and players' willingness to continue. This study investigated whether immersion during the first mission of an action-adventure game was associated with willingness to continue playing. A secondary exploratory aim was to identify which features of the opening mission participants perceived as contributing to their immersion.

A cross-sectional online survey was conducted with 20 players who had completed the first mission and tutorial sequence of *Red Dead Redemption 2* within the preceding two months. Immersion was assessed using the 32-item earlier experimental paired questionnaire reported by Jennett et al. (2008), a separate global immersion rating, and open-ended questions about game features perceived as contributing to immersion. Willingness to continue playing was measured through an open-ended question, with responses subsequently coded for analysis.

The 32-item immersion score demonstrated good internal consistency (Cronbach's $\alpha = .835$), with a mean score of 3.66 (SD = 0.43) on a five-point scale. The mean global immersion rating was 7.65 (SD = 1.73) on a 0–10 scale, and 70.0% of participants indicated that the first mission had positively influenced their willingness to continue. However, neither the 32-item immersion score nor the global immersion rating was significantly associated with willingness to continue playing. Narrative, characters, graphics, and atmosphere were the most frequently reported contributors to immersion.

Although limited by its small convenience sample and exploratory design, this study provides a methodological foundation for further research into first-mission immersion and willingness to continue playing using larger samples and more robust measures.

Keywords: [Immersion, Willingness to Continue Playing, First Impressions, Action-Adventure Games, Game Experience]

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1. Introduction

The video game industry has grown into one of the world's most prominent entertainment sectors. Video games are now played across different age groups, cultures, genres, and technological platforms. The Entertainment Software Association reports that approximately one in three people worldwide plays video games, illustrating the global reach of gaming as a contemporary leisure activity (Entertainment Software Association [ESA], 2025). This expansion has been accompanied by an increasingly competitive market in which players can choose from a vast number of new releases, subscription libraries, and established titles.

Despite the size of the market and the large number of games released, commercial success is concentrated among a relatively limited number of titles and franchises. A single successful game may generate substantial and long-lasting financial and reputational benefits for its developer. However, developing a high-quality game does not necessarily ensure that players will engage with it long enough to experience its narrative, mechanics, characters, and game world. Players may purchase or begin a new game but abandon it during its opening stages and return to games with which they are already familiar. Consequently, even a technically accomplished and potentially enjoyable game may fail to sustain player engagement if its opening sequence does not generate sufficient interest.

This problem draws attention to the importance of first impressions in digital games. The opening sequence represents the player's first direct encounter with the game's controls, mechanics, characters, narrative, audiovisual presentation, difficulty, and reward structure. During this period, players begin to evaluate whether the game is understandable, enjoyable, emotionally engaging, and worth the time required to continue. An opening sequence that includes unclear objectives, excessive exposition, unfamiliar controls, technical problems, or poorly balanced challenges may create barriers to engagement. In contrast, an opening that integrates clear goals, effective feedback, meaningful interaction, an engaging narrative, and an appropriate level of challenge may encourage players to invest further time and attention in the game.

One psychological experience that may influence this early decision is immersion. Immersion generally refers to the degree to which players become cognitively, emotionally, and perceptually involved in a game. Brown and Cairns (2004) conceptualise immersion as a gradual process consisting of engagement, engrossment, and total immersion. The first level, engagement, occurs when players are willing to invest attention, time, and effort in learning and interacting with a game. Engrossment develops when the game increasingly captures the player's attention and emotions, while total immersion represents a deeper experience in which awareness of the physical environment becomes less prominent. This progressive model is particularly relevant to the opening stages of a game because the first mission may determine whether the player overcomes the initial barriers to engagement and proceeds towards deeper involvement.

Jennett et al. (2008) describe immersion as a measurable player experience characterised by focused attention, emotional involvement, reduced awareness of the external environment, and altered perceptions of time. Their research demonstrates that immersion can be examined using both self-reported experiences and behavioural indicators. Immersion is not necessarily identical to enjoyment: a player may become deeply involved in a stressful, tense, or emotionally disturbing sequence. Nevertheless, immersion indicates that the game has successfully captured the player's cognitive and emotional resources. Such involvement may

encourage the player to continue in order to discover subsequent narrative developments, explore the game world, master its mechanics, or maintain the psychological state produced by gameplay.

Immersion is also a multidimensional experience generated through different game features. Ermi and Mäyrä's (2005) Sensory, Challenge-Based, and Imaginative Immersion model distinguishes three major dimensions of gameplay immersion. Sensory immersion is associated with audiovisual presentation and the player's perceptual absorption in the game environment. Challenge-based immersion develops through interaction between the player's abilities and the cognitive or motor challenges presented by the game. Imaginative immersion involves absorption in the narrative, characters, and fictional world. This framework is especially suitable for examining action-adventure games, which typically combine cinematic presentation, exploration, narrative development, character interaction, combat, and skill-based challenges.

The GameFlow model similarly identifies concentration, challenge, player skills, control, clear goals, feedback, immersion, and social interaction as central elements of an enjoyable gameplay experience (Sweetser & Wyeth, 2005). During an opening mission, these elements may operate together. Clear objectives and responsive controls can help players understand what is expected of them, while balanced challenges can create competence without producing excessive frustration. Narrative tension, character development, music, environmental detail, and visual realism can simultaneously contribute to imaginative and sensory immersion. Accordingly, the success of an opening sequence may depend not on a single feature but on the integration of narrative, audiovisual, and interactive elements.

Immersion may also be connected to continued play through intrinsic motivation. From the perspective of self-determination theory, games are more likely to motivate players when they satisfy the psychological needs for competence, autonomy, and relatedness (Ryan et al., 2006). Players experience competence when they feel capable of understanding and mastering the game; autonomy when their actions and choices appear meaningful; and relatedness when they develop connections with characters or other players. Satisfaction of these needs has been associated with enjoyment, engagement, and motivation to continue playing (Przybylski et al., 2010). Therefore, when the first mission enables players to feel capable, involved, and connected to the game world, it may strengthen both immersion and willingness to proceed.

Although immersion, flow, enjoyment, and continued gaming have received considerable academic attention, studies have generally focused on the overall gameplay experience or on the continuance intentions of established players. Comparatively less attention has been paid to the impression created during a game's opening mission and whether immersion at this early stage is associated with willingness to continue. This is an important gap because evaluations obtained after many hours of play cannot fully explain why some players continue beyond the introduction while others abandon the game before experiencing its broader qualities. Although large game companies may conduct internal playtesting and player-retention research, commercially sensitive findings are not always publicly available. Smaller developers may also have fewer resources for extensive player-experience research. Academic evidence concerning early immersion may therefore provide both theoretical and practical value.

The present study examines this issue through *Red Dead Redemption 2*, an action-adventure game developed by Rockstar Games. The game provides a particularly relevant case because its opening sequence combines cinematic storytelling, environmental realism, character interaction, tutorials, exploration, and action-oriented missions. It has also achieved exceptional and sustained commercial success; Take-Two Interactive reported that the game had sold more than 82 million units worldwide by February 2026 (Take-Two Interactive, 2026). Its opening

chapter nevertheless requires players to engage with a deliberately paced narrative and learn several gameplay systems before entering the broader open world. This makes the game a useful case for examining whether an immersive opening experience is associated with the desire to continue playing.

To reduce problems associated with long-term memory, the survey was administered to players who had played *Red Dead Redemption 2* within the preceding two months. The study investigates the relationship between players' perceived immersion during the opening mission and their willingness to continue playing. It also seeks to identify which features of the opening experience—such as narrative, characters, audiovisual design, atmosphere, gameplay mechanics, challenge, control, and environmental realism—participants identify as contributing to their immersion.

Accordingly, the study addresses the following research questions:

RQ1: Is perceived immersion during the first mission of *Red Dead Redemption 2* associated with players' willingness to continue playing?

RQ2: Which features of the opening mission do participants identify as contributing to their immersion?

Based on previous research on immersion, engagement, enjoyment, and intrinsic motivation, the following hypothesis is proposed:

H1: Higher levels of perceived immersion during the first mission are positively associated with a greater willingness to continue playing the game.

The study does not assume that immersion is the only factor affecting willingness to continue playing. Time constraints, prior genre preferences, difficulty perceptions, technical performance, familiarity with the franchise, and individual gaming habits may also influence players' decisions. Nevertheless, examining the association between early immersion and willingness to continue may clarify how opening missions can provide players with sufficient motivation to experience a game beyond its introductory stage.

2. Background

2.1 Game Experience

Game experience is a multidimensional and subjective phenomenon that emerges through the interaction between the player, the game system, and the context in which gameplay occurs. It encompasses players' cognitive, emotional, sensory, behavioural, and social responses rather than referring only to whether a game is enjoyable. Because players differ in their skills, motivations, genre preferences, previous gaming experiences, and expectations, the same game may produce considerably different experiences among individuals.

At the sensory level, visual and auditory elements contribute to the construction and perception of the game world. Graphics, animation, lighting, environmental design, and artistic style shape the visual identity of a game, while music, dialogue, ambient sounds, and sound effects influence its atmosphere and emotional tone. These features can focus the player's attention and strengthen the perceived coherence of the virtual environment. Ermi and Mäyrä (2005) describe this dimension as sensory immersion, which occurs when the audiovisual properties of a game capture the player's perceptual attention.

Game experience also depends on interaction. Unlike non-interactive media, digital games require players to perform actions, make decisions, respond to challenges, and influence events within the game world. Gameplay mechanics and controls therefore affect players' sense of agency and their perceptions of competence and control. Clear objectives, responsive controls, appropriately balanced challenges, and meaningful feedback can facilitate concentration and enjoyment. The GameFlow model accordingly identifies concentration, challenge, player skills, control, clear goals, feedback, immersion, and social interaction as major components of an enjoyable game experience (Sweetser & Wyeth, 2005).

Emotion represents another central dimension of game experience. Gameplay may evoke excitement, curiosity, satisfaction, empathy, tension, frustration, fear, sadness, or disappointment. These emotions may result from success or failure, the difficulty of a challenge, interaction with characters, narrative developments, or the audiovisual presentation of events. Importantly, a positive game experience does not necessarily consist exclusively of positively valenced emotions. Fear, sadness, tension, and uncertainty may also contribute to an engaging and meaningful experience when they are consistent with the game's narrative and intended atmosphere.

Tan and Jansz (2008) propose that emotion lies at the centre of game experience. They argue that understanding such experience requires attention not only to the emotions felt during a specific gameplay session but also to the wider temporal context in which that session occurs. A player's experience is influenced by expectations formed before play, emotions and evaluations during the session, and motivations or memories that persist after the session. From this perspective, interest is particularly important because it operates both as an immediate emotion during gameplay and as a motivational disposition that can encourage the player to return to the game. This temporal approach is relevant to the present study because the experience produced during a game's introductory mission may influence the subsequent willingness to continue playing.

Narrative and character development can further strengthen emotional and imaginative involvement. Through narrative events, players may become interested in characters' goals,

conflicts, relationships, and personal development. However, narrative engagement in games differs from that in non-interactive media because players do not merely observe events; they may also contribute to their progression through action and choice. Consequently, the experience of a narrative game develops through the interaction of story, characters, audiovisual presentation, and gameplay mechanics.

Game experience also has a cognitive dimension. Digital games may require problem-solving, decision-making, spatial awareness, strategic planning, memory, attention, and the rapid processing of feedback. Players must often learn new rules and controls, interpret environmental cues, anticipate consequences, and adjust their actions in response to changing situations. Ermi and Mäyrä (2005) describe challenge-based immersion as the involvement generated when players' abilities are appropriately engaged by the motor and cognitive demands of the game. When challenges are too easy, players may become bored; when they considerably exceed the player's skills, they may produce frustration and disengagement. A suitable relationship between difficulty and ability may instead support concentration, mastery, and continued participation.

The social dimension also forms part of the wider game experience. Multiplayer interaction, cooperation, competition, community participation, and communication with other players may influence enjoyment and motivation. Even in primarily single-player games, social experiences may arise through discussion, streaming, online communities, and the sharing of gameplay experiences. Nevertheless, the importance of individual components varies according to the genre and design of the game. In a single-player action-adventure title such as *Red Dead Redemption 2*, narrative, characters, atmosphere, environmental design, audiovisual presentation, control, and challenge may be more immediately relevant than direct interaction with other players.

