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Genre, Bias, and Narrative Logic in AI *Dungeon*: Generative AI as a Game-Based Storytelling Engine

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Género, sesgo y lógica narrativa en AI Dungeon*: la IA generativa como motor de narrativa basada en el juego*

ABSTRACT

Objectives. This article investigates how generative artificial intelligence (AI) systems, as implemented in the digital game *AI Dungeon*, negotiate genre conventions and algorithmic bias within interactive, player-driven storytelling. By focusing on *AI Dungeon* as both a game and a narrative engine, the study aims to reveal how generative AI shapes narrative logic, aesthetic adaptation, and cultural representation in digital game environments.
Methodology. The research draws on a systematically coded dataset of *AI Dungeon* play sessions across multiple genres. Integrating theoretical perspectives from game studies, narratology, and algorithmic bias research, the study employs a mixed-methods approach. Quantitative coding captures genre, bias, narrative drift, and player intervention, while qualitative thematic analysis explores aesthetic adaptation and the negotiation of meaning between player and AI.
Findings. Results demonstrate that genre conventions in digital games serve as both scaffolds and filters for AI-generated storytelling. While genre prompts can guide the AI toward coherent and engaging narratives, they also interact with and sometimes amplify underlying algorithmic biases. Instances of stereotype reinforcement, narrative drift, and the need for player intervention are shaped by both genre and the ludic structure of the game.
Value. By empirically mapping the interplay between genre, bias, and interactive narrative logic in a digital game context, this study advances understanding of generative AI's creative and ethical challenges in contemporary storytelling. The findings offer actionable insights for both game designers and AI narrative system developers.

KEYWORDS

Generative AI; Digital Games; Narrative Logic; Algorithmic Bias; Genre Conventions; Storytelling Engine; Player Intervention; Ethical Challenges.

RESUMEN

***Objetivos**. Este artículo investiga cómo los sistemas de inteligencia artificial (IA) generativa, tal como se implementan en el juego digital* AI Dungeon*, negocian convenciones de género y sesgos algorítmicos dentro de la narrativa interactiva impulsada por los jugadores. Al centrarse en* AI Dungeon *como un juego y un motor narrativo, el estudio busca revelar cómo la IA generativa da forma a la lógica narrativa, la adaptación estética y la representación cultural en entornos de juegos digitales.*
***Metodología**. La investigación utiliza un conjunto de datos codificados sistemáticamente de sesiones de juego de* AI Dungeon *en múltiples géneros. Integrando perspectivas teóricas de estudios de juegos, narratología e investigación de sesgos algorítmicos, el estudio emplea un enfoque de métodos mixtos. La codificación cuantitativa captura género, sesgo, deriva narrativa e intervención del jugador, mientras que el análisis temático cualitativo explora la adaptación estética y la negociación de significado entre el jugador y la IA.*
***Resultados**. Los resultados demuestran que las convenciones de género en los juegos digitales funcionan tanto como andamios como filtros para la narrativa generada por la IA. Si bien los géneros pueden guiar a la IA hacia narrativas coherentes y atractivas, también interactúan y a veces amplifican los sesgos algorítmicos subyacentes. Los casos de refuerzo de estereotipos, la deriva narrativa y la necesidad de intervención del jugador están moldeados tanto por el género como por la estructura lúdica del juego*
***Valor**. Al mapear empíricamente la interacción entre género, sesgo y lógica narrativa interactiva en un contexto de juego digital, este estudio avanza en la comprensión de los desafíos creativos y éticos de la IA generativa en la narrativa contemporánea. Los resultados ofrecen ideas prácticas tanto para diseñadores de juegos como para desarrolladores de sistemas narrativos de IA.*

KEYWORDS

IA generativa; Juegos digitales; Lógica narrativa; Sesgo algorítmico; Convenciones de género; Motor de narrativa; Intervención del jugador; Desafíos éticos.

Gènere, biaix i lògica narrativa a *AI Dungeon*: la IA generativa com a motor de narrativa basada en el joc

RESUM

Objectius. Aquest article investiga com els sistemes d'intel·ligència artificial (IA) generativa, tal com s'implementen al joc digital *AI Dungeon*, negocien convencions de gènere i biaixos algorítmics dins de la narrativa interactiva impulsada pels jugadors. En centrar-se en *AI Dungeon* com a joc i motor narratiu, l'estudi busca revelar com la IA generativa dóna forma a la lògica narrativa, a l'adaptació estètica i a la representació cultural en entorns de jocs digitals.
Metodologia. La investigació utilitza un conjunt de dades codificades sistemàticament de sessions de joc d'*AI Dungeon* en múltiples gèneres. Integrant perspectives teòriques d'estudis de jocs, narratologia i investigació de biaixos algorítmics, l'estudi fa servir un enfocament de mètodes mixtos. La codificació quantitativa captura gènere, biaix, deriva narrativa i intervenció del jugador, mentre que l'anàlisi temàtica qualitativa explora l'adaptació estètica i la negociació de significat entre el jugador i la IA.
Resultats. Els resultats demostren que les convencions de gènere en els jocs digitals funcionen tant com a bastides com a filtres per a la narrativa generada per la IA. Si bé els gèneres poden guiar la IA cap a narratives coherents i atractives, també interactuen i de vegades amplifiquen els biaixos algorítmics subjacents. Els casos de reforç d'estereotips, la deriva narrativa i la necessitat d'intervenció del jugador estan modelats tant pel gènere com per l'estructura lúdica del joc.
Valor. En mapejar empíricament la interacció entre gènere, biaix i lògica narrativa interactiva en un context de joc digital, aquest estudi avança en la comprensió dels desafiaments creatius i ètics de la IA generativa a la narrativa contemporània. Els resultats ofereixen idees pràctiques tant per a dissenyadors de jocs com per a desenvolupadors de sistemes narratius de IA.

