

# THE IMPACT OF PERCEIVED CHALLENGE ON NARRATIVE IMMERSION IN RPG VIDEO GAMES: A PRELIMINARY STUDY

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## ABSTRACT

The challenge is a fundamental aspect of almost every gameplay, and immersion is one of the most widely recognized concepts in the video game industry. Since this is currently a work in progress, this study aims to preliminary research how player's perceived level of challenge affects narrative immersion during gameplay in the role-playing game (RPG) genre. This study will outline the procedures that will be undertaken, including the utilization of the Challenge Originating from Recent Gameplay Interaction Scale (CORGIS) instrument and a questionnaire to measure player immersion. These instruments will enable the assessment of the impact of the perceived challenge on narrative immersion in each use case.

## KEYWORDS

Narrative Immersion, Perceived Challenge, Video Games, Role-Playing Games (RPG)

## 1. INTRODUCTION

Researchers employ a variety of methods to study video games and their related aspects. The analysis of video games, and especially their content, serves as an important methodological approach to understanding, for example, the structure and representations within games, (Egenfeldt-Nielsen et al., 2013; Daneels et al. 2022) the experiences available to players (Daneels et al. 2022), or the effects video games can have on players (Slater, 2013; Daneels et al. 2022). Although in the recent past, it has not been common to use video game analysis in all fields of research, as is the case with human-computer interaction (Barr, 2008), it is already starting to be a topic of interest to researchers more and more, to understand agents' motivations in video games, behavioral implications, adaptations of video games to player preferences, as well as needs for possible more immersive experiences. However, video game analysis has for some time now been widely used in the field of video game studies to examine a wide range of topics, such as narrative aspects in FPSs (Breuer et al., 2012), mission ramifications in the genre RPG (Karlsen, 2008), characters in video games focused on classical antiquity (Vandewalle et al., 2020) and even to investigate specific titles such as Super Mario Galaxy (Linares, 2009).

For game designers, two of the main tasks are to design a game that has a challenging enough difficulty curve to keep the player's interest (Wong et al., 2006), as well as the progression of the narrative throughout the game experience (Aarseth, 2012).

However, as far as we know, there is currently very little literature on how different games with different difficulty perception levels influence how immersed people are during the experience.

This could be attributed to the fact that the dimensions of challenge and immersion in video games are not readily identifiable or well comprehended, owing to the intricacy of experiences associated with them (Bowman, 2019).

Therefore, this research aims to empirically investigate how a player's perceived challenge affects narrative immersion during gameplay RPG genre. To experimentally evaluate this effect, we suggest using three different RPG video games and introducing them to a group of players who already had a certain degree

of experience in video games. In this work, we provide a rigorous evaluation of the effects of this approach on player experiences, such as narrative immersion and perceived challenge, in the RPG genre.

## **2. RELATED WORK**

### **2.1 Immersion**

Immersion is one of the most well-known concepts in the field of video games, but also recently in other multimedia communities (Schmidt, 2022). Nilsson et al. (2016) analyzed a variety of perspectives on immersion and created a three-dimensional taxonomy with core concepts of system immersion, narrative immersion, and challenge-based immersion. System immersion is also addressed as an objectively measurable property of the system, not the product of a user's reaction to that system. They go on to explain that narrative immersion is characterized by a degree of mental absorption or intense preoccupation with the story, as well as with space and characters. Finally, challenge-based immersion is a user's mental absorption, provoked by the experience of challenges requiring mental and/or sensorimotor skills (Witmer & Singer, 1998; Nilsson et al., 2016).

Agrawal et al. (2020) later defined immersion as a phenomenon experienced by an individual, when in a state of deep mental engagement in which their cognitive processes (with or without sensory stimulation), cause a shift in their state of attention in a way that is possible to experience the dissociation of consciousness from the physical world. Later, Morgado and Beck (2020) combined the three-dimensional taxonomy (Nilsson et al., 2016) and the definition of immersion (Agrawal et al., 2020)

According to a study on cyberpsychology by Wood et al. (2007) experiencing dissociation of consciousness from the physical world is a common occurrence in video games, with 99% of the respondents (N = 280) reporting losing track of time while playing. This research further found that narrative-focused video games were most frequently associated with the loss of time during gameplay.

