Entertainment Computing 44 (2023) 100538

Contents lists available at ScienceDirect

Entertainment Computing

journal homepage: www.elsevier.com/locate/entcom

Young people's engagement with digital gaming cultures – Validating and developing the digital gaming relationship theory

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ARTICLE INFO

Keywords:
Youth
Digital gaming
Digital gaming relationship
Gaming motives
Social worlds
Video games

ABSTRACT

Young people's digital gaming is a complex phenomenon often approached in both research and public discussion from risk or utilitarian perspectives, erasing young people's diverse experiences of their participation in gaming cultures. This study explores the utility of a novel approach, the digital gaming relationship (DGR) theory, in examining young people's gaming experiences. Drawing from a thematic analysis of qualitative questionnaire data (N = 180) collected in Finland from respondents aged 15–25, the study illustrates how the DGR approach helps make sense of young people's engagement with digital gaming cultures and develops the theory further.

1. Introduction

Digital gaming is a very common pastime for young people, and youth have been, and continue to be, central to many gaming discourses. Understanding young people's gaming is not always easy, and parents [1,2] and professionals [3] alike can struggle when it comes to addressing gaming, whether supporting, limiting, or just discussing it.

This state of affairs is not altogether surprising: many parents and professionals who need to address gaming as part of their work or domestic life do not have first-hand experience of digital game play, or their gaming experiences do not match young people's contemporary gaming [e.g. [1,3,4]. The situation is further complicated by gaming's long history of moral panics [5], negative stereotypes associated with people who game [6], and positive and negative media framings that influence perceptions of gaming [7].

Youth has long been considered a time of so-called "storm and stress", or exceptional difficulties and problematic behaviour, although this view has in part faded with increased research and knowledge-building [8,9]. Youth is a time of personal and emotional development and increased agency, independence, and exploration – and as a result has often been seen as a period of risky behaviour [8]. This partially explains why research on young people's gaming is often top-down quantitative research focusing on risks, such as from violent media content [e.g. [10] or problematic gaming [e.g. [11]. Compounding the problem of risk-focused approaches is that despite the ubiquity of gaming, young people's gaming experiences have received limited attention in both youth studies and game studies despite being a relevant subject in both.

There is much more to young people's gaming than risks. Gaming can for example be a prominent part of social life [12], help relax and cope with everyday life [13], and support identity construction [14]. In addition to gaming, young people engage with gaming cultures in other ways: they seek information, view live streams and videos, create new content, find novel ways to play *with* games, and engage in transmedial activities such as cosplay [15]. Understanding this collection of phenomena, and young people's complicated relationships with it, requires an approach that acknowledges both individual differences and the phenomenon's complexity.

This study validates and develops the *digital gaming relationship* (DGR) theory, an emerging approach for studying individuals' engagement with digital gaming, exploring its utility through a set of data not originally influenced by the theory. Drawing from young people's personal experiences collected with a qualitative questionnaire, I present an approach that combines gaming motives, different individual, environmental, and societal factors as well as a temporal perspective to produce new understanding of young people's relationship with digital gaming.

2. Background

There is no universal definition for youth in terms of chronological age. In Finland, where this study took place, youth legislation applies to under 29-year-olds, while the UN defines persons between 15 and 24 as youth [16]. Youth is, however, not only based on chronological age, but is shaped by cultural and societal factors and individual differences in

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https://doi.org/10.1016/j.entcom.2022.100538
Received 10 August 2022; Received in revised form 20 September 2022; Accepted 31 October 2022
Available online 4 November 2022

physical and psychological development [17]. The word 'youth' covers a diverse range of individuals: those at the younger end of the age spectrum are often closely bound to their parents, while those at the older end are independent adults with associated legal rights, responsibilities and societal affordances. The 15–25 age bracket used in this study was a choice based on both research practicalities, as explicit parental consent for research participation is required for children under 15 in Finland, and study interests, as I wanted to limit the sample to youth in their early to mid-20 s at the older end of the age range to focus on an age range in which digital gaming is especially prominent.

A part of everyday life, young people's digital gaming reflects many of the developments taking place in youth. Youth is a period of identity building and gaining independence, and of reflecting on oneself as both an individual and as part of society [18]. As the importance of peers increases as that of parents decreases, young people's gaming habits shift from playing games with parents, or observed by parents, to predominantly playing games alone and with friends [2,12,19].

As youth start questioning their parents' views and life choices [9], this inevitably impacts intra-family relations. Echoing the notions of "storm and stress", there can be periods of excessive gaming [20] and conflict with parents [1,21], yet typically problems are resolved as life situations change and life becomes more harmonious: parental mediation becomes less strict, while studies, work and relationships reduce time available for gaming or render it less important [e.g. 2]. The increased demands of education, work, and other life areas can increase the importance of gaming as a coping tool [13], as can other stressors, as demonstrated by the COVID-19 pandemic [22,23].

