CONTENTS

EMMA REAY
University of Cambridge

Cute, cuddly and completely crushable: Plushies as avatars in video games

ABSTRACT

This article examines video game avatars that are designed to resemble toys. It names this trope the 'Blithe Child' to capture the carefree, careless and childlike interactions this avatar invites. This article argues that the connection between the Blithe Child and traditional toys functions to express and explain non-violent game mechanics, to shape sentimental player–avatar relationships, to create cosy, snug playspaces and to encourage pro-social, creative and self-expressive play-styles. However, the Blithe Child inherits some of the more sinister dynamics latent in human–toy relationships, namely the desire to humiliate and mutilate the cute object and anxieties about what it means to be 'real' – to be an independent, agential subject rather than a passive, manipulated, othered object. Drawing on theories derived from cuteness studies and toy studies, this article uses a close reading approach to critique the age-based hierarchies that underpin this trope.

KEYWORDS

children's literature
toys
paidia
childhood studies
close readings
cuteness

INTRODUCTION

A recent content analysis exploring the representation of child characters in contemporary video games identified a common pattern wherein

player-characters were designed to resemble children's toys (Reay 2021). This article names that trope 'the Blithe Child' and uses theories derived from cuteness studies and toy studies to examine its functions and its features in greater depth. It looks at four examples that were identified within the content analysis – namely, the player-characters in *Unravel* (Coldwood Interactive 2016), *Little Big Planet 3* (Sumo Digital 2014), *Pikmin 3* (Nintendo 2013) and *Scribblenauts Unlimited* (5th Cell 2012) – and connects these texts to the player-characters that appear in the newly released indie hit, *Fall Guys* (Media Tonic 2020).

In these texts, the buoyant, giddy, cherubic figure of the 'Blithe Child' functions both as an iconic sign and as an affective trigger. It communicates key information about a game's genre and rules, whilst also structuring a specific set of player–avatar relationships, rooted in the strong, but often conflicting, emotions elicited by its impish, stubby, cuddly form. The immateriality of these toylike avatars is integral to the playful, childlike subject position available in each text. Creative spontaneity and impulsive curiosity are made safe and viable through the robust, replicable, unrippable, restartable nature of virtual objects, which are protected behind a screen of glass like exhibits displayed in a toy museum. On the other hand, digital immateriality sanctions an easy slippage between being 'carefree' and being 'uncaring' – the Blithe Child's hearty robustness not only withstands rough play, but also seems to invite it. Players are permitted to express both affection and aggression towards the Blithe Child without a sense of dissonance. In this way, the adjective 'blithe' refers both to the sunny nonchalance of childly avatars, and to the cheery callousness with which players may treat them. The Blithe Child in video games invites care and cruelty in equal measure, since both types of behaviour satisfy the player's principal desire for control. The power differential between the dependant avatar and the commanding player facilitates adult domination, while identifying with the childly avatar and inhabiting a childly subject position absolves the player of adult responsibility.

HAILING THE (INNER) CHILD: AN OVERVIEW OF THE FEATURES AND FUNCTIONS OF THE BLITHE CHILD

The visual characteristics of the Blithe Child are cuteness, smallness, pliancy and simplicity (Figure 1). To borrow the phrasing of cuteness theorist Ngai,

Figure 1: 'The Blithe Child' avatar in (1) Pikmin 3, *(2)* Unravel, *(3)* Scribblenauts: Unlimited, *(4)* Little Big Planet 3 *and (5)* Fall Guys.

1. the Blithe Child is an 'object with simple round contours and little or no
2. ornamentation or detail […] an undifferentiated blob of soft, doughy matter'
3. (2012: 64). On an audio level, the Blithe Child is often mute and mouth-
4. less, or communicates non-verbally through squeaks and gestures. Since
5. the Blithe Child appears across a diverse range of genres including puzzle
6. games, platform games, and life simulators, there is no one consistent set of
7. mechanics common to all its manifestations. However, in most instances, its
8. interactions and control schema can be described as streamlined and acces-
9. sible. Importantly, the Blithe Child cannot commit acts of violence, which
10. generally precludes mechanics such as 'shoot' or 'attack'. It rarely has access to
11. a weapon, and if it does, the weapon is comical or non-lethal.
12.   The Blithe Child can be used to indicate a game's accessibility to novice
13. players, to establish its light-hearted tone and to reassure players of the
14. wholesome nature of its content. The *Mario Kart* series, for instance, incor-
15. porates a degree of chance and randomness into its ludic systems to mini-
16. mize the discrepancy between experienced players and novice players. Its
17. mechanical accommodations are expressed on an audio-visual plane through
18. the cute, neotonized avatars, which signal the game's approachability and low
19. stakes. The Blithe Child hails casual players in a similar manner by suggesting
20. that the game has a short learning curve and a low difficulty level. Juul posits
21. that a key characteristic of casual games is that they 'are easy to learn to play'
22. (2009: 5), and the Blithe Child communicates an elementary level of challenge
23. through its association with young children.
24.   The Blithe Child is also used to signpost games that prioritize creativity,
25. self-expression, and exploration. The childly avatar in the *Animal Crossing*
26. series for example, announces the game's sedate pace, its open-ended and
27. self-directed goals, and its comfortingly predictable, optimistic content. Finally,
28. the figure of the Blithe Child can be deployed to disrupt the usual associa-
29. tions of a particular game mechanic. The team-based shooter *Splatoon,* for
30. example, communicates the innocence and conviviality of its online combat
31. through its childly 'Squid Kid' avatars. The pro-social playstyle prompted
32. by the Blithe Child modifies the aggressive playstyle elicited by the virtual
33. paint gun, encouraging tolerant, affiliative player interactions and amicable
34. competition. Similarly, *Fall Guys* uses the Blithe Child to reimagine the 'Battle
35. Royale' formula – a genre usually characterized by militarized masculinity,
36. deadly weapons, and tense competition. Although it shares a shiny, satu-
37. rated vibrancy with the genre-defining game *Fortnite, Fall Guys* offers players a
38. markedly different subject position: that of a dumpy, pudgy, infantile, clumsy
39. toddler-toy. Online aggression between competing players cannot exceed
40. slapstick violence because blows exchanged between the soft, squishy avatars
41. are always akin to pillow fights.
42.   From a game design perspective, one could argue that enlisting the Blithe
43. Child as an avatar is a means of signalling a game's suitability for young play-
44. ers: it is the equivalent of an 'E for Everyone' age-rating certificate. However,
45. it is perhaps more accurate to say that the Blithe Child invites players of all
46. ages to enter into a voluntary and conditional childhood, or, to use Bernstein's
47. coinage, the Blithe Child is a 'scriptive thing' that elicits performances of child-
48. hood (2011). The poignancy of *Unravel*, for example, rests on the sense that
49. the game can only offer temporary repatriation to players who have long
50. been exiled from the Edenic garden of childhood. Through the character of
51. Yarny, *Unravel* facilitates a fantasy of being born again into a second child-
52. hood, one more magical and more vivid than the first – a childhood lived

between the *hÿgge* gamehub of the Grandmother's rustic, welcoming home, 1.
and the breath-taking Scandinavian natural landscapes that constitute the 2.
game's levels. Early in the game, players are shown a line of hand-written 3.
text scrawled in an old-fashioned script across the page of a photo album that 4.
reads, 'Some days you feel warm no matter how cold they are, and some things 5.
are fun no matter how old you are, and sometimes you wish a visit could just 6.
last forever'. This sentiment captures the temporary nature of stepping outside 7.
of one's age-defined social role as well as the childly experience of the dilation 8.
of time. Childhood is conjured as a period of carefree joy and synchrony with 9.
nature, as well as a phase of attachment, dependency and loving bonds. The 10.
game is profoundly nostalgic, and this is made explicit in the game's narrative 11.
premise, which entrusts Yarny and the player with collecting (or recollecting) 12.
the Grandmother's memories, a process that is symbolized with the restora- 13.
tion of the damaged photographs in the album. The gameworld is filled with 14.
long-forgotten objects from an outgrown childhood – the first level, for exam- 15.
ple, features a tricycle overcome by cobwebs, a tire swing with a rusted chain, 16.
and a wooden spelling-block rendered illegible with moss. Many dystopian 17.
video games invite players to traverse depopulated places, but the absence of 18.
youth in this charming garden feels like an extinction event. The game asks 19.
the player to fill this child-lacuna. 20.

Fall Guys also courts nostalgia – albeit of a less sentimental variety – in 21.
the way it nods towards iconic 90s television programmes, including *The* 22.
Teletubbies and *Takeshi's Castle,* which stopped airing at the end of the last 23.
century. Equally, the *Little Big Planet* series seems to directly address a genera- 24.
tion of digital immigrants – defined by Prensky (2001) as the generation born 25.
before the habitual use of digital technology permeated people's everyday 26.
lives. The *Little Big Planet* series – which features a 'Creator' mode that allows 27.
players to design their own levels – works hard to demystify and domesti- 28.
cate the process of game development by positioning it as analogous to craft- 29.
ing crude, homemade dioramas. As Isbister notes, 'the game's look and feel 30.
resemble a child's craft project' (2018: 46). The pre-made assets available to 31.
the player in Creator mode are designed to resemble commonplace household 32.
items such as bottle tops, corks, sheets of tin foil, colourful threads and pieces 33.
of cardboard decorated with naïve doodles and stickers, which are exactly the 34.
kinds of salvaged odds-and-ends that children are invited to combine and 35.
repurpose in order to build expressive objects for play and display. Those 36.
who need to be convinced of the value of digital creativity through its adja- 37.
cency to touchstones like felt tips, glue sticks, dried pasta, and crepe paper 38.
are several generations older than today's digital natives. Again, the trappings 39.
of childhood imply a low barrier to entry, and so the aesthetic style renders 40.
the process of game design less intimidating. Yet the suggestion that an activ- 41.
ity is mere 'child's play' is a comparison predominantly intended to reassure 42.
adults. In short, the Blithe Child does not exclusively hail child-players; rather, 43.
it invites players of all ages to enter into a childly subject position. The 'toyness' 44.
of these avatars is central to this invitation – toy theorist Heljakka writes: 45.
46.

> [a]dults who acquire toys and play with them have their activities often 47.
> explained as nostalgia, their toys considered objects that merely provoke 48.
> a yearning for childhood. However […] this remembered childhood is 49.
> not a lived childhood but, instead, a voluntary one. 50.

(2019: 353) 51.
52.

1. Toys can uncouple the concept of childhood from a specific age range, thereby
2. positioning childhood as a social role rather than a biological or anatomical
3. state. As Deterding notes, video game avatars allow 'a user to dissociate from
4. their social identities and take on new ones' (2016: 120). In the case of the
5. Blithe Child this can entail dissociating from one age-based social identity and
6. taking on another.
7.   Employing the figure of the Blithe Child as an avatar primes the player
8. for an untaxing, relaxing, gentle experience. It efficiently denotes the absence
9. of risk and danger, a sense of spatial and emotional intimacy, and a manage-
10. able level of challenge. Therefore, by inviting players to identify with the Blithe
11. Child, video games promise their players the same protections from violence,
12. stress and consequences that contemporary, Western society supposedly
13. confers upon its youngest members.
14.
15. **CHILDHOOD AS A 'MAGIC CIRCLE OF PLAY'**
16.
17. The feeling of safety, freedom from repercussions, and respite from the
18. demands of productivity align stepping into the role of the Blithe Child with
19. entering the 'magic circle' of play. Salen and Zimmerman (2004) are credited
20. with popularizing the concept of the 'magic circle' in games studies, a term
21. that they adapt from Huizinga's foundational work *Homo Ludens* ([1949]
22. 2016). Although the value of the concept has been vigorously debated (e.g.
23. Castronova 2005; Taylor 2006; Consalvo 2009; Zimmerman 2012), the magic
24. circle continues to be used as a kind of intellectual shorthand within games
25. studies to express the idea that play takes place within a separate, bounded
26. locale that exists outside of ordinary experience. 'Magic' transforms the mean-
27. ing of events that occur within the circle, stripping them of their usual conse-
28. quences and imbuing them with new significance. Within the magic circle,
29. the rules and roles that govern the rest of our lives are temporarily rewritten.
30. There are a number of ways to conjure a magic circle – the donning of special
31. attire, the demarcating of an arena, pitch or court, vocal and gestural cues, or
32. simply uttering the powerful incantation 'Let's Pretend'. Each is a means of
33. inviting participants to engage in a different mode of being – to adopt what
34. Suits (1978) calls a 'lusory attitude' – and to acknowledge the sovereignty of a
35. new ruleset.
36.   The figure of the Blithe Child expresses the separateness of game spaces
37. from everyday life by invoking cultural beliefs about the separateness of child-
38. hood from normative existence. Jenkins writes:
39.
40. > [o]ur culture imagines childhood as a utopian space, separate from adult
41. > cares and worries, free from sexuality, outside social divisions, closer to
42. > nature and the primitive world, more fluid in its identity and its access
43. > to the realms of the imagination, beyond historical change, more just,
44. > pure, and innocent.
45.
> (1998: 4)

46.
47. Stephens adds, '[m]odern children are supposed to be segregated from the
48. harsh realities of the adult world and to inhabit a safe, protected world of play,
49. fantasy, and innocence' (1995: 14). Common to both a spatialized conception
50. of childhood and the magic circle of play are the redistribution or removal of
51. responsibility, the glorification of what would usually be considered materially
52.

trivial, the hamstringing of aggression, and the indulgence of inefficiency. 1.
Childhood and the magic circle constitute a 'protected world of play', where 2.
enthusiastic exploration and innocent experimentation are dominant modes 3.
of being. Furthermore, both spaces welcome imaginative projection: Perrot 4.
describes children's culture as 'half-hallucinated' (2006: 102), paralleling the 5.
way in which visitors to the magic circle are encouraged to confer psychic 6.
significance onto in-game objects. Young children are thought to be especially 7.
proficient at moving fluidly between material worlds and imagined worlds 8.
(Turner 2016), and so the figure of the Blithe Child functions as a persua- 9.
sive vehicle that shuttles players between the everyday world and the realm of 10.
digital make-believe, and thus into the magic circle of play. 11.

