

The Challenge of Evaluating Player Experience in Tabletop Role-Playing Games

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ABSTRACT

Tabletop Role-Playing Games (TTRPGs) offer players the opportunity to form imaginary gameworlds and stories within them, create community, solve problems, and explore identity. Designers and researchers have tried to identify how aspects of TTRPGs facilitate collaboration, immersion, creativity, and more. However, there has been no attempt to develop a formal assessment methodology for player experience during TTRPG play. This paper argues that evaluating TTRPG players' experience can provide vital data for Game Masters to improve on their future games, for players to reflect on their experience, and for TTRPG designers or event organizers to collect and compare data. As a first step towards developing such an evaluation method, we identify important dimensions of TTRPG play that can be meaningful to track and actionable to improve upon. Moreover, we review player experience dimensions and evaluation methods in digital games, and explore similarities and differences with TTRPGs.

CCS CONCEPTS

• **Human-centered computing** → *Interaction design*; Empirical studies in interaction design; • **Applied computing** → Computer games.

KEYWORDS

player experience, role-playing games, analog games, evaluation protocols, questionnaire

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1 INTRODUCTION

Tabletop Role-Playing Games (TTRPGs) are a “*type of game/game system that involves collaboration between a small group of players and a game master through face-to-face social activity with the purpose of creating a narrative experience*” [31]. TTRPGs have a rich history spanning almost 50 years [112], preceding personal

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computers and heavily influencing digital games [8]. The genre has expanded in terms of game systems and design philosophies since the early inceptions of *Dungeons & Dragons* [86] in the 1970s. Many modern TTRPGs deviate from the aforementioned play experience, including games with no Game Master, such as *Fiasco* [91], games played with online participants [103], games mediated by software, etc. While dwarfed by the digital games sector, new TTRPG systems, niche settings, and steps towards improving representation and diversity [10] have stimulated unprecedented growth: in 2020 the estimated TTRPG sales in the U.S. and Canada exceeded a hundred million dollars for the first time in history [55]. TTRPGs have also received extensive research interest¹ with attention to characterizing the genre [62, 63] and associated experiences [17, 76, 90] as well as to the impact of TTRPGs in education [30, 74], soft skills training [71], personal development [88], and more.

The experience of playing TTRPGs is arguably unique, tracing back to their identity as participatory story-creation systems [83]. The stories formed during a TTRPG are “*systemic, improvisational, and collaborative*” [59]. On the other hand, these systems do include rules that define the possible actions that in-game characters can take within the story-creation sequence and – importantly – how success or failure of such actions is decided. This creates a tension between the storytelling and gaming aspects of TTRPGs [31]; which aspect is favored is as dependent on the chosen TTRPG system as on the group (especially the arbitration style of the Game Master, if any). In terms of the gaming experience, players may enjoy or have a hard time optimizing their gameplay or characters in order to overcome challenges in the game. In terms of the storytelling experience, players may have a hard time envisioning the scenes described by the Game Master, may enjoy expressing their character’s speech style and flair, or may try to push the story towards a specific end-goal. In addition, since TTRPGs are social activities where players cooperate towards the same story-creation goal, one player’s experience can be impacted by other in-game characters’ abilities and narrative end-goals, but also by other players’ social skills and relationships [105].

Methods for measuring player experience (PX) have been developed both within the game industry and academia, but so far have predominantly focused on evaluating experiences of playing digital games and rarely on TTRPGs [108]. Evaluating TTRPG experiences in some way would be useful feedback for Game Masters to improve their session management and refereeing style and for TTRPG designers to produce more intuitive rules that provide a more immersive experience. Beyond its usefulness to stakeholders in the TTRPG, exploring dimensions of TTRPG experience can

¹Indicatively, the International Journal of Role-Playing has published 12 issues since 2008.

potentially contribute to our understanding of specific PX theories and expand the field of PX research more broadly. The unique experience of TTRPG play as collaborative, emergent story-making necessitates re-imagining certain dimensions of digital game PX in order to better capture the impact and interactions between rules, equipment (e.g. character sheets, miniatures), other players and the Game Master. In the following sections, we review TTRPG and PX concepts and provide a preliminary set of PX dimensions that are both realistic to assess and useful to TTRPG stakeholders.

2 WHAT IS A TABLETOP RPG?

Tabletop Role-playing games are shared social activities, usually between a number of players in the same physical space, sitting around the namesake table. Each player controls a *player character* (PC) and through collaboration with other PCs attempts to accomplish a shared goal, overcome challenges along the way, and create interesting stories through play. TTRPGs are often formal systems with published rules, mechanics, settings, and adventures. A TTRPG session may encompass the entirety of the adventure (*one-shot*), or may be only one small episode of an ongoing *campaign*. Players decide on their characters' actions, but usually the outcomes of these actions are resolved through some stochastic process such as dice rolling, card drawing, etc. In most TTRPGs, the gameworld, non-player characters (NPCs), plot, pacing, and rule arbitration is handled by a human *Game Master*² (GM) who participates in play but does not control a PC. Other TTRPGs do not have a dedicated GM, and players share authorial control through group decision-making towards interesting outcomes, as in *Fiasco* [91], controlling more than one PCs, as in *Legacy: Life Among the Ruins* [85], or controlling some or all aspects of the world, as in *Across the Endless Sea* [70]. This paper focuses on PX on the part of players that control a PC. Therefore, the experience of the GM is not considered as it is contingent on many more factors related to system and adventure design, setting description, setup, rule interpretation, arbitration, moderation, etc. Similarly, this paper does not consider games where players only control an emerging narrative rather than characters within it, for example, storytelling games such as *Once Upon a Time* [75] or *The Quiet Year* [3].