Therefore, game experience should not be treated as a single response or as a synonym for enjoyment. It is produced through the combined influence of sensory presentation, gameplay mechanics, interface design, narrative, emotion, cognition, challenge, and the wider context of play. Although all these components are relevant, the present study focuses specifically on immersion as a central dimension of the introductory game experience. The following section therefore examines how immersion has been conceptualised, measured, and connected to players' willingness to continue playing.

2.2.Immersion

Immersion is one of the central concepts used to describe players' involvement in digital games. It refers broadly to the experience of becoming deeply absorbed in gameplay, focusing attention on the game, and experiencing a reduced awareness of events outside the game environment. Immersion may contribute to engagement and enjoyment by encouraging players to invest cognitive, emotional, and perceptual resources in the game. However, it is a complex and multidimensional construct that should not be reduced to graphical realism or any other single game feature.

Brown and Cairns (2004) conceptualise immersion as a gradual process involving three levels: engagement, engrossment, and total immersion. Engagement is the initial stage at which players invest time, attention, and effort in interacting with a game. Reaching this stage requires players to overcome barriers such as unfamiliar controls, unclear objectives, a lack of interest, or an

unwillingness to invest time. Engrossment develops when the game increasingly captures the player's attention and emotions. Total immersion represents a more intense level of involvement in which players may feel psychologically present within the game world and become less aware of their physical surroundings. This model indicates that immersion does not necessarily emerge immediately or remain constant; it may deepen or weaken as gameplay progresses.

Jennett et al. (2008) similarly define immersion as a multidimensional player experience involving focused attention, emotional involvement, loss of awareness of the external environment, and an altered perception of time. Their research demonstrates that immersion can be assessed both subjectively and behaviourally.

Immersion overlaps with related concepts such as flow and presence, but these terms should not be treated as interchangeable. Flow refers to an optimal psychological state characterised by intense concentration, a balance between challenge and skill, clear goals, immediate feedback, and a diminished awareness of time (Csikszentmihalyi, 1990). Presence generally refers to the perception of being located within a mediated environment. Immersion is a broader and more gradual form of involvement that can occur at different intensities without necessarily requiring either an optimal challenge–skill balance or a complete sense of spatial presence (Brown & Cairns, 2004; Jennett et al., 2008).

A range of game features may contribute to immersion. Ermi and Mäyrä's (2005) Sensory, Challenge-Based, and Imaginative Immersion model distinguishes three major dimensions. Sensory immersion is produced through the audiovisual characteristics of a game, including graphics, animation, environmental detail, music, dialogue, and sound effects. Challenge-based immersion develops through the interaction between the player's abilities and the motor or cognitive challenges presented by the game. Imaginative immersion arises when players become absorbed in the game's narrative, characters, and fictional world. These dimensions can operate simultaneously and reinforce one another during gameplay.

Visual design can contribute to sensory immersion by directing attention towards the game world and creating an internally coherent environment. However, immersion does not depend solely on photorealistic graphics. Artistic consistency, animation quality, environmental detail, lighting, and the meaningful presentation of visual information may be more important than realism alone. Similarly, sound effects, ambient audio, dialogue, and music can establish spatial and emotional context. Environmental sounds may communicate the presence of characters, animals, weather, or potential threats, while music may intensify tension, sadness, anticipation, or excitement. Audiovisual elements therefore contribute to immersion when they support the atmosphere, actions, and narrative of the game rather than functioning as isolated technical features.

Narrative and character development are particularly relevant to imaginative immersion. A coherent and engaging narrative may stimulate curiosity about future events, while believable characters may encourage empathy and emotional investment. Qin, Rau, and Salvendy (2009) identify curiosity, concentration, challenge, control, comprehension, and empathy as important dimensions of immersion in game narratives. Their framework suggests that players are more likely to become immersed when they understand the story, remain curious about its development, empathise with its characters, and perceive a meaningful relationship between their actions and narrative progression.

Interactivity distinguishes immersion in games from absorption in non-interactive media. Players do not merely observe events; they perform actions, make decisions, navigate environments, and respond to challenges. Responsive controls and comprehensible gameplay

mechanics can strengthen the relationship between the player's intentions and the character's actions. In contrast, delayed responses, confusing controls, intrusive interface elements, or inconsistent mechanics may interrupt attention and weaken immersion. Meaningful choice may further enhance involvement by providing a sense of agency and allowing players to perceive their actions as consequential within the game world.

Challenge and feedback also contribute to immersion. Challenges that correspond reasonably well to the player's abilities may support concentration, competence, and continued involvement. Tasks that are too easy may produce boredom, whereas excessively difficult or poorly explained tasks may cause frustration. Clear goals and timely feedback help players understand the consequences of their actions and adjust their strategies. The GameFlow model consequently identifies concentration, challenge, skills, control, clear goals, feedback, immersion, and social interaction as interconnected elements of an enjoyable game experience (Sweetser & Wyeth, 2005).

Immersion may also have an escapist dimension because games can temporarily redirect attention away from everyday concerns and towards an alternative environment. Nevertheless, immersion should not be defined simply as escaping reality. Players may remain aware of their physical surroundings while still being substantially involved in gameplay. Moreover, immersion is not necessarily an exclusively positive or relaxing experience. Players may become immersed in narratives or situations that evoke fear, sadness, anxiety, frustration, or moral discomfort. Jennett et al. (2008) found that immersion could be accompanied by heightened negative as well as positive affect. The defining feature is therefore the intensity of involvement rather than the emotional valence of the experience.

In action-adventure games, immersion is particularly likely to result from the interaction of several components. Detailed environments may support sensory immersion; combat, exploration, and problem-solving may produce challenge-based immersion; and narrative development and character relationships may encourage imaginative immersion. Open-world games such as *Red Dead Redemption 2* combine these dimensions by allowing players to explore extensive environments, interact with characters, participate in narrative missions, and exercise a degree of agency through their actions. The opening mission may consequently establish immersion through its audiovisual atmosphere, character introductions, narrative tension, environmental design, controls, and gameplay challenges.

Immersion is therefore best understood as an experience emerging from the interaction between the player, the game's formal features, and the context of play. Graphics, sound, narrative, characters, challenge, controls, agency, and feedback may all contribute, but no single feature is sufficient to guarantee immersion. Individual differences in experience, skill, preference, motivation, and familiarity with the genre may also affect how players respond to the same sequence. In the present study, immersion is consequently examined as a multidimensional construct rather than being attributed to one technical or narrative feature. The study investigates both players' overall immersion during the first mission of *Red Dead Redemption 2* and the specific game features they identify as contributing to that experience.

Complementing Ermi and Mäyrä's (2005) distinction between sensory, challenge-based, and imaginative immersion, Haggis-Burridge (2020) proposes four related categories: system, spatial, empathic/social, and narrative/sequential immersion. System immersion concerns the player's engagement with a game's rules, mechanics, feedback, and decision-making processes. Spatial immersion refers to the sense of being located within the audiovisual game world, while empathic/social immersion concerns emotional involvement with characters and social

relationships. Narrative/sequential immersion describes engagement with the development of the story, events, locations, and future possibilities within the game.

These categories should not be treated as completely separate forms of experience. System immersion overlaps with the challenge-based dimension described by Ermi and Mäyrä (2005), whereas spatial immersion is closely related to sensory immersion. Empathic/social and narrative/sequential immersion also correspond with imaginative immersion and with the narrative dimensions discussed by Qin et al. (2009). Consequently, interface design, environmental presentation, characterisation, narrative progression, and gameplay mechanics may contribute simultaneously to several forms of immersion. Table 1 summarises these four interconnected categories.

Table 1. The Four Categories Of Immersion (Harris-Burridge, 2020).

SYSTEMS IMMERSION	SPATIAL IMMERSION	EMPATHIC/SOCIAL IMMERSION	NARRATIVE/SEQUENTIAL IMMERSION
A high level of engagement with the systems and decision-making processes in the game, related to 'flow'.	A sense of 'presence' in a location. The feeling of being in that place, or of having travelled there.	An emotional connection with the characters or social context of a game.	A deep and compelling investment in the progression of events, locations, and/or abilities. The focus here will typically be 'what happens next?'
All types are likely to be non-discreet, with close relationships and overlaps of game-elements that contribute to (or subtract from) multiple forms of immersion.			

These different types of immersion can overlap and interact with each other, creating a complex and multi-dimensional experience for the player. Understanding the different features of immersion and how they contribute to the player's experience can help game designers create more immersive and engaging games for their audiences.

2.3 Flow

Flow is an important concept for understanding immersion and player engagement in video games. Csikszentmihalyi (1990) conceptualises flow as an optimal psychological experience in which individuals become intensely involved in an activity, concentrate fully on the task, and perform the activity primarily because it is intrinsically rewarding. During flow, attention is organised around the activity, irrelevant thoughts and external distractions become less prominent, and the perception of time may be altered.

Csikszentmihalyi (1990) identifies several conditions and characteristics associated with flow: clear goals, intense concentration, immediate feedback, a balance between challenge and ability,

a sense of control, reduced self-consciousness, altered time perception, and the experience of the activity as intrinsically rewarding. These conditions are highly relevant to video games. Games generally present players with goals, rules, challenges, feedback, and opportunities to develop and demonstrate skills. When a game's difficulty is appropriately matched to the player's abilities, the player may remain focused without experiencing either boredom or excessive frustration.

The relationship between challenge and skill is particularly important. If a task is substantially easier than the player's ability, it may produce boredom and disengagement. Conversely, if its demands considerably exceed the player's skills, it may lead to anxiety or frustration. Flow is most likely to occur when the challenge is sufficiently demanding to require concentration while remaining manageable through the player's existing or developing abilities. This balance is dynamic because player skills may increase as the game progresses. Games must therefore introduce new challenges and mechanics at an appropriate pace to maintain engagement.

Flow and immersion have several shared characteristics, including focused attention, reduced awareness of external events, altered time perception, challenge, and a sense of control. However, they should not be treated as identical concepts. Jennett et al. (2008) describe immersion as a graded and relatively common experience of involvement in a specific gaming session, whereas flow represents a more specific and optimal psychological state. Immersion may consequently occur without all the conditions necessary for flow.

Jennett et al. (2008) suggest that immersion may function as a precursor to flow because a player must first become involved in the game before reaching an optimal state of concentration. Nevertheless, immersion does not always develop into flow. A player may be highly engaged in a game while remaining aware of an upcoming obligation, such as the need to stop playing to attend a lecture or catch a bus. Such a player is immersed to some degree but is not involved to the exclusion of other concerns and therefore cannot be considered to be in a state of flow.

Furthermore, a game may be immersive even when it does not satisfy the central conditions of flow. For example, players may become emotionally and narratively involved in a game that does not provide clear goals or immediate feedback. A difficult encounter may also exceed the player's abilities and interrupt the challenge–skill balance while remaining tense, meaningful, and immersive. Immersion can therefore accompany frustration, anxiety, fear, or failure, whereas flow is more closely associated with an optimal and intrinsically rewarding experience (Jennett et al., 2008).

Brown and Cairns (2004) similarly observe that flow and immersion share characteristics such as sustained attention, altered perceptions of time, and reduced self-awareness. However, their model treats immersion as a progressive experience that moves through engagement, engrossment, and total immersion. Even total immersion may be temporary and emotionally intense, distinguishing it from the specific optimal conditions associated with flow.

The relevance of flow to game design is further reflected in the GameFlow model. Sweetser and Wyeth (2005) adapt flow theory to digital games and identify eight principal components of player enjoyment: concentration, challenge, skills, control, clear goals, feedback, immersion, and social interaction. The model illustrates that a compelling game experience depends on the relationship among several design elements rather than on a single feature. Controls, difficulty, objectives, feedback, and narrative or audiovisual elements may operate together to sustain concentration and involvement.

