

Beyond Addiction: Positive and Negative Parent Perceptions of Minecraft Play

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ABSTRACT

Parent perceptions of game play have a crucial role in forming the context in which children engage with digital games. However, little empirical information is known about these perceptions. The current study addresses this gap by describing a detailed analysis of open text responses by parents about their views on the popular game Minecraft. We show that parents are able to identify a broad range of both positive and negative outcomes associated with the game. We situate these observations within historical discourses about the role of screen media in children's lives, and the way that play itself is valued. Combining the insights from our data with these broader perspectives informs scholars interested in children's digital play and points to design implications.

Author Keywords

Minecraft; parents; children; digital games; attitudes.

ACM Classification Keywords

K.8.0 [Personal Computing]: General – *Games*.

INTRODUCTION

Digital gaming is a prominent part of contemporary childhoods with the vast majority of children, including the very young, now playing some form of digital game(s) regularly [4,40]. However, digital gaming is a form of screen time and occurs in a cultural context where 'screen time' was rated by the Australian public as the top child health concern ahead of obesity, family violence and suicide [41]. It follows then that digital gaming is a part of childhood that is understood to be something that requires careful monitoring and restriction by parents [57]. Despite the existence of generic, non-context sensitive guidelines for parents about managing 'screen time' [1], digital play does not occur in social or cultural isolation. Rather,

children's engagement with technologies that facilitate digital play is surrounded, and informed, by the attitudes and behaviours of influences within the home, school and wider community [15,44,55]. One crucial variable surrounding the play experience of children is the way that parents perceive the digital games their children play [22].

This paper contributes empirically grounded insight into how Minecraft play is perceived by parents of children aged 3-12 years. Our analysis is based on open-text responses to open-ended questions. This is in contrast to much existing literature regarding parent attitudes toward gaming, which asks parents to select the degree to which they endorse pre-set statements about digital games. This paper therefore contributes a rich account of the positive perceptions of Minecraft play, alongside parental concerns. We discuss possible design implications arising from the predominantly instrumental valuing of digital games among parents apparent through our analysis. Beyond this, we also offer insight into the context of children's Minecraft play via parent attitudes. We situate our findings within broader historical and contemporary discourses surrounding the digitally mediated play of children. This perspective will be of interest to scholars studying child-player experience in its own right, in line with Carter et al.'s notion of the '*practice*' paradigm of games research within HCI [5, p.33].

Parent influence on child-player experience

Parent views about new forms of 'screen time' and internet use are emerging in the literature [7], and these attitudes have been found to be related to the amount of 'screen time' children engage in via differential mediation strategies [8]. Hiniker et al. [20] in their interviews with parents of children aged one to five years, found that negative perceptions of screen media use by children were dominant. Specifically, parents identified screen time as something requiring limits and monitoring in order that it does not displace time spent on non-screen based activities. Ito et al. [22], describing the findings from an ethnographic study of media use in families, notes that parents influence the user experience of children through a number of mechanisms. These include the provision (or not) of screen-based devices, location and time limits on use, and content-based restrictions. Ito et al. provide numerous examples

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from interview data illustrating the close link between attitudes toward media and these parent-led impacts on the experience of child media users.

Existing research about attitudes towards digital games in particular suggests that parents vary in the value they attribute to digital games. Some studies report both positive and negative perceptions associated with digital games by parents [3,25,37]. Others find more negative associations [26,27,56]. For example, Wartella et al. [56] found that parents rated ‘video games’ less favourably than television, computers and mobile devices in terms of perceptions of how they contribute to behaviour or learning and Kousari and Mehrabi [26] in their interviews with Iranian parents found a dominance of concern about negative effects of digital games on children’s concentration, learning and ‘real-life’ behaviour. Kutner et al. [27] found, through focus groups with parents of adolescent boys, that displacement of time away from school work and physical activity were primary concerns.