3 PLAYERS IN TABLETOP RPGS

While in digital games a gameworld and narrative exists in the game's executable, in TTRPGs a vast portion of the experience is built by the players themselves — along with the GM. At a high level, players have preferences in terms of genre (e.g. modern, horror, science-fiction, fantasy, etc.). Identifying the genre and themes that the group wants to explore, the intended duration of the game, as well as limits, sensitivities and taboo themes [104], requires that the group is in constant and honest communication both before and during a TTRPG session.

Player types and motivations have been well-studied in the context of digital games, and many instruments have been proposed for profiling players of different genres, e.g. [92, 102, 116], including computer RPGs [45] specifically. However, research into types of players in TTRPGs is typically based on loose methodologies or

personal experience. Based on discussions on message boards, indie TTRPG designer Edwards [47] proposed the GNS theory which distinguishes three types of goals during play: *Gamism* expressed by competition among players (not PCs) by taking advantage of the game's rules, *Simulationism* expressed by attention to the gameworld's internal logic and consistency, and *Narrativism* expressed by the creation, via role-playing, of a story with a recognizable theme. Based on their ruleset and setting design, some TTRPGs may appeal more to one player type than another, although often players can shift between types depending on the game, the GM, and the social context. There are several revisions to the GNS theory as surveyed by Boss [15]. Ad-hoc typologies and motivation groupings are often proposed in GM guides, as knowing players' preferred activities allows the GM to "*tailor adventures that satisfy [their] preferences as much as possible, thus keeping them engaged*" [32]. Indicatively, Laws [78] identifies eight TTRPG player types and provides a fairly well-rounded suite of possible motivations, reactions, and coping mechanisms. The extensive descriptions provided by Laws could be considered (a priori defined) TTRPG *play personas* [26]. Similar to the GNS theory, Laws identifies the Power Gamer (reminiscent of Gamism), the Method Actor and the Storyteller (reminiscent of Narrativism, through differing perspectives), and the Tactician (reminiscent of Simulationism). However, Laws also includes player types based on less game-specific motivations, such as the Casual Gamer (who is less invested in the game and more in the out-of-play social bonds), the Specialist (who only plays characters of a specific trope), and the B*-Kicker (who plays to blow off steam). Assessing the motivations of TTRPG players through a formal instrument similar to those prevalent in digital games [116] can be valuable for the preparation work of a Game Master, as evidenced by GM guides that already suggest this based on ad-hoc typologies [78]. However, we consider that evaluating PX of a (recent) TTRPG session can have broader and actionable impact than a one-time player profile assignment, and choose to focus on the former in Section 5.

Another dimension of study is the relationship between players and their PCs. Each PC is inescapably shaped by the player's personality, ethos, experiences, etc. Based largely on participant-observer ethnographic research, Bowman [17] categorizes the reflection of the player in their characters into nine types, based on the "sameness" between a player's primary identity and their character's. The nine types of "selves" identified by Bowman largely follow a Jungian perspective; for instance, a PC as Oppositional Self represent the player's Shadow qualities that have been repressed [52]. These concepts are relevant for PX evaluation in TTRPGs when it comes to character attachment, discussed in Section 5.4.

4 EVALUATING PLAYER EXPERIENCE

Borrowing from the broader concept of user experience, player experience (PX) aims to describe "*the individual, personal experience held by the player during and immediately after the playing of the game*" [113]. Due to the differing goals of a game (to entertain, engage, etc.) compared to a productivity application or a website, and the different emotions that games elicit, "*conceptualization of player experience requires differentiating specific dimensions like*

²Note that different games denote this person as Dungeon Master, Storyteller, Master of Ceremonies, etc.

(game-) flow, immersion, challenge, tension, competence, and emotions” [113]. Since both user experience and PX originate from the Human-Computer Interaction (HCI) discipline, PX conceptualization and PX evaluation has focused on digital games as its application domain. However, we contend that many of the assessment methodologies and dimensions of PX can and should be transferred — with adjustments — to TTRPGs. Generic questionnaires have been used in TTRPG research to ascertain differences between e.g. players and non-players [105] but not for the goal of assessing PX. We should note that analysis of PX in analog games (board games and TTRPGs) has been attempted so far via interviews [51, 106], participatory observation [11, 17, 34, 50, 83], and thematic analysis of forum discussions and message boards [2, 49, 73]. However, a standardized methodology and instrument for evaluation is lacking in analog games and TTRPGs, in particular.