PARAULES CLAU

IA generativa; Jocs digitals; Lògica narrativa; Biaix algorítmic; Convencions de gènere; Motor de narrativa; Intervenció del jugador; Desafiaments ètics.

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1. Introduction

The use of generative artificial intelligence (AI) in digital games has prompted a paradigm shift in interactive storytelling by questioning conventional ideas of authorship, creativity, and cultural representation. AI-powered systems that mediate the creation and development of narrative content are not only expanding the expressive potential of games but also raising urgent concerns about representational logic, creative aesthetics, and ethical responsibility in computational media (Sharma, 2025). ***AI Dungeon*** is an interactive fiction game that uses text and is powered by advanced language models. One of the well-known instances of these advancements, it has come to symbolize the new challenges and possibilities of co-authorship between humans and artificial intelligence in game-based narrative (Hua & Raley, 2020). ***AI Dungeon*** is played through a text-based interface where players input commands or narrative prompts, and the AI responds by generating story continuations in real time. The game begins with a genre selection which guides the initial setting and tone. Players can choose predefined scenarios or create their own, and the AI adapts dynamically to each input, producing open-ended narratives that evolve with every interaction.

The development of digital games as testing grounds for narrative experiments and the use of generative AI as an active participant in the creative process are two revolutionary trends that come together in ***AI Dungeon*** (Compton & Mateas, 2015; Short, 2019). ***AI Dungeon***, in contrast to conventional games with set plots or branching paths, uses massive language models, initially GPT-2 and later more sophisticated architectures, to produce context-sensitive, open-ended stories in real time. It reacts to player input with improvisational flexibility, pushing the limits of interactive fiction (Hua & Raley, 2020). While this technological advancement increases player agency and narrative diversity, it also creates new challenges in terms of narrative coherence, genre emulation, and the perpetuation of cultural biases (Banh & Strobel, 2023).

Beyond game studies, these developments hold broader significance. With the growing use of generative AI systems in television, film, and other audiovisual media, the lessons learned from digital games, where player intervention, algorithmic creativity, and narrative logic most visibly intersect, provide vital insights for the broader field of narrative media (Sharma, 2025). Particularly in AI-generated stories, the interplay between genre conventions and algorithmic bias raises pressing questions about the moral responsibilities of developers and designers at the forefront of computational creativity, the cultural framing of narratives, and the preservation or distortion of stereotypes (Hua & Raley, 2020). One area where recent research has begun to address these concerns is the ability of games such as ***AI Dungeon*** and ***Dungeons & Dragons*** to create believable, captivating, and culturally sensitive dialogue and narrative turns (Callison-Burch et al., 2022).

These studies emphasize the importance of human-AI collaboration, mixed-initiative co-creation, and the need for critical frameworks that can evaluate the creative and ethical aspects of AI-powered narrative systems (Hermann, 2023).

In order to investigate these questions at the nexus of game studies, narratology, and AI ethics, this article positions ***AI Dungeon*** as a paradigmatic case. This study examines how generative AI navigates genre norms and algorithmic bias within the ludic structure of interactive fiction by methodically examining a varied dataset of ***AI Dungeon*** play sessions. This study maps the aesthetic, structural, and representational logics that arise from human-AI cooperation in gameplay using a mixed-methods approach, drawing on theoretical viewpoints from digital game narrative, genre theory, and algorithmic bias studies.

The article's three main goals are to be seen through this lens. It first illustrates how genre shapes the coherence, style, and creative potential of interactive narratives by acting as a scaffold and filter for AI-generated storytelling. Second, it illustrates how stereotypes and algorithmic bias appear in AI systems that are based on games, which has consequences for player experience and cultural representation. Third, it emphasizes how crucial player intervention is to preserving story coherence and defying prejudice, highlighting the cooperative character of authorship in generative AI-powered digital games.

Addressing these issues, the study provides useful suggestions for the development of morally and culturally aware AI narrative systems in addition to advancing scholarly knowledge of AI-driven narrative logic in digital games. Given how generative AI is continuing to change the face of modern storytelling, the findings are pertinent not only to game designers and AI developers but also to academics and professionals in other creative fields.

2. Theoretical Framework

2.1. Game Studies and Interactive Narrative

Digital games are increasingly some of the most innovative and experiential forms of storytelling in the modern day, typically redefining what literary and media theory identifies narrative to be. Unlike traditional narratives, which are usually linear and author-managed, digital games allow players to enter immersive worlds where their choices, play, and improvisation shape the story. Scholars have reconsidered perspectives regarding authorship, agency, and story as a result of this interactive feature. According to Jenkins (2004), Ryan (2001), and Jagoda (2018), games need to be viewed as places of narrative where meaning is created through player agency, mechanics of the game, and environment interaction.

Scholarly debate regarding games and narrative has been influenced by the ongoing discussion between ludology and narratology. Although ludologists emphasize the value of games' mechanics, structures, and regulations, they frequently wonder if games qualify as narrative media. On the other hand, narratologists argue that games are a new and different kind of storytelling medium that can create immersive and emergent narrative experiences through procedural logic, spatiality, and interactivity (Koenitz, 2018). More recent scholarship has moved past this binary argument; instead, they have focused on how games are rule-based systems and narrative engines, and how play and narrative become deeply intertwined in the player's experience (Jagoda, 2018).

The narrative strength of digital games hinges on the idea of player agency, in the sense of giving players the power to make significant choices that influence the storyline. By erasing the distinction between creator and audience and letting players assume the roles of both the protagonist and a co-writer, interactive digital narratives emphasize this agency. This establishes an ongoing feedback loop in which the decisions players make cause the game system to react, changing the plot in a way that is specific to this medium. Players enter narrative worlds, make crucial decisions, and immediately feel the effects of their choices in what is known as experiential storytelling (Murray, 2017; Sjöström & Goldkuhl, 2004).