Flow is relevant to the opening mission of a game because this stage introduces the player to its controls, goals, mechanics, and challenges. If the introductory sequence is confusing, excessively difficult, or too passive, it may prevent the development of concentration and perceived competence. By contrast, clear objectives, responsive controls, immediate feedback, and appropriately balanced challenges may facilitate both immersion and the conditions associated with flow. However, because the present study examines a specific and relatively brief introductory experience, immersion is the more appropriate primary construct. Participants may become substantially immersed during the first mission without necessarily reaching the optimal and comparatively demanding psychological state of flow.

2.4 Cognitive Absorption

Cognitive absorption describes a state of deep involvement in technology use. Agarwal and Karahanna (2000) conceptualise it through five dimensions: temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity. Their findings indicate that cognitive absorption influences perceived usefulness and perceived ease of use. Although the concept was developed in information-systems research, it overlaps with video-game immersion through sustained attention, altered time perception, enjoyment, and perceived control (Jennett et al., 2008).

2.5 Presence

Another important definition is Presence. As virtual reality technology evolves, it is a topic that is been increasing in research. The term Presence is heavily debated and there are different ways of measuring presence depending on the definition of the person (Zahorik & Jenison, 1998). Slater and others (1994) defines existence as a psychological feeling of being in a virtual environment. Witmer and Singer (1998) created a questionnaire to measure the subjectively experienced degree of presence using factors they believed to underlie presence (control, sensory, distraction, realism). They found that the naturalness of interactions with virtual environments and how much they mimic real-world experiences affect how much the presence is reported.

Zahorik and Jenison (1998) argue that presence should be measured by investigating the link between perception and action and by assessing the degree of legitimacy between the virtual environment and the real world.

On the other hand, Nunez and Blake (2006) make a distinction between presence games (e.g. role playing games, first person shooters) and non-presence games (abstract puzzles).

As seen in the researches, a definite conclusion and recognition has not been reached yet. However, Jennet et al. (2008) describe Existence is possible without immersion. One can imagine a person who feels present in a virtual environment but does not lose his sense of time (for example, when performing a tedious task in a virtual simulation) Jennet et al.(2008).

By now, covered the game experience, immersion, and follow-up issues necessary for our Research. However, in order to concentrate on our research even more, we need to address some of the necessary subheadings.

2.6 Immersion And Gaming Literacy

Gaming literacy is an important consideration in research on immersion because players do not approach a game with identical levels of knowledge and experience. Their ability to understand controls, recognise interface conventions, interpret objectives, identify genre-specific patterns, and respond to gameplay challenges may affect how easily they become involved in a game. Immersion is therefore influenced not only by the qualities of the game but also by the competencies that players bring to the gameplay experience.

Dudeney, Hockly, and Pegrum (2013) define gaming literacy as the ability to navigate and interact effectively within a gaming environment and accomplish game-related goals. This definition emphasises functional competence: players must understand how to control characters, use interfaces, interpret feedback, and respond to the rules and demands of the game. However, gaming literacy extends beyond the mechanical ability to operate a controller or keyboard. It also encompasses an understanding of game systems, genres, narratives, representational conventions, technologies, communities, and cultural practices.

At a functional level, gaming literacy includes familiarity with hardware and software, such as consoles, computers, controllers, and gaming platforms. It also involves the ability to interpret common interface elements, including maps, health indicators, mission markers, inventories, tutorials, and interaction prompts. Players with greater gaming experience may recognise these conventions quickly, whereas players with limited experience may need to devote more attention to understanding them. Consequently, differences in gaming literacy may affect the cognitive effort required during a game's introductory sequence.

Gaming literacy also involves learning and interpreting the rules that organise a game. Players must understand what actions are possible, what objectives must be achieved, how progress is communicated, and which strategies are effective. Gee (2003) argues that good video games function as learning systems in which players develop knowledge through exploration, feedback, experimentation, failure, and repeated attempts. Learning to play therefore requires more than memorising instructions. Players develop situated knowledge by applying rules, testing strategies, recognising patterns, and adapting their behaviour to new challenges.

In addition, gaming literacy has a cultural and communicative dimension. Knowledge of game genres, terminology, franchises, narrative conventions, and community practices can help players interpret game content and communicate with other players. For example, a player familiar with action-adventure or open-world games may already understand conventions such as mission structures, exploration systems, non-player character interactions, environmental storytelling, and gradual access to new areas or abilities. Such knowledge may reduce the effort required to interpret a new game.

Apperley and Walsh (2012) conceptualise gaming literacy as a relationship between action and text. Digital games require players not only to interpret visual, written, and auditory information but also to perform actions within rule-governed systems. Gaming literacy consequently includes the ability to understand how meaning is produced through gameplay mechanics, interface elements, spatial movement, choices, and their consequences. Their approach also highlights the importance of gaming paratexts, such as online guides, reviews, videos, forums, and discussions, through which players acquire knowledge and participate in gaming culture.

Critical gaming literacy extends beyond successful gameplay. It includes the ability to analyse and evaluate game design, representation, narratives, mechanics, reward systems, commercial

practices, and interactions within gaming communities. A gaming-literate individual may assess how a game communicates objectives, structures player choices, represents social groups, encourages particular behaviours, or uses monetisation systems. Gaming literacy thus combines operational skill, interpretive understanding, cultural knowledge, and critical evaluation.

These competencies may have important consequences for immersion. Brown and Cairns (2004) identify access as an initial barrier to engagement. Before players can become engrossed or fully immersed, they must understand how to interact with the game. Problems involving controls, usability, or unfamiliar conventions may require players to focus on the interface rather than the game world, disrupting attention and emotional involvement. Gaming literacy may help players overcome these access barriers more quickly because experienced players can draw on knowledge acquired from previous games.

However, greater gaming literacy does not automatically produce stronger immersion. Experienced players may recognise mechanics and interface conventions easily, but they may also evaluate games more critically, identify familiar design patterns, or compare the opening sequence with previous titles. Conversely, less experienced players may encounter more difficulty with controls while responding strongly to the game's narrative, graphics, characters, or atmosphere. Gaming literacy should therefore be considered a factor that may facilitate or constrain immersion rather than a direct guarantee of it.

Gaming literacy is especially relevant to the opening mission of *Red Dead Redemption 2*. The introductory sequence requires players to learn movement, interaction, combat, exploration, and mission-based mechanics while also following the narrative and becoming familiar with the characters and game world. Players with prior experience of action-adventure or open-world games may understand these conventions more readily and direct greater attention towards narrative and atmospheric elements. Players with less relevant experience may allocate more cognitive resources to learning the controls and interpreting gameplay instructions, potentially affecting their reported immersion.

Accordingly, differences in gaming literacy represent a possible source of variation in the relationship between first-mission immersion and willingness to continue playing. Prior gaming experience, familiarity with the action-adventure genre, knowledge of open-world conventions, and previous experience with Rockstar titles may influence both immersion and continued-play intentions. Although the present study does not treat gaming literacy as its primary variable, recognising its potential role is necessary when interpreting differences among participants' responses.

2.7 Immersion in Different Game Genres

On this study, investigate on action-adventure games. Because of that, on this part, we will talk action-adventure games more. However, each different game genres stand out with their different features. Each genre has different game designs. That is why immersion stands out with separate titles for each style of play. Each genre has different game atmospheres. Different game genres employ various techniques to enhance immersion, creating unique and immersive experiences for players. Here it is their approaches to immersion;

1- Role-Playing Games;

Character customisation and identification with player characters are important aspects of many role-playing games. Previous research has found that character identification and character customisation are related to flow, while avatar creation can allow players to experiment with or project aspects of their self-concept into the game world (Soutter & Hitchens, 2016; Hart, 2017).

The Elder Scrolls V: Skyrim provides an example of this type of role-playing design, combining extensive avatar creation with a large open-world environment (Hart, 2017).

2- Open World Games;

Open-world games are characterised by expansive environments in which exploration forms a central part of gameplay. Compared with more linear structures, they typically provide players with greater freedom to navigate the game world and determine how they engage with available activities and objectives (Vickery & Wyeth, 2022).

3- First Person Shooter Games;

FPS game players usually enjoy fast and action-packed games. Thus, FPS games strive to immerse players in fast-paced and action-packed gameplay. They commonly employ techniques such as realistic graphics, responsive controls, and dynamic sound design to create an immersive combat experience. The first-person perspective enhances the feeling of being directly in the shoes of the protagonist, intensifying the immersion by providing a heightened sense of presence and immediacy (Nacke, L. & Lindley, C. A., 2008).

4- Strategy Games;

Strategy games often prioritize mental engagement and long-term decision making. While they do not care too much about realistic visuals, they create immersion through complex gameplay mechanics, deep strategic options, and compelling narratives. Diving into strategy games comes from a sense of mastery over complex systems and the satisfaction of successfully executing strategic plans.

5- Simulation Games;

Simulation games aim to provide players with realistic experiences in various fields, such as driving, flying, or managing cities. Immersion is achieved by accurately replicating real-world systems, environments, and interactions. These games often emphasize attention to detail, authentic physics, and realistic graphics to make players feel as if they are participating in the simulated activity.

6- Action-Adventure Games;

Action-adventure games blend elements of action and exploration, often incorporating immersive storytelling and puzzle-solving. These games aim to engage players through dynamic combat, traversal mechanics, and a richly crafted world.

Narrative-driven Gameplay is really important for action-adventure games. Action-adventure games often feature compelling narratives with well-developed characters and intricate plots. Immersion is achieved through engaging storytelling techniques such as cutscenes, dialogue, and character interactions. Players become emotionally invested in the game world, motivated to progress and uncover the next chapter of the story.

And another way is, Immersion in action-adventure games is often fostered through vast and intricately designed game worlds. Developers invest significant effort in creating visually appealing and interactive environments, encouraging players to explore and discover hidden secrets. Environmental storytelling, through details like environmental cues and visual storytelling, further deepens the immersion, making the world feel alive and responsive to the player's actions.

Action-adventure games typically offer exciting combat mechanics that allow players to engage in fast-paced battles. Immersion is heightened by responsive controls, impactful animations, and a variety of combat options. Fluid movement systems, such as parkour or climbing mechanics, can also contribute to immersion by providing a sense of freedom and agency in traversing the game world.

Many action-adventure games incorporate puzzles and challenges that require players to use their critical thinking skills. Immersion is fostered when players are fully engaged in unraveling mysteries, deciphering clues, and finding solutions. Solving complex puzzles or overcoming challenging obstacles can provide a rewarding sense of accomplishment and further immerse players in the game world.

Immersive audio and visual design play crucial roles in action-adventure games. High-quality sound effects, background music, and voice acting contribute to the atmosphere, creating emotional responses and a sense of presence within the game world. Additionally, detailed graphics, realistic lighting, and environmental effects enhance immersion, making the virtual world feel vivid and believable.

Immersion in action-adventure games can be heightened when players have agency over their choices and actions. Meaningful decisions that impact the narrative, character development, or game world can make players feel deeply involved and invested. The sense that their choices have consequences within the game world can strengthen immersion and emotional engagement.

In conclusion, Action-adventure games often provide a well-rounded immersive experience by combining elements of action, exploration, storytelling, and problem-solving. These games offer a balance of engaging gameplay mechanics and narrative depth, enticing players to embark on epic adventures and lose themselves in captivating virtual worlds.

2.8. Game Features Contributing to Immersion

Immersion does not result from a single characteristic of a game. It emerges through the interaction of audiovisual design, narrative, characters, gameplay mechanics, challenge,

control, feedback, and the player's previous experience. The relative importance of these components may also vary across genres and players. In narrative-driven action-adventure games, visual presentation, atmosphere, character development, storytelling, and gameplay are especially likely to operate together in shaping immersion.

Visual Design and Graphics

Visual design is one of the most immediately noticeable components of a game experience. Character models, animation, environmental detail, lighting, colour, art direction, interface design, and visual feedback contribute to the credibility and coherence of the game world. Bastos et al. (2017) argue that graphics can support presence and immersion when the visual elements are internally coherent and appropriately integrated with the game's narrative and mechanics. Their recommendations emphasise not merely graphical realism but also the quality of the art direction, environmental design, interface, and consistency between visual presentation and other game components.

Therefore, graphical realism should not be treated as a necessary condition for immersion. Highly realistic graphics may enhance the perceived authenticity of an action-adventure game, but a coherent and distinctive art style can also produce a strong immersive experience. Conversely, technically advanced graphics may not sustain immersion if the animation, interface, environmental design, and gameplay are inconsistent. Visual credibility is thus better understood in terms of coherence and suitability rather than realism alone.