To the best of our knowledge, the only published work on evaluating TTRPG experiences is by Tychsen et al. [108] in 2008, which included an extended questionnaire on the FUN construct [93] as well as questions on Group Dynamics and Player-Character Relations. The questionnaire was applied, with modifications, to compare experiences between TTRPGs (specifically, *Dungeons & Dragons*) and Computer RPGs (specifically, *Neverwinter Nights*). While some of the PX dimensions evaluated by Tychsen et al. [108] are close to our suggestions (see Section 5), this questionnaire was not considering the needs of TTRPG stakeholders (as discussed in Section 4.2) and was not validated beyond the study itself. In addition, more recent work on PX evaluation in digital games could provide a more informed view of TTRPG experience beyond the constructs of Newman [93]. Recent research on eudaimonic experiences [28, 29, 33] considers more nuanced and subtle player experiences ‘beyond fun’, such as emotionally moving [13], emotionally challenging [14, 40, 42] and discomfoting experiences [53]. All these could be relevant to how players experience TTRPGs.

4.1 Evaluating PX in Digital Games

A plethora of research methods is used in the digital games industry for evaluating PX, as surveyed by Medlock [87]. Importantly, different methods are applicable in different stages of game development. One way to assess one’s PX is by looking at the ‘objective’ data in the form of physiological responses from players, such as heart rate or skin conductance. The downside of this approach is the lack of subjective context, i.e. why participants are feeling something and what it is that they are experiencing or thinking exactly. To address this shortcoming, qualitative evaluation methods can be used to complement these ‘objective’ responses, including interviews, focus groups, and ad-hoc surveys; however, results from these methods can lack standardization and comparability. Validated questionnaires, on the other hand, exist to address this issue.

Questionnaires are perhaps the most common method for assessing subjective experiences of playing digital games. These instruments can quantify experiences and compare these experiences between groups of players or between sessions. Questionnaires are usually created based on a specific theory with a view to test and refine this theory and to be able to compare experiences across different games, features, and player types. The most common experiences that are measured through questionnaires are motivation

[5, 102, 117], immersion [68], engagement [20], flow [67], spatial presence [110, 114], social presence [37, 65], and overall gaming experience [1, 66]. Specialized questionnaires assessing more nuanced PX include challenge [42], demand [16], attribution of failure [44], character attachment [81], character morality [54, 69], player-avatar interaction [6, 7], creativity [58], embodiment [95], uncertainty [98], fantasy [27, 97], and more. Analyzing these experiences is beyond the scope of this paper; however, we will focus on the relevant PX dimensions and evaluation instruments for them when proposing possible directions for TTRPG PX in Section 5.

4.2 Why evaluate PX in TTRPGs?

While there has been extensive research in defining or explaining the experience of role-playing in TTRPGs [63, 90], the focus of such work has been on identifying components of the experience [15, 47] or designing around and towards it [25], rather than operationalizing the experience itself. We identify that methodologies and instruments for evaluating TTRPG PX can be valuable to many stakeholders: PX researchers, Game Masters, TTRPG players, designers, and event organizers.

Given the extensive research conducted in operationalizing PX in digital games, investigating PX in a new, arguably unique type of gameplay in TTRPGs can lead to new insights and inform PX research as a whole. While TTRPGs share common concerns that have been well-studied in digital games (as discussed in Section 5), the medium and the experience itself is vastly different. The experience is shaped by the presence of a Game Master and other players, the freedom afforded by the game’s fabula and loose ruleset, and the reliance on imagination and theory of mind rather than audiovisual feedback and discrete controls. Moreover, the uncontrollable nature of TTRPG sessions challenges traditional methodologies of PX research, such as controlled experiments. While in digital games the game can be controlled by modifying the game executable [43] to produce two or more versions that test a hypothesis on the impact of a dependent variable, in TTRPGs such a level of control is nigh impossible. Working with the medium and investigating how some control can be maintained through e.g., a script for the GM, could shed new light in research methodologies for PX and investigate the impact of priming [41] on the emerging experience.

On the other hand, Game Masters already assess their group’s experience throughout the course of play and explicitly during the debriefing that follows after a TTRPG session. Usually, such debriefing comes naturally, with players chatting around the table about the session and their plans for next time. GMs may explicitly ask for feedback when trying something new, or use ad-hoc surveys during campaign preparation to gauge what the players would like to play next. Recently, a ‘standardized’ checklist for consent in RPGs has been put forth by Monte Cook Games [104], which can help GMs and players steer away from themes, stories, or actions that could make some players uncomfortable. In the same book, GMs are advised to check-in with their players after each session to “discuss anything that was emotionally charged or potentially problematic in the game” [104]. Therefore, debriefing is ubiquitous and serves multiple purposes including assessing — informally — the recent player experience. While a formal PX assessment may not fit the relaxed style of many gaming groups, it could be a valuable tool for

GMs to collect data on aspects they could improve in future sessions of the same campaign, or in new games. In addition, explicitly responding to questions could help players identify certain aspects that they could also improve on (such as group dynamics), or simply prompt them to reflect on their experience [79, 99].