The developments described above make youth gaming an interesting and important topic of study. For many young people, gaming is an integral part of the experience of growing up in our contemporary world and provides an important environment in terms of both social and psychological development. The study of young people's gaming is simultaneously study of young people's everyday: young people's psychological and social functioning cannot be considered independent of their online activities [14]. Young people's gaming is tightly interwoven with the rest of their life, regulated by rules imposed by parents or partners, as well as by the availability of time, space, money, physical and mental resources, and the requirements of studies or work and family life [e.g. [22].

2.1. Understanding gaming

The question of why people play digital games has long been a point of both scholarly and public interest. Typically, the research has focused on personal motives for game play. Richard Bartle's [24,25] categorising of players into "achievers", "explorers", "socialisers", and domination-oriented "killers" based on their game play preferences is the first, or at least the earliest influential, example of digital game player taxonomies.

Since Bartle's work, many other scholars have offered different typologies or taxonomies for sorting players based on their preferences and game play tendencies [e.g. [26,27]. Another prominent approach to understanding gaming has been the perspective of uses and gratifications [e.g. [28,29], while a third influential strain of research is that utilizing the self-determination theory of motivation, connecting gaming to the fulfilment of psychological needs [e.g. [30,31].

Although many of the approaches mentioned above note that sociodemographic factors impact gaming, research on different player groups has revealed how factors like gender [e.g. [32,33] and race [e.g. [34] can dramatically shape an individual's gaming. Gaming is always situated, and cannot escape the different social, societal, and cultural forces impacting the everyday.

Addressing this everydayness of gaming, the authors of the InSoGa model of gaming mentalities [35] have explicitly challenged the categorization of players, pointing out (p. 347–348) that "categorizations often flatten and sometime even banalize the meanings. attached to gaming from both the individual gamers' and the collective gamer communities' viewpoints." Instead, they view gaming as a diverse activity in a constant state of flux and posit that players adopt different gaming mentalities depending on context. This perspective is crucially important to the study at hand.

2.2. The need for nuanced knowledge

There are many reasons for gaming, from managing anxiety [20] to maintaining social life [21] to exploring alternative identities [36], yet gaming is also an everyday, sometimes even boring [37], activity. Games often contain fantastical storyworlds, yet these worlds are accessed from everyday environments using mundane computers, gaming consoles, and smartphones: rather than a departure from everyday life, gaming can be a core component of everydayness [23].

Research and public discussion on young people's gaming often focus either on the risks or the utilitarian benefits of gaming [see [7,38]]. This dichotomous focus, especially when combined with a top-down research approach, can overshadow more ambiguous aspects of gaming culture participation. Lived experiences do not always conform to a clear-cut binary of positive or negative, and young people's complex individual experiences, vitally important to understanding the role of gaming in their lives, are easily lost in either/or discourses.

The research discussed in the previous section has given us tools and insight for diversifying discourses on young people's gaming and exploring both individual gaming motives and the intersections of gaming and societal and cultural structures, but these approaches have typically not been combined. Theories of gaming motives, player taxonomies, and gameplay mindsets allow us to make sense of different gaming populations and ways of playing games yet have limited value for understanding the role of gaming in individuals' everyday life. However, it is this type of detailed information that parents and professionals in fields such as healthcare, social work, and education, often require: they encounter individuals instead of populations, young people instead of abstract game players. Many of the tools designed for assessing gaming in these contexts focus explicitly on problematic gaming [see [39] for a review], and fail to account for the complexities of individual experience [20].

3. Digital gaming relationship

The theory of *digital gaming relationship* (DGR), initially proposed by Miikka Sokka [40], is an adaptation of the sport sociological theory of *physical activity relationship* (PAR) [41] to digital gaming. DGR describes the myriad ways individuals engage with and attach meaning to the *social world* of digital gaming – in other words their relationship with digital gaming. DGR is more than just concrete behaviour. As Pasi Koski and Tuomas Zacheus [42], p. 370] state in their discussion on PAR, it "encompasses attitudes to and knowledge of physical culture and its subfields and the whole gamut of meanings including positive and negative dimensions within the relationship." DGR is not static, but changes and evolves during the course of an individual's life [40], see also [43,44].

Encompassing much more than just the act of playing games [15,22], digital gaming can be seen as a *social world*, defined by David Unruh [45], p. 115] as "an internally recognizable constellation of actors, organizations, events, and practices which have coalesced into a perceived sphere of interest and involvement for participants." It is a culturally constructed assemblage of meanings, a sphere that individuals can enter and engage with in many different ways and with varying intensity, their engagement defined by different orientations, experiences, relationships, and commitments [40,41,45]. Unruh [45] suggests four types of participants based on their social proximity to activities and knowledge vital to the on-going functioning of a social world: *strangers*, their engagement defined by disorientation and superficiality, *tourists*, driven by curiosity and entertainment seeking, *regulars*, familiar with and