The virtual environments in which the Blithe Child is located use the 12.
apparatus of childhood to mark out an insulated playspace. The unspoiled, 13.
pre-industrial, natural worlds found in *Unravel* and *Pikmin 3* invoke the 14.
Wordsworthian notion of the child as 'Nature's Priest', and recall Lundin's 15.
observation that childhood has 'become equated with Eden, the garden, the 16.
Enchanted Place where harmony reigns' (1998: 160). These serene digital 17.
vistas are experienced from the perspective of a very small creature, and this 18.
distortion of scale imbues the humble pinecone with the majesty of a moun- 19.
tain, gives the moth the air of an angel, and other such Burkean sentiments. 20.
The size of these artefacts relative to the avatar enlarges their importance for 21.
the player, replicating the fascination young children are thought to have with 22.
objects that have lost their intrigue for adults. In Martin's writing on expe- 23.
riencing the sublime in *Elder Scrolls IV*, he notes that the avatar and other 24.
characters 'frequently come close to undoing through ropey script and stilted 25.
delivery, the epic image that the landscape works so hard to establish and 26.
sustain' (2011: n.pag.). He acknowledges that the avatar can be 'an instrument, 27.
tool, or vehicle' (2011: n.pag.) for traversing the landscape, but argues that it 28.
does not contribute to the transition from the pastoral to the sublime. The 29.
Blithe Child as avatar, in contrast, is integral to the metaphysical shift that 30.
frames the picturesque minutia of the natural world as sites of wonder and 31.
deep contemplation: its perspective transforms these details into instances of 32.
greatness unbounded that remind players both of humanity's relative small- 33.
ness and of the limits of imaginative comprehension. This state of humbling 34.
smallness, combined with attentive absorption and intense presentness, is 35.
reflected in the annotation in *Unravel*'s photoalbum, 'The sky is somehow 36.
taller here. A breath here counts as ten. We can lose ourselves here, but we're 37.
never lost, because we're right at home'. Scale and time are re-enchanted in 38.
the magic circle. The diminutive child-self and the natural location – the here- 39.
and-now – become entwined and interchangeable: both are a 'home' to which 40.
one returns. 41.

Cross summarizes the Romantic link between childhood and nature, 42.
arguing that, '[b]ecause wonder was lost when the natural world became the 43.
object of control and systematic reason, the look and feeling shifted to the 44.
child' (2004: 26). In *Unravel*, the 'look and feeling of wonder' seem to have 45.
come full circle, with the natural world rendered via controlled, systematic, 46.
computer-mediated code but focalized through the non-optional perspective 47.
of innocent, childly awe. Significantly, in this text the incursion of manmade 48.
pollutants into this natural haven metaphorically represents the encroach- 49.
ment of adult behaviours and perspectives. The ecological message in 50.
Unravel is powerful, but it is predicated on an imagined opposition of child- 51.
hood and adulthood. On the one hand, *Unravel* invokes a universalized view 52.

1. of childhood to persuade players of all ages that they can rediscover and
2. revert to a shared, former psychological locale from which mankind's rela-
3. tionship with nature can be repaired. Childhood is not a collective future
4. to strive towards but a past into which everyone can retreat. On the other
5. hand, *Unravel* characterizes childhood as a time period during which one has
6. a negligible impact on one's environment. Political discourses that push the
7. idea that 'children are the future' delay the moment in which those in power
8. must act to prevent environmental crises, but in *Unravel* these future children
9. are seemingly equipped only with a passive ability – a gentle impotence that
10. prevents them from harming their environment. All interactions with the digi-
11. tal landscape in this game are modelled on a version of child's play, which
12. – unlike adult work – leaves no trace. In this way, the digitized, immaterial
13. environment in *Unravel* renders the player harmlessly unproductive and – by
14. extension – childlike. Just as events that take place in the magic circle of play
15. have negotiable consequences, so too do interactions that take place in childly
16. spaces have mitigated effects. Chang's (2019) analysis of games that position
17. the 'environment-as-utility-belt' (200) clarifies the distinction between experi-
18. encing the natural world as a playground and figuring the natural world as a
19. warehouse of resources primed for utilitarian purposes. Without an inventory
20. system or upgrade mechanics, *Unravel* presents the natural world as some-
21. thing that is both persistent and responsive, rather than as an extractable
22. resource that can be exploited to increase the avatar's power or abilities. The
23. childly avatar, therefore, neither levels up nor grows up; rather, it remains in
24. a state of unadulteration, ever welcome in the Edenic garden of childhood,
25. which is symmetrically unadulterated.
26.   The virtual environments in the *Little Big Planet* series suggest that the
27. games may take place inside of a well-stocked arts-and-crafts cupboard in
28. a primary school. In the *Little Big Planet* series, the journey into the magic
29. circle of play is explicitly dramatized as a process of stepping into a childly
30. subject position. The expository cutscenes overlay colourful, hand-drawn illus-
31. trations representing the content of human imaginations on top of live-action
32. sequences depicting people of all ages engaging in creative, playful activities.
33. The narrator describes how these visions and ideas travel upwards along the
34. 'cerebrumbilical cord' and coalesce to form 'an abstract plane of wonders wait-
35. ing to be explored' (*Little Big Planet*). The play on 'umbilical cord' centralizes
36. a connection between adult and (inner) child, tethering these two states to
37. one another whilst aligning creative play with reproduction. This link in rein-
38. forced in *Little Big Planet 3*, wherein the narrator employs the simile: '[b]eing
39. transported to the world of Little Big Planet is like being born again. You
40. emerge here a naked bundle of woolly innocence'. To paraphrase Matthew
41. 18:3, *Little Big Planet* makes it clear that lest players become like little children,
42. they shall not enter into the magic circle. Voiced by British national treasure
43. Stephen Fry, the narrator addresses the player in the second person, offering
44. instructions, encouragement, corrective rebukes, and consolation. Much like
45. an indulgent grandfather or a favourite nursery school teacher, the narrator
46. speaks slowly, clearly and with patient authority. His idiolect is characterized
47. by quaint Britishisms, prim euphemisms, and onomatopoeic formulations.
48. When the avatar first appears on-screen, the narrator comments, 'On the
49. Little Big Planet, you're a little sackperson. Awww, bless! You're quite a cute
50. one!' Irrespective of their age, the only subject position available to players
51. in relation to this unseen but all-seeing narrator is that of a child. Urging the
52. player to adopt a childly mindset – characterized by Hasselgren as a state of

1. 'Games' can function as 'toys' when players renegotiate what Parker (2008) calls the game's 'implied rules' – when players are able to ignore, modify or exchange the win/fail conditions of a game posited by its designers without directly changing the game's software or hardware. Parker contrasts 'implied rules' with 'player-imposed' rules, using the example of the games of 'Jeep Tag' organized within the online multiplayer shooter *Halo: Combat Evolved.* Players do not attempt to meet the objectives explicitly defined by the game, and instead chase each other across a variety of digital terrains.

'mental plasticity where the subject is curious about the world, open to new experiences, and tends to approach its surroundings with a certain naïveté' (153) – is a means of encouraging a particular form of player engagement, namely paidia.

PAIDIA AND CHILDLINESS

The spatialized conception of childhood does not map perfectly onto the magic circle; rather it sits within its bounds, prompting a subtype of lusory attitude. Specifically, childly gamespaces invite *paidic* play as opposed to ludic play, to use the terms coined by Caillois. Caillois posited that all games can be placed along a 'continuum between two opposite poles':

> At one extreme an almost indivisible principle, common to diversion, turbulence, free improvisation, and carefree gaiety is dominant. It manifests a kind of uncontrollable fantasy that can be designated by the term paidia. At the opposite extreme, this frolicsome and impulsive exuberance is almost entirely absorbed or disciplined by a complimentary, and in some respects, inverse, tendency to its anarchic and capricious nature […] I call this second component ludus.
>
> (1961)

Exegeses of Caillois' definition of paidia frequently frame it as the type of play that occurs amongst young children – a primaeval form of play that later evolves into structured, rule-bound ludus. Frasca, for example, defines paidia as 'the form of play present in early children [*sic*] (construction kits, games of make-believe, kinetic play)' (2003: 229). The strong cultural association between children and paidia means that a childly aesthetic can foster a paidic playstyle. The childly aesthetic of *Scribblenauts Unlimited*, for example, frames its straightforward puzzles as games of 'Let's Pretend' that can be resolved in multiple, creative ways. These puzzles are less about identifying the correct solution or the optimal strategy, and more about finding the most amusing, mischievous, ingenious, absurd or surprising course of action. In the game's tutorial level, for instance, players are instructed to rescue a cat stuck in a tree. This puzzle could readily be solved with a ladder, but players may elect to use a hovercraft, a flying unicorn, or Batman to retrieve the frightened feline. In this way, the game invites spontaneous, improvised self-expression, creative flair, and boundary testing: it rewards 'frolicsome and impulsive exuberance', rather than disciplined, strategic adherence to the rules. This adds autotelic value to the player's experience of *Scribblenauts Unlimited*, making the act of solving the puzzles intrinsically entertaining, as well as extrinsically motivated through the allocation of points and the unlocking of new game locations.

Whereas ludic play emerges from rulesets, paidic play is often scaffolded by props, and props whose affordances facilitate paidic play are classed as toys (Deterding 2016). Toys can, of course, prompt ludic play, and many toys firmly inscribe overt rules of engagement (Heljakka 2019); however, toys are also thought to encourage goalless exploration, imaginative projection, and mimetic performances that feature emergent narratives. To put it another way, while rules can govern toy-play, these rules are generally implicit, negotiable, informal, co-authored, and socially specific.[1] 'Sandbox' and 'open-world' video games such as *The Sims* series, *Garry's Mod,* and *Minecraft* have been likened to digital toys (Frasca 2003), not just because they bear a resemblance to dolls'

1. houses and LEGO bricks, but also because their mechanics elicit paidic play
2. (the term 'sandbox' is a direct reference to the type of play facilitated by some-
3. thing that is both a toy and a gamespace). Will Wright, the designer of *The*
4. *Sims* series, has described his digital games as 'modern Montessori toys' that
5. function as 'amplifier[s] for the player's imagination' (2007: n.pag.).
6.   In terms of mechanics alone, the games discussed in this article are not
7. particularly toylike. Their core gameplay loops involve reaching predeter-
8. mined, quantifiable goals, they have defined end points, and have 'win' and
9. 'fail' states that provide feedback about the player's speed, accuracy and
10. strategic skill. Arguably, the ludic scaffolding of these games is necessary to
11. maintain their childliness. Given the freedom to do so, players of all ages
12. may choose to introduce elements to the text that are not consistent with
13. an idealized conception of childhood. A tension emerges here wherein a
14. childly subject position is characterized by creative independence, original-
15. ity and freedom, but also by obedience to and reliance upon adult rules. The
16. 'anything goes' autonomy of paidia is not accommodated in the mechanics of
17. these games – arguably because it is not tolerated within their constitution
18. of childhood. *Scribblenauts Unlimited*, for example, uses its childly aesthetic
19. to express implicit rules about acceptable player behaviour. While players are
20. invited to explore the far reaches of their imaginations by testing the param-
21. eters of the game's object database, expletives and words naming taboo
22. concepts are met with encoded ignorance. The game does not reprimand the
23. player for defying age-restrictions because it is purposefully innocent of 'adult'
24. language. It simply suggests the player try other objects that are near homo-
25. nyms, as if it were correcting a spelling error rather than a moral transgression.
26. Furthermore, the directive set out by *Scribblenauts Unlimited's* narrative fram-
27. ing is to 'help others' in the manner of a badge-winning boy scout. The player
28. is petitioned by the damselette-in-distress, Lilly, to collect 'starites', which are
29. 'magical objects born out of the happiness of others'. However, in addition to
30. advocating innocent and wholesome engagement, the childly aesthetic also
31. alleviates a player's sense of responsibility and minimizes the seriousness of
32. in-game consequences. Bernstein writes:
33.
34.   [u]nlike an incompetent performer who cannot decode a thing's invi-
35.   tation to dance, a resistant performer understands and exerts agency
36.   against the script. Often, however, an action that appears to be resistant
37.   actually follows a secondary script within a thing's range of prompts.
38.   These prompts toward apparently resistant behaviors can be understood
39.   as 'transgressive scripts'.
40.   (2011: 77)
41.
42. Alongside the script that elicits performances of neighbourly commu-
43. nity service is a transgressive script that invites performances of vandalism,
44. callousness and sardonic passive-aggression. The 'flamethrower' object in
45. *Scribblenauts Unlimited* is a suboptimal solution to most of the game's puzzles,
46. and yet there are countless Let's Play videos uploaded to YouTube of this
47. weapon being summoned to a scene solely to cause carnage.
48.   The ludic engagement prompted by these games on a mechanical level is
49. modulated by the overt toyness of their avatars, which are digital approxima-
50. tions of plushies, poseable action figures, and dolls. Heljakka identifies this
51. subset of toys – toys with a face – as 'character toys' (2019: 354). The avatars
52. are silent, creating space for the player to narrate their inner worlds as one

might when animating physical figurines. The avatars in *Little Big Planet 3* and *Fall Guys* can be 'dressed-up' by the player using an extensive range of collectible accessories and outfits, and subsequently posed and displayed for online communities. This digital customization and community sharing mirrors a central aspect of adult doll-play that has been documented by Heljakka (2012, 2019), wherein doll-fans stage photographs of their dolls to distribute online within designated fan-spaces. In short, the toylike design of these avatars invokes both some of the practices of, and the positive connotations of, paidic play – in particular, the idea of the player as an agential, unique, self-directed demiurge. To use Hunicke et al.'s (2004) framework, the combination of ludic mechanics with paidic aesthetics produces dynamics that balance creative self-expression with strategic, skills-based puzzles solving. Furthermore, the avatars all have what Lancaster calls a 'haptic-panoptic' (2001) quality: their appearances evoke memories of tactile sensations, and their textures seem to afford a kind of kinaesthetic object-play.