Another obvious benefit of a methodology and/or instrument for evaluating PX in TTRPGs is for designers of such games. In digital games, most applications of PX evaluation are intended for playtesting games [46]. Like digital game developers, TTRPG designers must consider how their rulebooks are interpreted on the gaming table. Methodologies for running playtests can help TTRPG designers collect better data on their games, including unclear rules in the rulebook, edge cases, or how the game’s narrative or rules could lead to unintended play styles or disruptive behavior. Developing a standardized method for evaluating PX can allow TTRPG designers to gather large volumes of data fairly easily and quickly. The use of PX questionnaires ensures consistency and uniformity of collected data, because the same specific aspects are considered by all participants in all studies. As a concrete example, *Paizo* released multiple early versions of their *Pathfinder* system [23] in 2008-2009 for public playtesting and solicited responses via the company’s forum. The response was enthusiastic, with over 45,000 downloads of the rules and over 100,000 forum messages [22]. In such a large-scale, multi-iteration playtest, a standardized TTRPG PX questionnaire (deployed online) could have collected more data and allowed for comparisons in terms of responses depending on the version of the system played.

Organizers of ‘organized play’ TTRPG events can similarly benefit from easily deployable PX evaluation instruments. Such events are often played on-location at conventions such as *DragonCon*³ in the USA, and feature many groups at different tables simultaneously playing sessions on the same game system. For local organizers of such events, having some way of assessing participants’ PX can help them plan more effectively for future events, as well as for training or vetoing GMs. In addition, some of the major TTRPG publishers have programs around international organized play. Indicatively, *Paizo Organized Play*⁴ releases new campaigns with multiple adventures every year, where outcomes of individual groups’ adventures feed into the narrative of the next year’s events. While the main goal of these programs is to promote the publisher’s product, it could be beneficial to track not only players’ progress in the adventure but also of their experience while doing so. Tracking this experience on an international scale can act as an in-the-wild playtest that could lead to corrections in the rulesets and the adventures.

5 INITIAL DIRECTIONS FOR PX EVALUATION IN TTRPGS

While methods for evaluating TTRPG PX can be valuable for many stakeholders (see Section 4.2), this first paper focuses on the needs of Game Masters based on over 20 years of personal experience. We presume that PX evaluation is carried out after a TTRPG session, by participating players, as part of or complementary to debriefing. The following sections identify aspects of the player experience that would be valuable (and actionable) to evaluate, and include

explanations of how GMs actively attempt to influence each PX aspect. Each section also build bridges to existing instruments for evaluating similar experiences in digital games. As noted, the proposed directions form an initial set that should be substantiated and refined based on interviews with stakeholders (see Section 6).

5.1 Cognitive Challenge

TTRPGs challenge the player’s mental resources in multiple ways. Players have to:

- estimate the optimal strategy for addressing a challenge, based on the ruleset’s action and resolution system (*strategy*)
- keep track of the current state of the game, since it only resides in the GM and players’ mind (*cognitive dissonance*)
- keep track of the gameworld and the story so far (*memory*)

Strategic thinking in TTRPGs is largely dependent on the rules of the game; action resolution may range from rolling a six-sided die to consulting several tables and applying contextual modifiers. In most TTRPGs, different character roles may be better suited for specific types of actions, or may have additional actions available (e.g. spells). More rigid systems with rules to simulate the world and decide on the exact outcomes and probabilities of success, such as *Pathfinder* [12], allow the player to strategize, assuming their mental model of the game state matches that of the GM (more on this below). More freeform systems tend to have simpler resolution methods but give more leeway to the GM to decide on an appropriate outcome, e.g. in *Blades in the Dark* [60], and therefore it is more difficult for a player to estimate the outcome of their actions.

Players’ decision-making also hinges on the mental model of the game state that the entire group shares. Different TTRPG systems have different material components to assist in this effort: miniatures, grids, maps, handouts, player or GM aides, software, etc. Even the most intricate material setup, however, can still lead to cognitive dissonance between what the GM and each player understands about the situation they are in: for example, some players may consider that intimidating a king would be effective while the GM assumes that it is punishable by death. Minimizing cognitive dissonance can be achieved through clearer communication between GM and players, such as the GM describing the scene thoroughly, and noting possible repercussions of each action.

Finally, keeping track of a group’s broader history (rather than the immediate surroundings) is done through players’ note-taking, e.g. writing down NPC contacts, unresolved goals, visited locations, etc. This is largely dependent on the players and their personality, but different types of games might rely on — and penalize lack of — player memorization more than others (e.g. mystery TTRPGs). The GM can also help with players’ memories through handouts ostensibly given to the characters (such as maps or long messages) and by recapping the story so far at the beginning of each session.