Schott and van Vught [45] looked at parent attitudes to Grand Theft Auto IV and found that the overwhelming parental framing of the game was in terms of its moral bearings and parent concern about violence. Concerns about ‘screen time’ in general also frame attitudes toward gaming in particular, with parents in Sobel et al.’s sample noting that even Pokémon Go, while virtuous in terms of implications for physical activity, was “*still screen time*” [46, p. 1489]. Anxieties about addiction and obsession in relation to digital games are additional concerns among parents [13,22,50]. On the other hand, Nikken et al. found parents in their sample were more likely to agree with statements about the positive effects of ‘video games’, though parents with a lack of personal experience of digital gameplay were more likely to endorse negative statements [39]. Part of the reason for these differences in findings could be due to the types of information gathered. In some of these studies parents were only asked about negative effects, and many relied on set questions and rating scales which precludes participant generated themes.

Literature on mediation strategies in relation to gaming provides evidence of the link between parent attitudes and child player experience. Following Nikken and Jansz’s 2006 study [38] examining the ways that parents think about and mediate children’s digital play, several authors have consistently found that parents who hold predominantly negative attitudes toward the effects of digital games are more likely to use restrictive mediation strategies [13,26,44,47]. Restrictive mediations strategies include limiting children’s gaming time, and restricting play to certain titles. Conversely, parents who hold more neutral or positive views are more likely to co-play with their children and to apply fewer restrictions on gaming [26,39,44,47].

Stephen et al. [53] took an ecological approach to their study involving families with young children aged four and

five years, which aimed to “*identify features of the home environment that make a difference to playing and learning with technological resources*” [p. 151]. They found family perspectives on the “*efficacy of technology as an educative tool*” [p. 157] were a crucial factor in shaping the lived experience of children with digital games via the degree, and type of encouragement offered to children and provision of particular games in favour of others. Relatedly, other work has shown that parents of children aged zero to five years make game purchasing decisions either on their own or in consultation with their child, whilst children rarely are solely responsible for purchase decisions and parents tend to select games that they perceive as educational [32].

Whilst our study does not draw specific links between mediation strategies and attitudes, it does provide a comprehensive description of those attitudes, in relation to Minecraft, beyond those illuminated via pre-set Likert scale questionnaires which inform the bulk of existing studies on parent perceptions and attitudes in relation to digital games.

Minecraft

Minecraft [34] serves as a particularly useful case study in examining children’s gaming and related behaviours and attitudes. The game is hugely popular, particularly with children [14,28]. Minecraft is notably different to other mega successful gaming titles however, because of its perceived virtues. These benefits include the popular proposition that Minecraft offers educational and cognitive benefits [19,21]. The game is also frequently likened to Lego, which is commonly understood to be beneficial to children beyond instances of play [49].

However, Minecraft is, in its purest form, played via a screen. Therefore, it is also subject to the same concerns mentioned earlier about ‘screen time’. Furthermore, the game is represented in media as being ‘addictive’ [23], potentially dangerous [36] and not as ‘educational’ as some claim [29]. These “*discursive dichotomies*” [8, p. 40] surrounding the game make it well suited to investigations of parent attitudes, as the lack of clear consensus leaves parents with the task of forming their own constructions and attitudes about the game. We sought parent perspectives on the game Minecraft as part of a larger survey about children’s gaming and other screen media use [33].

METHOD

Participants and Procedure

The survey from which the current data was drawn, aimed to capture a mix of quantitative and qualitative information about the digital gaming habits of children. It was advertised via randomly selected primary schools and early learning centres (ELC’s) in Metropolitan Melbourne. After initial contact with schools and ELC’s yielded low rates of participation, an amendment to ethics approval was made to also allow for recruitment via word of mouth and social media. Parents and caregivers of children aged between 3 and 12 years completed the survey. The survey

advertisement informed potential participants that questions would be about digital games such as Minecraft and ‘screen time’. Further background provided in The Plain Language Statement indicated that we were also interested in hearing from parents of children who did not play digital games.

The project was approved by the Human Research Ethics Committee of The University of Melbourne, the Victoria Department of Education and Training, and Catholic Education Melbourne. The survey was open between November 2015 and May 2016 (this included a six week school holiday period when recruitment was paused).

Instrument and Measures

Data was collected using the REDCap (Research Electronic Data Capture) survey tool [54] hosted on The University of Melbourne data centre infrastructure. Questions began with basic demographic information related to the child, then asked about general gaming, followed by a set of Minecraft specific questions, YouTube use, general screen time, and finally basic parent demographic questions [33].