Games with relatively simple graphics can still be highly immersive. Jennett et al. (2008) use *Tetris* to demonstrate that a game does not need to create a realistic three-dimensional world to capture attention, reduce awareness of external events, or alter the perception of time. Players may become immersed through concentration, challenge, interaction, and feedback even when the visual presentation is abstract. This distinction also illustrates why immersion should not be equated with spatial presence: players are unlikely to feel physically located inside the world of *Tetris*, but they may nevertheless become deeply absorbed in playing it.

Haywood and Cairns' (2006) study of children's engagement with an interactive museum exhibit offers additional evidence that engagement is not generated by visual presentation alone. Their findings identified participation, narration, and the co-presence of others as important dimensions of engagement. Although the study did not directly demonstrate that meaningful graphics were the principal source of immersion, it showed that interactive and narrative features of an environment can work together to sustain attention. Its findings therefore support a multidimensional understanding of engagement rather than a graphics-centred explanation.

Narrative and Character Involvement

Narrative represents another important potential source of immersion. Stories organise events, establish goals and conflicts, introduce characters, and provide meaning for player actions. In narrative-oriented games, players may become immersed because they want to understand the game world, discover what will happen next, or follow the development of particular characters.

Narrative immersion may therefore involve curiosity, comprehension, concentration, empathy, and emotional investment (Qin et al., 2009).

The relationship between narrative and games has nevertheless been the subject of extensive theoretical debate. Earlier perspectives questioned whether the term "narrative" could be applied directly to games because conventional narratives generally have fixed sequences, whereas games allow interaction and variable outcomes (Juul, 1999). Prewritten narratives may appear to restrict player agency because major events have been determined before gameplay begins. However, interactivity and narrative do not necessarily exclude one another. Even when the principal story is predetermined, players participate in its development through movement, exploration, combat, dialogue, and other actions.

Narrative importance also varies considerably across genres. Fighting, puzzle, sports, or abstract games may generate immersion primarily through challenge, competition, repetition, mastery, or feedback. Role-playing, adventure, and action-adventure games, by contrast, often depend more strongly on world-building, character relationships, conflict, and narrative progression. Consequently, narrative should not be considered a universal requirement for immersion, but it may be particularly influential in games such as *Red Dead Redemption 2*, in which the player's experience is organised around characters, relationships, missions, and an extended storyline.

Characters can contribute to immersion by giving the player an emotional point of connection with the game world. Believable dialogue, consistent motivations, expressive animation, and relationships among characters may promote empathy and curiosity. Narrative and character immersion may become especially important during an introductory mission because players have not yet had sufficient time to master the mechanics or explore the wider game world. Character interactions and unresolved narrative questions may therefore provide reasons to continue even when the initial gameplay is slow or restrictive.

Gameplay, Agency, and Challenge

Gameplay mechanics transform the game world from something players observe into something they can act upon. Responsive controls, meaningful choices, clear goals, balanced challenges, and appropriate feedback may strengthen immersion by connecting the player's intentions to visible consequences. In contrast, unclear controls, inconsistent mechanics, excessive difficulty, or intrusive tutorials may redirect attention away from the fictional world and towards the technical operation of the game.

Agency is particularly important because players need to perceive that their actions matter within the game system. However, agency does not require unlimited choice. A largely linear mission may still provide meaningful agency when players can control movement, respond to challenges, select strategies, and understand how their actions contribute to progress. In an action-adventure game, narrative and gameplay immersion are therefore interdependent: narrative gives actions context, while gameplay allows players to participate in the events being represented.

The First-Hour Experience

The significance of these game features becomes especially apparent during the player's first sustained session. Cheung, Zimmermann, and Nagappan (2014) define the "first hour" as the initial period in which players encounter the gameplay, learn how the game is intended to be

played, and compare their prior expectations with their actual experience. The term does not necessarily refer to exactly 60 minutes; depending on the game, the initial experience may last from several minutes to several hours.

Cheung et al. (2014) found that the first-hour experience involves more than a straightforward progression from limited to deeper immersion. Players actively evaluate the game, learn its systems, adjust settings, compare the experience with their expectations, and decide whether its apparent potential justifies continued investment. Some features may operate as immediate "deal-breakers," while others function as "holdouts" that encourage players to continue despite initial dissatisfaction. Anticipation of a compelling narrative development, a deeper gameplay system, or access to the wider game world may therefore sustain interest even if the first hour is not consistently enjoyable.

The distinction between memorable and engaging experiences is particularly relevant. Impressive graphics or a cinematic event may create a memorable moment of excitement without necessarily generating a lasting desire to continue. By contrast, an unresolved narrative question, an interesting character, or the suggestion of deeper gameplay may create intrigue and motivate further play. Cheung et al. (2014) consequently argue that intrigue and useful information about the experience to come can be as important as immediate enjoyment.

This argument is relevant to *Red Dead Redemption 2*, whose introductory sequence combines a visually detailed environment, a strongly controlled narrative, character introductions, basic tutorials, and limited access to the broader open world. Players may initially have less freedom than they will in later chapters, but the opening mission can communicate the game's intended atmosphere, narrative depth, character relationships, and future gameplay possibilities. Its ability to sustain interest may therefore depend on whether these elements collectively provide a credible indication of the fuller experience that follows.

Immersion during an opening mission should consequently be examined as the combined outcome of several game features. Graphics may establish sensory credibility; sound and music may construct atmosphere; narrative and characters may create emotional and imaginative involvement; and gameplay mechanics may provide challenge, control, and agency. The present study therefore examines not only participants' overall immersion during the opening mission of *Red Dead Redemption 2* but also the particular features they identify as contributing to that experience.

3. Research Problem

Immersion is an important dimension of the player–game relationship. It involves focused attention, emotional and cognitive involvement, reduced awareness of the external environment, and, in some cases, an altered perception of time (Jennett et al., 2008). Although immersion does not necessarily guarantee that a player will continue playing, insufficient involvement during the introductory sequence may reduce the motivation to invest further time in a game.

The first sustained play session is particularly important because it establishes the foundation of the broader game experience. During this period, players encounter the narrative, characters, setting, visual design, atmosphere, mechanics, controls, objectives, and difficulty structure for the first time. They must simultaneously learn how to interact with the game and evaluate whether the experience is sufficiently interesting to continue. The opening sequence therefore performs several functions: introducing the game world, teaching essential skills, communicating the game's identity, and providing an indication of the experience that will follow.

Cheung et al. (2014) describe this initial play period as the "first hour," although its duration may range from several minutes to several hours depending on the game. Their analysis of more than 200 game reviews and interviews with industry professionals demonstrates that the first hour constitutes a probationary period during which players compare their expectations with their actual experiences. Based on this evaluation, players may either continue or abandon the game. Games are voluntary activities and can be discontinued easily; therefore, the quality of later content becomes irrelevant to players who lose interest before reaching it.

The first-hour experience is not determined solely by immediate enjoyment. An opening sequence may include technically impressive or memorable moments without generating sustained interest. Conversely, players may tolerate slow pacing, restricted freedom, or difficult tutorials when the game creates sufficient curiosity about its narrative, characters, mechanics, or future possibilities. Cheung et al. (2014) consequently argue that intrigue and information about the experience to come may be as important as immediate enjoyment. The opening should not only entertain players but also allow them to understand the game's central appeal and recognise reasons for continuing.

Immersion may contribute to this process by directing players' attention towards the game and encouraging cognitive, emotional, and imaginative involvement. However, relatively little research has examined whether immersion experienced specifically during the first mission is associated with willingness to continue playing. Most studies address immersion as part of the overall gameplay experience rather than isolating the introductory sequence. Likewise, continued-play research frequently examines established users whose experiences extend considerably beyond the first mission. Consequently, it remains unclear whether players who report higher immersion during an opening mission are also more willing to proceed with the game.

Although industry organisations may collect telemetry and conduct internal player-retention studies, their methods and findings are not always publicly available. Claims concerning universal abandonment percentages during the first 10 or 30 minutes should therefore be treated cautiously because drop-off rates are likely to vary according to genre, platform, business model, player population, and the way abandonment is defined.

The present study addresses this research problem through the opening mission and tutorial sequence of *Red Dead Redemption 2*. Its introduction combines narrative exposition, character development, environmental atmosphere, audiovisual presentation, limited exploration, and tutorials for fundamental gameplay mechanics. It therefore provides a suitable case for examining how different features operate together during the initial player experience.

The principal research problem is whether the level of immersion experienced during the first mission is associated with players' willingness to continue playing. The study also investigates which features particularly narrative, characters, graphics, atmosphere, and gameplay players perceive as contributing to immersion. By focusing on a specific introductory sequence, the study aims to contribute exploratory evidence to the limited academic literature on first-mission immersion and continued player engagement.

3.1 Research Questions

The aim of this study is primarily to examine whether reported immersion during the first mission is associated with players' self-reported willingness to continue playing. A secondary exploratory aim is to identify which features of the opening mission participants perceive as contributing to their immersion.

Primary Research Question (RQ1):

Is perceived immersion during the first mission of *Red Dead Redemption 2* associated with players' willingness to continue playing?

Secondary Exploratory Research Question (RQ2):

Which features of the opening mission do participants identify as contributing to their immersion?

3.2 Hypothesis

H1: Higher levels of perceived immersion during the first mission are positively associated with a greater willingness to continue playing the game.

4. METHOD

This chapter describes the research design, measurement instruments, participant selection, data collection procedure, and analytical approach employed in the study. A cross-sectional online survey design was used, with quantitative measures supplemented by open-ended questions. This design enabled data to be collected efficiently from participants in different geographical locations and provided numerical data suitable for statistical analysis. The open-ended questions were included to provide contextual information about players' experiences and to identify game features that could not be fully captured through fixed-response items.

4.1. Research Design

The study employed a cross-sectional, predominantly quantitative research design. Data were collected at a single point in time through a self-administered online survey. Quantitative research involves the systematic empirical investigation of phenomena through numerical measurement and statistical analysis (Creswell, 2014). This approach was appropriate because the primary aim was to examine whether immersion during the first mission of *Red Dead Redemption 2* was associated with players' willingness to continue playing.

The quantitative component consisted of validated Likert-type items measuring immersion, a global immersion rating, and questions relating to willingness to continue playing. The resulting data were analysed using descriptive statistics, internal-consistency analysis, and an appropriate non-parametric test of association. A non-parametric approach was selected because of the small sample size and the measurement characteristics of the variables.

The survey also contained open-ended questions asking participants to explain how the first mission affected their willingness to continue and to identify the features that contributed to their immersion. Responses were organised through a simple content-coding procedure in which recurring features and experiences were grouped into descriptive categories. The frequencies of these categories were then reported alongside the quantitative findings.

Although the study contains both numerical and textual data, it is more accurately described as a **quantitative survey supplemented by qualitative open-ended items** than as a fully integrated mixed-methods study. A mixed-methods design generally requires systematic collection, analysis, and integration of substantial quantitative and qualitative datasets (Creswell & Plano Clark, 2018). In the present study, the open-ended responses serve a supporting and explanatory function rather than constituting an independent qualitative research component.

This design was considered appropriate and proportionate to the exploratory research question and the practical scope of a one-year master's project. The study was not designed to determine causality because immersion and willingness to continue were measured through a cross-sectional survey rather than manipulated experimentally or assessed longitudinally. It also does not aim to produce statistically generalisable conclusions about all players or action-adventure games. Instead, it describes patterns within a specific convenience sample and provides an exploratory methodological foundation for future studies using larger samples, experimental designs, longitudinal measures, or gameplay telemetry.