Cognitive challenge has been highlighted in several questionnaires: the Challenge Originating from Recent Gameplay Interaction Scale (CORGIS) [42] addresses it by name as challenge that arises “*from the need for preparation, planning ahead, memorisation, effort and multi-tasking*” [42]. Questions on cognitive challenge in CORGIS are not tied to the digital game medium and explicitly address planning, general effort, memorization, preparation and more. Similarly, the cognitive demand scale of Video Game Demand

³<https://www.dragoncon.org/things-to-do/gaming/#rollplaying>

⁴<https://paizo.com/organizedplay>

Scale (VGDS) [16] is associated with the consumption of cognitive resources in relation to direct and purposeful thinking, and can thus be another starting point. A more targeted aspect of TTRPG PX is the stochastic nature of action resolution, which makes planning and decision-making more difficult. The Perceived Uncertainty in Games Scale (PUGS) [98] captures this via the Exploration, Prospect and Randomness factors, although the Disorientation factor seems more targeted to a digital play experience. Finally, the spatial presence questionnaire (SPQ) [110] may be a better starting point in terms of capturing understanding of the current game state, as it was originally aimed to capture, among others, presence in text from books or film via items such as “*It seemed as though I actually took part in the action of the presentation*” [110]. Other aspects of the cognitive challenge could be added to the above in order to better capture the often longitudinal, episodic nature of TTRPGs (e.g. as questions regarding remembering the gameworld and story in-between sessions) or its material components.

5.2 Immersion

Borrowing from the definition of board game immersion by Calleja [25], our working definition of TTRPG player immersion is *the imagined habitation of a mechanically structured, fictional world through embodiment in a single entity that is able to exert agency in accordance with the rules of that world*. This is similar to the concept of engrossment in TTRPGs proposed by Fine [50] as “*the willing, temporary acceptance of a fantasy world and persona as real, indicating this process as a necessary component to play*” [19]. Immersion in TTRPGs and live-action RPGs has been hotly debated [61, 64, 111], often under the prism of the GNS theory (see Section 3), while in digital games it has been central to many proposed frameworks [21, 24, 56, 82, 101]. Bowman [19] surveyed work on immersion, with a focus on computer RPGs, and concluded that “*immersion is a multifaceted phenomenon with distinct levels of engagement, each with potentially gratifying elements*” [19]. Bowman identified immersion into activity, game, narrative, character, and community; many of these overlap with dimensions of involvement identified by Calleja [24]. Given its multifaceted nature, achieving immersion on-demand during a play experience is rather unlikely. That said, TTRPGs offer many shortcuts for improving the immersion of participants, such as addressing the players only with their character names, minimizing out-of-character communication [84], evocative and multi-sensory scene descriptions by the GM, fleshed-out PC and NPC personalities, gestures and voice-acting, music [48], etc.

In digital games, immersion is often evaluated as part of general PX questionnaires, e.g. [66, 102], or using standalone questionnaires such as the Immersion Experience Questionnaire (IEQ) [68]. The IEQ proposes that immersion is made up of five components: Cognitive Involvement, Real World Dissociation, Challenge, Emotional Involvement and Control. These factors arguably overlap with many other aspects of TTRPG PX as discussed in this section, with Real World Dissociation perhaps being the most relevant for our case. Even so, the IEQ is heavily geared towards digital games, assuming interaction with a screen and graphics, winning, controls, etc. It is likely that TTRPG immersion will need to be measured by a domain-specific questionnaire that considers the dual nature of player and PC as situated play rather than a graphically depicted

avatar and gameworld. A recent paper conceptualizing immersion in board games [49], which highlights the key differences in this experience when compared to digital games, could be a good starting point to create a tool that assesses PX specific to TTRPGs.

5.3 Agency

Hammer [59] discusses *agency* (i.e. the ability to take action within a possibility space) and *authority* (i.e. the ability to enforce and judge the results of those actions) in TTRPGs. The researcher identifies that while in theory there is no constraint on the possibility space, due to the freeform and improvisational nature of TTRPGs, there is both a fabulaic limit (due to genre conventions or intended narrative outcomes) and a zero-sum limit (due to collaborative play). While the latter is also pertinent to group dynamics around the table (see Section 5.5), how much control the player perceives they have on their character, the gameworld, and the story are important factors for their enjoyment and implicitly impact other aspects of the experience, such as immersion (see Section 5.2). Here, we use the term agency to include notions of control, self-expression, empowerment, and autonomy [38]. A player may feel their agency stifled when e.g. other players take over the game and do not share the spotlight (see Section 5.5), when the GM does not allow for role-playing opportunities by speeding past them (see Section 5.6), or when they do not see any (one or alternative) strategies for reaching an intended outcome (see Section 5.1). Evidently, the perceived control a player has over the game is contingent on many factors; moreover, some TTRPG systems limit the player’s agency in order to trigger emotions of helplessness, as in the case of horror games. However, the group and the GM can influence how much agency players feel they have by moderating how the spotlight is shared, by setting up interesting role-playing opportunities that allow the player to express their character’s personality, beliefs, or flair, or by allowing players to change the course of an adventure compared to the GM’s plans (or the book’s prescription).