INTER-TEXTURES: WOOL, PLASTIC AND PAPER

Yarny and Sackboy – the avatars in *Unravel* and *Little Big Planet 3* – are designed to represent handcrafted woollen dolls. Standing at about six inches tall, Yarny possesses a Lilliputian grace and daintiness, despite being made of rough, red wool that is twisted into a vaguely humanoid shape. He belongs to a long fairy-tale tradition of toy-makers' creations that are absent-mindedly imbued by their artisans with a soul – a side effect of a long lost, pre-Fordist magic. Homely and whimsical, he seems as if he were quickly crafted from offcuts – not without love, but without pretention. Sackboy is also observably handmade, the crafting process rendered visible in the lumpy stitching that secures his hands to his arms and seals up his disproportionately large head. His construction looks as straightforward as his overly literal name: he is made from itchy brown wool, with black buttons for eyes and a comedy-kitsch zip running from gusset to neck that resembles a tie. Like Yarny, he appears to have been assembled from scrap materials – a reincarnated jumper, perhaps or a widowed sock. The low cost of his production is inversely proportional to his sentimental value. Yarny and Sackboy's loose ends and visible stitching evidence the unique quirks of their human creators, making these toys individual, irreplaceable and, therefore, priceless. In a binary medium of computational precision, their imperfections convey traces of human craftsmanship: these knitted beings re-weave the rainbow, and their corporeal crochet conceals the cold, wraithlike code from which they are actually constructed. That is to say, 'the medium's computational materiality – inherently founded as it is upon the empirical value, the defined procedure, the rigid binary of true and false' (Vella 2015: n.pag.) is sublimated beneath a skin that strongly invokes sensory memories of an organic, artisanal, folksy, homespun texture.

In contrast, the titular avatars in *Fall Guys* and *Pikmin 3* evoke the armies of identical, cheap, plastic figurines heaped in bargain bins near toyshop tills or begreased between burger-and-fries in a McDonald's Happy Meal™. Mass-produced and endlessly disposable, they are 'dividual' beings in a Derridian sense, and are not unlike the cute, yellow, dungaree-wearing minions in the *Despicable Me* series. If they were to manifest in the material world, Barthes would condemn them for being 'made of a graceless material, the product of chemistry, not of nature' and having 'an appearance at once gross and hygienic' (1957). Synthetic, lurid and effortlessly replicable, pikmin look like

1. injection-moulded mandrakes. They seem conspicuously out of place in
2. their gameworld – planet PNF-404 – which is a lush, verdant, fertile wilder-
3. ness containing a diversity of familiar flora and fauna. The primary-coloured,
4. monochromatic, doughy simplicity of the pikmin contrasts strongly with the
5. natural hues, gentle shading, and detailed textures of the game environment.
6. Although their smooth, spermatic heads are topped with buds, leaves and
7. flowers, fresh Pikmin cannot be seeded or plucked without the mediation
8. of a hybrid spawning machine called The Onion, which seems to be part-
9. flower, part-rotator blade, and part-spaceship. In short, pikmin do not look
10. like native, organic components of their planet's ecosystem. However, they
11. appear less like an invasive species and more like toys accidentally abandoned
12. at the bottom of the garden and forgotten about.
13.   *Fall Guys*, on the other hand, seem to be moulded from the exact same
14. flubber as their gameworld. The arenas in which they compete are constructed
15. from a combination of sweet, sticky treats and brightly coloured, bouncy plas-
16. tic: the aesthetic is best described as a Gingerbread Cottage imbued with the
17. shiny, wipe-clean quality of an indoor soft play centre. Everything looks both
18. delicious and inedible, and the *Fall Guys* themselves combine the robustness
19. of a dog's chewtoy with the gelatinousness of a jellybaby. They look as if they
20. were designed not only to survive the chaotic, multiplayer obstacle courses
21. that structure the central gameplay loop, but also to withstand the gummy
22. mangling of a toddler.
23.   The (im)materiality of the Blithe Child scaffolds specific encounters
24. between player and avatar that permit, and even encourage, violence. The
25. pleasure found in hurling hordes of plasticky pikmin to their deaths, for exam-
26. ple, is contingent upon their inorganic physicality. Small and non-verbal,
27. the pikmin's obedience to, and dependence upon, the player facilitates their
28. violent disposal, and evokes infantilising narratives propagated by colonial
29. powers about indigenous populations. However, it is arguably their inter-
30. textural quality that legitimizes their deaths as entertainment. Smooth, hard
31. and uniform pikmin have no breakable parts nor vulnerable soft spots: they
32. do not look like they would decompose, shatter or haemorrhage. Within their
33. platoons, they are undifferentiated and interchangeable, not unlike a set of
34. toy soldiers, and their lack of individual identity makes them perfect cannon
35. fodder. The player is prompted to treat the pikmin as if they were wholly
36. expendable because their physical appearance is suggestive of inexpensive
37. mass production. The colonial nature of this type of violence is not, in fact,
38. deracialized by colouring the pikmin unnatural shades of red, green and blue;
39. rather, their plastic, rubbery 'skin' actually speaks directly to a history of racial-
40. ized toys that script violence. As Bernstein documents, a doll's
41.
42.   blackness in combination with its composition of gutta-percha, a form
43.   of resilient rubber used in nineteenth-century dolls to enable them to
44.   survive rough play that would destroy a doll made of porcelain or wax
45.   […] black rubber dolls were manufactured, as patent applications for
46.   such dolls often specified, to withstand rough use, and this doll's smile
47.   suggested that violent play was acceptable, even enjoyable.
48.   (2011: 71)
49.
50. The digital immateriality of the pikmin can perhaps be read as an extension
51. of a long history of robust toys representing a cultural or racial 'Other' that
52. encodes white supremacist violence through materiality.

The cheap, plasticity of the *Fall Guys* also scripts a certain violence. *Fall Guys* have a soft, wobbly tactility that is biteable, squishable and deformable whilst simultaneously being robust, durable and resilient. Their gelatinous padding makes them impossible to damage, a fact verified by their constant re-spawning and their indefatigable enthusiasm for running the gauntlet. Their (im)materiality suggests a comic imperviousness to pain, which minimizes any reservations that the player may have about their avatars being repeatedly crushed, stampeded and jettisoned into an abyss of neon slime as they compete to be the last fall guy standing. The level design in *Fall Guys* is inspired by the 90s television gameshow *Takeshi's Castle* (1986–90) and its subsequent Western rehashings such as *It's a Knockout* (1996–2001) and *Wipeout* (2008–12), in which contestants must surmount physical obstacles primarily in the form of brightly coloured, oversized inflatables. This genre of entertainment is not a celebration of the contestants' physical prowess; rather it revels in the cloddish, bumbling, graceless ineptitude of the average human body. Viewers are encouraged to enjoy the participants' pratfalls and nosedives without compunction through a combination of canned laughter and exaggerated sound effects, a playschool colour palette, and, most importantly, the apparent softness and springiness of the obstacle course. *Fall Guys,* too, spectacularizes bloodless sadism by transforming the contestants themselves into blimpish blobjects, their rubbery elasticity a script for roughhousing.

Significantly, the childliness of these avatars does not run counter to the violent performances scripted by their materiality; rather, their small, soft, round, clumsy vulnerability seems to underscore the invitation to commit violence. Dale claims 'expressions of cuteness, whether they emanate from animals, objects, or people, comprise a form of agency: namely, an appeal aimed at disarming aggression and promoting sociality' (2017: 37), but other researchers have questioned whether cuteness always offers protection from violence. Allison connects the hug/harm dichotomy to the materiality of cute objects, writing, 'the characteristic textures of cute things are ones that invite physical domination. Hence cute objects demonstrate their "responsiveness to the will of others" through softness and squishiness, which allow them to be aggressively deformed by their handlers' (2003: 389). Cute, little Sackboy is incinerated, melted in acid, and pulverized by heavy machinery whenever the player misjudges an obstacle or an enemy. Sackboy's blithe attitude towards his own repeated destruction sets the tone for the joke that is repeated in each game's tutorial, wherein the narrator questions whether Sackboy is resurrected after each death, or whether he is simply replaced by an identical toy. Even Yarny in *Unravel*, who is a clear surrogate for the figure of the adored, idealized child, is subjected to disintegration and dismemberment at the hands of the player as part of solving the game's physics puzzles. Players must use the wool that makes up Yarny's body to strategically connect platforms, so that he can climb it, swing from it, and use it to form tensile bridges. The wool available is finite and begins to unwind as Yarny moves from the left-hand side of the screen towards the right-hand side, until he is reduced to a thin, hunched, single-threaded skeleton. The final lengths of his wool have a series of knots that, rather disturbingly, evoke organs, and the sense that he is being disembowelled is compounded by the blood-red colour of the wool. The player can replenish Yarny's woollen body by directing him towards skeins snagged on odd nails and splinters of wood, but when he is reduced to his final lengths, he moves pitifully slowly as if he were almost too weak to carry

1. on. In these moments, his size and appearance evoke a bloodied tampon, or
2. even a foetus, far from the womb of the Grandmother's cottage, pathetically
3. trailing its umbilical cord behind it. Yarny's suffering is not limited to his unrav-
4. elling; he also drowns, freezes in snowstorms, is attacked by crabs, mosquitoes
5. and crows, and is occasionally crushed to death by environmental objects.
6.   While injury and death are fairly standard expressions of ludic fail states
7. in video games, the violence sustained by the Blithe Child in these games
8. provides both a source of comic delight and an opportunity for players to
9. coo over its helplessness. That is to say, violence against the Blithe Child is
10. not attenuated by its childliness; rather, it is aestheticized by it. This in itself
11. suggests that the tenderness of the Blithe Child precipitates a kind of smiling
12. sadism: its soft vulnerability affords brutalization. In fact, the Blithe Child's
13. distress compounds its appeal, as its powerlessness is integral to its endear-
14. ing childliness. Equally, because childhood and violence are seen as mutually
15. exclusive, skinning a violent mechanic with a childly aesthetic assuages any
16. feelings of remorse that might arise from a sense of personal responsibility
17. on the part of the player. This juxtaposition of affection and mutilation – or,
18. more broadly, of childhood and death – speaks to concepts of mechropolitics
19. as theorized by Phillips (2018). Phillips likens video games to 'playground[s]
20. of mortality' (138), capturing the paradoxical relationship between a site of
21. childly recreation and encounters with death. Her exploration of ragdoll phys-
22. ics – notably named after a type of toy – centres on the contradictions inher-
23. ent in the pairings of fun with seriousness, and humour with horror. Although
24. Phillips focuses on the representation of 'bloody deaths' (141) – in particu-
25. lar, 'the fetishized gore of the skull exploding' (143) that characterizes the
26. headshot in video games – her argument nonetheless illuminates an aspect
27. shared by the bloodless deaths of digital plushies: the goofy, surprising twitch-
28. ing, flailing and flopping of a corpse animated with ragdoll physics serves to
29. intensify players' sense of agency as a perpetrator of violence whilst mitigating
30. their feeling of culpability because the deaths are often absurd and clownish.
31. Furthermore, Phillips' observation that player-controlled ragdolls function as
32. 'a playground of cruelty' recalls the visual similarities between the avatars in
33. *Fall Guys* and the play arenas in which they are located. As Waszkiewicz notes,
34. player–avatar relationships often exceed straightforward identification, and
35. move between moments of 'empathy/sympathy, projection, and detachment'
36. (2020). Since the Blithe Child is the player's tool to act within the gameworld,
37. it becomes both the victim of violence and the perpetrator of violence, mean-
38. ing the player can simultaneously enjoy freedom to harm and freedom from
39. guilt.
40.   Cuteness studies provide an interpretive key for these moments of iden-
41. tification/objectification. When Pizarro poses the rhetorical question, 'Nobody
42. feels guilty about kicking a rock for the simple pleasure of doing so, but doing
43. the same thing to a child is universally forbidden. What's the difference?', he
44. presupposes that there is something innate in children that dissuades ordinary
45. adults from harming them. He echoes the conclusions drawn by Lorenz in
46. 1950, who posited that when a human sees a composite of juvenile physical
47. qualities, an autonomic 'Innate Releasing Mechanism' is activated, which in
48. turn prompts a care-giving response from the human. Although his animal
49. studies remain an important historiographical touchstone for contemporary
50. thinking around cuteness and affect, Lorenz's position is rooted in reductive
51. ideas of evolutionary, genetic, pre-subjective mechanisms, consistent with
52.

the Nazi-eugenicist ideology to which he subscribed. Lorenz's nature-over-nurture approach has been nuanced by those arguing for the role that culture plays in constructing cuteness (e.g. Merish; Harris; Dale; May) and those who argue that care-giving is – at most – an indirect corollary of cuteness, and that cuteness 'is as likely to trigger a childlike state as a parental one' (Haidt and Sherman 2011: 248). Ngai's findings complement those of Haidt and Sherman. Her research draws attention to the 'infectious' nature of cuteness, which can induce an 'act of automatic mimesis', compelling the consumer of cuteness to unconsciously emulate the cute object's 'infantile qualities' (2012: 3).