Data Analysis

In one section of the survey parents were asked: ‘Do you think there are any good things about your child playing Minecraft?’ and ‘Do you have any concerns about your child playing Minecraft?’ If parents answered ‘yes’ to either of these questions, they were then presented with an open text box and asked ‘What sort of good things are there about your child playing Minecraft?’ and/or ‘What concerns you about your child playing Minecraft?’

The text responses were analysed using a constructionist grounded theory approach [6]. The responses were coded in an online rich-text collaborative analysis tool called Saturate.app [48]. Codes were applied at the sentence level and emerged initially from subject matter (for example, the

code ‘addiction’ was given to any response mentioning addiction). Then on subsequent readings, codes were also applied to categorise observations of the way that responses related to one another, or represented some position on a subject (for example, the code ‘time displacement’ was given to responses that mentioned Minecraft detracting from any one of a range of other pursuits). Multiple codes were attached to individual single sentences as required. During this phase, detailed memos were made as a way of both unpacking the meaning of individual codes as well as situating them within the broader body of responses. The first author initially coded all responses, and validity was established via regular meetings between all authors where data and coding were reviewed and discussed in detail.

RESULTS

We will first present some quantitative information from the survey as a way of contextualising the responses reviewed in detail subsequently. A total of 755 completed responses were received to the survey. Respondents were predominantly between 36 and 45 years of age (67% of responses were from this age range), and most were university educated (75% of the sample). Table 1 presents descriptive statistics of the portion of the sample who had indicated that their child played digital games ($n=665$). Statistically significantly more boys than girls had played Minecraft in the last month (54% of boys [95% CI: 49.1%, 59.2%] vs 32% of girls [95% CI: 27%, 38.4%]), $p = <.001$. Older children in the sample were significantly more likely to have played Minecraft than those in the 3-5-year-old group, with only 11% [7.4%, 16.4%] of the youngest children having played in the last month compared to 53% [46.6%, 59.8%] of 6-8-year-olds and 68% [61.8%, 74.3%] of 9-12-year-olds, $p = <.001$.

Age Group	Minecraft Play	Male	Female	Total
		n (% of gender in age group)	n (% of age group)	n (% of age group)
3-5	No	96 (83%)	92 (96%)	188 (89%)
	Yes	20 (17%)	4 (4%)	24 (11%)
	Total	116	96	212
6-8	No	39 (30%)	69 (69%)	108 (47%)
	Yes	92 (70%)	31 (31%)	123 (53%)
	Total	131	100	231
9+	No	44 (31%)	26 (32%)	70 (32%)
	Yes	97 (69%)	55 (68%)	152 (68%)
	Total	141	81	222
		n (% of gender in total sample)	n (% of whole sample)	
Total	No	179 (46%)	187 (68%)	366 (55%)
	Yes	209 (54%)	90 (32%)	299 (45%)
	Total	388 (58%)	277 (42%)	665

Table 1. Descriptive statistics of the survey sample including proportions of children in each age and gender group who had played Minecraft in the past month. Responses from participants who indicated their child did not play any digital games are not included.

Positives Associated with Minecraft

91.4% (n=244) of parents of children who played Minecraft answered ‘yes’ to the question: ‘Do you think there are any good things about your child playing Minecraft?’ and 8.6% (n=23) answered ‘no’. A total of 236 responses were entered in answer to ‘What sort of good things are there about your child playing Minecraft?’

Below we present categories of positive factors associated with Minecraft. Each is described, with the number of occurrences given in brackets next to category title. Typical examples from the data are given in italics after each description. The response numbers are given in round brackets after each example.

