

Reevaluating the Role of Relatedness in Single-Player Roleplaying Games

KATELYN M. GRASSE, University of California, Santa Cruz

MAX KREMINSKI, University of California, Santa Cruz

NOAH WARDRIP-FRUIIN, University of California, Santa Cruz

MICHAEL MATEAS, University of California, Santa Cruz

EDWARD F. MELCER, University of California, Santa Cruz

ACM Reference Format:

Katelyn M. Grasse, Max Kreminski, Noah Wardrip-Fruin, Michael Mateas, and Edward F. Melcer. 2022. Reevaluating the Role of Relatedness in Single-Player Roleplaying Games. In *CHI 2022 Workshop on Self-Determination Theory in HCI: Shaping a Research Agenda, May 1, 2022, New Orleans, LA*. ACM, New York, NY, USA, 4 pages.

1 INTRODUCTION

The motivational factors of Self-Determination Theory (SDT) have been widely applied to the understanding of what motivates player engagement with and enjoyment of games. According to SDT, players can be intrinsically motivated to enjoy and engage with a game via three basic psychological needs: autonomy, relatedness, and/or competence (ARC). Since Ryan, Rigby and Przybylski’s seminal paper describing how SDT can be used to explain the motivational pull of video games [12], much research has demonstrated that each of the ARC factors can impact players’ enjoyment of and/or engagement with a game experience [2, 8, 16]. However, Tyack and Mekler’s recent review of SDT literature from premier game conferences (i.e., CHI and CHI Play) emphasizes that “certain core concepts (e.g., relatedness) have received little to no attention” and that “few papers engage with SDT beyond merely descriptive accounts” [17]. Consequently, many details regarding the application of SDT to games have yet to be defined.

Recently, we have attempted to apply SDT to the understanding of player motivation in the context of single-player interactive storytelling games—particularly the educational interactive storytelling game *Academical* [5], which aims to teach players about the responsible conduct of research through a series of branching roleplay scenarios. In attempting to code player survey responses regarding their play experiences in *Academical* for the presence of SDT factors, we encountered particular difficulty with *relatedness*: although some player responses seem to indicate that players are motivated by a sense of relatedness to the game’s characters, the validity of this interpretation is unclear. The other two SDT factors—autonomy and competence—can straightforwardly be interpreted as applicable to single-player games. The applicability of relatedness, however, is less obvious: how can a factor that has previously been described primarily in terms of player interactions *with other players* be applied to the understanding of single-player narrative games?

In this paper, we briefly discuss the issue of relatedness in single-player narrative games and propose a preliminary new sub-theory of SDT (grounded in cognitive narratology) that suggests why and how relatedness may operate as a motivating factor in these games. Further, we argue that much work remains to be done in developing a better understanding of how relatedness should be interpreted in the context of single-player roleplaying games (SPRPGs).

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

© 2022 Copyright held by the owner/author(s).

Manuscript submitted to ACM

2 BACKGROUND

Intrinsic motivations, such as those described by Self-Determination Theory, are thought to satisfy basic psychological needs and have been demonstrated to be potent drivers of enjoyment and engagement [7, 8, 16]. Per Ryan and Deci [11, pgs. 516-17], relatedness (one of three major intrinsic motivations) can be defined as a sense of social connectedness. Relatedness needs are satisfied when others recognize and support one’s self and when the person feels able to connect with, feel significant with, and be helpful to others; when there is a rich and textured social world—one in which players actually have things to do together; and relatedness, being in part a function of contingent responsiveness, can be experienced toward animated virtual characters who demonstrate this attribute.

According to Ryan and Deci, “different types or genres of video games afford distinct profiles of the psychological needs that they can satisfy” [11]. For instance, SDT does not officially define how relatedness can contribute to intrinsic motivations to enjoy and/or feel engaged with single-player games (e.g., interactive narratives). The authors of SDT specifically describe single-player role-playing games (RPGs) as satisfying autonomy and competence, whereas similar games with multiplayer options (e.g., massively multiplayer online RPGs) further satisfy the need for relatedness through supportive interactions with other players [11, p. 518]. However, the theory’s designers admit (and some studies indicate) that players can experience relatedness through interactions with non-playable characters (NPCs; i.e., interactive characters that are not controlled by humans), particularly via “contingent responsiveness” [4, 9, 11]. For example, an NPC could foster a sense of relatedness with the player by providing them with aid in the form of an action or advice. Thus, it is possible for a single-player game (particularly one with a strong narrative and developed characters) to support enjoyment and/or engagement via each of the ARC factors described by SDT, including relatedness.