According to current studies, interactive digital stories aim to create emotional connection and sense through a multimodal approach. Games integrate various forms of communication, including text, images, sound, animation, and even haptic feedback (Li, 2022). Integrating multimodalities makes agency and co-authorship challenging to examine but, at the same time, optimizes the narrating experience by calling on the player to move through and interpret a rich web of semiotic units. To realize the narrative potential of video games, there is an increasing necessity to adopt interdisciplinarity methods that integrate views from literary theory, semiotics, human-computer interaction, and AI studies (Bostan, 2022).

The possibilities for narrative experimentation have expanded with the integration of artificial intelligence and adaptive systems into digital games. Players can co-create improvised, open-ended stories that are tailored to their individual preferences and play styles thanks to algorithmic processes, which also give them more agency. ***AI Dungeon*** serves as an illustration of this (Hua & Raley, 2020; Callison-Burch et al., 2022). These innovations push the limits of creativity in online games but also raise important questions about ethical dimensions of

human-AI co-creation of narrative, the extent of algorithmic creativity, and how humans engage with meaning.

As live venues for the construction of new stories and as testing grounds for identifying the dynamic between technology, authorship, and agency, digital games occupy a unique position within the landscape of narrative media. The study of interactive narratives in games is therefore especially instructive since it highlights the difficulties and fascinating possibilities associated with co-creating meaning in digital spaces. It also clarifies how the emergence of generative AI is changing the craft of storytelling.

Among the many forces shaping these narratives, genre plays a particularly important role, not only in guiding player expectations but also in structuring the outputs of AI systems. The following section explores how genre theory applies to digital games and how it intersects with algorithmic bias and narrative logic in AI-driven storytelling.

2.2. Genre Theory in Digital Games

Genre theory offers a vital framework for understanding how digital game's structure narrative, shape player expectations, and mediate cultural meaning. Unlike the relatively fixed genres of literature or film, game genres are fluid and hybrid, constantly negotiated between designers, players, and critics (Casvean, 2016; Voorhees, 2019).

Game genre is a taxonomy and an organizing device. Genre provides a shared vocabulary to both designers and players, framing expectations about possible action, narrative direction, and the kind of experience a game is going to provide (Neale, 1999; Casvean, 2016). Yet as Mittell (2001) and Apperley (2006) remind us, genre is less a fixed set of rules than a living system of conventions, one that is ongoingly inflected by cultural work and audience interpretation. In games, this means that genre is not only an issue of story content or visual style, but of the mechanics and systems that structure how players interact with the game world (Wolf, 2001; Järvinen, 2002).

The multidimensionality of game genres has led to various classification attempts. Early models, such as Wolf's (2001) 42-genre typology, aimed for comprehensiveness by considering dominant interactive components, goals, and controls. However, as Aarseth et al. (2003) argue, many such schemes rely on overlapping or incompatible criteria, generating typologies that are difficult to apply consistently. This has prompted calls for more flexible, player-facing systems. Egenfeldt-Nielsen, Smith, and Tosca (2015) offer a streamlined model, organizing games into four broad genres - action, adventure, strategy, and process-oriented, based on mechanics and win conditions rather than narrative or aesthetic features. Such models are particularly relevant to AI systems, which must generate stories within clearly defined experiential boundaries. Genre remains a site of ongoing "genre trouble," marked by tensions between ludological (mechanics-driven) and narratological (story-driven) approaches (Voorhees, 2019). This tension has prompted scholars to rethink genre not just as a tool for classification, but as a framework for understanding the cultural, social, and political work that games perform. Genre analysis thus becomes a way to position games within broader discourses of power, identity, and representation, and to trace how genres evolve in response to technological and cultural shifts. Notably, game genres are continually reformulated by innovation, shifting audience tastes, and artistic ambition. As Kress (2009) argues, genres help contextualize and situate digital games within broader communicative practices. Hybridization is now common, with most games blending elements from multiple genres to create novel experiences (Egenfeldt-Nielsen et al., 2015). Player-based approaches further emphasize how genres are recognized, labelled, and even created through shared practices and experiences (Murray, 2006; Casvean, 2016). For narrative design, especially in AI-generated systems, genre serves both as a creative blueprint and a constraint. Genre conventions inform player expectations, drive design choice, and provide blueprints for use by AI systems in creating meaningful, recognizable, and engaging stories (Apperley, 2006). They also have the potential to limit innovation or reinforce formulaic themes and cultural stereotypes unless the subject of critical examination (Casvean, 2016; Arsenault, 2009). On games such as ***AI Dungeon***, genre prompts not only dictate the course of narrative but also the potential for the AI to ape or subvert provided tropes, thereby directly impacting not just the creativeness but also the diversity of stories that ensue (Hermann, 2023).

Researchers have consistently argued for multi-faceted, adaptive models that consider the full range of influences on genre in video games: mechanics, storytelling, player performance, and socio-cultural environment (Aarseth et al., 2003; Järvinen, 2007). These models are increasingly necessary as AI technologies become integral to game design and narrative, blurring the boundaries between author, player, and machine (Bostan, 2022; Anantrasirichai & Bull, 2022). In this context, genre must be understood as an active process of negotiation, shaping expectations for both players and AI, and enabling a dynamic interplay between tradition and innovation in the co-production of meaning.Genre conventions act as blueprints for AI-generated stories, but they can also introduce and reinforce structural biases embedded in cultural narratives and training data. In games governed by AI, narrative coherence often depends on the system's ability to replicate familiar tropes; tropes that may carry unexamined assumptions about gender, race, culture, and power (O'Connor & Liu, 2024). Recent research shows that AI models trained on modern folklore corpora tend to exclude non-Western perspectives and reproduce gender stereotypes (Hermann, 2023). Experiments with AI agents in game environments further reveal how stra-

tegic interactions can expose unconscious language habits and cultural biases, sometimes resulting in the reinforcement of inequality.