Riva et al. (2004) emphasized that for narratives to have a positive impact on the sense of presence, players need to assume the role of a character and become immersed in the story, while emotionally or intellectually significant events can induce a prolonged state of presence. Narrative immersion is defined as the feeling of being inside a story, completely involved and accepting the world and events of the story as real. Having a stimulating plot, an interesting character, and dramatic situations are prerequisites for a narrative immersion experience and on unfolding narrative events, the attention should be intense and focused. Such attention should reduce the risk that players engage in real-world reflections and judgmental decisions that are fundamental to them (Adams, 2014).

Qin et al. (2009) explored and analyzed computer game narrative factors that influence players immersed in the game story world. They applied two surveys on the internet to a group of people (N=734), and data were collected. From this work, they concluded that when analyzing narrative immersion in video games, should be considered a seven dimensions factor: Curiosity: Looking forward to exploring and learning about the game narrative. Concentration: Being able to get focused on the game narrative for a long time. Challenge and skills: Having a balanced challenge/skill during the game narrative. Control: Having the power to exercise a sense of control over the game narrative. Comprehension: Interpreting the content and structure of the storyline in the best way possible. Empathy: Getting involved in the imaginary game world while playing the game and allowing themselves to belong there. Familiarity: Having previous knowledge about the game's story and world.

The questionnaire to measure player immersion in video games was derived from this process, resulting in a comprehensive set of 27 questions distributed among the seven dimensions. These questions were formulated to be assessed using a 7-point Likert scale.

Based on its extensive validation across multiple studies (Agrawal et al., 2020; Pianzola, 2021; Moïnnereau et al., 2022), this instrument has garnered substantial support as the most appropriate approach for effectively measuring narrative immersion.

While some identify the narrative as the most presence sense influencer (Wood et al., 2007), others say that is a well-balanced flow experience that can enhance the player's immersion (Csikszentmihalyi, 2013).

## 2.2 Flow and Perceived Challenge

According to flow theory (Csikszentmihalyi, 2013), it is necessary to increase the level of skill to accommodate increasing challenges, in the form of experiencing or staying in a state of flow.

Momentary feedback that is perceived as positive may be what allows someone to maintain flow, while feedback that is perceived as negative indicates challenges that are too high to overcome, causing the flow experience to be interrupted or even incapacitated. So, if the game is too challenging the player gets frustrated, but if the player succeeds too easily, he might get bored. Therefore, being able to maintain the balance of challenges/skills needed to start and stay in a flow experience may depend to some extent on one's feedback perceptions at any point during a flow-producing activity (Csikszentmihalyi, 2013).

Consequently, it is secure to affirm that a well-balanced perceived challenge in a video game is essential to maintain the player in a state of flow.

As pointed out by Adams (2014) the challenge is at the core of almost every gameplay.

Difficulties and challenges are determined by the objective of the video game and the obstacles that prevent the player from achieving it. These denote a task or problem rather than a specific experience. Lomas et al. (2017) define difficulty as “the probability of failing the task”, which can be objectively measured in the video game. Contrarily, “challenging” and “difficult”, are considered relational attributes concerning how challenges and difficulties are experienced by the player.

According to Denisova et al. (2020) difficult and challenging are terms normally used with different meanings. We use the word “difficult” for tasks that we struggle to keep going, but “challenging” is used more positively to describe a demanding but invigorating problem or task. We can say that a difficult video game can be uncomfortable and even frustrating. On the other hand, the challenging video game is stimulating, and challenged players are motivated to respond to tasks, to which their actions are differentiated, and they feel in control of the results (Lazzaro, 2009). Above all, the challenge depends on the player's skills, which are shaped by experiences in previous video games.

Video games expose players to several types of challenges simultaneously, complicating the perception of the boundary between each challenge. A study by Denisova et al. (2020) concluded that it was important to separate the types of challenges to be qualified to elaborate an instrument capable of measuring the perceived challenge, CORGIS.

The questionnaire CORGIS was validated by a group of players (N=1000), and it was built to measure the perceived challenge in 30 questions, based on four distinct factors: Cognitive Challenge (COG), refers to the player's memory, observation, and problem-solving ability. Performative Challenge (PERF) addresses the player's abilities concerning speed and reaction times, as well as the precision and accuracy of the actions performed. Certain video games also exercise the player's physical resistance, dexterity, and coordination. Emotional Challenge (EMO), the things they thought about outside of the video game, are involved in the emotions they had during the gameplay. Decision-Making Challenge (DM) refers to the player's making difficult or regrettable choices during the gameplay.