Game and media researchers have suggested that the definition of relatedness within single-player narrative game content can be further refined and extended [1, 4, 15, 18]. More specifically, this body of work suggests that, under certain conditions, it is possible for players to feel relatedness with the main character of a story (playable or not) in addition to supporting characters or NPCs. Drawing from this body of work, the following section describes a preliminary set of relatedness criteria that we developed on the basis of a cognitive-narratological understanding of character in fiction.

3 RELATEDNESS IN MEDIA AND SPRGPs

We hypothesize that players of SPRGPs are likely to experience a stronger sense of relatedness when two conditions are present: the modeling of game characters as social actors within the player’s mind, and the participation through roleplay in dyadic social interactions with these characters.

3.1 Modeling of Characters as Social Actors

Following both Tyack and Wyeth [18] (who extend relatedness to include parasocial relationships [6, 10, 14] with NPCs) and Bopp et al. [3] (who address player feelings of attachment to both player and non-player characters), we argue that relatedness can be interpreted to include the player’s relatedness to game characters. The idea that spectators of fiction understand fictional characters by modeling them as other people is well-supported by the modern cognitive-narratological understanding of character [13, p. 608]. In particular, Smith [15] proposes a *structure of sympathy* consisting of three distinct levels of “imaginative engagement” with fictional characters: *recognition*, in which spectators are presented with “legible and consistent” information about characters that lead them to model these characters as internally coherent others; *alignment*, in which spectators are given access to a character’s subjectivity to facilitate

perspective-taking; and *allegiance*, in which spectators are led to “root for” (or against) characters on the basis of moral evaluation.

The first of these three levels is largely connected to the spectator’s sense that the characters are believable, while the latter two levels increasingly address *affective* relationships with characters. However, all three levels involve the application to fictional characters of cognitive functions (such as perspective-taking and empathy) that are normally applied to *other people*. Because relatedness centers on affective relationships, we argue that a sense of relatedness to game characters may arise when either alignment or allegiance is present. Recognition, however, seems less clear-cut as a source of relatedness: players can recognize characters without identifying or sympathizing with them further. Consequently, we argue that recognition falls more cleanly within the SDT-adjacent category of presence/immersion.

An interpretation of relatedness as arising solely from the modeling of fictional characters as people, however, is incomplete: it does not address the *dyadic* nature of relatedness, which requires that the player see themselves not just as spectators of but as *participants* in relationships with game characters. To fully explain why we believe relatedness is active in SPRPGs, we must also take roleplay into account.

3.2 Participation through Role-Play

Relatedness traditionally requires a minimum of a dyadic relationship characterized by “contingent responsiveness” that allows a person to psychologically thrive, experience well-being, and support the expression of their “true self.” According to Tyack and Wyeth [18], “it remains improbable that relatedness needs can be fully satisfied without any form of direct human contact.” However, various studies (theirs included) have suggested that relatedness can at least be partially satisfied within the context of media and story/character-based games [1, 4, 7, 15, 18]. As described in the previous section, this can occur when a person forms a parasocial relationship with a celebrity or movie character. However, a person can perhaps achieve even greater relatedness need satisfaction when they form a more interactive supportive relationship with an artificial character in a game.

Role-play is an activity common to games that explicitly engages a person’s capacity to experience the world from another’s perspective as well as to experience *alignment* and *allegiance* with fictional characters. Many people feel very motivated to engage in these kinds of activities and feelings because it is enjoyable (e.g., reading choose your own adventure books). Ultimately, our work determined that previous research supports the idea that: **People enjoy role-playing and connecting with fictional characters because it is intrinsically motivating (i.e., via relatedness)**. This theory indicates that the act of role-playing and/or connecting with fictional characters is able to satisfy the psychological need to support genuine self-expression and feelings of well-being.