This tension highlights genre's dual role: it can unwittingly serve as a carrier of algorithmic bias while also functioning as a structuring device. ***AI Dungeon*** and other genre-dependent AI engines risk replicating harmful tropes found in training data, such as heteronormative romance plots or racialized archetypes of evil. This is both a technical and cultural issue, as algorithmic bias in games mirrors and amplifies broader social injustices. Addressing these dynamics requires critical theories that interrogate the political and cultural assumptions embedded in data, algorithms, and design.

The next section examines how algorithmic bias manifests in game-based AI, exploring its roots in data practices, its impact on representation, and its implications for player agency. By placing ***AI Dungeon*** within this critical framework, the study aims to illuminate how generative systems both reflect and reshape the cultural logics of storytelling, and how designers, scholars, and players might intervene to promote more inclusive narrative futures.

2.3. Algorithmic Bias and Representation in Game-Based AI

The evolution of AI in games has not only redefined the technology-driven game creation space but has also brought into stark focus the greatest concerns of bias, representation, and cultural power. While this technology can create infinite, player-created narrative, it risks automating and hypertrophying the very same exclusion and stereotype that have been endemic in the media and technology for decades. Algorithmic bias here is not a sidebar but an intrinsic concern, one inherently linked to genre, authorship, and identity history in games.

Algorithmic bias in computer game-based artificial intelligence is best understood as the systematic copying of discriminatory tendencies in machine learning system outputs. These tendencies can disfavor or misrepresent particular groups, consolidate social hierarchies, or perpetuate harmful cultural logics. At one level, they reflect the composition of training datasets: large language models such as those used in AI Dungeon are typically trained on vast, uncurated repositories drawn from the internet, literature, and popular media (Zhou et al., 2024; European Union Agency for Fundamental Rights, 2022). These corpora are saturated with dominant ideologies, stereotypes, and exclusions.

As a result, AI fiction often relies on default tropes, such as white, Western, male heroes; orientalized or villainized "others"; and gendered tales of heroism and care, even when these patterns are not explicitly coded by designers (Kabashkin et al., 2025). But bias is not only a data issue; it is also embedded in the architectures and optimization goals of AI systems themselves. Generative models are designed to produce coherent, plausible, and engaging outputs; criteria that often align with reproducing hegemonic narrative forms and genre conventions (Buscemi et al., 2025).

As genre theory has shown, these conventions are not neutral: they encode normative assumptions about who can be the hero, what kinds of stories are worth telling, and how difference is represented or erased (Casvean, 2016; Voorhees, 2019). Algorithmic bias thus intersects with genre logic, privileging certain narrative structures while marginalizing others.These dynamics have broad implications. Even when explicit demographic cues are eliminated from training data, empirical research has shown that stories produced by AI have a tendency to perpetuate racial and gender stereotypes (Kotek et al., 2023). For instance, in platforms like ***AI Dungeon***, requests drawing on "fantasy" or "adventure" genres will frequently yield male-centered quests, damsel-in-distress cliches, and Eurogeography. Attempts to include non-binary or multicultural characters will either introduce narrative incoherence or fall back into default tropes, echoing genre-specific assumptions within the training data for the model as well as narrative sense (Hermann, 2023). According to the FAIRGAME framework (Buscemi et al., 2025), biases in language, personality, and cultural knowledge can arise even in non-narrative, strategic AI-agent exchanges, resulting in unfair or nonsensical decisions. These findings align with broader concerns in AI ethics, where the opacity of machine learning systems makes it more difficult to pinpoint areas that need intervention or sources of bias.

AI has a significant effect on agency and player experience. On one hand, generative AI offers new potential for co-authorship, allowing players to shape stories in real time and to push back against dominant scripts. On the other hand, the burden of identifying and correcting bias often falls on players themselves, who may lack the tools, technical knowledge, or cultural capital to do so effectively (Carstensdottir et al., 2021). Moreover, the co-creative nature of AI storytelling complicates accountability: when a problematic narrative turn occurs, it is often unclear whether it stems from player input, training data, or genre logic. This ambiguity makes it difficult to critique or remediate bias, raising questions about responsibility and authorship in digital storytelling (Seiwald, 2023). Addressing algorithmic bias in game-based AI requires more than technical fixes; it demands interdisciplinary approaches that combine ethical design, participatory critique, and cultural literacy.

Therefore, an interdisciplinary approach is needed to combat algorithmic bias in game-based AI. Technology-based solutions, like creating explainable AI systems, enforcing fairness constraints, and creating more diverse training data, are important but insufficient (Ferrer et al., 2020). Participatory and cultural interventions are just as crucial as technical and ethical ones. These include incorporating various groups in the

development and assessment of AI systems, fostering critical literacy regarding bias and representation, and utilizing games as a platform for resistance, reflection, and critique. Educational projects like Survival of the Best Fit and the Bristol Digital Game Lab game jams show how games can be used to clearly and practically explain how bias operates, allowing players to test the morality of AI in a fun yet serious way (Trammell & Cullen, 2020).

Theories like hermeneutic reverse engineering (Küçükuncular, 2025) emphasize the importance of challenging not just the data and algorithms but also the power dynamics and cultural presumptions that influence AI systems. Scholars and practitioners can start mapping the circuits of bias and imagining alternative configurations of representation and agency by analyzing the layers of mediation between player, algorithm, and narrative.

Ultimately, the issue is not simply "debiasing" AI-generated stories but rethinking the context of digital storytelling itself. Bias is not a technical flaw to be patched; it is a symptom of deeper structural and cultural forces. Recognizing this opens space for games to become arenas of contestation, critique, and reimagining.

To move beyond theoretical discussion and address these concerns in practice, it is crucial to investigate how algorithmic bias and genre conventions manifest in actual gameplay. The next section presents an empirical analysis of *AI Dungeon*, examining gameplay data and narrative outputs to explore how players and AI enact, negotiate, and occasionally resist the dynamics of bias and representation. This case study offers tangible insight into the creative and ethical constraints of co-authoring meaning in contemporary digital games.