Creativity/Imagination (n=158)

Creativity was the most frequently mentioned positive and was often mentioned in a standalone manner but was also linked to concepts of design or construction, problem solving and spatial ability. 10 responses mentioned Minecraft in relation to Lego. 8 of these made direct links specifically with the ‘creativity’ of Lego. Imagination was also mentioned frequently, often in conjunction with talk of ‘creativity’. Imagination appeared to be constructed as more of a repository to be drawn on in the process of being productively creative. *“creative thinking”* (10); *“creativity in building”* (14); *“It is much like Lego in the way that it is Creative”* (13); *“being very creative, using his imagination”* (17)

Social (n=59)

A range of social aspects of Minecraft play were mentioned. Some comments talked about this in a standalone manner, with ‘social’ or ‘interaction’ being construed as desirable in their own right. However, many more mentioned collaboration, cooperation, communication or teamwork. These particular responses speak more to the productive gain associated with social interaction, in terms of working effectively with others toward an end. Fourteen specifically mentioned play between siblings. Of these, the most common words used to talk about play between siblings were collaboration, cooperation, communication and interaction. Four of these also mentioned that the children enjoyed playing Minecraft together. Two responses mentioned ‘being part of a community’ and three talked about learning via social interaction in or around the game, either between friends or siblings. *“Teaches her to be creative and to work with other people on a project”* (33); *“being part of a virtual ‘community’”* (40); *“We use it to spend time together”* (79); *“The thrill of being like his big brother”* (234)

Problem Solving (n=32)

Problem solving was mentioned frequently and either referred to as a way of thinking (often tied to creativity), or as a skill that could be taught and involved a series of steps.

“Creative problem solving” (80); *“teaches problem solving skills”* (84)

Learning/Literacy/Mathematics (n=31)

Six responses mentioned the child either learning new vocabulary through playing Minecraft, comprehension skills or benefit to ‘language’ without further explanation. Ten responses mentioned reading specifically. Seven of these said that Minecraft offered practice and increase in reading ability. Three mentioned the game being an incentive to read, either in game text, Minecraft texts outside the game or texts related to aspects of the game. Seven respondents talked about mathematics, either in terms of Minecraft ‘developing’, ‘teaching’ or ‘aiding’ mathematical concepts. Seven respondents mentioned that Minecraft had triggered their child to seek out information about things that the game had sparked interest in. This also led to conversations about these interests. *“has also learnt new words about food, building materials and nature and mostly asks us there meaning or can figure them out due to the visual pictures”* (101); *“Encourages him to do research and read more to understand game mechanics”* (2)

Spatial Skills (n=22)

Spatial aspects of the game were described in varying ways including spatial awareness, 3D orientation, spatial creativity, spatial dexterity, spatial reasoning and spatial relationships. *“Digital spaciality (sic)”* (183); *“creative spatial play”* (35)

Digital Literacy (n=19)

Varying forms of digital literacy were mentioned including: hardware skills – typing, using mouse; software skills – skills used to produce new content (coding, mods) and skills used to find out information (using Google to find out how to do something in the game). *“mouse/keyboard”* (224); *“screen dexterity”* (180); *“learning to code through mods”* (54)

Planning/Strategy/Tactics (n=18)

Planning was mentioned either in a standalone manner or in relation to creativity, strategy or tactics. This suggests acknowledgement of the game-like elements of Minecraft. In this way, planning is not necessarily a purely procedural process but involves cognitive flexibility in the face of immediate obstacles provided by the game that threaten the success of the longer term objective. Some responses talked about planning as being a social process where children communicated with siblings, friends or parents about what they wanted to achieve in the game and how to go about doing this. *“building planning skills and putting creative plans into action”* (118); *“Planning and tactics”* (224)

Resource knowledge/Management (n=17)

Nine respondents said that Minecraft had contributed to learning about stones, elements and so on. Six of these spoke about knowledge gain directly from the game, while

three also said that the game had triggered an interest in geology that had led to the child investigating the topic further outside the game. Twelve respondents mentioned that the game gave an understanding of where ‘things’ (food, wood, and other resources) come from. *“Learning ie chop trees to get wood”* (188); *“understanding of where materials come from”* (55)

Enjoyment (n=17)

Enjoyment was talked about in relation to specific elements that children liked, which were often linked to other codes. For example, enjoyment associated with creativity. Others mentioned enjoyment in its own right. These responses are unique in that they refer to a state of being that is valuable in and of itself, rather than a benefit actively tied to productivity either within the game or in other aspects of the child’s life. *“Talk, laugh, have fun”* (17); *“shared enjoyment and connecting with friends”* (167); *“She really enjoys creating the animals and building houses”* (232)