4 CONCLUSION

While relatedness was initially interpreted as arising solely from interactions between people, past work on games has also argued for parasocial and dyadic relationships with game characters as a source of relatedness. We argue that two main factors—modeling of characters as social actors and social participation through roleplay—function as sources of relatedness in SPRPGs. In our view, the presence or absence of these conditions defines a spectrum of relatedness that ranges from purely parasocial relationships (in which game characters are modeled as social actors in the player’s mind, but do not respond to the player as a social actor) at one end up to full multiplayer interaction at the other. Though we have yet to validate these hypothesized conditions, we believe that the spectrum-of-relatedness view serves as a potentially useful reconceptualization of relatedness as it applies to games, and one that can motivate substantial future discussion.

REFERENCES

- [1] Paul JC Adachi, Richard M Ryan, Jonathan Frye, Dayne McClurg, and C Scott Rigby. 2018. "I can't wait for the next episode!" Investigating the motivational pull of television dramas through the lens of Self-Determination Theory. *Motivation Science* 4, 1 (2018), 78.
- [2] Ahmad Azadvar and Alessandro Canossa. 2018. UPEQ: Ubisoft Perceived Experience Questionnaire: A Self-Determination evaluation tool for video games. In *Proceedings of the 13th International Conference on the Foundations of Digital Games*. 1–7.
- [3] Julia Ayumi Bopp, Livia J Müller, Lena Fanya Aeschbach, Klaus Opwis, and Elisa D Mekler. 2019. Exploring emotional attachment to game characters. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*. 313–324.
- [4] Anna Dechering and Sander Bakkes. 2018. Moral engagement in interactive narrative games: an exploratory study on ethical agency in the walking dead and life is strange. In *Proceedings of the 13th International Conference on the Foundations of Digital Games*. 1–10.
- [5] Katelyn M Grasse, Edward F Melcer, Max Kreminski, Nick Junius, James Ryan, and Noah Wardrip-Fruin. 2022. *Academical: A Choice-Based Interactive Storytelling Game for Enhancing Moral Reasoning, Knowledge, and Attitudes in Responsible Conduct of Research*. In *Games and Narrative: Theory and Practice*. Springer, 173–189.
- [6] Katrine Kavli. 2012. The player's parasocial interaction with digital entities. In *Proceeding of the 16th International Academic MindTrek Conference*. 83–89.
- [7] Mary Beth Oliver, Nicholas David Bowman, Julia K Woolley, Ryan Rogers, Brett I Sherrick, and Mun-Young Chung. 2016. Video games as meaningful entertainment experiences. *Psychology of Popular Media Culture* 5, 4 (2016), 390.
- [8] Wei Peng, Jih-Hsuan Lin, Karin A Pfeiffer, and Brian Winn. 2012. Need satisfaction supportive game features as motivational determinants: An experimental study of a Self-Determination Theory guided exergame. *Media Psychology* 15, 2 (2012), 175–196.
- [9] Scott Rigby and Richard M Ryan. 2011. *Glued to games: How video games draw us in and hold us spellbound*. AbC-CLIo.
- [10] Alan M Rubin and Elizabeth M Perse. 1987. Audience activity and soap opera involvement: A uses and effects investigation. *Human Communication Research* 14, 2 (1987), 246–268.
- [11] Richard M Ryan and Edward L Deci. 2017. *Self-Determination Theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
- [12] Richard M Ryan, C Scott Rigby, and Andrew Przybylski. 2006. The motivational pull of video games: A Self-Determination Theory approach. *Motivation and emotion* 30, 4 (2006), 344–360.
- [13] Ralf Schneider. 2001. Toward a cognitive theory of literary character: The dynamics of mental-model construction. *Style* 35, 4 (2001), 607–639.
- [14] Holger Schramm and Tilo Hartmann. 2008. The PSI-Process Scales. A new measure to assess the intensity and breadth of parasocial processes. (2008).
- [15] Murray Smith. 1994. Altered states: Character and emotional response in the cinema. *Cinema Journal* 33, 4 (1994), 34–56.
- [16] Ron Tamborini, Nicholas David Bowman, Allison Eden, Matthew Grizzard, and Ashley Organ. 2010. Defining media enjoyment as the satisfaction of intrinsic needs. *Journal of communication* 60, 4 (2010), 758–777.
- [17] April Tyack and Elisa D Mekler. 2020. Self-Determination Theory in HCI games research: Current uses and open questions. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. 1–22.
- [18] April Tyack and Peta Wyeth. 2017. Exploring relatedness in single-player video game play. In *Proceedings of the 29th Australian conference on computer-human interaction*. 422–427.