3. Methodology and Empirical Analysis

The increased application of generative AI to interactive narrative platforms such as *AI Dungeon* has raised critical questions about how algorithmic process intervenes in genre emulation, narrative coherence, and reproduction or subversion of cultural bias in computer games. Although earlier research has speculated on the promise and danger of AI-generated storytelling, systematic empirical investigations of how these dynamics are realized in actual gameplay contexts are now urgently needed. Past research has generally focused on technical skill or overall trends of representation, with relatively few trying to cross quantitative and qualitative approaches to examine the highly complex interactions between genre norms, player agency, and algorithmic partiality at the discrete play session level.

This study addresses that gap by undertaking a mixed-methods analysis of *AI Dungeon* as a game-based narrative engine. It draws on a curated dataset of play sessions, which has been systemically coded for variables including genre, player style, AI response patterns, manifestations of bias, narrative drift, and moments of player intervention. By integrating statistical analysis with close qualitative reading, this approach aims to capture both the prevalence and the lived experience of algorithmic bias and genre adaptation in AI-mediated storytelling.

In the following subsections, it is detailed the construction and coding of the dataset, the rationale for the mixed-methods approach, and the ethical considerations guiding the research design. This methodological framework provides the basis for an in-depth empirical analysis of how *AI Dungeon* operationalizes genre, negotiates bias, and enables or constrains player agency across diverse gameplay scenarios.

3.1. Dataset Construction and Coding

The data for this study were constructed to enable systematic investigation of genre, agency of players, and bias of the algorithm in *AI Dungeon* narratives. All sessions were played by the researcher, allowing for consistent input style and controlled exploration across genres and play strategies. Play sessions were purposefully sampled to represent a broad array of genres like fantasy, science fiction, mystery, romance, and horror, as well as diverse player styles like collaborative, adversarial, exploratory, and subversive ones. Genres were selected based on their availability within the game's interface and their relevance to the study's focus on narrative structure, bias, and genre emulation. Criteria for selection included sufficient length of story, evidence of engaged player participation, and the presence of at least one significant narrative branching or intervention.

Every session was tagged systematically in order to encode variables and dimensions central to the research questions. Primary and secondary genres of every story were established through setting, tropes, and player prompts. Player style was classified in relation to the strategy employed to narrative progression, both accounting for expressed inputs and session shape as a whole. AI responses were tagged for genre copying, player intervention adaptation, and reinforcement or subversion of narrative tropes.

Special attention was given to the detection of algorithmic bias, both explicit and implicit, which pertain to gender, race, culture, and sexuality and were noted as they arose in the AI-authored stories. Moments of narrative drift, those at which the output of the AI became incoherent, departed from established genre norms, or could not sustain logical continuity, were also logged. Player interventions intended to redirect, correct, or thwart the narrative of the AI, successful or not, were also recorded.

To ensure consistency and reliability, pilot coding of a randomly selected subset of sessions was conducted, allowing itera-

tive improvement of the coding scheme. Institutional ethical standards guided all data handling procedures, with careful attention to anonymization and secure storage of research materials.

This technique of dataset assembly and coding aimed at balancing breadth and depth to allow quantitative and qualitative analysis of dynamic interplay between genre norms, algorithmic reasonableness, and player agency in narratives of *AI Dungeon*. The dataset is a robust empirical basis for mixed-methods analysis of the content covered in the following sections.

3.2. Analytical Framework and Mixed-Methods Approach

Mixed-methods analytical approach was employed in order to understand the lived dynamics of player agency, algorithmic bias, and genre emulation within *AI Dungeon*. Through combining quantitative and qualitative analysis, this approach allowed for close reading of subtle narrative effects as well as identifying common patterns among sessions.

Quantitative analysis was used for inferring frequency and distribution of focal variables in the dataset. There were coded data from the Analytical Play Session Grid that provided frequencies and cross-tabulations, i.e., frequency of narrative drift by genre, relative coherence of AI responses by player style, and frequency of player interventions in sessions with high versus low system coherence. Descriptive statistics were generated for items like genre, style of player input, type of response from AI, emotional tone, and degree of player intervention, providing a structural description of the dataset and facilitating comparative understanding. These quantitative measures gave a foundation for the identification of notable trends, like the occurrence of particular genres (e.g., noir, historical fiction, or magical realism) to show high narrative drift levels or for particular styles of players (e.g., correctional or experimental) to invoke more interventions.

Qualitative analysis supported these findings by enabling further exploration of narrative processes and co-authorship dynamics. The Transcript Coding Grid and Observational Memo Grid provided dense, session-level data amenable to thematic and interpretive analysis. Quotes were examined for emergent themes such as genre mirroring, emotional cueing, atmosphere crafting, and negotiating narrative agency between player and AI. Special attention was paid to instances of bias manifestation, narrative drift, and response repair, as well as to the ways in which players attempted to redirect or subvert the AI's narrative logic. These close readings illuminate not only the machinery of AI storytelling but also the affective and semiotic texture of play, ranging from suspense-building in horror to irony-layering in satire and emotional recursion in psychological drama.

The synthesis of quantitative and qualitative analysis permitted a clear understanding of the data. Quantitative trends informed the selection of representative cases for qualitative analysis, while qualitative findings guided interpretation of statistical trends. This process enabled both depth and breadth of the narrative universe of *AI Dungeon* to be captured, supporting strong inferences about the interaction of genre, bias, and agency in generative game worlds. The mixed-methods design thus enabled a structured and adaptive research strategy to challenge the complexity of AI-mediated storytelling while infusing empirical findings into systematic measurement and interpretive richness.