Fall Guys certainly meet Lorenz' cuteness criteria (*kindchenschema*): their appearance is characterized by 'a relatively large head, predominance of the brain capsule, large and low-lying eyes, bulging cheek region, short and thick extremities, a springy elastic consistency, and clumsy movements' (Lorenz [1950] 1971: 154). Even *Fall Guys'* own marketing team are not immune to the imitative compulsion triggered by these cute objects. The studio's twitter account has been accused of using 'heckin doggo chonk pepperoni language' (Clayton 2020: n.pag.), in reference to its use of DoggoLingo – the babytalk of the internet age. Ngai notes that encounters with cuteness:

> does something to everyday communicative speech: weakening or even dissolving syntax and reducing lexicon to onomatopoeia […] cuteness cuteifies the language of the aesthetic response it compels, a verbal mimesis underscoring the judging subject's empathetic desire to reduce the distance between herself and the object.
>
> (2012: 87)

Arguably, the dialogue exchanged between player and avatar in a wordless game like *Fall Guys* takes place via the feedback loops of controller input and on-screen output – that is to say, via the game's mechanics. Since the avatars are designed to resemble both teething toys and toddlers who teeth, they invite players to perform physical gestures in the style of infants. The game controls mimic the limited motor skills of young children – they are both extremely simple (consisting only of 'run, jump, and grab') and imprecise, frequently triggering both surprise and frustration. Even highly skilled, experienced gamers are, for the most part, doomed to button-mashing. In a way, the player's input is babyspeak and the on-screen output is adorable gobbledegook. Imitative-identification between player and avatar seems to run counter to Harris' claim that cuteness is something done to others. He argues that to perceive something as cute is 'to maim, hobble, and embarrass the thing' (5). In this interactive game, however, the mechanics maim, hobble and embarrass the player, and their sweet ineptitude is broadcast to a potential audience of 59 others.

Heljakka writes, 'dolls are not playthings for their adult owners, but come to represent the owners *themselves* either directly or indirectly' (2012: 161, original emphasis) and notes that a key affordance of a doll is its ability to 'function as a stand-in for the self, a *doppelganger* or a *body double*' (162, original emphasis). While this article has centred the 'avatar-as-doll', Heljakka's work considers the 'doll-as-avatar', specifically highlighting the use of the cute, babyfaced 'Blythe' dolls as a canvas for aspirational identity formation. In tension with the desire to become one with the cute object, is the fact that cuteness 'is the name of an encounter with difference – a perceived difference in the power of the subject and object, in particular' (Ngai 2012: 87). If we follow Haidt

1. and Sherman's argument that our imitative response to cuteness is an evolu-
2. tionary adaptation, this tension makes one of our primal desires unfulfillable.
3. Perhaps the cute-aggression response is, in fact, an expression of frustration
4. at the impossibility of truly becoming the vulnerable, dependent object of
5. affection. Ngai suggests that the 'striking incompleteness of the cute visage'
6. – specifically its lack of a mouth – is necessary to prevent full personification
7. of the cute object, which would 'symbolically render that object our equal,
8. erasing the power differential on which the aesthetic depends' (2012: 91).
9. One could nuance Ngai's reading by positing that a mouth (as a metonym for
10. speech, which indicates autonomous sentience) impedes a sense of oneness
11. with the cute object. As an extension of the player, the cute object is a pros-
12. thesis that facilitates the experience of being cute. The player, in fact, craves
13. a direct 'equalness' to the cute object, in the sense that the cute object is a
14. vessel for a version of the player's self. If that vessel is pre-emptively filled
15. with a separate sentience, it does not so much disrupt the power balance
16. between subject and object as cause the Blithe Child to lose functionality for
17. the player. This is a possible explanation for the toyness of the Blithe Child:
18. if the avatar were a simulacrum of a recognizably human child rather than
19. an approximation of a toy, this digital child would displace the player. That
20. is to say, since childness can be understood as a relational state, the pres-
21. ence of child in these childly spaces would prevent the player from being
22. able to occupy that role. If, as this article has argued, a primary function of
23. the Blithe Child is to shape a childly subject position, both the identification
24. *and* the objectification prompted by cuteness can be seen as contributing to
25. this process.
26.
27. **CONCLUSION**
28.
29. Sjöblom notes that, 'children in digital games have been studied a lot less
30. than children in front of digital games. While the child player is a frequent
31. topic in academic discourse, the child avatar or NPC is all but invisible in
32. games studies' (2015: 67). By centring the digital paraphernalia of child-
33. hood, this article contributes to the process of making the construction of
34. children in video games not only visible but legible. This article has used a
35. series of close readings to unpack some of the functions of digital plushies
36. in video games, and has suggested that the triangulation of 'toys', 'child-
37. hood', and 'paidia' primes players for a specific experience of safe, creative,
38. expressive fun. The paraphernalia of childhood is used to construct a magic
39. circle of play, in which the player is free from the demands of productivity
40. and the constraints of material consequences. Although the (im)materiality
41. of digital plushies invites childlike paidia, it also scripts violent interactions.
42. The trammelling of aggression in these texts generates a latent transgres-
43. sive script that not only facilitates acts of violence but also aestheticizes
44. them, making the death and destruction of the cute avatars delight-
45. ful and adorable. This violence could be read as radical in that it disrupts
46. the moral ideologies that structure the adult/child binary: when cuteness
47. does not prompt care but imitation, adults can abdicate responsibility and
48. thus butcher the Blithe Child – adulthood's symbolic foil – with impunity.
49. However, one could also make the case that the Blithe Child is a conserva-
50. tive figure that keeps the categories of 'adult' and 'child' distinct and intact,
51. offering only a carnivalesque inversion of these social roles within clearly
52. demarcated spatial and temporal boundaries. Making players don the mask

of the Blithe Child when they want to engage in paidic play further pathol- ogizes this form of engagement in adulthood, contributing to the sense of shame identified by Heljakka (2012) in the discourse surrounding adult toy play.

In either case, this article holds that the paradox of 'cuddly code' paral- lels the social construction of childhood in contemporary Western contexts. Depicting artless, unstudied, innocent, homespun childhoods using sophis- ticated digital technology draws attention to the systemic, rule-bound and protocological nature of being a 'child'. In short, the immaterial toys in the games discussed in this article suggest that childhood too is immaterial – it is a subject position rather than an anatomical reality. Pushing for a collective recognition of 'the child' as a socially constituted role has wide-reaching impli- cations. Stephens (1995) argues that the 'hardening' of the modern dichot- omy of adult/child is a keystone that upholds hierarchical relations between many distinct domains of social life – including the private and the public, consumption and production, objective needs and subjective desires – upon which modern capitalism and the modern nation state depend. Video games – embroiled as they are in discourses of infantilization and adulteration – offer invaluable intergenerational playspaces in which the codes, symbols and prac- tices of childhood can be contested and reimagined.

REFERENCES

Allison, A. (2003), 'Portable monsters and commodity cuteness: Pokémon as Japan's new global power', *Postcolonial Studies*, 6:3, pp. 381–95.

Barthes, R. (1957), *Mythologies*, Collection Pierres Vives, Paris: Editions du Seuil.

Bernstein, R. (2011), *Racial Innocence: Performing American Childhood from Slavery to Civil Rights*, America and the Long 19th Century Book 16, New York: New York University Press.

Caillois, R. (1961), *Man, Play, and Games* (trans M. Barash), New York: Free Press of Glencoe.

Castronova, E. (2005), *Synthetic Worlds: The Business and Culture of Online Games*, Chicago, IL and London: University of Chicago Press.

5th Cell (2012), *Scribblenauts Unlimited*, Washington, USA: 5th Cell.

Chang, A. (2019), *Playing Nature: Ecology in Video Games*, Minneapolis, MN and London: University of Minnesota Press.

Clayton, N. (2020), 'Next week's *Fall Guys* update adds big fans, tiny hammers', Rock Paper Shotgun, 5 November, https://www.rockpapershotgun.com/ next-weeks-fall-guys-update-adds-big-fans-tiny-hammers.

Coldwood Interactive (2016), *Unravel*, Storgatan, Sweden: Coldwood Interactive.

Consalvo, Mia (2009), 'There is no magic circle', *Games and Culture*, 4:4, pp. 408–17.

Cross, G. (2004), *The Cute and the Cool: Wondrous Innocence and Modern American Children's Culture*, Oxford: Oxford University Press.

Dale, J. P. (2017), 'The appeal of the cute object: Desire, domestication, and agency', in J. P. Dale, J. Goggin, J. Leyda, A. Mcintyre and D. Negra (eds), *The Aesthetics and Affects of Cuteness*, New York: Routledge, pp. 35–56.

Deterding, S. (2016), 'Make-believe in gameful and playful design', in P. Turner and J. T. Harviainen (eds), *Digital Make-Believe*, Human-Computer Interaction Series, Switzerland: Springer.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. Frasca, G. (2003), 'Simulation versus narrative: Introduction to ludology', in M. J. P. Wolf and B. Perron (eds), *The Video Game Theory Reader*, New York and London: Routledge, pp. 221–35.

Heljakka, K. (2012), 'Aren't you a doll! Toying with avatars in digital playgrounds', Journal of Gaming & Virtual Worlds, 4:2, pp. 153–70.

Haidt, J. and Sherman, G. D. (2011), 'Cuteness and disgust: The humanizing and dehumanizing effects of emotion', *Emotion Review*, 3:3, pp. 245–51.

Harris, D. (2000), *Cute, Quaint, Hungry and Romantic: The Aesthetics of Consumerism*, New York: Basic Books.

Hasselgren, I. (2015), 'Cute cabbageworms: Feminist performative cuteness in a Swedish context', cuteness seminar delivered 9 April 2015 at University of Amsterdam. Accessed January 2020.

Heljakka, Katriina, and Harviainen, J. Tuomas (2019), 'From Displays and Dioramas to Doll Dramas: Adult World Building and World Playing with Toys', American Journal of Play, 11:3, pp. 351–78.

Huizinga, J. ([1949] 2016), *Homo Ludens: A Study of the Play-Element in Culture*.

Hunicke, R., LeBlanc, M. and Zubek, R. (2004), 'MDA: A Formal Approach to Game Design and Game Research', in *Proceedings of the Challenges in Games AI Workshop, Nineteenth National Conference of Artificial Intelligence* (San Jose, CA: AAAI Press, 2004), 2.

Isbister, K. (2016), How games move us : Emotion by design, Cambridge, Massachussetts: MIT Press.

Jenkins, H. (1998), 'Introduction', in H. Jenkins (ed.), The Children's Culture Reader, New York: New York University Press.

Jaques, Z. (2015), Children's Literature and the Posthuman: Animal, Environment, Cyborg, Children's Literature and Culture, New York: Routledge.

Janik, J. (2020), 'Negotiating textures of digital play: Gameplay and the production of space', *Game Studies*, 20:4.

Juul, J. (2009), *A Casual Revolution: Reinventing Video Games and Their Players*, Cambridge, MA: MIT Press.

Lancaster, K. (2001), *Interacting With Babylon 5,* Austin: University of Texas Press.

Lundin, A. (1998), 'SENSATIONAL DESIGNS', in J. H. Mcgavran (ed.), Literature and the Child, Iowa: University of Iowa Press.

Martin, P. (2011), 'The pastoral and the sublime in the *Elder Scrolls IV*: Oblivion', *Game Studies*, 11:3.

May, S. (2019), *The Power of Cute*, Princeton, NJ: Princeton University Press.

Media Tonic (2020), *Fall Guys*, London, UK: Media Tonic.

Merish, M. (1996), 'Cuteness and commodity aesthetics: Tom Thumb and Shirley Temple', in G.-T. Rosemarie (ed.), *Freakery: Cultural Spectacles of the Extraordinary Body*, New York: New York UP, pp. 185–206.