Play (n=17)

Play was mentioned in varying ways: as creative or exploratory play, or as social, collaborative or cooperative play. Just one comment mentioned the game being a space for a child to play in (without mentioning the type or function of play). Therefore play was primarily talked about in terms of its purpose, or in terms of its quality. *“Fosters creative, imaginative play”* (30); *“playing as a team with others, communicating with others”* (236); *“creativity in making a world to play in”* (39)

Self-esteem/achievement/mastery/social capital (n=12)

These responses relate to the child gaining a sense of achievement, accomplishment or sense of mastery. Or, a gain in confidence, self-esteem or a feeling that they possess a degree of expertise in the game. Three of these responses stated that the child had relative weaknesses in other areas of their lives and that the child’s Minecraft knowledge/expertise had provided a counterpoint to these. This was linked to improved social status where children’s Minecraft knowledge was valued by peers. *“mastery in a controllable environment”* (62); *“Significant ego boost for my child because he is very good at minecraft (eg. school mates ring him at home for advice)”* (126); *“Gaming is something she can feel good at unlike school where she struggles”* (70)

Concerns About Minecraft Play

46.8% (n=125) of parents of children who played Minecraft answered ‘yes’ and 53.2% (n=142) answered ‘no’ to the question: ‘Do you have any concerns about your child playing Minecraft?’ A total of 124 responses were entered in answer to ‘What concerns you about your child playing Minecraft?’ The same format is used to discuss concerns about Minecraft play as in the previous section.

Time (n=48)

Concerns about time fall into those to do with:

a) *Too much* time spent on the game or too much ‘screen time’. Some comments in this category did not elaborate on why too much time spent on screens or on Minecraft was a bad thing. It is commonly understood that ‘screen time’ is potentially harmful if done ‘too much’.

b) *Time displaced* away from other pursuits. Responses made specific mention of time spent playing Minecraft taking time away from other pursuits that are commonly seen as valuable by parents, such as school work, reading, physical activity, and playing outside.

c) The *need to monitor and regulate* the amount of time children spend on Minecraft. Several comments said that the child would prefer to play Minecraft to the exclusion of these other activities if given the opportunity. This was mentioned 17 times and often included statements that children would keep on playing indefinitely if time restrictions were not in place. Seven parents said that children were only allowed to play on weekends, and others said that children were only allowed to play for a certain amount of time, or after completing other activities such as homework.

d) Ten responses mentioned that one of the things that Minecraft displaces time away from is activities that are done *outside*. Three talked about outside activities as involving physical activity, or stress relief by exposure to nature. Four responses said that the child not being outdoors was a concern in itself without explanation about why being outside was beneficial.

“Amount of screen time” (85); *“too much time on screen, less time for play and study”* (97); *“If I didn't stop the time she was playing I'm sure she would play for a lot longer”* (113); *“She should be outdoors”* (87); *“I would rather him play outdoors than fixed to a screen”* (101)

Cyber safety (n=30)

A range of concerns related to safety were reported. These centred on children playing with unknown people on online servers. Most responses in this group stated that ‘being online’ or ‘playing with strangers’ was concerning without explaining why/how. Three responses specifically talked about grooming and predation. Six others said that concern was about their child being exposed to the inappropriate behaviour (swearing, bullying, cruelty to animals, meanness) of other players. Two responses said that they were worried that they did not know enough about how to block content or to how to tell if their child had overridden parental controls. *“Interactions with unknown adults, grooming children”* (25); *“encountering harmful behaviours of other human players”* (52); *“playing with unknown persons, not being able to be up to date on dangers /warnings about games and what to look out for as parent”* (40)

Addiction and Obsession (n=27)

The vast majority of these used the word addictive or addicted as matter of fact, plainly understandable terms that did not require further explanation. This indicates that the word ‘addiction’ is commonly understood, and is readily applied to children’s gaming. Many comments seemed to define addiction as a child having a desire to play Minecraft for longer than parents would like. Mention of negative behaviours after being asked to stop playing, or if denied limitless access to the game, were also mentioned several times in relation to addiction. Some responses talked about children being obsessed with the game, including talking excessively about the game and this being unpleasant for parents who have little interest in Minecraft. *“Addiction!”*(11); *“It appears to be quite addictive”* (84); *“Addictive nature/desire wanting to play more than allocated”* (42); *“Obsessed with talking about Minecraft with parents to point of parental frustration.”* (77)