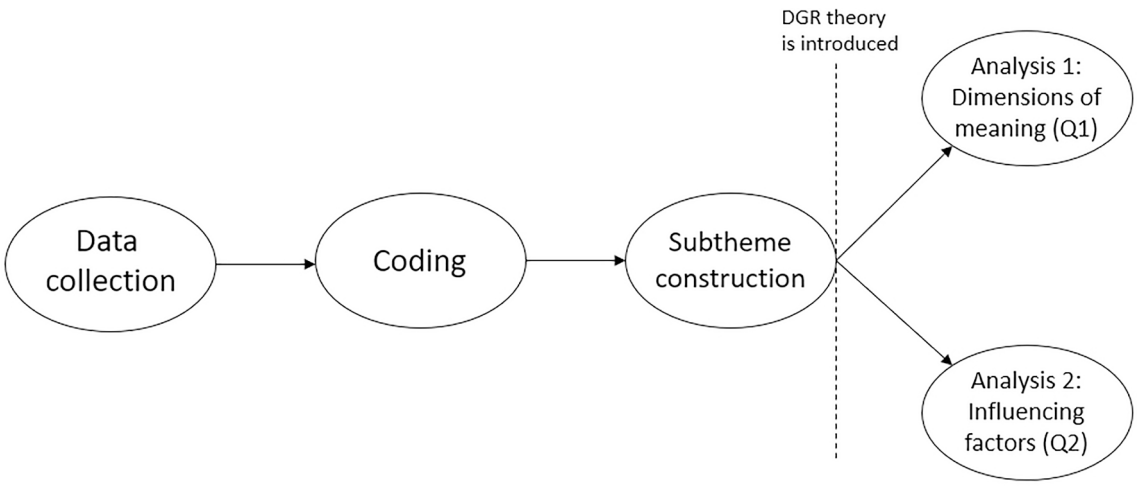

Fig. 1. The study process.

attached to the social world, and *insiders*, identifying with and intimately connected to the social world, and building it for others. As social worlds consist of many subworlds, an individual can be an insider in one subworld, yet a stranger in another.

Social worlds are socially constructed, and their boundaries and membership are discussed, negotiated, and contested. While participation in the social world of gaming is usually voluntary [see [45] and no central authority exists, some of the most heated conflicts in gaming have centered on questions of belonging, especially the exclusion of women, gender and sexual minorities, and people of colour from notions of gamerhood in an attempt to deny their insider status [32,46]. As participation in social worlds is also denoted by proximity, these attempts have succeeded to an extent in many subworlds of digital gaming, such as e-sports [e.g. [47].

An important difference between the DGR approach and previous research is that it reaches beyond game play as an activity, and extends to, for example, an individual's views and knowledge of different dimensions of gaming culture(s), their interest in gaming-related media, viewing e-sports and other broadcasts, production and consumption habits, and the application of gaming-related meanings and content to other life areas – such as the use of gaming vocabulary and memes in non-gaming contexts [40], see also [41]. It is influenced by factors on the individual level (e.g. temperament, personal needs), the social level (e.g. friends, peers), the institutional level (e.g. family, schools, political and religious organizations), and the societal and cultural level (e.g. ideologies, values, social norms) [see [48]. The formulation aligns with the viewing of gaming as situated [49,50]: an individual's DGR is shaped by many intersecting variables, only some of which are under their own control.

Drawing from Koski's PAR work [51,52] and existing gaming research [26,27,35], Sokka's [40] formulation of the DGR theory has six dimensions of meaning that comprise a typology for understanding the personal meanings attributed to gaming and why players consider gaming important to them:

1) Competition and achievement
2) Enjoyment, free play,[1] and activity
3) Sociality, togetherness, and communality
4) Learning, development, strategy, and intellectual challenge
5) Fantasy, creativity, expression, and immersion
6) Game and genre attributes

[1] In Finnish, the word is "leikki", denoting free play as distinct from rules-based play ("peli"), roughly corresponding to Caillois' [53] paidia/ludus distinction.

These meanings typically represent motives for gaming but can also feature in a negative manner [54], such as when players dislike competition. The broad dimensions of meaning are indicative of the scope of the DGR approach: while it accounts for individual differences, it aims for synthesis rather than granularity and separation.

In this study I explore the DGR theory's validity with a sample (N = 180) of qualitative data of young people's gaming experiences, and develop it further based on an analysis of said data.

4. Method and data

This study assesses the validity of the DGR theory in examining young people's gaming experiences through two research questions:

Q1. Do the six dimensions of meaning in the DGR theory map onto young people's views and experiences of gaming?

Q2. Can the four levels of factors influencing gaming be identified in young people's experiences of gaming?

The research questions are answered with two semantic, partially theory driven thematic analyses [55], drawn from the same coding and analysis process. After and during extensively familiarizing myself with the data, I coded it, noting recurring or otherwise interesting features (e.g. "Gaming helps with loneliness", "Goal-oriented gaming") in the responses. The coding process resulted in 453 individual codes, out of which I constructed 87 subthemes.