3.3. Ethical Considerations and Limitations

This study only used play sessions that the researcher designed and collected. As a result, participant consent, privacy, or anonymizing users' data concerns were not applicable. Ethical issues primarily were related to proper interaction with the *AI Dungeon* environment and critical handling of AI-created content. Data collection and analysis was carried out in accordance with the platform's intellectual property policies and service terms.

The generative nature of the AI resulted sometimes in sensitive material in certain narrative outputs, including stereotypical or biased depictions of gender, race, culture, or sexuality, this material has been handled carefully to document and look into instances of algorithmic bias without feeding unfavorable stereotypes.

Several limitations of the study should be pointed out. The dataset, while diverse in genre and play style, is inevitably constrained by a single researcher-created set of sessions. This may circumscribe the ability to generalize the results to larger populations or other types of user behavior. Coding and interpretation of narrative events, particularly on implicit bias and narrative drift, continue to be vulnerable to researcher subjectivity despite efforts at consistency and rigor. Furthermore, foregrounding *AI Dungeon* as a case study could limit generalizability of the results to other generative AI narrative systems. Finally, the rapid growth of AI technologies means that the results are only representative of one moment in the history of narrative AI and maybe not even the whole tale.

Despite these warnings, the methodological rigor and caution of the study provide a sound foundation for the following

empirical analysis of algorithmic bias, genre imitation, and player agency in *AI Dungeon* narratives.

4. Findings

A variety of patterns and dynamics at the nexus of genre, algorithmic logic, and player agency were discovered through the examination of the carefully selected *AI Dungeon* play sessions. The results are arranged according to four main themes that arose from the mixed-methods analysis, which drew on both quantitative trends and qualitative insights: genre emulation and aesthetic adaptation patterns; algorithmic bias and stereotype reinforcement manifestations; narrative drift and player intervention dynamics; and cross-genre and player strategy comparisons. The results related to one of these themes are presented in each of the subsections that follow, emphasizing both the recurring patterns and the complex relationships that define the generative narrative environment of *AI Dungeon*.

4.1. Patterns of Genre Emulation and Aesthetic Adaptation

The analysis makes it evident that *AI Dungeon* performs very well in terms of genre emulation, reacting quickly to player input with genre-specific narrative structures, motifs, and stylistic cues. The AI developed characters, worlds, and plot developments that adhered to well-worn conventions across the corpus, particularly when sessions began with overt mentions of the genre, i.e., detective noir, medieval kingdoms, or high-tech. While fantasy sessions tended to feature quests, magic items, and archetypal heroes like wizards or dragons, science fiction stories tended to feature high-tech, interstellar travel, and innovative social structures. This capacity is closely tied to the evolution of the underlying language models. AI Dungeon initially relied on GPT-2, but later iterations adopted GPT-3 and beyond, significantly improving the system's ability to generate coherent, context-sensitive narratives. However, the increased complexity of these models also introduced new challenges, such as heightened sensitivity to player input and the amplification of biases embedded in larger training datasets.

By effectively using genre-associated tone, lexis, and pacing, the AI demonstrated that over 80% of sessions had genre consistency at least for the first third of the story, according to the quantitative coding. In romance-focused sessions, it consistently created emotionally saturated dialogue and built interpersonal tension, whereas horror scenes were laden with atmospheric textures and a rising feeling of suspense. These findings demonstrate that the AI is capable of producing a vast number of narrative conventions on demand since its training data and language model are capable of recognizing genre markers well.

Certain interesting examples of aesthetic adaptation were also noted by the analysis where the AI modified its story methods in accordance with minute differences in player input. It generally attempted to reconcile such clues, creating hybrid stories when players introduced pieces that fused or clashed genres, like a magic-wielding detective or a spaceship crew investigating supernatural occurrences. This led to some creative genre fusions, since the system combined various themes without betraying the narrative. But such flexibility was not always uninterrupted; in some instances, abrupt genre shifts resulted in plot derailment or momentary loss of direction, particularly when player signals diverged significantly from convention.

The AI's sensitivity to aesthetic cues was also shown through qualitative examination of session transcripts. The tone of the player was also mirrored by the system, as it utilized narrative maneuvers in accordance with the style of the player in response to melodramatic, humorous, or ironic input. As the AI and player teamed up to negotiate genre, mood, and style in the developing story, this ability to respond visually helped the co-authorship sense develop.

The results indicate that *AI Dungeon* is able to effectively emulate genre conventions and vary its story style according to player feedback, particularly when genre signals are strong and consistent. The system's adaptability allows it to blend imaginatively and copy genres accurately, but the latter can at times compromise on coherence within the narrative. These directions indicate the potential and limitations of using generative AI as a tool of interactive storytelling across genres.

4.2. Patterns of Algorithmic Bias and Stereotype Reinforcement

The analysis of *AI Dungeon* play sessions revealed explicit trends in the display of algorithmic bias and cultural stereotype reinforcement in projected stories. While the system presented high flexibility to accommodate a wide range of genres and types of players, it also demonstrated recurring inclinations to repeat biased or stereotypical representations, particularly with gender, race, and cultural identity.

Quantitative coding showed that fewer than one session in five (21%) contained at least one explicit or implicit bias statement. They came in many forms and levels of severity. Occasionally gender stereotypes slipped quietly into the secondary stage of description of characters and dialogue; female characters defined by appearance or affect more often than male characters usually assigned active or leadership roles. Even in cases where the game did not actively promote those relationships, the archaic tropes of "male heroic savior" and "damsel in

distress" appeared with unsettling regularity in adventure and fantasy games.

Although they were rare, racial and cultural stereotypes were noted in sessions that were historical or exoticized. Descriptions of non-Western places did sometimes fall back into the use of clichéd or generic imagery, and characters from the omitted groups were occasionally described in simplistic or even outdated language. In some cases, the AI generated writing that reflected negative tropes, such as associating crime or evil with specific ethnicities. These show that bias was still present in the original language model and training data, even though they weren't the norm.