Ngai, S. (2012), *Our Aesthetic Categories: Zany, Cute, Interesting*, Cambridge, MA: Harvard University Press.

Nintendo (2013), *Pikmin 3*, Kyoto, Japan: Nintendo.

Parker, F. (2008), 'The significance of jeep tag: On player-imposed rules in video games', Loading…, 2:3.

Perrot, J. (2006), 'Shall we burn our goddess theory?', *CCL/LCJ: Canadian Children's Literature/Littérature canadienne pour la jeunesse*, 32:1.

Phillips, A. (2018), 'Shooting to kill: Headshots, twitch reflexes, and the mechropolitics of video games', *Games and Culture*, 13:2, pp. 136–52.

Pizarro, D. A., Detweiler-Bedell, B. and Bloom, P. (2006), 'The creativity of everyday moral reasoning: Empathy, disgust and moral persuasion', in J. C. Kaufman and J. Baer (eds.), *Creativity and Reason in Cognitive Development*, Cambridge: Cambridge University Press, pp. 81–98.

Prensky, M. (2001), *Digital Game-Based Learning*, New York and London: McGraw-Hill.

Reay, E. (2021), 'The Child in Games: Representations of Children in Contemporary Video Games', Game Studies, 21:1.

Salen, K. and Zimmerman, E. (2004), *Rules of Play: Game Design Fundamentals*, Cambridge, Massachusetts: MIT Press.

Sjöblom, B. (2015), 'Killing Digital Children: Design, Discourse, and Player Agency', in T. E. Mortensen, et al. (eds), The Dark Side of Game Play: Controversial Issues in Playful Environments, New York: Routledge, pp. 67–81.

Stephens, S. (1995), *Children and the Politics of Culture*, Princeton, NJ and Chichester: Princeton UP.

Stewart, S. (1993), *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, Durham, NC: Duke University Press.

Suits, B. (1978), *The Grasshopper*, Heritage, Toronto: University of Toronto Press.

Sumo Digital (2014), *Little Big Planet 3*, Sheffield, UK: Media Molecule.

Taylor, T. (2006), *Play Between Worlds: Exploring Online Game Culture*, Cambridge, MA: MIT Press.

Turner, P. and Harviainen, J. (eds) (2016), *Digital Make-Believe*, Human-Computer Interaction Series, Switzerland: Springer.

Vella, D. (2015), 'No mastery without mystery: *Dark Souls* and the Ludic Sublime', *Game Studies*, 15:1.

Waszkiewicz, A. (2020), 'Together they are twofold': Player-avatar relationship beyond the Fourth Wall', *Journal of Games Criticism*, 4:1.

Wright, W. (2007), 'Spore, birth of a game', TED Talk, March, https://www.ted.com/talks/will_wright_spore_birth_of_a_game?language=en. Accessed February 2020.

Zimmerman, E. (2012), 'Jerked around by the magic circle', Gamasutra, 7 February, https://www.gamasutra.com/view/feature/135063/jerked_around_by_the_magic_circle_.php. Accessed January 2020.

SUGGESTED CITATION

CONTRIBUTOR DETAILS

Emma Reay is an associate lecturer in game design at the University of Southampton and a doctoral researcher in the Children's Literature Department at the University of Cambridge. Her current research project examines representations of children in video games, and her interests bridge childhood studies, children's literature studies, education research, game studies and representation studies. Her recent publications include 'The child in games: Representations of children in video games (2009–2019)' in *Game Studies*, 'Empathy puzzles' in *International Journal of Young Adult Literature* and 'Who thinks beating a child is entertainment?' in *DiGRA 2020.*

1. Contact: 184 Hills Rd, Cambridge CB2 8PQ, UK.
2. E-mail: Ejr73@cam.ac.uk
3.
4. ⓘ https://orcid.org/0000-0003-2193-6564
5.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

6.
7.
8.
9.
10.
11.
12.
13.
14.

15. **LEÔNIDAS SOARES PEREIRA**
16. Federal University of Rio Grande do Sul (PPGIE-UFRGS)
17.
18. **MAURÍCIO MOREIRA E SILVA BERNARDES**
19. Federal University of Rio Grande do Sul (PgDesign-UFRGS)
20.

21.
22.
23.
24.

Modding as game development: Investigating the influences over how mods are made

25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.

ABSTRACT

Over the past few decades, game mods have slowly walked their way into mainstream popularity and although not being confined anymore to the dark corners of the internet, the reality is that we still do not know much about how mods are created and how modders manage to achieve their objectives. Seeking to better understand the activity of mod development, this article explores key influencing factors on mod project coordination and development by taking a qualitative approach based on in-depth interviews with nine lead developers of total conversion mod projects. We identified three key factors – Tendency towards agility, Co-creative nature and Open Source attitude – that we believe are etched at the core of the activity of modding and that lead to, and are manifested, in the unique ways of how modders approach software development.

39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

INTRODUCTION

The topic of game modding has historically been on the fringes of academic interest (Champion 2012). Part software development, part fan-made content and part illegal hackerism, modding represents an unusual combination of interests that, by the collective efforts of volunteers, often results in the creation of considerably popular software extensions. In tracing back the origins of game modding, it is hard to even separate it from that of digital games themselves, after all, *Spacewar* (1962), the often considered first digital game (Wolf 2012), was itself subject to modifications (Christiansen 2012; Crabtree 2013). Modding would remain as a more obscure activity up until the 80s when the advent of personal computers and the release of the cult classic mod *Castle Smurfenstein* (Christiansen 2012) started to bring it to notoriety and, from there on, mods have grown in both ambition and mainstream popularity.

The expression 'game modding' describes any sort of end-user's activity of modifying a (usually digital) game, most of the times with the goal of sharing their work – a game mod – for free with other interested players. Mods vary in both scope and objective. They can fix bugs, restore cut features, update assets, enhance graphics or gameplay, add new content or even create something completely new, and to the practitioners of this activity we call 'game modders'. Hence, game mods are either substitutive or additive, sometimes illegal, user-made interventions to a digital game, that are completely reliant on a temporary, globally distributed and voluntary workforce. One especially ambitious subset of game mods is total conversions (TCs). These are mods where the original base-game is modified to the point that a new product is created in the form of what looks like either a new intellectual property or a big expansion. TCs are complex, large-scale projects that can take years and dozens of volunteers to be completed, requiring a multitude of skills that range from coding and asset creation to audio recording and lore writing. Such is the complexity of TCs that the tasks and organization they require end up being not that different from what could be found in a professional game studio. As a result, it is not surprising that TCs are seen as the supreme discipline of modding (Unger 2012).

Mods have grown to achieve such significance that they are progressively becoming an integral part of the game industry, a phenomenon illustrated both by the market success of the likes of *Dota 2* and *League of Legends* (both digital games based on a mod for *Warcraft 3*), and by the sheer number of mods available (*The Elder Scrolls: Skyrim* has more than 28.000 mods listed in *Steam Workshop* alone). Not only are consumers starting to expect games to have mod support, but also game companies are having to plan their releases taking into consideration the possibilities (good and bad) that mods might bring to their products. On one hand, mods are known to extend games' visibility and shelf life (L. Taylor 2003) and to function as testing grounds for innovative ideas (Fernandes 2015; Hector Postigo 2010) while also providing a pool of potential low-cost labour for activities related to beta-testing and debugging. On the other hand, in order to reap these benefits, companies must be willing to allow users to meddle with their Intellectual Properties and be prepared to face the problems that might arise from that.

The most intriguing aspect of modding, however, has to do with how they are made. Although, at its core, mod projects are a type of extension of proprietary software that, regarding its development, behaves similarly to a small-scale game development company, they also have unusual

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. distinguishing properties seen, for example, in their unregulated, free-form
2. and voluntary nature. Thus, game modding represents a singular software
3. development approach positioned in the intersection of hobbyist fan-made
4. amateur creations, free/open-source software (FOSS) and professional game
5. development, which is capable of delivering sometimes widely popular prod-
6. ucts comparable to professionally developed games (and all that while rely-
7. ing on a voluntary workforce). Considering this scenario, the relative newness
8. of the topic and the still small availability of studies, academic research into
9. game modding becomes all the more important. More specifically, we believe
10. that studies focused on understanding game modders' project development
11. practices – the mechanisms employed for project coordination and develop-
12. ment, and the reasons behind them – are of particular interest for both indus-
13. try and academia. As such, the objective of this article is to investigate the
14. key influencing factors on how TC mods are coordinated and developed. In
15. essence, we seek to discover what are the major factors leading to the differ-
16. ences in practices between how mod developers conduct their projects when
17. compared to more standard forms of software development.
18.
19. **LITERATURE REVIEW**
20.
21. Not many studies have been focused on mod project coordination mecha-
22. nisms. Consequently, much of what we know comes from snippets collected
23. from researchers' investigations on other themes related to game modding
24. that indirectly touch the topic.
25. Scacchi's (2004) work on the software development practices of FOSS
26. game communities is probably the closest we can get to an academic report
27. on how modders organize their activity. Despite not being focused on mods
28. alone, his findings help shed light on topics such as requirements analysis,
29. release-review mechanisms, software maintenance and general approach to
30. project management. Cignoni (2001) and Agarwal and Seetharaman (2015)
31. contribute to this literature by proposing different models to explain the
32. phases mod development goes through, respectively, organizing it in nine and
33. five sequential stages. These three works along with the more targeted inves-
34. tigations of Poderi and Hakken (2014) on modder's quality assurances/test-
35. ing practices and of Busca et al. (2015) on leadership and hierarchies start to
36. provide us with a picture of how these players-made-developers build their
37. projects.
38. Modding is described as a voluntary activity, not always completely legal,
39. based on the idea of gradually extending (or evolving) an already existing soft-
40. ware (the base-game), where passioned gamers find themselves having fun
41. working as something akin to amateur software developers. Mod teams are
42. said to be composed of various globally distributed contributors playing differ-
43. ent roles mediated by meritocratic hierarchies highly linked to social recog-
44. nition and reputation. Software process, as most things in modding, tends
45. not to be formalized but reliant on unwritten rules and openness to change.
46. Still, there seems to be a preference towards a continual release and review
47. workflow that allows the project to advance towards its goals while remaining
48. flexible to adapt to new realities as needs arise. Finally, community building
49. and participation are described as playing a key role in the activity since mod
50. teams continually rely on users' feedback to both align expectations and for
51. testing and balancing.
52.

Another source of information on mods is case studies. Although rarely directly related to project coordination, the descriptive nature of case studies affords the opportunity to search them for additional insights into our topics of interest. Banks is the author of a series of papers (e.g. J. Banks and Humphreys 2008; John Banks 2005) investigating the modding community of the game *Trainz*, where he explores the topic of co-creation and the contrasts between mod and professional game development expectations. Sotamaa (2004, 2010) investigated mod developers of the game *Operation Flashpoint* looking at the topics of motivation, roles, agency and cooperation practices. Laukkanen (2005) presents a report of the modding scenes of *Half-Life*, *The Sims* and *Grand Theft Auto III/Vice City*, focusing on the diverse forms of user-created content generated. Johnson's (2009) case study on *Dominion War*, a TC mod for *StarCraft*, is an in-depth examination of the issue of ownership and of the common reasons for failure in TC mod projects. Steinkuehler and Johnson (2011), in the process of discussing the subject of computational literacy, offer an insightful description of two contrasting *World of Warcraft* mod development teams' activities. Lastly, Crabtree (2013) presents a detailed analysis of the modding community of the *Battlefield* series of games while debating how games contribute in shaping public understanding of past historical events and what modders do regarding balancing historical accuracy and enjoyability.

Building up on what we had uncovered previously, we find that modding is depicted not as an exclusively technical activity, but rather one that also incorporates tasks related to research, community management, personnel training and even marketing. We learn about the highly collaborative aspects of modding when it comes to mods of a same base-game, while also discovering that being relatively open and collaborative does not necessarily imply forfeiting privatized ownership and proprietary creativity. And along these concerns of ownership, we also find that modding is an activity highly linked to exploitation, a reality that can lead to clashes between modders and game companies.

Even in this small sample of studies, one can already see differences that exist between mod development and other more traditional forms of software development. Characteristics such as organizational structures based on meritocratic systems, propensity towards open collaboration and high degrees of informality are examples of peculiarities of mod making that lead modders to have to adapt more standard software development and coordination practices to their own reality. Still, the information that we managed to gather up until now, although useful for identifying such differences, does not help in explaining the reasons for why they happen. What are the underlying factors that led mod making to develop into something more than a simple amateurish copy of established software industry practices?