This study started out as a mapping of young people's engagement with digital gaming. The DGR theory was first presented in 2021, and I encountered it at a stage of the research process when the data had been collected, coded, and subthemes had been constructed (Fig. 1). This provided an opportunity to test the DGR theory with data that had not been collected or analyzed using the DGR framework. To do this, instead of following the typical thematic analysis procedure of constructing main themes from the subthemes, I elected to treat the six dimensions of meaning outlined in the DGR theory as main themes and examined whether my subthemes would fall under these main themes. This process answered Q1.

To answer Q2, I performed another analysis, which examined those subthemes that addressed the different factors influencing respondents' engagement with digital gaming. I followed a similar procedure to the first analysis, now using the four levels of influencing factors (personal, social, institutional, societal and cultural) as main themes.

4.1. Data

The data were collected from 15 to 25-year-old Finnish speakers during May–June 2021 using an online questionnaire of seven voluntary

Table 1
Themes, key subthemes, and code examples.

DGR theme	Subtheme examples	Code examples
Competition and achievement	Competitive gaming, Gaming skills, E-sports	Comparing gaming to sports, Gaming is too competitive, Challenging yourself, Fun is secondary, Goal-oriented gaming
Enjoyment, free play, and activity	Gaming as relaxation, Serious and non-serious gaming	Free play in games, Escapism, Game play is too serious, Clowning around in games, Gaming helps with anxiety
Sociality, togetherness, and communality	Gaming and friendships, Hostile online behaviour, Gaming communities, Playing alone	Crossing long distances, New friends, Toxic gaming communities, Socializing online, Gaming helps with loneliness, Harassment
Learning, development, strategy, and intellectual challenge	Learning gaming skills, Learning through gaming, Self-development	Learning about games, Learning English, Developing social skills, New perspectives from games
Fantasy, creativity, expression, and immersion	Creating content, Games as art, Crossing the boundaries of everyday life	Fanfic, Cosplay, Power fantasy, Game stories, Streaming gameplay, Comparing games to books
Game and genre attributes	Avoiding and preferring games, Avoiding and preferring genres, Single player vs multiplayer	References to individual games and genres, Enjoying old games, Avoiding PvP

Table 2
Influencing factors and subtheme and code examples.

Level of influencing factor	Subtheme examples	Code examples
Personal	Personal motives, Personality features, Personal importance of gaming, Adverse outcomes, Everyday affordances and limitations	Introversion, Gaming as a way of life, Dreams of working with games, Gaming is not important, Games are expensive
Social	Friendships, Hostile online behaviour, Parents' gaming views	Friends also play games, Harassment, Parents play games, Parents' negative attitudes, No one to play with
Institutional	Gaming and education, Gaming as work, Family and gaming	Studies related to gaming, Work related to gaming, Gaming discussed at school, Professionals' gaming views
Societal and cultural	Public discourse on gaming, Societal attitudes towards gaming, Game culture norms, Game industry features, Discrimination	Negative stereotypes, Gendered gaming culture, Ashamed of gaming, Older people don't understand gaming, Unethical design should be discussed, Transphobia

open-ended questions and background information. A qualitative survey was chosen because of its potential to capture what is important to participants [see [56] and to avoid constraining the respondents' expression with pre-chosen response options that might not accurately reflect their lived experience [see [20]. The link to the survey was distributed through a variety of different actors working with young people, including NGOs, youth workers, social workers, and teachers, and shared directly in *Discord* gaming communities frequented by the target age group.

The main questions were broad (e.g. "What is your gaming like?") and several example subquestions (e.g. "Who do you game with?", "Is gaming important to you?") were provided to assist the participants. It was explicitly stated to the participants that the subquestions were examples and not mandatory topics to address. While most of the respondents answered all the seven main questions, partial answers were also included in the data. Answers to individual questions ranged from multiple paragraphs to single words.

Overall, the data consist of 180 responses. There were responses from the whole age range of the target group (15–25), with an average age of 20.6 and a median of 21 years. 67 % of respondents (N = 120) were men, 26 % (N = 46) were women, 6 % (N = 11) were non-binary, and 2 % (N = 3) did not disclose gender information. While men of all ages in the range were present, there were no women aged 15–16 among the respondents. Almost all respondents (N = 177) were born in Finland, but 11 % (N = 20) reported that either one or both of their parents were born outside Finland. Cultural and language minorities were only marginally present, with five respondents (2.8 %) identifying as Swedish-speaking Finns and two (1.1 %) as Sámi.

5. Results

The results are presented through the two research questions. Illustrative quotes, translated from Finnish by the author, are presented alongside the themes. As gender and age differences were present in the data and are relevant to the subject, they have been reported with the quotes. As this study focuses on the validation of the DGR theory, the themes are intentionally descriptive, and detailed analysis of the responses has been left to further publications.

Q1. Do the six dimensions of meaning in the DGR theory map onto young people's views and experiences of gaming?