4.2 Selection of Game

The selection of a target game required a title that (a) belongs to the open-world action-adventure genre directly relevant to the research question, (b) is widely played and therefore affords a sufficient pool of potential participants, and (c) is neither an extreme outlier in terms of player engagement nor a poorly received title, so that results are representative of a reasonably successful game in this genre rather than a special case. To operationalise these criteria, eight critically successful open-world action-adventure games released within the preceding ten to fifteen years were identified. Average playtime data for each title were retrieved from the Steamladder platform, which aggregates publicly available Steam library statistics. Red Dead Redemption 2 (Rockstar Games, 2018) ranked fourth among these eight titles with a mean playtime of 2,820.9 hours, placing it in the middle of the distribution rather than at either extreme. Six of the eight titles carried a 'Very Positive' rating on Steam and one carried an 'Overwhelmingly Positive' rating, confirming that the comparison set consisted of well-received titles; Red Dead Redemption 2 itself holds a 'Very Positive' rating.

On this basis, Red Dead Redemption 2 was selected as a representative, mid-engagement title within a set of successful games in the target genre. It is acknowledged that average playtime as recorded on Steam is an imperfect proxy for immersiveness, and that the Steamladder dataset captures only the PC player population. These limitations are discussed further in Section 6.4.

Red Dead Redemption 2 is set in a fictionalised representation of the American frontier in 1899 and follows the story of Arthur Morgan, a member of the Van der Linde gang. The game received four awards at The Game Awards 2018, including Best Narrative, Best Score/Music, Best Audio Design and Best Performance. The first mission and tutorial sequence was selected as the unit of analysis for this study because it constitutes the player's initial point of contact with the game world, its mechanics, and its narrative — the moment at which a first impression is formed and a decision to continue or disengage is most likely to be made (Zimmermann et al., 2014).

4.3 Participants

The target population consisted of players who had completed the first mission and tutorial sequence of Red Dead Redemption 2 on PC within the two months preceding data collection. The two-month recency criterion was applied to minimise recall bias and ensure that participants could accurately remember their experiences of the game's opening sequence.

Participants were recruited through convenience sampling from Discord communities dedicated to Red Dead Redemption 2 and related gaming discussions. This recruitment approach provided direct access to active players who met the inclusion criteria and was considered appropriate for the exploratory scope of the study. Participation was entirely voluntary and no incentives were offered.

A total of 20 participants completed the survey. Of these, 16 (80%) identified as male and 4 (20%) as female. The majority of participants were between 18 and 25 years of age (n = 13, 65%), followed by participants aged 26–35 (n = 6, 30%), while one participant (5%) was between 36 and 45 years old. Participants represented a range of national backgrounds, reflecting the international nature of the online gaming communities from which the sample was recruited. While this diversity strengthens the relevance of the findings across different player groups, the use of convenience sampling and the relatively small sample size limit the generalisability of the results.

4.4 Instrument

Data were collected using a self-administered online survey distributed via Google Forms. The survey comprised five components, summarised in Table 2.

Table 2. Survey components and item counts.

Component	Items	Description
IEQ Likert-scale items	32	Sixteen positive/negative item pairs rated on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*).
Overall immersion rating	1	A single global item asking "How immersed did you feel?", rated from 0 (*not at all immersed*) to 10 (*very immersed*).
Willingness to continue	1	One open-ended item asking whether immersion during the first mission affected the participant's willingness to continue playing. Responses were subsequently coded as *Yes*, *Neutral*, *No*, or *No response*.
Immersion-feature item	1	One open-ended item asking which game features most affected immersion (graphics, narrative, sound, mechanics).
Demographic items	3	Gender, age range, and nationality/background.

4.5 The Immersion Experience Questionnaire (IEQ)

The primary measurement instrument was the Immersion Experience Questionnaire (IEQ) based on questionnaire material reported by Jennett et al. (2008). The IEQ was developed from prior theoretical work on flow (Csikszentmihalyi, 1990), cognitive absorption (Agarwal & Karahanna, 2000), and presence (Witmer & Singer, 1998). It was selected for this research because it was developed to examine immersion specifically in video games and because it operationalises immersion as a multidimensional construct rather than a single global rating.

This study used the earlier paired questionnaire reported in Experiments 1 and 2 of Jennett et al. (2008), consisting of 32 items; this form should be distinguished from the later 31-item IEQ. The version administered in this study consists of 32 Likert-scale items structured as 16 positive/negative pairs. All items were rated on a five-point scale from 1 (strongly disagree) to 5 (strongly agree). Prior to analysis, all negatively worded items were reverse-scored so that higher values consistently indicate greater immersion across all items.

In addition to the 32 Likert-scale items, participants were asked to rate their overall level of immersion during the first mission on an eleven-point scale ranging from 0 (not at all immersed) to 10 (very immersed). It was included to provide a general indication of participants' perceived immersion during the game's opening sequence.

4.5.1 Willingness-to-Continue Item

To assess willingness to continue playing, participants were asked an open-ended question about whether their experience of the first mission had affected their willingness to continue playing

the game. Responses were subsequently coded into four categories: Yes, Neutral, No or No response. As the item was developed for this study and required post-hoc interpretation, it should be regarded as an exploratory measure rather than validated behavioural-intention scale.

4.5.2 Open-Ended Items

Two open-ended questions were appended to the quantitative items. The first asked participants to identify which game features they identified as contributing to their immersion, offering graphics, narrative, sound, and mechanics as non-exclusive prompts while allowing free-text elaboration. The second invited any additional comments on their immersive experience during the first mission. These items were included to provide qualitative context for the quantitative findings and to allow participants to identify factors not captured by the IEQ items.

4.6 Pilot Test and Design Revision

The study underwent one design iteration following an initial pilot test. In the original design, participants who had not previously played Red Dead Redemption 2 were to be invited to play the first mission in a controlled setting before completing the questionnaire. Feedback from the pilot participant indicated that the unfamiliar environment and equipment introduced a source of discomfort that was likely to confound the immersion measurement: the participant reported being unable to fully engage with the game due to the laboratory context rather than the game itself. This feedback indicated that the controlled play condition was introducing a confound that would undermine the validity of the immersion data.

In response, the study design was revised to recruit players who had already completed the first mission in their own environment and on their own equipment within the preceding two months. This revision eliminated the environmental confound identified in the pilot test. The trade-off is that the study design became retrospective and self-report in nature, with the associated limitations of recall bias discussed in Section 6.4.

4.6.1 Procedure

The survey was hosted on Google Forms and distributed as a link in relevant Discord channels. The introductory page of the survey specified that participation was restricted to players who had completed the first mission of Red Dead Redemption 2 on PC within the preceding two months; participants who did not meet this criterion were asked to exit the survey. No mechanism was in place to verify this criterion objectively, which is acknowledged as a limitation.

The survey was self-administered, with no researcher present during completion. Estimated completion time was approximately ten to fifteen minutes. Responses were collected over a defined data collection period and exported from Google Forms as a comma-separated values file for analysis.

4.6.2 Ethical Considerations

The study was conducted in accordance with the principles of reliability, honesty, respect, and accountability outlined by the Swedish Research Council (2025). Ethical considerations were incorporated throughout the design, data-collection, analysis, and reporting processes. The study involved a low-risk online survey of adult participants and did not include deception, experimental intervention, or the collection of names, contact details, or other direct identifiers. The introductory page explained the purpose of the study, the eligibility criteria, the voluntary nature of participation, and the intended use of the collected data. Participants were free to

discontinue the questionnaire at any point before submission, and no financial reward or other incentive was offered.

Only the demographic information required for the analysis—gender, age range, and nationality or background—was collected. Participants completed the questionnaire at their own pace, and the researcher did not impose a fixed gameplay duration. Responses were analysed and reported in aggregate, while quotations from open-ended responses were presented without identifying information. The collected data were used solely for the purposes of this master's thesis. These measures were intended to protect participants' privacy, minimise potential harm, and ensure that the research process and findings were reported transparently. The limitations arising from the small convenience sample and the retrospective self-report design were also acknowledged to avoid claims exceeding the scope of the data. (Swedish Research Council ,2025).

4.7 Data Analysis

Data analysis was conducted in three stages. First, responses to the 32 questionnaire items used in this study were assigned scores ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Negatively worded items—Items 2, 4, 6, 8, 10, 12, 13, 16, 18, 20, 22, 24, 26, 28, 30, and 32—were reverse-scored so that higher values consistently indicated greater immersion. This scoring key corresponds to the positive–negative item structure of the earlier paired questionnaire presented by Jennett et al. (2008).

Following reverse-scoring, a 32-item immersion score was calculated for each participant by averaging their responses across all 32 items. The use of a mean score retained the original 1–5 response metric and facilitated interpretation. Given the exploratory nature of the study and the limited sample size, separate subscale scores were not calculated or analysed. The internal consistency of the 32-item score was assessed using Cronbach's alpha. The single-item global immersion rating, measured on a scale from 0 (*not at all immersed*) to 10 (*very immersed*), was analysed separately as an additional measure of participants' overall perceived immersion.

Second, responses to the open-ended question concerning willingness to continue playing were coded as an ordinal variable: *No* = 1, *Neutral* = 2, and *Yes* = 3. One participant did not answer this question and was therefore excluded from analyses involving willingness to continue. Spearman's rank-order correlation was selected because willingness to continue was represented as an ordinal variable and the small sample size did not support an assumption that the requirements of parametric correlation had been satisfied.

Spearman's rank-order correlation coefficient was used to examine three relationships:

1. The association between the 32 item immersion score and willingness to continue playing;
2. The association between the 0–10 global immersion rating and willingness to continue playing; and
3. The association between the 32 item immersion score and the global immersion rating.

An additional analysis was conducted as an exploratory consistency check to determine whether the 32 item immersion score and the single-item global rating produced corresponding assessments of immersion. Given the limited sample size and the large number of tied values in the ordinal willingness variable, all correlation coefficients were interpreted as exploratory

rather than confirmatory. Statistical nonsignificance was not interpreted as evidence that no relationship existed.

Third, responses to the open-ended question concerning immersion-enhancing game features were analysed through a descriptive content-coding procedure. Responses were assigned to five categories:

- Narrative, story, and characters;
- Graphics, visuals, and animation;
- Atmosphere and world design;
- Sound, music, and voice acting; and
- Mechanics, controls, and gameplay.

Each response could be assigned to more than one category when multiple features were mentioned. The categories were therefore not mutually exclusive, and the total number of coded feature mentions could exceed both the number of responses and the number of participants. Category frequencies were used to identify the game features most commonly perceived as contributing to immersion.

5. Results

This chapter presents the findings obtained from 20 participants who had completed the first mission and tutorial section of *Red Dead Redemption 2* within the two months preceding data collection. The findings are organised into five subsections: participant demographics, questionnaire reliability and immersion findings, willingness to continue playing, the relationship between immersion and willingness to continue playing, and the features that influenced immersion. In addition to descriptive statistics, this chapter reports the internal consistency analysis of the 32-item immersion score and exploratory Spearman's rank order correlations. Given the limited sample size, the correlation results were interpreted cautiously and were not treated as confirmatory evidence. The interpretation of the findings and their relationship to the existing literature are discussed in Chapter 6.

5.1 Participant Demographics

A total of 20 participants completed the survey. Table 3 provides a summary of the demographic composition of the sample.

Table 3. Demographic characterstics of the sample (NP = 20).

Variable	Category	n (%)
Gender	Male	16 (80.0%)
	Female	4 (20.0%)
Age range	18–25	13 (65.0%)
	26–35	6 (30.0%)
	36–45	1 (5.0%)
Nationality	Turkish / Turkey	9 (45.0%)
	Swedish	3 (15.0%)
	German / Germany	2 (10.0%)
	Other (Belgian, Canadian, Croatian, Zimbabwean, Asian)	5 (25.0%)
	Not stated	1 (5.0%)

Of the 20 participants, 16 (80.0%) identified as male and 4 (20.0%) as female. The majority of the sample fell within the 18–25 age range (n = 13, 65.0%), with six participants (30.0%) aged 26–35 and one participant (5.0%) aged 36–45. No participants selected the 45+ age category. In terms of nationality, Turkish or Turkey-identified participants constituted the largest group (n = 9, 45.0%), followed by Swedish (n = 3, 15.0%) and German or Germany-identified participants (n = 2, 10.0%). The remaining five participants reported Belgian, Canadian, Croatian, Zimbabwean, and Asian nationalities respectively, and one participant did not provide nationality information. In total, participants represented eight distinct national backgrounds.