As noted, the term ‘agency’ in TTRPGs in this context is used fairly loosely, because the breadth of actions available to players falls beyond the sheer mechanical actions in a digital game; players’ actions include acting out a scene or even suggesting ideas to the GM for an alternative way of resolving a challenge. Perhaps the closest mapping can be found with the Autonomy dimension of the self-determination theory (SDT) [38], which has been evaluated using multiple PX questionnaires for digital games [5, 102, 117]. For instance, Autonomy questions in the Ubisoft Perceived Experience Questionnaire (UPEQ) [5] are not tied to digital games and are general enough to be applicable for TTRPGs. On the other hand, agency in TTRPGs is as much about self-expression as it is about actions and their effects on the game-state. Therefore, questions regarding how much the player could role-play their character are important to be added. Unsurprisingly, there is no questionnaire for the experience of a player expressing their fictional character’s emotions or morals. We can draw inspiration from the Creativity in Gaming scale [58] or the Creative Freedom factor in the Game User Experience Satisfaction Scale (GUESS) [96]; more ambitiously, we can investigate how other forms of mediated self-expression are evaluated, such as through art therapy [57].

5.4 Attachment

A well-studied and critical aspect of TTRPGs is the player's relationship with their character, as noted in Section 3. Identifying as the player character is almost necessary in TTRPGs in order to accomplish immersion, but the cognitive and emotional shortcuts to achieve this are far from clear. *Identification* is “a psychological process whereby the subject assimilates an aspect, property, or attribute of the other and is transformed, wholly or partially, by the model the other provides” [77], and is very similar to the working definition of *character attachment* by Lewis et al. [81] as “*internalization and psychological merging of a player's and a character's mind*”.

A player's relationship with their character is a personal accord, likely verging on the subconscious. Therefore, at first glance it would be less valuable to assess as it can not be addressed directly by a GM or by TTRPG designers — nor, arguably, even by the player themselves. However, at second glance, raising the emotional challenge of the player [42] can elicit feelings of sympathy or empathy [94] towards the PC, other PCs, or NPCs that can deepen the player's relationship with their character. Emotional challenge arises “*from the emotions evoked in the player which might also have implications for things they thought about outside of the game*” [42] and is intimately tied to role-playing, as “*deciding how the character should act forms part of the emotional challenge*” [42]. The TTRPG ruleset can solicit emotional challenge by codifying deep interpersonal interactions and their outcomes, as in *Headspace* [100], and by describing game settings and characters that are emotionally vulnerable, e.g. in *Monsterhearts* [4]. The GM can also raise the emotional challenge by setting up situations with moral dilemmas, raising tensions between individual wants and group needs, prompting the player to role-play an emotional scene such as delivering an obituary, make NPCs flawed and vulnerable, etc.

On this PX dimension, the closest evaluation instruments relevant to the TTRPG context are the Player-Character Sympathy questionnaire for TTRPGs and computer RPGs [109] and the questionnaire for measuring Character Attachment (CA) in computer RPGs [81]. The CA questionnaire measures four components: Identification/Friendship, Suspension of Disbelief, Control, and Responsibility. However, some of these components overlap with other notions such as agency (see Section 5.3) and cognitive challenge (see Section 5.1) which we consider distinct from attachment. The dimensions of Identification/Friendship and Responsibility, however, seem a good starting point and can be adapted to the types of relationships players tend to have with their PCs as surveyed in Section 3. Additional inspiration can be gleaned from the Emotional Challenge sub-scale of the CORGIS [42] and Emotional Demand in the VGDS [16]; while emotional challenge or demand dimensions do not map to attachment per se, they provide an important and actionable aspect of PX that forces the player to form a deeper emotional connection with their character.

5.5 Group Dynamics

While not all TTRPGs are group activities [80], a core aspect of most TTRPGs is the “*face-to-face social activity with the purpose of creating a narrative experience*” [31]. Social dynamics are important factors that impact individual players' experience, and players

engage in the TTRPG activity by implicitly recognizing an egalitarian structure of power with the other players [2]. In this spirit of collaboration, players acknowledge that “*any participant must cede at least some agency to other members of the group, or those other members cannot meaningfully participate*” [59]. Therefore, usually players try to share the spotlight, giving other players leeway to express themselves and role-play their character, attempting to reach consensus when taking an important decision, and generally maintaining a positive atmosphere.

On the darker side of groupwork, conflicts between players (not the PCs) can emerge when there is disagreement on rules, pacing, tactical or story-wide decisions, etc. This *dysfunction* [47] is usually due to incompatibility between different players' expectations of the game, as elaborated in Section 3. Another common reason for dysfunction is a lack of shared mental model of the game state and gameworld (see Section 5.1) between players, which leads to confusion and arguments. Difficult situations also emerge when more seasoned role-players overburden new players by not ceding agency to others or by acting in a toxic fashion [35]. Clashes can also be traced to out-of-character events that bleed into the game [18], such as relationship shifts between players, which are more difficult to mitigate.