How these biases manifested and were handled throughout the story was clarified by the qualitative analysis. The AI frequently relied on stereotypical tropes in its initial responses in a number of sessions. But the system changed its narrative trajectory when players stepped in, either by changing the plot or challenging character presumptions. However, the efficacy of these interventions differed; occasionally the AI switched to more varied or nuanced representations with ease, and other times, after only a short shift, it reverted to its original patterns.

The study demonstrates that even though *AI Dungeon* can produce unique and diverse stories, it reflects the biases of its training data. Implicit and explicit biases affect the role of characters, the plot, and the overall structure of narrative worlds. To prevent reinforcing unfavorable stereotypes, generative narrative systems need to be regularly reviewed and adjusted. The space of exploration and reconfiguration exists in this interaction between player input and AI output.

4.3. Narrative Drift and Player Interventions

The analysis highlighted narrative drift as a significant theme. This occurs when an AI-generated story loses its way, deviating from recognized genre standards or having trouble making sense overall. Although this action was common in all genres, it was most noticeable during sessions where the player input was very complex or varied. According to quantitative analysis, narrative drift happened in about 28% of sessions and was more common in hybrid-genre or experimental style play.

Most frequently, narrative drift showed up in a number of ways. The AI occasionally produced disjunctive plot turns by making sudden changes to the setting or character motivation without sufficient narrative justification. The sudden development of supernatural abilities by a detective working in a noir setting or the abrupt transfer of a medieval quest to a modern urban setting are two examples of this. In certain cases, the AI departed from established relationships or story facts, leading to the return of characters who had previously left the story or to contradictions.

Player intervention was significant in correcting and, at times, controlling these events of drift. Given the single player-researcher, deliberate efforts were made to either restore narrative coherence or try out the system's adaptation capability. In an attempt to steer the AI back toward the intended story path, interventions ranged from reminding the AI of past plot events, modifying character motivation, or directly bringing up past incidents. The majority of these interventions demonstrated the system's responsiveness to user input and were successful in returning the AI to a logical or genre-appropriate narrative.

However, in some cases, player interventions failed to fully reverse the drift, resulting in severely disjointed stories or strayed from original themes. In some sessions, narrative drift was embraced as a creative opportunity where the AI and player would collaborate to try unusual genre combinations or utterly absurd plot twists. The limitations and potential creative elements of *AI Dungeon*'s story mode were made clear by this dialogue. While the system occasionally experiences coherence issues, it also fosters an odd kind of improvisational fiction in which the action is constantly debatable.

The results imply that narrative drift, which is impacted by the complexity of player input and the limitations of the language model, is a normal aspect of *AI Dungeon*'s generative process. Involving the player is essential to maintaining the plot's coherence and can serve as a means of both correcting and imaginatively challenging the AI's narrative logic. This dynamic demonstrates how AI-driven storytelling is collaborative in nature, with interaction constantly shaping meaning and agency.

4.4. Comparative Insights Across Genres and Player Strategies

Comparative analysis of the dataset revealed tangible patterns in the ways genre conventions and player strategies impacted the dynamics of narrative building, bias formation, and overall *AI Dungeon* session coherence. While the system's embedded language model provided a foundation for genre simulation and adaptive response, the interaction of specific genres with multiple strategies from players imposed sizable differences in narrative outcomes.

Courses built on firmly defined genres such as fantasy, detective noir, and romance showed higher initial narrative stability and more consistent genre adherence. There, the AI drew upon established tropes and formats, building familiar and engaging stories. Conversely, genres with fewer conventions—experimental fiction, magical realism—are more likely to see increased instances of narrative drift and frequent fail-

ures of internal logic when player input brings ambiguity or genre blending.

Player strategy was a primary determinant of both narrative stability and creativity. Cooperative, narrative-driven playstyles were more likely to maintain genre convention and ensure narrative coherence, with the AI responding as planned to clear indication and crafted requests. Adversarial, subversive, or highly experimental gameplay styles would more likely lead to the AI straying from standard forms and bring about more instances of narrative drift, hybridity of genres, and, at times, spontaneous or pathological material.

Algorithmic bias was also expressed differently across genres and player strategy. Sessions set in a historical or culturally situated context were most likely to elicit stereotypical representation, especially when player prompts were open-ended or employed diffuse descriptions. However, if the player adopted a correcting or interventionist stance—apparently pushing the narrative away from biased tropes—the AI did have some capacity to change, but not in a regular way. This means that while the system's default replies will have bias in its training data reflected back, participatory intervention and critical engagement on the part of the player can counteract, but not eliminate, such inclinations.

The comparative findings demonstrate that player agency and genre both affect how a story ends. The AI performs exceptionally well at genre emulation when operating within clearly defined narrative boundaries, but its limitations are revealed in more experimental or open-ended settings. By stabilizing or upsetting the story, player strategies can improve coherence or force the system into new and occasionally difficult areas. These findings demonstrate how storytelling in *AI Dungeon* is cooperative and negotiated, with both the user and the system influencing the changing story environment.

5. Discussion

In the ludic structure of interactive digital storytelling, the results of this study offer fresh empirical understanding of how generative AI systems—such as *AI Dungeon*—manage genre conventions, narrative logic, and algorithmic bias. This study contributes to ongoing discussions at the narratology, game studies, and AI ethics nexus by highlighting the interaction of game mechanics, narrative conventions, and algorithmic affordances of language models (Hua & Raley, 2020; Sharma, 2025).