The sample was predominantly composed of young male participants, reflecting the convenience recruitment strategy employed via Discord gaming communities.The

predominance of young male participants from a small number of nationalities represents a limitation on the generalisability of findings, which is addressed in the Discussion chapter.

5.2 Questionnaire Reliability and Immersion Results

Immersion was assessed using the 32-item paired questionnaire described in section 4.5, based on Jennett et al. (2008) and a separate global immersion rating ranging from 0 (not at all immersed) to 10 (very immersed).

Following the reverse-scoring of the negatively worded items, 32-item immersion score was calculated for each participant by averaging responses across all 32 items. The 32-item immersion score demonstrated good internal consistency, with a Cronbach's alpha of .835. The 32-item immersion score was 3.66 (SD = 0.43), with scores ranging from 2.84 to 4.34 on the five-point scale.

The 32-item immersion score was strongly and positively associated with the separate global immersion rating, $r_s = .72$, $p < .001$. Participants with higher scores across the 32 questionnaire items therefore also generally reported higher immersion on the global rating.

The mean global immersion rating across all 20 participants was 7.65 (SD = 1.73, median = 7.5), with scores ranging from 3 to 10. The distribution of global immersion ratings is presented in Table 4.

Table 4. Distribution of overall immersion ratings (0-10 scale; N = 20).

Score (0–10)	Frequency (n)	Percentage (%)	Cumulative % (≥ score)
3	1	5.0	100.0
6	3	15.0	95.0
7	6	30.0	80.0
8	3	15.0	50.0
9	4	20.0	35.0
10	3	15.0	15.0
Total	20	100.0	—

As shown in Table 4, 16 of the 20 participants (80.0%) reported an overall immersion score of 7 or above, and 10 participants (50.0%) reported a score of 8 or above. Three participants (15.0%) reported a maximum score of 10, indicating the highest possible level of immersion. Only one participant reported a score below 6, recording a score of 3. No participant reported a score of 5 or below other than this single outlier. The distribution is therefore negatively skewed, with the majority of scores concentrated in the upper half of the scale.

5.3 Willingness to Continue Playing

Participants were asked to indicate whether their experience of the first mission had affected their willingness to continue playing the game. Responses were provided in open-ended free-text form and subsequently coded into four categories: Yes (indicating a positive effect on willingness to continue), Neutral (indicating no clear effect or an ambiguous response), No (indicating that the first mission did not positively affect willingness to continue), and No response (where the participant did not answer the question). Table 5 presents the coded distribution of responses.

Table 5. Coded responses to the willingness-to-continue item (N = 20).

Response category	n	Percentage (%)
Yes	14	70.0
Neutral	3	15.0
No	2	10.0
No response	1	5.0
Total	20	100.0

Fourteen participants (70.0%) indicated that the first mission had positively affected their willingness to continue playing the game. Representative responses in this category included affirmative statements such as "Definitely. First impressions are important" and "Yes, it made me want to know what more this game had to entail." Three participants (15.0%) were coded as Neutral, including one who stated that the first mission "didn't affect my willingness to play positively or negatively" and two whose responses were ambiguous regarding direction of effect. Two participants (10.0%) were coded as No, indicating that the first mission did not positively affect their willingness to continue. One participant did not provide a response to this item (5.0%).

It should be noted that the free-text nature of the willingness item introduced some interpretive ambiguity in the coding process. One response in particular — "no not at all, it makes you want to know more about the character" — was coded as Yes on the grounds that the substantive content of the statement expresses a desire to continue; however, this coding decision is acknowledged as a limitation of the open-ended measurement approach.

5.4 Association Between Immersion And Willingness to Continue

The participant who did not answer the willingness-to-continue item was excluded from the correlational analyses, resulting in a sample of 19 responses. Willingness was coded ordinally as No = 1, Neutral = 2, and Yes = 3.

The association between the 32-item immersion score and willingness to continue was positive but weak and was not statistically significant, $r_s = .17$, $p = .491$. Similarly, the association

between the 0-10 global immersion rating and willingness to continue was positive but not statistically significant, $r_s = .23$, $p = .337$.

Table 6. Immersion Scores by Willingess-to-Continue Group

Table 6. Immersion Scores by Willingness-to-Continue Group

Willingness group	n	Full-scale IEQ M (SD)	Global immersion M (SD)
Yes	14	3.68 (0.46)	8.00 (1.52)
Neutral	3	3.71 (0.34)	7.67 (1.15)
No	2	3.39 (0.51)	5.50 (3.54)
No response	1	3.91 (—)	7.00 (—)

Note. Full-scale IEQ scores range from 1 to 5; global immersion ratings range from 0 to 10. Group means are presented descriptively. Spearman correlation analyses are reported in the accompanying text. SD is not reported where $n = 1$.

As shown in Table 6, participants in the Yes group recorded a mean global immersion rating of 8.00, compared with 7.67 for the Neutral group and 5.50 for the No group. However, the No group comprised only two participants, substantially limiting the interpretation of this difference. In addition, the 32-items immersion score means were similar for the Yes and Neutral groups. Consistent with the Spearman correlation analyses reported above, these descriptive group differences do not provide statistically significant evidence of an association between immersion and willingness to continue and should therefore be interpreted cautiously. H1 was not supported in this sample because neither association with willingness to continue was statistically significant.

5.5 Features Identified as Contributing to Immersion

The survey included an open-ended item asking participants to identify which game features they perceived as contributing to their immersion. Responses were analysed using a content coding procedure in which each response was coded against five descriptive feature categories: narrative/story/characters, graphics/visuals/animation, atmosphere/world design, sound/music/voice acting, and mechanics/controls/gameplay. Responses that referenced multiple features were coded for all applicable categories; consequently, the total number of feature mentions exceeds the number of participants. The resulting frequencies are presented in Table 7.

Table 7. Frequency of feature categories mentioned in open-ended immersion responses (N = 20; multiple coding applied).

Feature category	Mentions (n)	% of participants	Note
Narrative / Story / Characters	10	50.0%	Most frequently cited
Graphics / Visuals / Animation	9	45.0%	
Atmosphere / World Design	8	40.0%	Often cited in combination with graphics and sound
Sound / Music / Voice Acting	6	30.0%	
Mechanics / Controls / Gameplay	6	30.0%	

Narrative, story, and characters were the most frequently mentioned feature category, cited by 10 participants (50.0%). Graphics, visuals, and animation were cited by 9 participants (45.0%), making them the second most frequently mentioned category. Atmosphere and world design were cited by 8 participants (40.0%), frequently in combination with graphics and sound, as reflected in responses such as "the harmony of music with graphics" and "atmosphere that includes sound effects, music, and the whole environment of the game." Sound, music, and voice acting were cited by 6 participants (30.0%), as were mechanics, controls, and gameplay.

A notable pattern in the open-ended responses is the tendency for participants to describe immersion as arising from the combination of multiple features rather than a single dominant element. Several participants explicitly referenced the interaction between graphics, sound, and narrative as producing an overall sense of atmosphere, suggesting that immersive experience during the first mission was perceived as a holistic rather than feature-specific phenomenon. The results of this content analysis are treated as exploratory given the small sample and the informal nature of the free-text responses.

6. DISCUSSION

This chapter interprets the findings presented in Chapter 5 in relation to the research questions, theoretical framework, and existing literature on immersion and player engagement. The study addressed the following question: **Is immersion during the first mission associated with willingness to continue playing?** The discussion is organised around the main findings, the relationship between immersion and willingness to continue, the game features contributing to immersion, the study's limitations, and recommendations for future research.

6.1. Discussion of the Main Findings

The findings indicate that participants generally experienced relatively high levels of immersion during the first mission and tutorial sequence of *Red Dead Redemption 2*. The 32-item immersion score demonstrated good internal consistency (Cronbach's $\alpha = .835$), and the mean 32-item immersion score was 3.66 (SD = 0.43) on the five-point scale. The mean global immersion rating was 7.65 (SD = 1.73) on the 0–10 scale, with 80.0% of participants providing ratings of seven or above. These results suggest that the introductory sequence was experienced as comparatively immersive by most participants.

Willingness to continue playing was also predominantly positive. Fourteen participants indicated that the opening sequence had positively influenced their willingness to continue. This corresponds to 70.0% of the full sample (14/20) or 73.7% of participants who provided a valid response to the question (14/19). Because one participant did not answer this item, the denominator should be stated explicitly whenever this percentage is reported.

Despite these generally positive descriptive findings, the exploratory correlation analyses did not identify a statistically significant association between immersion and willingness to continue playing. Neither the 32-item immersion score nor the single-item global immersion rating was significantly correlated with willingness to continue. Therefore, the results do not provide statistical support for the proposed hypothesis within this sample. Accordingly, H1 was not supported in this sample.

The importance assigned to the opening sequence is broadly consistent with Cheung et al. (2014), who characterise the first sustained play session as a probationary period during which players compare their prior expectations with the actual game experience. During this period, players are not simply playing; they are also evaluating the game's mechanics, presentation, narrative potential, and likely future value. The relatively high immersion scores in the present study indicate that most participants responded positively to the opening sequence. However, the absence of a significant relationship demonstrates that a highly immersive first mission does not necessarily translate directly into a willingness to continue playing.

This distinction is theoretically and practically important. Immersion describes the intensity and quality of involvement during a particular gameplay experience, whereas willingness to continue represents an intention concerning future behaviour. Although these constructs may be related, they are not equivalent. A player may become absorbed in a sequence while deciding not to continue because of limited time, genre preferences, pacing, anticipated gameplay demands, or other personal considerations. Conversely, a player may experience only moderate immersion but continue because of curiosity, recommendations, attachment to the franchise, or expectations that the game will become more rewarding later.

Cheung et al. (2014) similarly show that continuation decisions cannot be explained exclusively by immediate enjoyment or immersion. Their concept of "holdouts" describes features that encourage players to continue despite shortcomings in the initial experience. Narrative curiosity, anticipated mechanics, unexplored environments, or expectations about later content may sustain engagement independently of the immersion experienced during the first mission. Accordingly, the present findings support a more complex interpretation of early player engagement rather than a simple model in which greater immersion necessarily produces continued play.

6.2. Immersion and Willingness to Continue Playing

The descriptive global immersion ratings were higher among participants who answered "Yes" than among those who answered "Neutral" or "No." Nevertheless, neither the 32-item immersion score nor the global immersion rating was significantly associated with willingness to continue. The correlation coefficients were positive but weak, and the small and unequal response groups substantially limit their interpretation.

The theoretical rationale for expecting a relationship remains plausible. Jennett et al. (2008) conceptualise immersion as a graded experience involving attention, emotional involvement, perceived control, challenge, and reduced awareness of the external environment. A player who becomes absorbed in a game may be motivated to maintain or return to that experience. Flow theory also proposes that optimally challenging and intrinsically rewarding activities can motivate continued participation (Csikszentmihalyi, 1990). However, immersion and flow are distinct. Immersion may occur without the clear goals, immediate feedback, challenge–skill balance, and optimal experience required for flow (Jennett et al., 2008).

The positive direction of the observed coefficients is therefore theoretically understandable, but statistical nonsignificance means that the study cannot conclude that greater immersion was associated with greater willingness to continue. The findings should also not be interpreted as demonstrating that no relationship exists. With only 19 valid responses for the willingness variable, the analysis had limited statistical power to detect anything other than a relatively strong association.

The distribution of responses created an additional analytical limitation. Most participants reported high immersion and answered positively regarding willingness to continue. This restricted variability may have weakened the observable relationship between the variables. Furthermore, willingness was coded into only three ordinal categories—No, Neutral, and Yes—resulting in numerous tied ranks. Although Spearman's rank-order correlation was suitable for an exploratory analysis of ordinal data, the limited number and uneven distribution of response categories reduced the sensitivity of the analysis.

The individual responses illustrate this complexity. One participant in the No group provided a global immersion rating of eight. This case demonstrates that relatively high immersion during the opening sequence did not necessarily correspond with an expressed willingness to continue. Other influences may intervene between the immediate gameplay experience and the future decision to play. These may include genre preference, available leisure time, familiarity with slow-paced narrative games, previous experience with Rockstar titles, gaming literacy, perceived difficulty, expectations about the game's length, and broader motivational orientations.