All six dimensions were present in the data and could be discerned as distinct themes in responses. Most codes relating to gaming motives, the importance of gaming, and personal meanings given to gaming and gaming culture could plausibly be placed in one of the six dimensions listed. While perhaps unsurprising considering the inclusivity of the themes, it is important to note that no codes fell clearly outside the six dimensions (see Table 1).

Table 2 shows examples of subthemes and codes. As the main themes consisted of between 13 and 56 individual codes each, illustrative examples have been provided.

Due to the broad concepts in the six dimensions of the DGR, there was inevitable overlap in terms of individual codes. For example, I placed several codes in both *Competition and achievement* and *Learning, development, strategy, and intellectual challenge*, and likewise in both *Enjoyment, free play, and activity* and *Fantasy, creativity, expression, and immersion*. These overlaps are addressed in the discussion section.

Competition and achievement held views both for and against goal-oriented gaming, with recurring mentions of playing or avoiding competitive games or game modes. This dimension had notable overlap with the *Learning, development, strategy, and intellectual challenge* dimension, for example when discussing systematic gaming skill development.

> I've played *Overwatch* in a team and participated in small tournaments. I'm competitive so I [enjoy] raising my rank and competing in *Overwatch*. If *Overwatch* isn't going well, I switch to other similar games, in which I can't cut it on a competitive level, so that I have no need to lose my cool. Man, 16

In the *Enjoyment, free play, and activity* theme respondents discussed aspects that made gaming and engagement with gaming cultures enjoyable. Common things mentioned were passing time by playing games, games providing a relaxing counterbalance to work or studies, and the emotional experiences elicited by games and their stories. The theme overlapped with the category of *Fantasy, creativity, expression, and immersion*, especially in the context of escapism, game stories, and cosplay.

> Games provide experiences and memories. A bad day and feeling down sometimes turn into positive feelings, when you get to detach from everyday life. Woman, 19

Sociality, togetherness, and communality prominently featured comments about making new friends, discussing games with other players, and using games as a platform for socializing. Respondents also discussed the negative aspects related to social gaming, such as hostile online behaviour and avoiding gaming with strangers.

> I don't insult people for no reason or behave in a negative way towards others. However, sometimes I go looking for drama in the chat, so I can let loose a little. I find it funny when someone gets serious and starts raging at me and I can reply to them with something completely irrelevant. I'm also social in the chat in general, and I'm usually looking for people to chat with a bit while gaming. Man, 17

In *Learning, development, strategy, and intellectual challenge* respondents mainly discussed the learning dimension. Learning was mentioned in the content of both gaming skills and knowing gaming lore and skills adjacent to gaming, such as English as a foreign language and communication skills.

> I feel like I've learned a lot especially through multi-player games. I claim that they've significantly developed my communication skills and my ability to work in a group. Woman, 25

In *Fantasy, creativity, expression, and immersion* participants discussed games as art and immersive experiences, and wrote about their creative endeavours connected to gaming, such as designing, creating, and modifying games, and cosplay, fanfic, and drawing game art. Several respondents compared games to other media, typically books or movies.

> I think role-playing the stories of games is very rewarding. At the end of a good story-driven game you feel exactly the same as if you had read a book in which you could vicariously participate and sometimes influence what was happening. Man, 18

Game and genre attributes covered reasons of participation tied to individual games and genre features. Examples were for example a preference for story-driven or competitive games, mentions of enjoying a particular game franchise, and avoiding certain games and genres either because of experiences or the fear of hostility.

> I mostly play *The Sims 4* on the computer. I've been interested in the *Sims* franchise since I was little and I'm just hooked on it, you get to play around with life. Woman, 20

Q2. Can the four levels of factors influencing gaming be identified in young people's experiences of gaming?

Respondents discussed a wide variety of factors that influenced or had influenced their digital gaming relationship. I compared the subthemes addressing these factors with the four levels of influencing factors discussed in the DGR theory: the personal, the social, the institutional, and the societal and cultural. All four levels could be identified in the experiences (Table 2). Due to the complexity of lived experience, the different levels often blended [see [48,49], and all levels contained both impeding and promoting factors.

On the *personal* level, in addition to the personal motives discussed in Q1, respondents mentioned factors such as the overall importance of gaming in their lives, different features of their personality, for example introversion, and their dreams related to gaming.

> I don't feel like gaming is important to me. Every now and then I may play for example *candy crush Saga*, *sudoku* and games requiring logical reasoning on my phone. Woman, 21

On the *social* level, friends, parents, partners, and siblings all featured in the responses. Online communities were also brought up frequently, predominantly in a negative context. Social relations promoting gaming often went hand in hand with social gaming motives.

> My mother doesn't like that I play games but my father supports my gaming. I wouldn't say we've had arguments, but I do hear comments about my gaming. My mother associates all time spent on the computer with gaming, even if I'm doing work or school things. Woman, 20

On the *institutional* level the main institution discussed was the family, with considerable overlap with the social level. Respondents also mentioned things such as gaming being discussed in school, working in or adjacent to the gaming industry, or studying in a gaming-related field.