Perhaps the most relevant questionnaire for this context is the Social Presence in Gaming Questionnaire (SPGQ) [37], which measures two psychological involvement components (Empathy and Negative Feelings), and one Behavioural Engagement component. These questions are not tied to digital games, and could be applied to TTRPG social dynamics. However, not all feelings captured by SPGQ may be relevant around the table (e.g. envy or admiration) and should be verified in the context of TTRPGs (see Section 6). Another relevant questionnaire assesses Competitive and Cooperative Presence in Gaming (CCPIG) [65], which was validated in digital games such as *Mount & Blade* and *Dota 2*. The collaboration questions of CCPIG seem to be a good starting point for TTRPG dynamics, but tend to skew towards goal-driven behavior (especially regarding the Motivation factor) which may or may not be central to the TTRPG. For instance, tactical games such as *Pathfinder* [12] may focus more on goals such as victory in combat; in more socially-driven games such as *Monsterhearts* [4] the players may not consider other players as team-mates (nor competitors, per se). Questions on social presence that are less focused on collaboration and competition may thus also be relevant, e.g. the social presence module of the General Experience Questionnaire (GEQ) [66]. Relatedness in self-determination theory (SDT) [38, 102] is also relevant, as it does not focus as much on the task at hand; relatedness instead is the “*will to interact with, be connected to, and experience caring for others*” [9]. As mentioned above, multiple PX questionnaires assess SDT [5, 102, 117], although they do not address the dichotomy between player and PC. Another inspiration could be the questionnaire on RPG group dynamics by Tyachsen et al. [108]. Beyond the above dimensions, however, there are additional components regarding emotion regulation and conflict resolution that would be valuable to be assessed in order to reflect on and address player conflict. Good starting points for such evaluation could be conflict management questionnaires [115] or emotion management questionnaires from psychology, e.g. the perspective-taking scale of the Interpersonal Reactivity Index (IRI) [36].

5.6 Refereeing

Perhaps the most nebulous aspect of PX around the table is the impact that the GM has on the experience. Unlike other players, the GM is not a collaborator but instead has a multitude of roles [39, 107]. Moreover, the GM has significant power and authority in shaping all aspects of the game (especially the outcomes, themes, and narrative progression) in the implicitly “*recognized structure of power*” [89] of a TTRPG group. The impact a GM has on a role-playing experience is undeniable; if we assume that PX evaluation would be most valuable to GMs, then this aspect is what they would be most interested in and could more immediately improve on.

We identify two ways in which the GM impacts the players’ experience around the table that do not significantly overlap with other aspects of PX listed above: moderation and pacing.

Moderation refers to how the GM uses their power to manage the players (rather than the PCs), both to empower each player and to handle conflicts between players. This includes conflicts between players and the GM, for instance when there is disagreement on the application of a rule or confusion regarding the mental model of the world (see Section 5.1). Handling clashes as they occur, detecting increased tension and steering away from a clash, and generally contributing to a positive atmosphere are all steps that the GM can take to better moderate the group dynamics during the game. Note that GM moderation of players’ off-game behavior during the game is distinct from group dynamics listed in Section 5.5. This is due to the fact that the GM is not a participant in players’ decision-making and due to the power imbalance between a player and a GM; there is an implicit understanding that moderation is one of the GM’s tasks and that the GM has final say over the game’s rules or the description of the gameworld [107].

Pacing refers to how the GM uses their power to move the story forward or to slow the action in order to draw attention to important parts of the narrative or to give PCs opportunities for self-expression or decision-making. Borrowing from film-making, the GM controls pacing as a *scriptwriter* who sets the scenes and dialogue and as an *editor* who can cut a scene short or let it run longer. As an editor, the GM may fast-forward an uninteresting activity such as a long voyage (e.g. narrating a montage of minor events during the activity) or may wrap up a scene that is running long (either explicitly by asking the players or implicitly by triggering in-game events that force the PCs to move on). The GM controls the pacing as a scriptwriter by choosing which scenes to bring up for role-playing. Unlike scriptwriters, GMs set the scene (with potential interesting dilemmas) and leave its resolution to the players. Good pacing can be established by introducing scenes where there is a meaningful and informed choice to be made, where there are interesting vistas to describe and explore, where there is an interesting NPC to interact with, where an event or prop foreshadows events to come, etc. In published adventures, such scenes may be pre-defined by the RPG designers and thus evaluating pacing becomes relevant for those stakeholders as well. Some scenes may hinge on player decision-making and role-play while others may be limited to GM narration. Part of the challenge of pacing for GMs is balancing the two, giving enough top-down gameworld description to stimulate immersion while giving players opportunities for high-stakes and evocative role-playing to ensure their agency.

This aspect of the TTRPG experience is the least grounded in existing PX measurement instruments, and will likely need extensive conceptual refinement and brainstorming before a pool of items is generated for it. As noted in Section 6, additional interviews with GMs should clarify the more general and useful feedback that such a PX questionnaire could capture.

6 DISCUSSION AND NEXT STEPS

Based on the arguments laid out in the previous sections, PX evaluation in TTRPGs is valuable not only to PX researchers but also to GMs, players, TTRPG designers and event organizers. In order to conceptualize a first set of aspects of TTRPG PX, we focused on those that could provide meaningful data to the above stakeholders so that they can act upon it. Based on a combination of literature review and personal experience, we identified six PX components: immersion in the imaginary gameworld, agency over their character and over the story, attachment to the character, social dynamics between players, decision-making based on the rules and the game state, and GM direction. Some of these experiences are already commonly evaluated in digital games. That said, it is not straightforward to apply (or adapt) such PX questionnaires to TTRPGs due to differences in the medium or terminology, in the player’s unbounded freedom and in the shaky consensus regarding the game state among players. In addition, some aspects such as GM refereeing have no similar counterpart in digital games.