Violence (n=20)

The majority of comments mentioning violence talked about children either partaking in or witnessing violence or aggression toward in-game characters. Inferred consequences of this were rarely mentioned explicitly. Though, two raised the possibility that the child would learn that such behaviour was acceptable in realms outside of the game. One postulated a possible link between a child’s talk of suicide and Minecraft. Other parents talked about their own personal reactions to the violence in the game, effectively expressing a proxy dislike of certain gameplay elements because of the anti-social, unacceptable place these things have in broader culture and the strong negative emotion these acts elicit in adults. *“I do get concerned as to the culture of other users (school, friends) perhaps being more ‘violent’ and him thinking by ‘association’ with the game that this is acceptable despite my husband and my reminder to not be violent/aggressive”* (3); *“We have heard him refer rather flippantly to ‘killing himself’ on Minecraft in the past. In moments of great upset or drama for him in real life, he will say he wants to kill himself.”* (104); *“Will sometimes switch to survival on other peoples devices, I find this quite gruesome and violent”* (63)

Physical ill effects (n=16)

Displaced time away from physical activity was mentioned 11 times. The majority of these said lack of activity was concerning on its own, though one specifically mentioned the game being *“a contributing factor to childhood obesity”* (13). Five responses said that negative effects on eyesight were concerning, one said posture, and one said *“brain function and fatigue”*(76). *“Too much screen time - not enough physical activity”*(102); *“Not good for his eyes”*(48)

Behaviour (n=14)

These responses talked about the attribution of problematic behaviours displayed by children in relation to Minecraft play, or rather the cessation of play. Most of these responses talked about undesirable behaviours occurring

when children were asked to stop playing, or when told they could not play. Some also mentioned that conflict arose between siblings or friends during the course of play. Two comments also talked about frustration as a concerning aspect of the game. *“We have noticed that she often becomes quite irritated and displays poorer behaviors on the days she plays this particular game”* (121); *“after a couple of hours both kids usually end up fighting and moody and tantrums fly”* (125); *“Gets addicted then angry when taken away”*(98); *“when they get frustrated they can become mean to the other players or destroy some of their buildings in anger”* (108)

DISCUSSION

In keeping with earlier research on parent attitudes toward screen media in general [3,25,37,42] parents recognise a wide range of both positive and negative aspects of Minecraft play. The game is not constructed in a single unified manner by individuals. In fact, there are some elements that are perceived in wholly opposite ways by different parents. The degree of violence in the game, for example, is perceived to be relatively low by some parents, and high by others. This discrepancy also reflects the fact that Minecraft offers so many different modes of play which have implications for the way the game is experienced in terms of content and sociality.

Despite this variety, there were some ideas that dominated in this sample. Minecraft as ‘creative’ but also as time consuming and detracting from ‘reality’, were pronounced trends across the sample. This dichotomous construction of the game is in keeping with historical trends in relation to perceptions of screen based media in the lives of children. For example, in introducing their observational studies about children’s engagement with television between 1958 and 1960, Schramm et al., note: *“On the one hand, it is argued that television keeps children at home and gets the family to do things together. On the other hand...it encourages withdrawal from reality and makes addicts”* [27, p. 5]. Our study has shown such *“discursive dichotomies”* [9, p. 5] persist in a technological and cultural context markedly different to the one Schramm et al. wrote about in 1961.

Furthermore, the current study provides evidence that parents consider play in terms of its potential to contribute to the development of their child. Specifically, parents spoke about this particular game contributing to the development of creativity, problem solving, planning and collaboration (among a range of other skills). This replicates the findings of Marsh et al., in relation to parents’ self-reported app purchase decision making. Parents of children aged zero to five years old in that study most frequently cited motivation for app purchase as: *“to support their learning”* and *“to encourage play and creativity”* [19, p.12]. The preponderance of functional benefits mentioned by parents in our sample further highlights the popular construction of children’s play as productive.