> I'm currently studying IT, so I have a bit more knowhow than for example a middle school student in need of help [with IT]. However, I don't feel like I want to bring computers or especially games into my working life but keep them as hobbies instead, so I'm currently considering switching fields. Man, 22

On the *societal and cultural* level, respondents repeatedly brought up how societal views impacted gaming, and how these views had changed. The general view appeared to be that attitudes towards games and gaming had become more positive during the respondents' time, although many also referenced various negative stereotypes and moral panics, as well as shame, associated with gaming.

> My gaming is something of an unspoken part of my persona, because outwardly I'm very athletic due to my other hobbies and working in the field of exercise is in conflict with gaming when considering community norms. […] Gaming has always been seen as a bad thing. It has been recognized that for example my good language skills are because of gaming, but gaming has still always been something that I've had to be ashamed of and cover up. To this day I don't openly admit to gaming for up to several hours per day. I'm an athletic sort and I've always had hobbies and exercised a lot alongside gaming. I've always sought to cover up gaming when introducing myself. Man, 23

As additional observations, throughout the data the responses showed both how respondents' gaming changed with time and illustrated a wide range of gaming culture engagement. The temporal dimension was relevant both in terms of individual circumstances, such as moving away from home, starting work or parents easing up their regulation of gaming, and as broader shifts in gaming culture and public perceptions of gaming, which also impacted the respondents' own experiences.

> Nowadays the only thing limiting my gaming is myself. The time I spend on gaming has decreased because of studies and a relationship, but I still prioritize time for my gaming, especially on weekends. Sometimes I'd like more time off from my busy life for gaming. Man, 25

> I'd say that attitudes towards gaming have become much more positive throughout the years, partly because some people get rewarding careers out of it and partly probably because it's not as alien anymore but a part of mainstream media. […] In schools at least from my point of view gaming is viewed with apprehension to some extent, but with digitalization those attitudes have become more relaxed as well. It's telling that the Finnish Defence Force has a video gaming platform ready for practicing the basics! Man, 22

> I watch a lot of gaming videos, of both gaming and game theories and lore. I've also done cosplay of gaming characters, and games influence my drawing and creativity a lot. I'm also on [Discord] servers

discussing specific games and go to lan parties occasionally. Non-binary, 15

While not the focus of this study, these observations support the validity of two other core ideas of the DGR theory, those of a temporally changing relationship with games and gaming, and that this relationship is not limited to gaming but encompasses a wider range of activities.

6. Discussion

The results of this study support the use of the digital gaming relationship theory in understanding young people's digital gaming and show how the initial results obtained by Sokka [40] find purchase in a larger qualitative dataset. Below, I consider the implications of the results for the future study of young people's gaming and for the DGR theory.

6.1. Gaming is life: Implications for future research and practice

The results clearly show that there are diverse motives, experiences, structures, and views shaping young people's engagement with digital games and the cultures surrounding them. There is no single 'young people's digital gaming': although groups, patterns and tendencies can be identified, the phenomenon is far from homogenous, and escapes simple narratives of beneficial vs harmful or frivolous vs utilitarian.

The elements of the DGR theory that were examined (dimensions of meaning, factors promoting and impeding engagement) aligned well with a set of data collected independently of the DGR framework, while two other core features (temporally changing relationship with gaming, diverse engagement with gaming cultures) could also be observed. The findings suggest that the DGR theory is suitable for unpacking the complexities of young people's personal relationship with digital gaming. The combination of the different dimensions allows for a nuanced analysis that considers not just individual motives, but different personal, social, institutional, and societal factors as well. The temporal dimension frames engagement with digital gaming as dynamic instead of static: while measuring points are snapshots of moments, an individual's relationship with gaming draws from their past and extends into their future.

A notable deficiency in the current literature is that theories and tools that address the immediate gaming motives of individuals who play games are of limited use in assessing gaming in the lives of individuals who have stopped playing games or who play games rarely if at all [e.g. [57]. Especially relevant to youth gaming, research has shown that parents' own relationship with digital gaming is an important component of the family dynamic surrounding gaming [1,4,58], yet research has largely overlooked this relationship – plausibly in part for lack of tools. Individuals can have a complex, intense relationship with digital gaming even if they do not play games. The acknowledgement of different depths of engagement, while not addressed in this study due to its sample, helps explore the digital gaming relationships of individuals who might not game, yet encounter the social world of gaming. While this study focused on young people, the DGR approach is not limited to a particular age group.

Table 3
Original and new DGR dimensions.