The 32-item immersion score means for the Yes and Neutral groups were also relatively similar. This finding raises the possibility that the 32-item questionnaire captured involvement during gameplay more effectively than it predicted subsequent behavioural intention. The questionnaire was used to assess immersion in a particular play experience, rather than as a player-retention measure. Future studies should therefore measure willingness to continue with a validated multi-item behavioural-intention scale and, where possible, compare stated intentions with actual subsequent gameplay behaviour.

Overall, the findings indicate that immersion may be one component of early player engagement, but it should not be treated as a sufficient explanation for continued play. The decision to continue is likely to be produced by the interaction of immediate experience, individual preferences, situational constraints, and expectations concerning future gameplay.

6.3. Features Identified as Contributing to Immersion

The content analysis showed that participants attributed immersion to several interconnected game features. Narrative, story, and characters formed the most frequently reported category, mentioned by 50.0% of participants. This was followed by graphics, visuals, and animation (45.0%); atmosphere and world design (40.0%); sound, music, and voice acting (30.0%); and mechanics, controls, and gameplay (30.0%). Because participants could mention more than one feature, these categories were not mutually exclusive.

These findings are consistent with the multidimensional nature of immersion described by Ermi and Mäyrä (2005). Their SCI model distinguishes sensory, challenge-based, and imaginative immersion. In the present study, references to graphics, sound, and environmental atmosphere correspond broadly with sensory immersion; references to mechanics and controls reflect challenge-based and interactive involvement; and references to narrative and characters correspond with imaginative immersion. The results therefore suggest that immersion during the opening sequence emerged from several dimensions rather than a single dominant technical feature.

The prominence of narrative and characters is understandable given the structure of the sequence examined. The opening chapter of *Red Dead Redemption 2* is strongly narrative- and atmosphere-oriented. It introduces the setting, central characters, relationships, and immediate conflict while gradually teaching basic mechanics. Participants may therefore have encountered more opportunities for imaginative and emotional involvement than for complex combat, exploration, or strategic decision-making.

This interpretation is consistent with Qin et al. (2009), who identify curiosity, concentration, comprehension, empathy, challenge, and control as important components of immersion in game narratives. During an introductory sequence, curiosity about subsequent events and empathy with characters may encourage involvement even before players have gained access to the game's wider mechanics and open-world structure. Narrative immersion may therefore operate as an early "holdout" by giving players a reason to continue in anticipation of future developments (Cheung et al., 2014).

Graphics, visuals, and animation constituted the second most frequently reported category. Bastos et al. (2017) argue that credible and coherent visual design can contribute to immersion through the combined effects of three-dimensional modelling, art direction, interface design, environmental design, narrative, and gameplay. Their position does not imply that photorealism

is necessary. Rather, visual elements appear most effective when they are internally coherent and appropriately integrated with the broader experience.

Participants' references to environmental detail, weather, lighting, and animation should therefore be interpreted as responses to the overall visual coherence of the game world, not simply its technical realism. This interpretation is also consistent with Jennett et al.'s (2008) observation that games with minimal or abstract graphics can still be immersive. Visual quality may contribute strongly in *Red Dead Redemption 2*, but immersion remains possible through concentration, interaction, challenge, or narrative even when graphical realism is limited.

Atmosphere and world design were mentioned by 40.0% of participants. This category overlaps with graphics and sound but is conceptually broader. Atmosphere may emerge from the combination of environmental design, weather, pacing, music, voice acting, lighting, character behaviour, and narrative context. Its prominence supports the view that immersion is an emergent experience created through coordination among several design elements.

Sound, music, and voice acting were mentioned by 30.0% of participants. Audio can contribute to spatial credibility, emotional tone, narrative comprehension, and the perception that the game world responds dynamically to events. In the opening sequence, environmental sounds and music may reinforce the harsh weather conditions and narrative tension, while voice acting may facilitate character comprehension and emotional involvement.

Mechanics, controls, and gameplay were also mentioned by 30.0% of participants. Brown and Cairns (2004) identify access to controls as an initial condition of engagement. When controls become understandable and unobtrusive, players can direct greater attention towards the game world. Conversely, awkward controls or intrusive tutorial instructions can draw attention back to the interface and weaken immersion. the participant responses therefore suggest that controls may contribute to immersion partly by becoming less noticeable during successful interaction.

One participant's observation that realistic mechanics could sometimes produce disengagement further demonstrates that immersion is not a simple consequence of realism. A highly detailed interaction may enhance authenticity for one player but feel slow, cumbersome, or unnecessarily conspicuous to another. Immersion is consequently shaped by the relationship between design features and individual player expectations rather than by the objective presence of realism alone.

A recurring pattern was that participants described immersion as resulting from combinations of features. Narrative, graphics, sound, characters, world design, and mechanics appeared to reinforce one another in constructing an overall atmosphere. This finding is consistent with multidimensional approaches to immersion (Ermi & Mäyrä, 2005; Qin et al., 2009). It also suggests that coherent integration may be more important than maximising the technical quality of any isolated feature.

For smaller game studios, this finding should nevertheless be interpreted cautiously. The present study did not compare alternative design strategies or establish that integration causes immersion. It only indicates that participants frequently described their experiences in holistic terms. Future experimental studies could manipulate the coherence of audiovisual, narrative, and gameplay features to determine whether integration has a measurable effect on immersion and continued-play intentions.

6.4 Limitations

Several limitations must be acknowledged when interpreting the findings of this study and considering directions for future research.

The most important limitation is the small and demographically narrow sample. With only 20 participants, the study had limited statistical power to detect associations, particularly because willingness-to-continue responses were unevenly distributed across categories. The findings should therefore be regarded as exploratory and should not be generalised to the broader population of *Red Dead Redemption 2* players. The sample was predominantly male (80.0%), relatively young (65.0% were aged 18–25), and disproportionately Turkish (45.0%), partly reflecting the composition of the online communities through which participants were recruited. Consequently, the results may not represent the experiences of older players, women, players from other cultural backgrounds, or the wider gaming population.

A related limitation concerns the convenience-sampling strategy. Participants who engage with gaming communities on Discord may differ systematically from more casual players in their gaming experience, interest, and familiarity with particular genres. Those who chose to participate may also have held stronger opinions about *Red Dead Redemption 2* than players who did not respond. This self-selection bias may have contributed to the generally high immersion ratings and the high proportion of positive willingness-to-continue responses. It may also have restricted the variability of the data, making an association between the study variables more difficult to detect.

The retrospective self-report design introduces the possibility of recall bias. Participants were asked to evaluate their experience of the first mission after having played it at some point during the preceding two months. The accuracy of these recollections may have varied according to the time elapsed since playing and the participants' subsequent experiences with the game. Later knowledge of the narrative, characters, and game world may also have influenced how participants remembered their initial experience. Administering an immersion questionnaire immediately after completion of the first mission would reduce this source of bias, although such a design would present additional recruitment and data-collection challenges.

A further measurement limitation concerns the instructions retained from the earlier paired questionnaire described by Jennett et al. (2008). Some items asked participants to consider how they felt "just before" they were interrupted, reflecting the experimental context in which the instrument was originally employed (Jennett et al., 2008). The present study, however, used a retrospective online survey and did not interrupt participants during gameplay. This discrepancy may have caused uncertainty about the period of play to which participants should refer. Future retrospective applications of this type of immersion questionnaire should adapt the instructions carefully so that participants are explicitly directed to evaluate their experience during the first mission, while preserving the intended meaning of the individual items.

The separate 0–10 global immersion rating was a single-item measure. Although it provided a concise indication of participants' overall perceived immersion, a single item cannot offer the same reliability or multidimensional coverage as the full 32-item questionnaire. The global rating should therefore be interpreted as a supplementary indicator rather than as an equivalent alternative to the full scale. Furthermore, only the full-scale 32-item immersion score was analysed. Potential differences among dimensions of immersion were not examined because the limited sample size did not support reliable subscale analysis.

The operationalisation of willingness to continue playing represents another methodological limitation. This construct was measured using a single open-ended item that was subsequently coded as No, Neutral, or Yes. This procedure reduced potentially complex responses to three ordinal categories and may therefore have resulted in a loss of information. In addition, willingness represents a stated intention rather than actual continuation behaviour. Participants who reported that they wanted to continue may not necessarily have continued playing, while continued play could also have been influenced by factors such as available time, game ownership, competing responsibilities, genre preferences, or technical difficulties. Future research should employ a validated multi-item measure of continuance intention and, where possible, supplement self-reported intentions with behavioural data such as subsequent playtime or progression beyond the introductory mission.

Post-hoc coding of the willingness responses and immersion-related features also involved researcher interpretation. As the responses were not independently coded by a second researcher, inter-rater reliability could not be assessed. The resulting categories should consequently be understood as an exploratory organisation of the responses rather than as the outcome of a comprehensive qualitative analysis. Future studies could strengthen the credibility of this component by using multiple coders, a predefined coding framework, and formal measures of coding agreement.

The cross-sectional design also prevents causal conclusions. Even if a significant association had been identified, it would not have demonstrated that immersion caused participants to continue playing. Pre-existing interest in the game, familiarity with Rockstar titles, genre preference, gaming literacy, or prior exposure to promotional material could have influenced both immersion and willingness to continue. These potentially confounding variables were not measured in the present study.

Finally, the study focused on a single mission from a single action-adventure game. *Red Dead Redemption 2* has distinctive narrative, visual, atmospheric, and gameplay characteristics that may not be shared by games from other genres or with different production values. The absence of a comparison condition means that it is not possible to determine whether the observed results were specific to this particular opening sequence or reflected a broader pattern concerning introductory gameplay. Studies involving multiple games, genres, and types of opening sequence are therefore needed before broader conclusions can be drawn about the relationship between first-mission immersion and continued play.

6.5 Future Research

The limitations of the present study indicate several directions through which future research could develop and extend its findings.

The most immediate priority is to replicate the study with a larger and more diverse sample. Rather than selecting an arbitrary sample size, future researchers should conduct an a priori power analysis based on the expected effect size, desired statistical power, and proposed analytical method. Participants should also be recruited through multiple channels and include greater diversity in terms of gender, age, nationality, gaming experience, and gaming literacy. A sufficiently large sample would permit more reliable inferential analyses, including correlations between immersion and willingness to continue, comparisons among willingness groups, and examination of specific dimensions of immersion. It could also support analyses of whether variables such as age, gender, gaming experience, genre preference, or prior familiarity

with the game influence the relationship between first-mission immersion and continued engagement.

Future research should also employ comparative, multi-game designs. Collecting data from games representing different genres, narrative structures, visual styles, production scales, and introductory designs would help determine whether the relationship between immersion and continued play is generalisable or dependent on particular game characteristics. For example, researchers could compare narrative-driven action-adventure games with strategy, puzzle, role-playing, simulation, or competitive multiplayer games. Rather than relying solely on average playtime as a proxy for player engagement, game selection could be informed by multiple indicators, including completion rates, progression data, player reviews, and developer-provided telemetry where available.

A longitudinal design would provide a more direct examination of the relationship between initial immersion and subsequent behaviour. Participants could complete a validated immersion measure immediately after finishing the first mission and then be followed over several days or weeks. Their stated willingness to continue could subsequently be compared with actual behaviour, such as whether they returned to the game, how long they continued playing, and how far they progressed. This would help establish whether willingness to continue predicts actual engagement and whether immersion during an introductory sequence has an enduring influence on player behaviour.

Controlled experimental research would provide stronger evidence regarding causality. New players could be observed while completing a game's introductory mission and then immediately complete measures of immersion and continuance intention. Researchers could experimentally manipulate particular features of the opening sequence, such as narrative exposition, tutorial length, control complexity, visual presentation, sound design, or the balance between instruction and player agency. Comparisons between conditions would make it possible to determine which features contribute most strongly to immersion and whether changes in immersion affect subsequent willingness to play.

Self-report measures could also be supplemented with behavioural and physiological data. Possible measures include attention allocation, response time, task performance, eye movements, skin conductance, and heart-rate variability. Jennett et al. (2008), for example, combined questionnaire data with behavioural and eye-movement measures when investigating immersion. Nevertheless, physiological indicators should not be regarded as direct or objective measures of immersion in isolation. They may reflect several psychological processes, including attention, arousal, stress, or cognitive effort, and should therefore be interpreted alongside validated self-report and behavioural measures.