Related to this idea of childhood as production, is the way that children feature in government campaigns aimed at economic growth. The Australian government is currently trying to increase the number of children, particularly female children, who will go on to have careers in the fields of Science, Technology, Engineering and Maths (STEM) [9]. Digital play is presented in popular media [52] as a gateway to STEM fields, and indeed there is literature to suggest this link is valid [16]. Our data indicate that parents see Minecraft as a form of digital play particularly well suited to the development of STEM skills. The most frequently mentioned benefits parents identified in relation to Minecraft were creativity and problem solving. These skills also feature strongly in the Victorian STEM Education State Plan document [10]. Educators also talk about ‘21st century learning’ as a means of overcoming the perils of automation. Again, ‘creativity and collaboration’ are proposed as the means through which children will have hope at future employment [2].

Turning now to the concern parents had about Minecraft play, there was a strong sense throughout our data that the ‘screen’ or the game, exists in a state of constant competition with all of the other things that parents want their children to do. Minecraft is construed as so appealing to children that it dominates their thinking. It causes constant struggle on the part of parents to direct children’s attention to other activities (homework, being outside, socialising, playing) in the pursuit of balance, and variety. In some instances there’s almost a sense of resentment toward the game for being so alluring. Relatedly, this data confirms that digital gaming as a form of ‘screen time’ is commonly understood to be something that requires active limitation. So, parents are clearly in a position where they are charged with the difficult task of maximising the putative benefits of digital play whilst at the same time minimising the putative harms associated with ‘too much’ play via screen.

Another prominent feature of the responses about concerning aspects of Minecraft play was talk of cyber safety. Such concerns fit into well-established discourse about screen media in general and preconceived norms about video games. As Willet [57] notes, high-profile risks such as contact with unknown people “*have strengthened the discursive construction of children as vulnerable in relation to their media use, and the home environment as a place for extra safety measures*” [p. 1063].

It is worth noting here that elsewhere in the survey from which the current data is drawn, only 11% of parents indicated that they ever co-played Minecraft with their children, and only 13% indicated that their child ever played Minecraft online with other people not known to them. Therefore, it appears that these concerns are indeed less about direct experience or observation of children’s gameplay, but rather, are heavily influenced by normative representations of what parents should be concerned about. Whilst education about safety in online spaces is crucial,

there is a risk that progress in forming evidence-based guidelines for parents around digital play may be hindered by reliance on the protectionist ethos of previous waves of recommendations that do not adequately account for the lived experiences of children with online media, including online games [30,35].

Paying greater attention to parent attitudes and their antecedents is one means by which researchers can contribute to reducing this risk. Increasing parental gaming literacy is one possible means to do this. Parental mediation of children’s digital play is likely to be influenced by “parents’ prior experience with and knowledge of video games” [13,24]. Schott and van Vught [45] found that parent perceptions of the game Grand Theft Auto IV were drastically altered after just a short period of playing the game. They propose that “*little direct knowledge of games as a played activity...might be responsible for the misconstruction of the moral and ethical frameworks governing game worlds*” [p.2]. Parents reported that the experience of playing the game gave them knowledge about the context and consequences of in-game actions, and also about the complexities of moral decision making that the game required.

It should be noted that constructions of digital play and its value are likely to be class-bound [22,39]. Whilst our analysis did not explicitly delineate different class structures during analysis, the sample did consist predominantly of parents with university level education (a marker of middle-class status). Willet [57] notes that providing children opportunities to play digital games that cater to middle class definitions “*achievement*” constitutes “*good parenting*” [p. 1063]. Further research, with more attention given to the class status of participants, would provide valuable insight into the way that digital games are viewed across a population.