In the context of this study, it's suggested that while not imperative, for optimal outcomes, the application of the CORGIS should be immediately after the gaming session, utilizing a 7-point Likert scale.

Based on the established empirical evidence and the demonstrated validity of the CORGIS instrument and the questionnaire designed to measure player immersion in video games, a high degree of confidence can be placed in the utility and significance of these measurement tools for assessing the dimensions of narrative immersion and perceived challenge within the context of this investigation. The deliberate inclusion of these instruments will form an essential cornerstone for conducting a comprehensive analysis and gaining insights into the intricate interplay between players' perceived level of challenge and narrative immersion during gameplay, within the RPG genre.

## 3. METHOD

We start by choosing three RPG video games with varying difficulties and strong narrative elements. Secondly, an online survey study will be conducted to ascertain participants' experience with the three previously selected RPGs, their proficiency in playing RPG video games, and their self-assessed level of skill in this genre. Only participants who meet the criteria of having no prior experience with the selected video

games and possessing a significant level of proficiency in the RPG genre will be included to proceed with the study. This follows the dispatch of an email to notify the participants who have been selected, accompanied by a consent agreement document, to proceed with the study. In the third stage, we expect to conduct three different gameplay in-person sessions for each participant, corresponding to the three video games chosen, one per session. Immediately after each participant gameplay session, two surveys will be applied, the CORGIS and the questionnaire to measure player immersion in video games, with a total of 57 items (7-point Likert scale), to evaluate the four perceived challenge factors and the seven narrative immersion dimensions. Upon completion of data collection, all analyses will be performed using SPSS for Mac OS.

#### **4. RESEARCH STRATEGY**

To answer our question: “how player’s perceived challenge affects the narrative immersion during gameplay in the RPG genre?”, we have outlined a research strategy involving four specific points:

1. Carry out case studies to identify possibilities for games of the RPG genre.
2. Select a group of players with previous experience in the RPG genre.
3. Measuring player’s narrative immersion and perceived challenge after playing, in these cases.
4. Looking for patterns that might emerge from the correlation between the degree of narrative immersion and the perceived challenge.

To commence the study, a careful selection process will be undertaken to identify three video games within the RPG genre that boast a compelling narrative. With its inclusion of a highly regarded recognition for excellence in narrative, the Games Awards assumes a pivotal role in assisting us with the identification and selection of games about this matter. Our preference is to choose three narrative award-winning RPG video games from the most recent three to four years. If there are not three winning RPGs within that timeframe, we will also consider the nominees. Initially, we will select the three RPGs that have received awards in the past four years. If the desired number is not met, we will include additional games from the pool of nominees, starting from the previous year.

The study will be conducted amongst video game students, who have demonstrated an inclination towards video games and will therefore serve as a suitable cohort for the analysis. To ensure optimal results, this group of students will be selected based on their experience within the RPG genre and subsequently introduced to the selected video games. Promptly after finishing every gameplay, both the narrative immersion and perceived challenge questionnaires will be administered individually to each participant. These questionnaires hold significant importance as they serve as essential tools to gather comprehensive information from each participant regarding their experience with all three video games in terms of narrative immersion and perceived challenge.

Upon collecting and analyzing all questionnaires and data, comparative analyses will be conducted to identify relationship patterns between narrative immersion and perceived challenge in RPG video games. This will serve as a crucial component of the study, enabling us to draw in-formed conclusions that will aid in understanding the correlation between narrative immersion and perceived challenge within the RPG genre.

#### **5. CONCLUSION AND FUTURE WORK**

Within the scope of this paper, our primary objective is to introduce and differentiate the concepts of narrative immersion and perceived challenge as discrete theoretical constructs within the realm of video games. Additionally, we aim to elucidate our proposed research methodology to enhance the understanding of our approach. By building upon the groundwork laid by the aforementioned study, our aim is to establish a significant correlation between narrative immersion and perceived challenge in three RPG video games, identifying patterns that can provide insights into the impact of perceived challenge, as well as the individual factors of cognition (COG), performance (PERF), emotion (EMO), and decision-making (DM), on the phenomenon of narrative immersion. Considering the preliminary nature of this investigation, our future work aims to present a comprehensive exposition of the research, encompassing an intricate analysis of the chosen video games, elucidating the precise criteria employed for their selection, meticulously documenting the duration of each gaming session, and disclosing the exact number of participants involved.

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