Future studies should improve the measurement of willingness to continue playing. A validated multi-item scale would be more reliable than the single open-ended item used in the present study. Such a measure could assess intention to resume playing, anticipated future playtime, willingness to recommend the game, and motivation to progress beyond the introductory section. Existing behavioural-intention measures could be adapted carefully to the gaming context, although any adapted or newly developed instrument would require psychometric validation before broader use.

Additional variables should also be considered. The decision to continue playing may be influenced not only by immersion but also by genre preference, gaming literacy, previous experience with similar games, familiarity with a franchise or developer, perceived difficulty, usability, available leisure time, social influence, price, and expectations formed through

reviews or promotional material. Measuring these factors would help determine whether immersion independently predicts continued engagement or operates alongside other motivational and contextual influences. With an adequately powered sample, future research could examine whether these variables moderate or mediate the relationship between immersion and continued play.

The open-ended findings also suggest that immersion may emerge through interactions among narrative, characters, graphics, atmosphere, sound, and gameplay mechanics rather than through any single feature. Experimental or quasi-experimental research could systematically vary these elements to investigate their separate and combined effects. For example, researchers might compare versions of the same introductory sequence with different levels of narrative context, audio quality, visual detail, or player agency. Factorial designs could be particularly useful for determining whether combinations of features generate immersive experiences that exceed the effects of individual features considered separately.

Finally, qualitative research could provide a deeper understanding of how players evaluate introductory gameplay. Interviews, focus groups, think-aloud protocols, or post-play stimulated-recall sessions could explore why highly immersed players sometimes decide not to continue and why less immersed players may nevertheless remain engaged. Combining these qualitative approaches with survey responses and behavioural telemetry would offer a more comprehensive account of the complex relationship between first-mission immersion, player motivation, and continued play.

7. Conclusion

7.1 Summary of the Study

The opening stages of a video game represent an important period during which players encounter its narrative, characters, mechanics, controls, and audiovisual environment. During this period, players begin to evaluate whether the experience meets their expectations and warrants further investment of their time and attention (Cheung et al., 2014). Understanding introductory gameplay is therefore relevant to both academic research on player experience and the practical concerns of game developers.

Against this background, the present study addressed the following research questions: "Is immersion during the first mission associated with willingness to continue playing?" A secondary exploratory question examined which features of the opening mission participants identified as contributing to their immersion. A cross-sectional online survey was conducted with 20 participants who had completed the first mission and tutorial sequence of *Red Dead Redemption 2* within the two months preceding data collection. Immersion was assessed using the 32-item earlier experimental paired questionnaire reported by Jennett et al. (2008), together with a separate global immersion rating measured on a scale from 0 to 10. Open-ended questions were used to examine willingness to continue playing and identify the game features that participants perceived as contributing to immersion.

The study was exploratory and predominantly quantitative, with open-ended qualitative items providing additional contextual information. Because of its cross-sectional design, small convenience sample, and reliance on retrospective self-report data, the study was not intended to establish causality or produce findings that could be generalised to the wider gaming population.

7.2 Summary of the Findings

Participants generally reported relatively high levels of immersion during the first mission of *Red Dead Redemption 2*. The full 32-item immersion score demonstrated good internal consistency, with a Cronbach's alpha of .835. The mean 32-item immersion score was 3.66 (SD = 0.43) on the five-point response scale, while the mean global immersion rating was 7.65 (SD = 1.73) on the 0–10 scale. Sixteen participants (80.0%) provided a global immersion rating of 7 or above. Furthermore, 14 participants, representing 70.0% of the full sample and 73.7% of those who answered the item, reported that the first mission had positively affected their willingness to continue playing.

Despite these descriptive patterns, the correlation analyses did not identify a statistically significant association between immersion and willingness to continue. The relationship between the full-scale IEQ score and willingness to continue was positive but weak and statistically non-significant, $r_s = .17$, $p = .491$. The association between the global immersion rating and willingness to continue was also positive but weak and non-significant, $r_s = .23$, $p = .337$. Although participants in the Yes group reported a higher mean global immersion rating than those in the Neutral and No groups, the very small and unequal group sizes prevented reliable interpretation of these differences.

The findings therefore do not provide statistically significant evidence that greater immersion during the first mission was associated with greater willingness to continue playing in this sample. At the same time, the absence of statistical significance should not be interpreted as

evidence that no relationship exists. The small sample, restricted variability in immersion scores, uneven distribution of willingness responses, and limited measurement of willingness substantially reduced the study's capacity to detect an association.

The open-ended responses showed that narrative, story, and characters were the most frequently cited contributors to immersion, mentioned by 50.0% of participants. These were followed by graphics, visuals, and animation (45.0%); atmosphere and world design (40.0%); sound, music, and voice acting (30.0%); and mechanics, controls, and gameplay (30.0%). Several participants referred to multiple features simultaneously, suggesting that immersion was experienced as a multidimensional phenomenon arising from the integration of narrative, audiovisual, atmospheric, and interactive elements rather than from a single isolated feature.

7.3 Contribution of the Study

This study makes a modest exploratory contribution to research on immersion, introductory gameplay, and continued player engagement. By applying the 32-item immersion questionnaire to the specific context of a first mission and tutorial sequence, it focuses attention on an important but comparatively underexamined stage of the player experience. Previous research has demonstrated that introductory gameplay is a period in which players actively evaluate a game and decide whether it merits further engagement (Cheung et al., 2014). The present study extends this line of inquiry by examining immersion as one potential factor involved in that evaluation.

The study also provides a practical methodological framework for investigating first-mission experiences. Its combination of a 32-item paired immersion questionnaire, a global immersion rating, an ordinal measure of willingness to continue, and open-ended questions concerning immersive features could be refined and applied to other games, genres, and player populations. In particular, the findings demonstrate the value of combining numerical measures with participants' own accounts of the features that shape their experiences.

The open-ended findings further support a multidimensional understanding of immersion. Participants did not consistently attribute immersion to a single technical or artistic element. Instead, narrative, characters, graphics, atmosphere, sound, and gameplay were frequently described as interconnected contributors to the overall experience. This observation is consistent with models that conceptualise immersion as emerging through several dimensions of game experience rather than as a direct consequence of visual realism or any other individual feature.

The study also offers a methodological lesson concerning the measurement of continued engagement. Its use of a single open-ended question provided an accessible exploratory indicator of willingness to continue, but the subsequent need to convert responses into three ordinal categories limited the precision and reliability of the analysis. Future research would benefit from validated multi-item measures and behavioural indicators such as returning to the game, time spent playing after the first mission, and subsequent in-game progression.

Nevertheless, the contribution of the study must be understood in proportion to its design. It does not demonstrate that immersion causes continued play, nor does it establish a statistically reliable association between these variables. Its principal contribution lies in identifying a

relevant research problem, testing an exploratory method, documenting participant perceptions, and providing a foundation for larger and more rigorous studies.

7.4 Final Remarks

This study examined whether immersion during the first mission of *Red Dead Redemption 2* was associated with players' willingness to continue playing. Participants generally reported high levels of immersion, and most indicated that the introductory mission had positively influenced their willingness to continue. However, neither the 32-item immersion score nor the global immersion rating was significantly associated with willingness to continue. The primary research question must therefore be answered cautiously: this study did not find statistically significant evidence of an association between first-mission immersion and willingness to continue playing.

The findings nevertheless illustrate that the decision to continue playing is likely to be more complex than a direct relationship with immersion alone. A player may find an opening sequence immersive without wishing to continue, while another player may continue despite reporting only moderate immersion. Genre preference, prior expectations, gaming literacy, perceived difficulty, available time, familiarity with the franchise, and interest in future narrative or gameplay developments may all influence this decision. Immersion should therefore be investigated as one component of a broader system of motivational, experiential, and contextual factors.

The prominence of narrative, characters, visual design, and atmosphere in participants' responses also highlights the importance of examining how different game elements operate together during introductory gameplay. However, because the present study did not experimentally manipulate these features, it cannot determine which elements caused immersion or continued engagement. Its findings should instead be used to generate hypotheses for future comparative, longitudinal, and experimental research.

As players encounter an increasing range of games competing for their limited time and attention, understanding how they experience and evaluate introductory gameplay remains an important research problem. Larger samples, multiple games, immediate post-play measurement, validated measures of continuance intention, and behavioural data are needed to establish whether first-mission immersion predicts actual continued play. The present study represents an exploratory step towards developing that understanding.

Declaration of AI Use

ChatGPT (OpenAI) was used during the revision of this thesis as a language-support tool, primarily for grammar and spelling correction, improving the clarity of English expression, and assisting with the translation and linguistic revision of text originally produced by the author. It was also used to help clarify feedback received on earlier versions of the thesis. All suggestions were reviewed and adapted by the author, who remains responsible for the content, analysis, interpretation, and final form of the thesis.

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Appendix Immersion Questionnaire used in Study

This is a short survey about your experience of Red Dead Redemption 2 on PC. Please answer the questions below considering only the first mission of the game! And if you played only last 2 months! Only the immersion in the first mission result will be tested. Your participation is voluntary and you can stop taking the survey at any point and your answers will then be deleted. All the data, will be made anonymous.

Thanks in advance for your participation!

Please rate how far you would agree with the statements below just before you were interrupted.

SD: strongly disagree; D: disagree; N: neutral; A: agree; SA: strongly agree.

1-I felt that I really empathised/felt for with the game.

SD D N A SA

2-I did not feel any emotional attachment to the game.

SD D N A SA

3-I was interested in seeing how the game's events would progress.

SD D N A SA

4- It did not interest me to know what would happen next in the game.

SD D N A SA

5- I was in suspense about whether I would win or lose the game.

SD D N A SA

6- I was not concerned about whether I would win or lose the game.

SD D N A SA

7- I sometimes found myself to become so involved with the game that I wanted to speak to the game directly.

SD D N A SA

8- I did not find myself to become so caught up with the game that I wanted to speak to directly to the game.

SD D N A SA

9- I enjoyed the graphics and imagery of the game.

SD D N A SA

10- I did not like the graphics and imagery of the game.

SD D N A SA

11- I enjoyed playing the game.

SD D N A SA

12- Playing the game was not fun.

SD D N A SA

13- The controls were not easy to pick up.

SD D N A SA

14- There were not any particularly frustrating aspects of the controls to get the hang of.

SD D N A SA

15- I became unaware that I was even using any controls.

SD D N A SA

16- The controls were not invisible to me.

SD D N A SA

17- I felt myself to be directly travelling through the game according to my own volition.

SD D N A SA

18- I did not feel as if I was moving through the game according to my own will.

SD D N A SA

19- It was as if I could interact with the world of the game as if I was in the real world.

SD D N A SA

20- Interacting with the world of the game did not feel as real to me as it would be in the real world.

SD D N A SA

21- I was unaware of what was happening around me.

SD D N A SA

22- I was aware of surroundings.

SD D N A SA

23- I felt detached from the outside world.

SD D N A SA

24- I still felt attached to the real world.

SD D N A SA

25- At the time the game was my only concern.

SD D N A SA

26- Everyday thoughts and concerns were still very much on my mind.

SD D N A SA

27- I did not feel the urge at any point to stop playing and see what was going on around me.

SD D N A SA

28- I was interested to know what might be happening around me.

SD D N A SA

29- I did not feel like I was in the real world but the game world.

SD D N A SA

30- I still felt as if I was in the real world whilst playing.

SD D N A SA

31- To me it felt like only a very short amount of time had passed.

SD D N A SA

32- When playing the game time appeared to go by very slowly.

SD D N A SA

33- How immersed did you feel? (10 = very immersed; 0 = not at all immersed)

1 2 3 4 5 6 7 8 9 10

34- What are you thinking about the features immersion's? Was features affected your immersions? if it's, which feature is most afffected? (Graphic, narrative, sound, mechanics)

35- Does first tutorial immersion affecting your willingsness to continue playing the game?

Demographic Quesitons;

Gender?

Woman – Man – Other – Prefer not to answer

Age ?

18-25 26-35 36-45 45+

Nationality?