DGR original dimensions [40]	DGR new dimensions
Competition and achievement	Competition and achievement
Enjoyment, free play, and activity	Fun and free play Escape and relaxation
Sociality, togetherness, and communality	Sociality, togetherness, and communality
Learning, development, strategy, and intellectual challenge	Learning and development
Fantasy, creativity, expression, and immersion	Fantasy and immersion Creativity and expression
Game and genre attributes	Game and genre attributes

The DGR framing helps understand digital gaming as part of life, whether in the context of the everyday or in exceptional circumstances such as professional play or problematic gaming. It provides a clear and flexible structure for understanding different dimensions of digital gaming, suitable for both research and practical applications. As demonstrated by this study and discussed next, because of its broad and inclusive scope, it does not preclude data-driven research approaches, and allows researchers to capture nuance in data and avoid erasing individual experience while still operating within a theoretical frame.

6.2. Development of the DGR theory

The DGR theory is still in its infancy. This study is an early step in its utilization and revealed some shortcomings and areas that need further development. The core issue identified is the overlap in the different dimensions of meaning when analyzing players' experiences. For example: escapism could viably be categorized as relating to the playful, autonomous fun of gaming, appearing as an alternative to other, more serious facets of everyday life, or it could be seen as part of the category of immersion and fantasy, both important components of escapism in many instances of gaming.

Different solutions to this are possible. One is that of additional, more detailed categories to account for a wide range of different views and experiences. While this potentially provides at least superficial clarity and rigour, it also risks becoming a taxonomic quagmire, eventually potentially becoming impractically granular while not resolving the core problem of the difficulty of categorizing complex behaviours. To continue the previous example, while we can make separate categories for escapism through the act of gaming and escapism through fantastical game content, this approach quickly prompts more subcategories of increasing specificity (e.g. "escapism through online multiplayer sports gaming with strangers").

The solution advocated for in this study is accepting the complexity of human experience and the impossibility of deconstructing these experiences into strictly delineated categories, and instead viewing the category borders as permeable and flexible, and the categories as not mutually exclusive. Here, escapism could be coded in several categories instead of forcing a narrow interpretation or providing ever more specific categories. This solution stems from the purposes of the DGR theory: it is not intended to provide a typology of player types but to help understand the multiple, overlapping, and interacting dimensions of engagement with digital gaming. This approach follows Kallio, Mäyrä, and Kaipainen [35, p. 348] who advocate for taking the multiplicity of gaming experiences as a starting point in research instead of striving for generalizations and categorizing.

This said, the results indicate the need for some changes to the categories to facilitate a more nuanced understanding of gaming. Based on the data and earlier research into PAR [59] and gaming motives [e.g. [27,30], I suggest the following changes to the six dimensions of meaning in DGR used in this study:

Enjoyment, free play, and activity currently encompasses a broad range of activities from playful behaviour in games to playing "just for fun" to escaping feelings of loneliness and anxiety. I suggest separating relaxation and escape from this whole, as they are specific and often explicitly articulated dimensions of gaming, conscious instrumental pursuits distinct from just playing games for fun [27,60,61]. This results in two categories, *Escape and relaxation* and *Fun and free play*, the first representing conscious mood management, the second an attempt to capture the phenomena of both playing "just for fun" and playful in-game behaviours [e.g. [62].

Based on the data I also suggest dividing the category of *Fantasy, creativity, expression, and immersion* into *Fantasy and immersion* and *Creativity and expression*. Here, the first category emphasizes engagement with games and related content for example through enjoying stories and immersion into fiction. The second reflects different ways of