METHODS AND DATA COLLECTION

In order to address this question, it would be necessary to actively engage with multiple groups of game modders participating in TC projects. As a result, semi-structured interviews with key members of established, well-known, active TC projects were selected as our main research method given the adequacy of this qualitative approach in mapping the practices, values and beliefs of relatively unexplored social universes (Berg 2001). Participants were identified through the listings of mod projects on the website Mod DB (www.moddb.com), one of the largest portals dedicated to game modding. We

1. limited our search to active projects listed as personal computer TCs, giving
2. preference for mods rated with high values of all-time popularity. Once a
3. qualifying project was identified, we contacted the project leader through a
4. cold-call direct message explaining the study and asking if he would be will-
5. ing to be interviewed, in English, over either Skype or Discord. Twenty-five
6. cold-call messages were sent, resulting in nine total interviews (Table 1). No
7. form of prize or monetary rewards were offered. Participants were all male
8. and either founders, leaders or coordinators at their mod project, having five
9. to twelve years of experience with modding in general, and located in seven
10. different time zones around the world. Interviews were conducted from 26
11. February 2018 to 15 March 2018 and lasted 36–82 minutes.
12.   For the purpose of formulating open-ended interview questions that
13. appropriately lead the conversation to the topics of interest, we relied on

	Base game	Years active	All-time popularity rank (same base game category)	General TC mod type	State of release
Mod MD1	Fallout: New Vegas (2010)	Over 5	Top 3	game expansion	Released
Mod MD2	The Elder Scrolls V: Skyrim (2011)	Over 5	Top 3	game expansion	Released
Mod MD3	Total War: Attila (2015)	Over 3	Top 3	thematic modification	Early Access
Mod MD4	Battlefield 2 (2005)	Over 3	Top 40	thematic & game genre modification	Released
Mod MD5	Mount & Blade: Warband (2010)	Over 5	Top 15	thematic & game genre modification	Released
Mod MD6	SWAT 4: The Stetchkov Syndicate (2006)	Over 2	Top 3	game improvement & extension	Released & still in development
Mod MD7	Star Wars: Empire at War: Forces of Corruption (2006)	Over 10	Top 3	thematic modification	Early Access
Mod MD8	Age of Empires III - Expansions (2007)	Over 5	Top 3	game expansion	Released & still in development
Mod MD9	Command & Conquer 3: Tiberium Wars (2007)	Over 5	Top 10	game expansion	Released & still in development

Table 1: Interviewees mod projects description.

project management theory as a starting point. Given the wide range of topics covered by project management, literature often breaks it down in smaller units. The PMBOK (Project Management Institute 2017), one of the most traditional references and our choice of point of departure for this study, organizes it around ten topics presented as knowledge areas: Project Integration, Scope, Schedule, Cost, Quality, Resource, Communications, Risk, Procurement and Stakeholder management. In this structure, issues related to, for example, activities sequencing, fall under Schedule Management, while personnel estimation goes under Resource Management. Utilizing the ten knowledge areas as the basis for our interview questions allowed for a way to thoroughly cover our research interests.

After analysing PMBOK's ten knowledge areas, we proceeded to operationalize their content into simplified practical interview questions adapted to the context of game modding that would be used as starting points for discussions. As an example, the topic of Project Schedule Management was synthesized around the following three level-1 questions: 'In the project you are part of, at any point has there been some sort of estimation process regarding project duration?'; 'In the project you are part of, how does leadership manage to know how much time a specific task will require to be fulfilled?'; 'In the project you are part of, is there any set mechanism to incentivize people to keep on schedule?'. Once we believed that our question list was sufficiently thorough, we conducted a pilot run with a small sample of interviewees of a similar background. We found our set of questions to be satisfactory and therefore proceeded to data collection. Our final set consisted of 32 level-1 questions organized over twelve macro-topics: the ten operationalized project management knowledge areas, plus one section for introductory questions and another regarding leadership, team structure, and general coordination mechanisms.

The collected data was then analysed following an inductive process for thematic content analysis inspired by the literature (Bardin 2013; Yin 2003) and aided by the contextual design technique of Affinity Diagrams. This process made possible the emergence of thematic subcategories grouped around the ten knowledge areas that informed the interview questions, that then facilitated the identification of coordination and software development practices patterns in the interviewees' TC game mod projects. Relying on our now organized set of data, we were able to identify possible key factors linked to how modders' organize their activities and why they do so in such way. We present and discuss our findings in the sections that follow.

MOD AND PROFESSIONAL GAME DEVELOPMENT

Because of its unregulated and voluntary nature, the activity of game modding, from a managerial perspective, is naturally diverse. Every mod developer is free to do what seems better fit, and this applies to both the processual aspects of the developing a mod as well as the ideologies that support it. Contrary to any form of more structured professionalized enterprise, in modding the costs of 'learning as we go' and employing a 'trial and error' approach, are significantly low. As such, to be a modder means to always be open to new ways of doing things in a constant process of knowledge acquisition and adaptation. One modder might learn something new in their day job and then try to adapt it to the project; another might have read that certain activity would work better if done differently and then presents his finding to the rest of the

1. team for debate; and other still might argue that, now that they have all grown
2. older, they might consider more carefully the idea of documenting their work.
3. These are all examples akin to situations described by the interviewees.
4.   Consequently, the modding universe resembles a mixture between a
5. public playground and a (mostly) safe and unsupervised lab environment.
6. There are no set rules to follow, and the few that maybe could be numbered,
7. such as End-user License Agreements (EULA) or the technical limitations of
8. the of the base-game, are not really taken as 'actual rules', after all, stretching
9. the limits of the game is a part of what modding is about. There is no universal
10. textbook on 'how to mod', but rather only snippets of advice here and there
11. (e.g. Reismanis 2007; Valve Developer Community 2015) that over time grow
12. into player-made guides that start to show up in each particular game's forum
13. section. Modding is mainly a journey of discovery, self-directed learning, and
14. gradual improvement and adaptation. On one hand, it is a public playground
15. because it is a free place to go, open to everyone, where people go to have
16. fun and where they can make friends willing to 'share their toys' with each
17. other. On the other hand, it is an unsupervised lab because it is a place where
18. anyone can try to develop his own wild game idea with freedom and safety
19. to experiment and find new and better ways to do things, all without signifi-
20. cant negative consequences. These free-form characteristics, however, lead to
21. difficulties when trying to identify patterns of practices or behaviours among
22. these groups of developers. Could it be that, despite such independence, there
23. are still unifying threads that connect and guide how different groups of game
24. modders coordinate their activities? Indeed, our findings seem to suggest that
25. there are.
26.   The first thing to point out is that, in agreement with Postigo (2003, 2010)
27. and Niborg and Graff (2008), the groups of TC mod developers we inter-
28. viewed shared significant similarities with professional game developers.
29. Not only are the products they develop remarkably similar to what might be
30. expected coming from an actual game development studio, but also the means
31. employed to develop it are similar. Team members are organized around core
32. specialties such as art, coding and sound; tasks are gradually created and
33. distributed as the project advances through somewhat pre-established mile-
34. stones; and general industry practices like following art pipelines and beta-
35. testing take place. Vacancies are published and new recruits are tested and
36. trained just like in any job opening; community engagement is carefully
37. managed; standard industry software tools are actively employed, all the while
38. the macro activities are overseen by selected few working as project coordina-
39. tors or managers. At first glance, one would have a hard time differentiating
40. a large-scale TC project from a small professional game studio. This likeness
41. is reflected by Interviewees' E2 and E9 statements that 'our workflow is not
42. that different from a professional gaming studio' (Interviewee E2) and 'The
43. more similar to a job this experience feels like, the more experience, the more
44. worthwhile experience, the person is going to get out of it' (Interviewee E9).
45.   However, even if our search for patterns among TC mod developers led
46. to an approach between TCs and traditional game and software develop-
47. ment, it also revealed (as hinted by literature) peculiarities that proved to be
48. unique to them, the main ones related to the fact of modding being a volun-
49. tary activity. The voluntary nature of mod projects results in a series of needs
50. that professional game companies do not have to face (or, at least, not in the
51. same intensity). Beyond the more perceptible issues of having to adapt to the
52. lack of funds and properly skilled personnel, there are other consequences

that need to be taken consideration. For example, TC mods require a special attention regarding project visibility and membership retention. This is not merely because mod popularity directly relates to the amount of people they can attract to work on it, but also because of team morale: the fewer people interested in the project and the fewer tangible results the mod achieves, more likely it is for team members to demotivate and eventually drop out. Being a voluntary effort also changes how project leaders have to deal with their team regarding demands and requirements: multiple interviewees reported that pushing people 'too much' or even imposing stricter deadlines led to frustration and bad outcomes. These examples represent some more prominent aspects of how TC modding differs from professional game development, but when looked at in more detail, more contrasting features start to emerge. A short list of such features includes established but notably flexible team members roles; extremely high 'employee' turnover; high informality of internal processes; mixture of personal and project resources; dependence on learning based on trial and error; low commitment to long-term planning in favour of a more organic approach based on adaptability, openness to change, and new ideas; and a focus on incremental project development and release from early on (similarly to the practice of releasing games in alpha/early access development). Moreover, not all TC mod groups succeed (or look forward to) implementing more industrial or formalized practices in their projects. Four out of the nine interviewed project leaders reported having attempted, at some point, to move their mods to more professionalized development practices regarding project coordination, but these efforts were all met with failure (mostly being justified by the voluntary nature of the activity). This general lesson is expressed by a statement from Interviewee E5:

> I came to an answer that it's not really about trying to imitate a professional development project, it's more about finding a way to motivate people to work on this as a hobby, as something they do for free, as something they enjoy, have fun with [...] I think that is how we achieve maximum efficiency.
>
> (Interviewee E5)

By analysing these reports, we can see that, although still being a notability free and diverse 'playground' environment, the landscape of TC game modding still gives rise to certain common patterns of behaviour and practices among its groups of developers. Patterns that sometimes align with what would be expected from an activity that closely resembles professional game development, but that other times constitute something more unique.

Concerning similarities, these can be understood as a by-product of the fact that modders develop objects very akin to traditional video games. Add to that the fact that mods inherently must build upon an already pre-existent video game, and one can see how this naturally leads to workflows and coordination practices that, purposely on not, borrow from standard industrial software development practices. This is further illustrated in the fact of certain mod teams developing and showcasing their projects precisely as a perceived way to either land a job in the game industry or to eventually transition their mod team into an actual professional game studio (Interviewee E9). Such rationale is able to explain part of the patterns we identified, specifically the ones that share similarities with traditional/standard professional software development practices, but it is not enough to provide an explanation for what

1. causes the other more unique ones to arise. Aiming at addressing this, we went
2. through our collected data and were able to identify three key factors that we
3. believe are the reason for the emergence of this second group of patterns:
4. Tendency towards agility, Co-creative nature and Open Source attitude. These
5. key factors can be described as individual attributes always present – although
6. in different degrees of intensity – in any form of game mod project, that influ-
7. ence modders' practices and ideologies and lead to the unique patterns of
8. mod project coordination and development that we observed. We dedicate the
9. next sections of this article to discuss each of these three factors in more detail.

Tendency towards agility (be it intentional or not)

As we discuss the topic of agility, our focus is on software development prac-
tices that have grown in popularity in the past two decades, gradually becom-
ing the standard for the software industry (Digital.ai 2020; Keith 2010). The
transformations brought by this transition from the Waterfall model towers
methodologies like Scrum, Lean and XP, affected the whole industry, and are
particularly visible among smaller game companies (Pereira and Bernardes
2018; D. West 2011). Greater flexibility, individual empowerment, teams with
significant freedom to manage and figure out how to achieve objectives by
themselves, less bureaucracy, and iterative development processes are some
of the hallmarks of so-called Agile transformations (Agile Manifesto 2001;
Cohen et al. 2004).

This mentality and orientation towards a nimbler form of software devel-
opment seems to align with the coordination and development practices iden-
tified in TC mod projects. Focus on flexibility and adaptability, organic internal
structures, and a development style organized around incremental releases
of smaller updates, are all traits present in the interviewees TC mod teams'
projects. As we investigate deeper, further correlations start to materialize in
the form of preference for smaller team units, continual quality assurance,
informal communication practices, aversion to bureaucracy and documen-
tation, decentralized hierarchies, employee autonomy, and managers acting
more as facilitators than 'order-givers'. This perception of TC projects as agile
in nature also finds support in some of the comments of the interviewees,
such as when Interviewee E7 was asked about how his team organized their
project and he replied describing it as 'Scrum, with a good piece of whatever
works'.

Following this reasoning, it is also interesting to notice the similarities of
the practices adopted by TC modders when compared to those of independent
game developers. Indie developers' software development practices have also
been associated to a preference towards more unorthodox, creative and free-
form approaches leaning towards agility (Guevara-Villalobos 2011; Hotho
2013; Pereira and Bernardes 2018), in a similar vein to how modders operate.
Therefore, it should not come as a surprise Poderi and Hakken's (2014: para.
7.1) statement that 'Far from being cheerful hobbyists, modders become more
similar to small-scale game designers'. This view appears to also have support
among certain modders as we observe in the comment of Interviewee E6:
'[regarding independent developers] I think that a lot of the managerial styles
are going to be very similar outside of financial stuff, because independent
games have budgets attached to them and mods don't have budgets attached
to them'. Indeed, given the additional layers of freedom that mod projects
have (because of their voluntary nature and disregard towards financial gains),

along with the difficulty for any sort of process standardization to take place (because of the high turnover of team members and the temporality of mod teams), modding can potentially be seen as a more experimental form of independent game development.