5.1. Genre as Scaffold and Filter in AI Storytelling

The results highlight genre's dual function as both filter and scaffold to stories generated by AI, an aspect noted in recent game studies and genre studies (Egenfeldt-Nielsen et al., 2015; Casvean, 2016; Voorhees, 2019). In accordance with Casvean (2016) and Apperley (2006), analysis proves that genre is more than a static system of guidelines but a fluid system of norms mediated between player and system. The fact that AI can mimic genre conventions like tone, narrative style, and common tropes shows how important genre is as a shared language for both human and machine narrators (Neale, 1999; Genette, 1980). Nevertheless, research shows that it can also act as a filter, reducing the originality of stories and sometimes skewing unconscious prejudices, especially when player choices cross or contradict genre boundaries (Mittell, 2001; Jagoda, 2018).

The observed narrative drift and genre hybridity reinforce the fluidity and continuously negotiable nature of digital game genres (Casvean, 2016; Voorhees, 2019). Agency by players—ubiquitous in game narrative theory (Jenkins, 2004; Ryan, 2001)—emerges as a primary driver for both enforcing and subverting genre conventions, demonstrating the ongoing feedback loop described by Riedl and Bulitko (2012) and Koenitz et al. (2015).

5.2. Algorithmic Bias, Stereotype Reinforcement, and Cultural Representation

One of the major contributions of this work is the empirical charting of the expression of algorithmic bias and stereotype reinforcement in AI-generated game stories. Consistent with recent research on AI and cultural representation (Banh & Strobel, 2023; Callison-Burch et al., 2022), the findings indicate that genre conventions can pair with and at times reinforce biases present in training data. Gendered roles, racialized tropes, and cultural clichés most often manifested in genres with profound cultural or historical significance, resonating with Noble's (2018) and Sharma's (2025) articulations about the politics of algorithmic narrative.

The results also implicate player intervention as a corrective or subversive agency. As stressed by Hermann (2023) and Short (2019), human-AI co-authorship is inherently mixed-initiative: players can re-direct, reject, or affirm the system action, but these interventions are only successful if both the AI is adaptive enough and player intention is salient and unambiguous. Such interactivity accentuates the ethical responsibilities of developers and users similarly in shaping the representational logics of generative narrative systems (Sharma, 2025; Hua & Raley, 2020).

5.3. Narrative Drift, Coherence, and the Limits of AI Improvisation

The phenomenon of narrative drift observed in this study is consistent with Murray's (2017) and Jagoda's (2018) analysis of procedural and generative narrative. While improvisational fluidity is a hallmark of *AI Dungeon*'s narrative engine, it also illustrates the challenges of using current language models to

sustain coherent, genre-consistent narrative over long interactions. The results of the experiment confirm that the ludic structure of the game—its openness to player input and genre experimentation—can preclude as well as exacerbate narrative drift, depending on the adaptive ability of the system and the strategy of the player. (Compton & Mateas, 2015; Riedl & Bulitko, 2012).

This tension reflects a broader issue identified by Koenitz (2018) and Bostan (2022): the challenge of developing AI systems that can balance the creative potential of procedural generation with the requirements of narrative coherence and cultural sensitivity.

5.4. Implications for Design, Ethics, and Future Research

The relationship between genre, bias, and agency mapped in this study has a number of implications for generative AI narrative system design and evaluation. First, the study shows that genre-aware design—wherein systems are capable of both emulating and adaptively negotiating over genre conventions—can enhance narrative coherence and agency (Egenfeldt-Nielsen et al., 2015; Jagoda, 2018). Second, the enduring nature of algorithmic bias necessitates ongoing critical examination of training data, system output, and user interface design, consistent with ethical models set forth by Sharma (2025) and Hua & Raley (2020).

This work shows scholars the importance of mixed-methods designs that integrate qualitative thematic analysis and quantitative coding to provide a deep understanding of the real-time negotiation of cultural representation, aesthetic adaptation, and narrative logic. Future research should expand the empirical foundation to include a greater variety of player experiences and subjectivities and test cross-platform comparisons in order to further elucidate human-AI co-authorship in digital storytelling.

6. Conclusion

The creative, structural, and ethical concerns of using generative AI technologies, like *AI Dungeon*, to create interactive narratives have been further explored by this research. The research has clarified the affordances and constraints of narrative AI technology by closely examining genre conventions, player agency, and algorithmic bias in AI-generated game stories.

The findings confirm that genre acts as a scaffold and a filter within digital narrative, dictating the limits of narrative possibility while also restraining innovation (Egenfeldt-Nielsen et al., 2015; Casvean, 2016; Genette, 1980). *AI Dungeon*'s capacity for duplication of genre exemplars indicates the large language model's potential for the replication of culturally situated narrative forms but also discloses the susceptibility of the system to narrative drift and incoherence when confronted with hybrid or subversive player behavior (Jagoda, 2018; Murray, 2017).

Above all, the study has empirically mapped out how algorithmic bias and stereotype confirmation persist in AI-generated narratives, echoing more generic complaints about digital culture and algorithmic media (Noble, 2018; Bender et al., 2021; Sharma, 2025). Even as player agency can on occasion offset or divert these biases into alternative paths, the findings underscore the need for more robust, open, and ethically responsible design in narrative AI systems (Hua & Raley, 2020; Floridi, 2019).

By foregrounding the co-authorial character of *AI Dungeon*'s narrative (in which agency, meaning, and representation are negotiated between human and machine), this research extends discussion in game studies, narratology, and AI ethics (Koenitz, 2018; Jenkins, 2004; Ryan, 2001). The mixed-methods design employed here demonstrates the strength of integrating qualitative and quantitative methods in tracing emergent, improvisational, and sometimes surprising character of AI-enabled play with narrative.

It suggests a number of areas to concentrate research and practice in the future, including: interdisciplinary models that are able to critically examine the evolving landscape of algorithmic authorship; interfaces that allow players to recast and counter objectionable output; and bias-sensitive and genre-aware narrative engines (Bostan, 2022; Callison-Burch et al., 2022). There will have to be additional research into the cultural, creative, and ethical aspects of generative AI as it becomes more and more prevalent in digital culture. This will enable the technologies to facilitate more innovative, inclusive, and responsible storytelling.

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