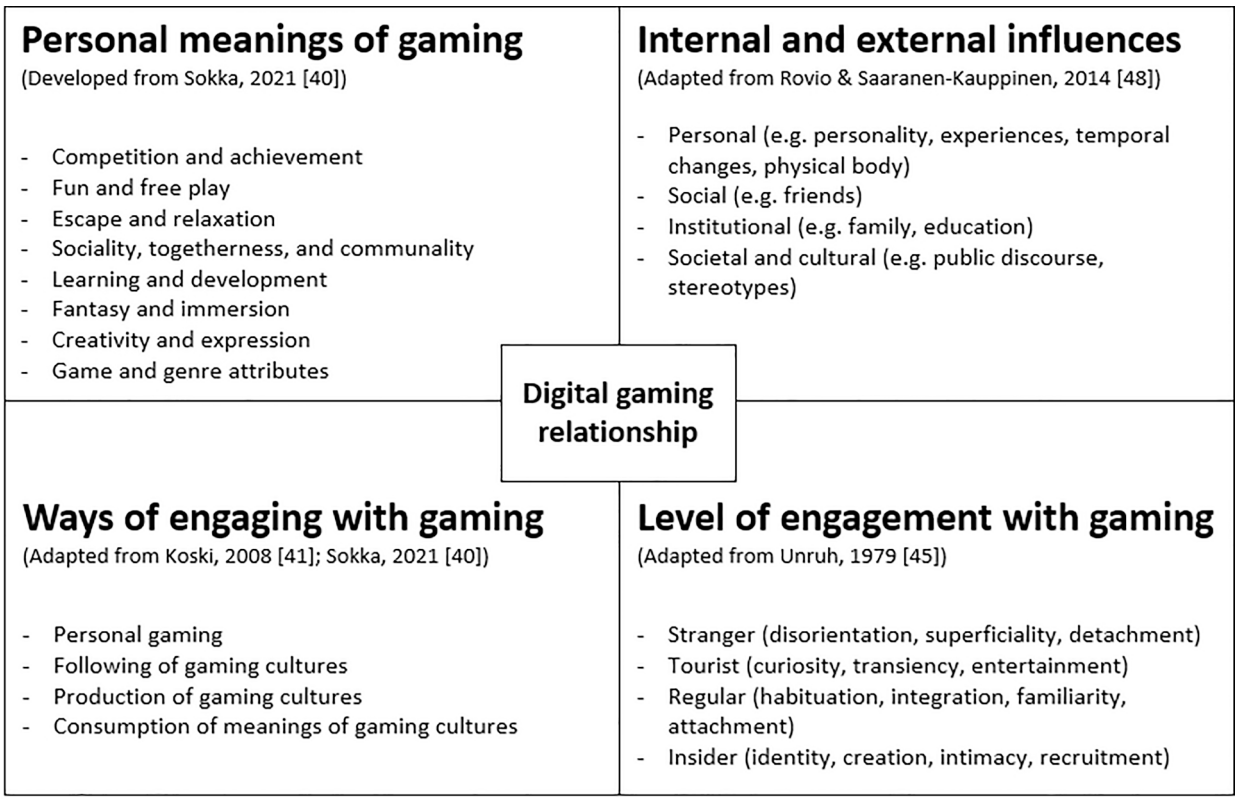

Fig. 2. Constituent elements of digital gaming relationship.

creativity and self-expression, from game development to cosplay and from live streaming to modding games. This division is a step away from the PAR theory, as elements of fantasy and immersion appear much more distinctly in digital gaming compared to most physical activity.

The overlap between *Competition and achievement* and *Learning, development, strategy, and intellectual challenge* was primarily related to skill development and its different associated mentalities. In PAR work [51] as well as Sokka's DGR formulation [40] these categories have been separated, and I have elected to retain this separation. A change I suggest here is integrating the features of strategy and intellectual challenge into the *Game and genre attributes* category to make the categories more distinct.

The updated DGR dimensions are shown in Table 3. The dimensions are strands of gaming that are woven together differently in each individual. They do not represent only individual gaming motives, but dimensions of meaning that can be used to understand complex views of, and relationships with, gaming and other elements of gaming culture. As an example, the statement "Gaming is too competitive these days" reflects a personal view of gaming and a value judgment that does not explicitly reveal the speaker's gaming motives yet illuminates a part of the respondent's relationship with gaming culture through the dimensions of competition, fun, sociality, and genre or game attributes, while also suggesting a temporal change in the person's experiences.

Finally, to summarize my current formulation of the DGR theory, the constituent elements of digital gaming relationship are presented below in Fig. 2.

6.3. Study strengths and limitations

A key strength of the study is that its data were not originally collected with the DGR theory in mind; a questionnaire grounded in the DGR theory would obviously obtain results in line with the theory. As the data had already been collected and initially analyzed when the DGR theory was first introduced, potential bias related to the theory was absent from the questionnaire formulation and the original analysis. The application of DGR theory to an independent set of data also revealed problems in the theory that might not have appeared in a more tailored set.

The study does not address one of the four dimensions of the DGR theory, that of the depth of engagement with the social world of digital gaming. Most of the respondents were active game players, *regulars*, and *insiders* of the social world of digital gaming, and thus the study did not test the applicability of the DGR theory to individuals who approach digital gaming from the perspective of *strangers* or *tourists* – such as non-game players or very low intensity players. However, previous research [63] utilizing the physical activity relationship theory has shown it to be suitable for exploring aversion to physical activity or low levels thereof. This suggests that DGR theory, derived from the PAR theory, should similarly prove suitable for examining lower levels of engagement.

7. Conclusions

The DGR approach offers a potent and flexible framework for exploring young people's digital gaming in both research and practice contexts, and the results suggest that it could easily be also applied to other player groups as well as individuals who do not play digital games yet encounter them in their daily life. As a theory, DGR is still very new and will be refined and reworked with future studies – work that this study forms a basis for.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The anonymized data will be made available in the future, at the end of the research project.

Acknowledgements

I would like to thank Usva Friman, J. Tuomas Harviainen, Jenni Lares, Emilia Lounela, Frans Mäyrä, Rune Kristian Lundedal Nielsen, and Sarah Stang for their valuable comments and suggestions on earlier versions of this article.

Funding

This work was supported by the Academy of Finland project Centre of Excellence in Game Culture Studies [CoE-GameCult, grant number 312395]; and the Jenny and Antti Wihuri Foundation [grant number 00200223]. A Finnish foundation, https://wihurinrahasto.fi/?lang=en.

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