In summary, we can see marks of agility in the ways TC game mod projects are coordinated. However, is this something actually planed or intentional? The mod developers we interviewed often reported lack of experience with professional software development methodologies and a propensity towards a 'trial and error' and 'learning as we go' philosophy of mod development. These facts seem to hint to their perceived agility being more of an emergent process, by-product of mod teams' informality and lack of formal training, than anything else. This becomes especially apparent if we look at TC mod projects as a type of micro-firm and, thus, structurally based on Mintzberg's (1993) concept of Simple Structure. Micro-firms are known to be inherently flexible, informal and empirically driven (Hotho 2013; Kelliher and Reinl 2009; Liberman-Yaconi et al. 2010), characteristics that are comparable to what we observed in TCs. Yet, this does not mean that micro-firms are automatically agile. In fact, many of the manifestations of these characteristics in the form of organizational or managerial practices (e.g. horizontal structures, minimal levels of management, minor documentation) can easily be mistaken as marks of intentional agility when what is actually happening is simple informality and inexperience taking place. Such assumption can be further developed by briefly analysing the aforementioned concept of Simple Structure. The term Simple Structure, proposed by H. Mintzberg (1993), referred originally to one of the four possible organizational structures that any type of organization would invariably follow. Mintzberg himself summarized it as:

> The Simple Structure is characterized, above all, by what is not elaborated. Typically, it has little or no technostructure, few support staffers, a loose division of labor, minimal differentiation among its units, and a small managerial hierarchy. Little of its behavior is formalized, and it makes minimal use of planning, training, and the liaison devices. It is, above all, organic. […] indeed, the structure often consists of little more than a one-person strategic apex and an organic operating core.
> (Mintzberg 1993: 157–58)

This is a type of structure where communication flows informally, decision-making is often flexible, processes tend to be highly intuitive, empirical and nonanalytical, and formal aspects of managerial work are of less significance. Mintzberg (1993) goes on to further emphasize that most organizations pass through the Simple Structure in their formative years and that many smaller organizations tend to remain with this structure even beyond this period.

Significant similarities can be found between what is proposed in the Simple Structure and the traits we identified in TC mod projects. Additionally, the fact of this form of structure being the one which most firms start off from, connects it even further to mod projects provided the temporal aspect of mod teams (i.e. their tendency to remain together only for one specific project). If we believe this line of reasoning to be accurate, we find that TC mod projects can be seen not just as micro-firms, but also as adequate examples of Simple Structured organizations. Thus, we arrive at the conclusion that TC mod projects do, indeed, present a strong tendency towards agility that might

1. end up manifesting itself in more unique forms of project development and
2. coordination, but that these supposedly agile practices have more to do with
3. their informality and unintentional agility derived from an unplanned Simple
4. Structure than from intentionality.
5.
6. ### Co-creative nature
7.
8. The second key factor we identified has to do with mods inherently co-crea-
9. tive nature. The term co-creation refers to the joint efforts between a product/
10. service provider and its end-users that allow for the creation of something
11. that neither party would be able to achieve individually (John Banks 2013;
12. Prahalad and Ramaswamy 2000). More specifically in the context of digital
13. games, co-creation is understood as 'a collaborative work between a consumer
14. and a firm in an innovation process, where a non-trivial component to the
15. design, development, production, marketing or distribution of a new or exist-
16. ing service is contributed by a customer, or customer communities' (Czarnota
17. 2015: 55). Mods are collaborative efforts brought to fruition by groups of end-
18. users of a same product that share common interests. Yet, more than just
19. passive content consumers, modders have a relationship of interaction and
20. interference with the product that is being consumed, making their projects
21. examples of co-created (or participatory designed) developments (John Banks
22. and Potts 2010; Hong and Chen 2014; David B Nieborg 2004; Hector Postigo
23. 2010; Sotamaa 2003).
24. The most common form of co-creation in modding relates to what we call
25. post-release modding. This consists of the more traditionally known form of
26. modding where, after a digital games' release, its end-users start to modify it,
27. with or without the original developers' consent and with varying degrees of
28. officially sanctioned support, in order to create new content. These collabo-
29. rations range from purely player-led initiatives up until cases at the fringes
30. of what could be called modding where companies create games intention-
31. ally designed with user-created content as one of their central features (e.g.
32. *Second Life* and *Little Big Planet*). A second form of co-creation in modding
33. also exists that is done either prior or parallel to the game's release. This type
34. of collaboration expands beyond modding only (John Banks and Deuze 2009)
35. and is closely related to the design practice of user-centred design, where
36. the aim is to bring end-users – modders or nor – into the software develop-
37. ment process (as early game testers, for example) in order to create a product
38. better fit to the users' needs or desires. There are cases, however, where game
39. companies target specifically modders and turn them into active participants
40. in the development of still-to-be-released games (John Banks 2005, 2013), as
41. well as instances where games that rely on incremental development – as in
42. most Massive Multiplayer Online games – end up with a mod community that
43. develops their creations parallel to the game's natural expansion (Kow and
44. Nardi 2010a; T. L. Taylor 2006). To this second form of co-creation in modding,
45. we call parallel/pre-release modding.
46. The co-creative nature of modding, along with their growing popularity,
47. has also served to attract the interest of the game industry at large that sees
48. in this an opportunity to reap benefits from this collaboration, a phenome-
49. non illustrated by the number of studies focused on uncovering best ways to
50. manage and extract value from modding communities (e.g. Jeppesen 2004;
51. J. West and Gallagher 2006). This brings us to the central issue: if co-crea-
52. tion in modding is a reality, and if companies are actively pursuing ways to

manage these modders for their personal corporate interests, it is only natural to expect that this leads to influences over how these modder-led projects are conducted.

There are multiple ways companies employ to influence and gradually mould modders towards a desired direction: mod competitions (Sotamaa 2005, 2007) and paid partnerships (e.g. Gies 2017) help define what is generally perceived as being a 'good or bad' mod; Official mod toolkits (e.g. Bethesda Softworks 2017) may dictate software selection and development workflow; EULAs serve as legal mechanisms to restrict and guide how and what can be made by modders (Harvard Law Review 2012; Kow and Nardi 2010b); Official mod distribution platforms (e.g. Steam) bind modders to the platform's Terms of Service (e.g. Stonecipher 2017); and even supportive actions such as community moderation, technical assistance, mod curation and officially developed wikis or tutorials on best practices for mod development (e.g. Creative Assembly 2012; Valve Developer Community 2015) can be used as subtle tools for influencing how modders approach their activity.

The many ways by which companies can, directly or indirectly, affect mod teams' work practices opens the possibility that even the previously discussed topic of mod developer's apparent agility might partially be product of external influence. This can be seen, for example, in Valve Corporation's actions towards modding. Valve, the digital game company and owner of *Steam* (the immensely popular digital game storefront) has, historically, been one of the companies with the strongest ties to the activity of modding (Christiansen 2012; H. Postigo 2007). Parallel to this, Valve is also well-known for its innovative work practices and strong connections to agile methods (Birkinshaw and Ridderstråle 2015; Valve 2012). So when Valve is openly inviting mods to their platform (Au 2002), incorporating user-created content in their products' business models (Gies 2017) and even instructing modders on how to manage their projects (Valve Developer Community 2015), their own internal work practices are being extended towards those of modders in, at the very least, a subjective way. After all, as it is pointed out in Valve's own guide on how to make a mod, the advice they provide 'is a summation of lessons [they, i.e. Valve itself] learned in the shipping of many products' (Valve Developer Community 2015). This phenomenon, particularly regarding Valve and TC mods, has also been noticed by Nieborg and Graff that go on to say that 'Valve's labor practices echo modders' development practices' (D. B. Nieborg and van der Graaf 2008: 180) and that his research 'reports on TC mod teams that seem to conform to the corporate logic of the developer company' (D. B. Nieborg and van der Graaf 2008: 182). Therefore, it comes with little surprise Interviewee's E6 statement that, despite not being particularly fond of Agile and Scrum, he described their internal mod development model as similar to Valve's.

Finally, although the forms of co-creation we addressed up until now had to do with exchanges between modders and the developers of the game being modded, it is important to notice that there are also co-creative processes happening between mod teams and the players of that mod. In these instances, modders assume the role that before was that of game companies, while mod-players act as co-creators working in a structure akin what we described as parallel/pre-release. A mod's player-base and community plays a vital role in the success and continued existence of the mod since, given the lack of monetary rewards, it is the players' and modders' interests in the project that motivates development to continue. This is the reason why the aspects of visibility, retention and keeping players pleased, are so important

1.   to mod projects. Multiple interviewees mentioned the creation of tools and
2.   mechanisms – Interviewee E5 even commented on their mod having a posi-
3.   tion for community manager – to allow for players to interact more closely
4.   with the mod development team in order to strengthen the community
5.   and help shape the mod in ways that kept players interested. These types
6.   of interactions have also been noticed by authors such as Unger (2012) and
7.   Agarwal and Seetharaman (2015), and are well illustrated by Steinkuehler
8.   and Johnson's statement that 'Thus, consumers [of the mod] are loosely inte-
9.   grated into the development team with the use of online knowledge sharing
10.   tools and therefore have an impact on the product they use' (Steinkuehler
11.   and Johnson 2011: 225).
12.   As a result, we find that part of mod projects' uniqueness regarding soft-
13.   ware development and coordination has to do with their inherently co-crea-
14.   tive nature. And more than that, we see that not only does this co-creative
15.   nature change how modders approach their work, but that both game compa-
16.   nies and mod-players, via co-creation, play a role in influencing how TC
17.   mod projects are conducted, by this affording the opportunity for even more
18.   uncommon practices to emerge from these interactions. Considering that
19.   co-creation is a trait significantly less present in most other forms of game
20.   software development, this appears to be a key factor in explaining modders
21.   distinguishing approach towards it.
22.
23.   ### Open Source attitude
24.
25.   The final key factor we identified on how TC mod projects are coordinated
26.   and developed pertains to the parallels between modding and FOSS develop-
27.   ment. FOSS describes software that has its source code available for remote
28.   access, open for study and modification by any individual, and available for
29.   redistribution with few or no restrictions (Ron and Richard P. 2005; W. Scacchi
30.   2007; Weber 2004). As with mods, FOSS projects are usually non-profit, user-
31.   driven initiatives reliant on virtual communities of volunteers collaborating in
32.   co-creative contexts (Burger-Helmchen and Cohendet 2011); thus, parallels
33.   can be observed between the two (Agarwal and Seetharaman 2015; Poretski
34.   and Arazy 2017). Poderi and Hakken (2014) point to a clear convergence and
35.   partial overlap between modding and FOSS projects both on cultural and
36.   technical levels and, in fact, numerous commonalities are easily identifiable:
37.   free and voluntary nature; tendency towards agility and incremental devel-
38.   opment; reliance on software informalisms; lack of formal documentation,
39.   planning and managerial control; preference for self-management/organiza-
40.   tion coupled with aversion towards task delegation; and a general overarching
41.   propensity to informality, are all examples of shared traits (Ron and Richard P.
42.   2005; Walt Scacchi 2009; Sethanandha et al. 2010).
43.   A particularly illustrative example of this likeness concerns workforce struc-
44.   ture and approach to hierarchy and leadership. FOSS projects internal struc-
45.   ture has often been associated with that of an 'onion' model (Crowston and
46.   Howison 2003; Nakakoji et al. 2002) where the different roles of participants
47.   in the community of volunteers are organized on layers represented as a series
48.   of concentric circles. Exterior layers represent the larger number of contribu-
49.   tors and users that add little to the project, while the internal layers represent
50.   the small core of intensively active project developers, generating a picture
51.   that resembles that of an onion. Leadership and decision-making processes
52.   in this structure – despite varying degrees of 'openness' in governance models

– is predominantly hierarchized and not always democratic (Federman 2006; Jensen and Scacchi 2010) often following a meritocratic system (Di Tullio and Staples 2013; Laffan 2012; W. Scacchi 2007) centred on the inner layers. In essence, the closer someone comes to the inner circles of the model (since FOSS projects allow for mobility between layers), the more autonomy, responsibility and decision-making power/leadership that individual will have. This form of organization seen in FOSS development is remarkably similar to what we observed in TCs. Even when our interviewees described an intention of setting a more flat and democratic structure, this turned out to be a meritocratic hierarchy centralized on a small core of developers (composed of the mod founders and most active volunteers) that often took upon themselves most of the projects' decision-making processes. Thus, it is reasonable to say that the FOSS onion model is also applicable to TC projects and useful in explaining some of their particularities.

Still, one should be careful not to take the comparison between TC modding and general FOSS development too far. Despite similarities, significant differences also exist, therefore making TC mod development something akin but still different from FOSS development (Ellis 2014; Kücklich 2005; Walt Scacchi 2011; Unger 2012). For example, TC mod teams are usually smaller, do not build their product from scratch, follow more rigid development goals (e.g. are less open to spontaneous contributions that fall outside of that goal), and rarely receive any form of monetary or even human resource support from interested external parties (therefore minimizing the possibility of having the project be skewed or directly taken over by an external agent). Yet, more importantly, mods do not necessarily adhere to two critical aspects of FOSS: open-source code and public ownership. These are two quite intertwined topics when it comes to mods, but it is clear that modders' approach to them is not as uniform and collectivist as it is with FOSS developers.