It should be noted that the above aspects of TTRPG PX are likely not equally valuable to different stakeholders. Indicatively, TTRPG designers may be more interested in cognitive challenges due to over-complicated rules or lack of material components (e.g. miniatures) to communicate the game state. GMs may mostly be interested in feedback on their refereeing, while players may reflect on their emotions when answering questions on agency. However, all aspects above — and probably more — intertwine and impact the experience of play in unclear and unforeseeable ways. Therefore, even if different stakeholders can only act on a small part of the TTRPG experience, having a holistic view thereof is important as changes in e.g. the rules can impact immersion or group dynamics.

This paper reviewed related work on TTRPGs, mainly from the digital humanities and social sciences, and attempted to identify actionable and meaningful components of TTRPG PX in Section 5. However, this is one of many steps towards developing and validating a TTRPG PX questionnaire. Following questionnaire development guidelines by Kline [72], next steps include:

- (1) conducting interviews with TTRPG players, Game Masters, and possibly other stakeholders, to solicit their feedback on actionable factors and fill in gaps in the literature
- (2) generating a broad initial set of questions (items pool) based on the themes identified in the literature and interviews
- (3) running the items pool by experts (e.g. RPG designers, experienced GMs and researchers) with a view to refine and trim the items pool to create the first version of the questionnaire
- (4) distribute the questionnaire to gather responses from a range of TTRPG players
- (5) assess the construct validity of the first version of the questionnaire and refine it further based on the results from the exploratory factor analysis

- (6) further validation of the questionnaire through confirmatory factor analysis and experimental studies

Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) will be used on the players' responses to the initial and refined questionnaire, respectively [72]. EFA ascertains whether associations exist between the initial questions, and if so, where they lie and how they are grouped, while CFA tests the researcher's hypothesis by confirming where the latent variables are and how much variance they account for. This approach suits the design process of a TTRPG PX questionnaire well: it will be possible to solicit data collection from the many active online communities of TTRPG players. Perhaps the least intuitive part of the above plan is the validation step. Indicatively, Denisova et al. [42] validated their questionnaire on player responses on three games held out from the CFA and assessed the expected differences in PX between these games based on authors' a priori knowledge of the games. In theory, a similar method can be applied for TTRPG PX, using game systems that differ, for instance, in terms of how their rules facilitate creativity [11]. However, the game system is only one factor in the type of experiences occurring during TTRPG play, with other major factors being the GM, players, adventure setup, game setting, and more. Therefore, validation of implicit assumptions that, for example, a game system attracts specific play personas (see Section 3) overlooks that different groups may play the same game system very differently, which could skew responses one way or the other.

A limitation of the work so far is the assumption that the TTRPGs being evaluated have a Game Master. This is not only evident in the explicit refereeing component of TTRPG PX, but also in the general assumptions made when brainstorming the important and actionable aspects of the experience. Moreover, the next steps for producing an evaluation instrument will include interviews with GMs, thus perpetuating our initial focus on these types of TTRPGs. Alternative versions of play exist, including games with no GMs, games with more than one GMs, games played virtually or via teleconferencing software. The initial TTRPG PX evaluation instruments, developed with the assumption of a GM-based power structure, will later need to be tested on more varied games and determine whether the same theories and evaluation methods hold for other contexts and setups.

Another limitation is the explicit focus on the experience of players who control one player character. The suggested directions of Section 5 do not address the experience of a Game Master, a GM aide, or an audience. We focus on the players, because it is more important to enhance their experience compared to the GM experience; the latter is also contingent on significant preparation work as well as on the good experience and role-playing of the players themselves. Future work could explore other TTRPG stakeholders' experience, as collecting data on the GM's experience could be in turn valuable for TTRPG designers and event organizers.

7 CONCLUSION

This paper is intended as a clarion call towards further research in evaluating player experience in tabletop RPGs. Our motivation is not merely the lack of research in PX evaluation within this subdomain, but primarily the very different challenges that PX evaluation faces when dealing with unscripted and improvisational

games where there is no underlying executable that provides the gameworld, goals, and possibility space. Based on a preliminary literature review and personal experience, we identify six components for TTRPG PX that are valuable and actionable to assess: cognitive challenge, immersion, agency, attachment, group dynamics, and refereeing. The benefit of developing PX evaluation methodologies (including questionnaires) specific to TTRPGs is two-fold: (a) it can help game designers and event organizers collect succinct and actionable data from playtests and events, respectively; (b) it provides a framework for individual RPG groups to homogenize expectations when setting up a campaign, and to debrief after each game session. The initial set of challenges and directions for PX evaluation presented in this paper need to be verified and refined via dedicated interviews with TTRPG groups (including players and Game Masters), in order to build an initial set of items for evaluating TTRPG PX. This initial set will then need to be tested, refined, and validated through large-scale studies following established questionnaire development processes [72]. While the path forward is dark and full of terrors, as bold adventurers we ought to shed light on the important question of PX evaluation in TTRPGs.

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