Design Implications

Based on their findings, Schott and van Vught [45] recommend that efforts aimed at reducing harm associated with digital games should consist of “*educating the public and supporting parents in learning about digital games*” [p.10]. We concur with this approach and suggest that in practice this could occur on a range of levels including policy, regulation and education (via schools as part of digital citizenship curricula for example). Game designers could also consider ways to enhance the gaming literacy of parents through features that increase the likelihood of co-play, or otherwise encourage parents to display an active interest in their children’s gaming, beyond monitoring for inappropriate content and time spent playing. Some developers of game apps designed for young children currently include such features. When opening a Sago Mini app for example, a ‘for parents’ icon appears. When selected, a detailed explanation of the game appears including a section titled ‘to talk about’ where suggested prompts for co-use are included (for example, parents are told to ask questions like: ‘what do you think the character

will do next?’ and so on) [43]. Games aimed at older children, including Minecraft, tend to not include such explicit parent-involvement features. There is no literature explicitly directed to parents on the game’s primary website, and Minecraft contains no tutorial or internal “help” to players [12,31]. In order to play the game, even in the less challenging ‘creative’ mode where the process of ‘crafting’ items is not central, and there is no threat element, a degree of gaming literacy is required. Whilst this may provide opportunity for child-led instruction and an empowering variation on standard power dynamics between parent and child (as mentioned in several of the comments in the current study), such a ‘bare-bones’ framework could act as a barrier to the involvement of parents who may not have personal repertoires of gaming experience to draw upon [38] nor an intrinsic interest in digital gaming as a medium [51].

One game that has successfully facilitated co-play between parents and children is Pokémon Go. Based on survey data and interviews with guardians of children playing Pokémon Go in public spaces, Sobel et al., [50] suggest that beyond the effect of the game requiring physical activity to be played (and therefore countering concern about gaming leading to inactivity), the game also has “*simple gameplay mechanics*” that allow for focus on content and play rather than technical aspects [p. 1491]. This, combined with a range of other design features outlined by Sobel et al, led to shared enjoyment of the game parents and children and point to design elements that could foster co-play, and therefore increased parental gaming literacy.

Recognition of the common construal of digital games, in this case Minecraft, as ‘addictive’ and difficult for children to stop playing points to other possible design considerations. One factor sometimes associated with the game’s ‘addictive’ qualities is the assertion that there is no end to the game [17]. Indeed, two responses in our study explicitly mentioned this in describing difficulties associated with getting children to switch tasks. Such conflict surrounding transitions away from screen media were documented by Hiniker et al. [20]. They found that parents of children aged one to five noted smoother transitions away from ‘screen time’ when aided by technology, for example, by a movie ending without an auto-play feature presenting further content. Hiniker et al., suggest that screen based media technologies could include: prompts to set time limits at the outset of engagement; pop-up prompts at natural time breaks asking whether the child wishes to continue; asking the child how many more minutes she would like to keep using the technology; and the presentation of a ‘two-more-minutes’ warning/prompt. Whilst the participants in Hiniker et al., predominantly engaged with movie and television content, we propose that the design features they suggest are equally applicable to open-world, sandbox games such as Minecraft. Designing natural breaks in game play and consideration of the ethical implications of games designed to foster limitless

engagement should also inform future games for children [18].

We have shown, using Minecraft as an example, that parents value play that involves opportunity for problem solving and creativity. Marsh et al., [32] provide a range of suggestions, based on their observational studies of zero to five year old children, for design that fosters creativity. They recommend: open-ended games where the focus is on process rather than outcome; embedded meaningful problem-solving, critical and abstract thinking tasks; prompts in the form of questions or statements that stimulate play or experimentation; opportunities for creation of content within or surrounding the game, particularly co-creation involving parents or siblings; and the promotion of linkage between in-game and in ‘real life’ play activities.

CONCLUSION

We have provided comprehensive, qualitative empirical insight into the specific ways parents of young children perceive and interpret the game Minecraft. This represents a significant contribution to the literature because it considers, in detail, one of the most influential variables associated with the lived experience of children in relation to digital games. Research that aims to maximize the benefits, and reduce the harms associated with children’s use of digital games, needs to take into account the myriad of contextual factors that surround any one child’s gameplay, including the views of parents. We have shown that parents particularly value digital play opportunities that allow for creativity and problem solving, while they are also concerned about the amount of time children spend gaming and contact with unknown people during online play. Game designers should therefore consider ways to ensure games designed for children allow ample opportunity for player directed creativity, but within time bound parameters. Increasing parent gaming literacy will also aid in positive outcomes for children by reducing the risk of longstanding negative popular discourse about digital games clouding perceptions of the reality of children’s everyday gaming practices.

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