Regarding the issue of having their products be open-source, Ellis (2014) observes that mod development teams are free to choose whatever licensing model they prefer, resulting in products that range from open to closed or even something in between. Modders seem to not follow the ideological ethos that makes for one of the main features of FOSS and, as such, they have no problem (and face no backslash) with forfeiting going open-source. Nevertheless, it should be noted that, legally speaking, modders are not actually that free to do whatever they want with their mods (Harvard Law Review 2012) given the restrictions listed in the base-game's EULA (something that by itself presents a contrast with FOSS), even though many decide to ignore such constraints. It is even possible that this lack of legal control over their product might be part of the reason for their non-committed stance towards open-source code. Beyond mods licensing models and the controversial discussion of who legally owns a mod, there is also the issue of individualized ownership. Contrary to most FOSS projects, mods tend to have someone who is considered the actual mod owner, a fact that plays a role even when it comes to abandoned projects (Ellis 2014; Johnson 2009; Kow and Nardi 2010b). Modding may be an activity quite open to users' suggestions, and certain mods teams may allow things such as redistribution or further modification of their product by others, but in the end, ownership is still, most commonly, individually held either by one person or a small group.

A range of practices regarding both topics of open/closed-source code and ownership were also seen in the TC mod projects of our interviewees, some

1. closely resembling FOSS development while other going in a completely
2. different direction. For example, interviewee E5's project followed a very 'open-
3. source culture', something he described as common in that specific base-
4. game's community, but not in modding as a whole. Conversely, Interviewee
5. E3's project had a publicly visible Terms of Service section in their mod front-
6. page forbidding the unauthorized use of their mod's assets, and Interviewee
7. E9's (closed-source) project went as far as asking team members to sign a
8. document forfeiting individual ownership of any asset they created for the
9. mod. Based on our findings, it becomes clear that the relationship between
10. modding and FOSS development is twofold. On one hand, there are visible
11. similarities between both activities that lead to an exchange of influences
12. between them on technical and cultural levels, which is then reflected in coor-
13. dination mechanisms in the form of 'borrowed' practices and ideologies. On
14. the other hand, mod development clearly cannot be classified as a form of
15. FOSS development given the remaining discrepancies. As such, it would be
16. more adequate to say that modders follow an open-source ethos (D. Nieborg
17. 2005) culturally based on an open-source attitude and the idea of copyleft
18. (Sotamaa 2010; Unger 2012). Or that, as stated by Scacchi: 'Modding is emerg-
19. ing as a viable approach for mixing proprietary CSS [closed-source software]
20. systems with OSS [open-source software] extensions' (Walt Scacchi 2011: 72).
21. Figure 1 presents a visual representation of TC projects connections to the
22. three identified key factors.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
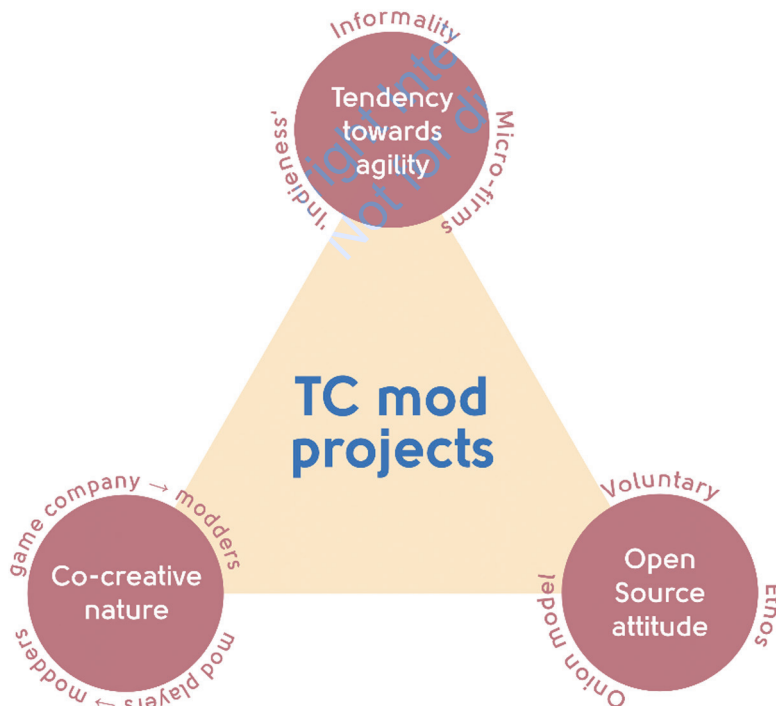
51. *Figure 1: Visual representation of key factors on TC mod project coordination*
52. *and development.*

CONCLUSION

Modding represents a unique way of developing software that contrasts with other established forms of game software development. Based on our findings, we believe that this particular way of coordinating work efforts arises from three major key factors that exert influence over the activity: Tendency towards agility, Co-creative nature and Open Source attitude. These influences, although not always equal (e.g. varying intensity, intrinsic or extrinsic, intentional or not), help shape the technical aspects of mod software development and even play a role in building the beliefs of what modding is actually about.

Interestingly, it appears that the processes that emerge as a result of this mixture of influences lead to modders gradually becoming something more than just amateur software makers, but rather aspirants to game developers that carry a mentality and way of doing things that is quite aligned to the contemporary necessities of industries inserted in fast, dynamic contexts. Nimbleness, adaptability, being able to collaborate but at the same time self-organize, and having a willingness to always experiment in order to better respond to the complexities of the tasks they face in the most efficient way they can afford, are all desirable characteristics that conform (even if in a still rather unpolish fashion) to the basic principles of agility that nowadays guide how professional software should be made. They are also software developers that appreciate the value and have first-hand knowledge and experience in co-creating with end-users, a behaviour well-aligned to the modern-day practices of user-centred design. And finally, modders are developers versed on the art of blending open and closed-source software development, knowing when to extract practices from either side, and by this creating 'experiments to prototype alternative visions of what innovative systems might be in the near future' (Walt Scacchi 2011: 63).

Regarding the practice of modding itself, we started our discussion by illustrating it as a mixture between a public playground and unsupervised lab; however, one more element should now be added to that illustration. Even if modders indeed have this playful and freedom-esque characteristic, that does not mean that there are not people watching attentively to what they do. On the contrary, there are several external parties looking with interest at the people in this playground and interacting with them when they have a chance. Some are mere observers wanting to understand the phenomenon going on, others are new people interested in taking part of the fun of game-making (bringing their own experiences to the mix), while there are others still who are more interested in discovering the best ways to 'layout the toys' in order to steer these modders towards their own corporate objectives. And possibly unaware of all this, there are the players, the gamers happily enjoying and benefiting the most from the innovative (and sometimes wacky) creations that come out of this curious playground-lab.

Still, despite all this, it is also interesting to see how modding can be viewed as an extension of what we experience while playing video games. The same way that games provide us with fictional sandbox environments where we are free to explore and try whatever we want (mostly) without real-world consequences, mods provide aspiring game designers, creative artists, and dedicated fans the opportunity to experiment (both playing and creating) with things that would either not normally be available in stores or possibly not allowed to be done in a professional game studio. From such a perspective,

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

it is possible to imagine that this characteristic 'freedom' of modding might precisely be the reason why it is an activity that mixes practices and influences from so many different places.

As a final note, it is important to add that, although we believe we have succeeded in our objectives and have established a foundation for further studies regarding how mod teams develop their projects and coordinate their activities, that our findings are bound to certain limitations (e.g. sample size, all male participants, etc.) and require more data for further generalization. Modding is an activity in constant and fast-paced evolution and known for its lack of homogeneity. Therefore, quantitative studies aimed at the organizational, managerial and software development aspects of TC mod projects would also be of interest in order to strengthen our explorative research discoveries. An additional front that we also encourage further efforts is in seeking to investigate mod developers' (particularly founders and leaders) professional and social backgrounds and how these influence their practice. We believe that these types of studies would provide valuable contributions and, more importantly, would help in filling the gaps that still exist regarding our understanding of the rich field of mod making.

REFERENCES

Agarwal, S. and Seetharaman, P. (2015), 'Understanding game modding through phases of mod development', in S. Hammoudi, L. Maciaszek, E. Teniente (eds), *Proceedings of the 17th International Conference on Enterprise Information Systems*, vol. 3, Barcelona, Spain, 27–30 April, Barcelona: SCITEPRESS - Science and Technology Publications, pp. 114–21. https://doi.org/10.5220/0005378801140121.

Agile Manifesto (2001), 'Agile manifesto', 11 February, http://hartford.edu/academics/faculty/fcld/data/documentation/technology/presentation/powerpoint/12_principles_multimedia.pdf. Accessed 12 July 2018.

Au, W. J. (2002), 'Triumph of the mod', 16 April, http://www.salon.com/2002/04/16/modding/. Accessed 30 August 2017.

Banks, J. and Humphreys, S. (2008), 'The labour of user co-creators: Emergent social network markets?', *Convergence: The International Journal of Research into New Media Technologies*, 14:4, pp. 401–18.

Banks, John (2005), 'Opening the production pipeline: Unruly creators', in *DiGRA 2005 Conference Changing Views: Worlds in Play*, Vancouver, Canada, 16–20 June, http://www.digra.org/dl/db/06276.19386.pdf.

Banks, John (2013), *Co-creating Videogames*, London: Bloomsbury Publishing.

Banks, John and Deuze, M. (2009), 'Co-creative labour', *International Journal of Cultural Studies*, 12:5, pp. 419–31.

Banks, John and Potts, J. (2010), 'Co-creating games: A co-evolutionary analysis', *New Media & Society*, 12:2, pp. 253–70.

Bardin, L. (2013), *L'analyse de contenu*, Paris: Presses Universitaires de France.

Berg, B. L. (2001), *Qualitative Research Methods for the Social Sciences*, 4th ed., Boston, MA: Allyn and Bacon.

Bethesda Softworks (2017), 'The Garden of Eden Creation Kit', https://geck.bethsoft.com/index.php. Accessed 3 November 2020.

Birkinshaw, J. and Ridderstråle, J. (2015), 'Adhocracy for an agile age', *McKinsey Quarterly*, 1 December, http://www.mckinsey.com/insights/organization/adhocracy_for_an_agile_age. Accessed 01 August 2018.

Burger-Helmchen, T. and Cohendet, P. (2011), 'User communities and social software in the video game industry', *Long Range Planning*, 44:5&6, pp. 317–43.

Busca, L., Castéran, G. and Ruspil, T. (2015), 'Crafting the value of the link: Practices, inscriptions and hierarchical position in modding communities', in *31ème Congrès Annuel de l'AFM*, Marrakech, Morocco, 20–21 May.

Champion, E. (2012), 'Mod mod glorious mod', in E. Champion (ed.), *Game Mods: Design, Theory and Criticism*, ETC Press, pp. 9–26.

Christiansen, P. (2012), 'Between a mod and a hard place', in E. Champion (ed.), *Game Mods: Design, Theory and Criticism*, ETC Press, pp. 27–50.

Cignoni, G. A. (2001), 'Reporting about the Mod software process', in V. Ambriola (ed.), *Software Process Technology*, Berlin: Springer, pp. 242–45.

Cohen, D., Lindvall, M. and Costa, P. (2004), 'An introduction to agile methods', Advances in Computers, 62, pp. 1–66.

Crabtree, G. (2013), 'Modding as digital reenactment: A case study of the battlefield series', in M. W. Kapell and A. B. R. Elliott (eds), *Playing with the Past*, New York: Bloomsbury Publishing, pp. 199–212.

Creative Assembly (2012), 'Official CA modding tips and tutorials', https://wiki.totalwar.com/w/Official_CA_modding_tips_and_tutorials. Accessed 10 August 2018.

Crowston, K. and Howison, J. (2003), 'The social structure of free and open source software development', in *OASIS Workshop (IFIP 8.2 WG)*, Athens, Greece, 15–17 June, Seattle, WA.

Czarnota, Jedrzej. (2015), 'Co-creation, Innovation and New Service Development: The Case of the Videogames Industry', Ph.D. thesis, Manchester: University of Manchester.

Digital.ai (2020), '14th Annual State of Agile Report, Annual Report for the State of Agile', 26 May, https://explore.digital.ai/state-of-agile/14th-annual-state-of-agile-report. Accessed 28 October 2020.

Di Tullio, D. and Staples, D. S. (2013), 'The governance and control of open source software projects', *Journal of Management Information Systems*, 30:3, pp. 49–80.

Ellis, Eric. (2014), 'Productive Play: Exploring Participant Motivations of a Modding Community Surrounding a Massively Multiplayer Online Game', doctoral thesis, Malibu: Pepperdine University.

Federman, M. (2006), 'The penguinist discourse: A critical application of open source software project management to organization development', *Organization Development Journal*, 24:2, pp. 89–100.

Fernandes, P. L. de J. (2015), 'A importância e o impacto do modding de videojogos entre os jogadores portugueses', MA dissertation, Lisboa: Instituto Universitário de Lisboa.

Gies, A. (2017), 'Valve has cut Dota 2 royalties, and workshop creators are crying foul', 1 April, https://www.polygon.com/2017/4/1/15129600/valve-has-cut-dota-2-royalties-and-workshop-creators-are-crying-foul. Accessed 3 November 2020.

Guevara-Villalobos, O. (2011), 'Cultures of independent game production: Examining the relationship between community and labour', in *DiGRA*, Hilversum, The Netherlands, 14–17 September, vol. 1, p. 18.

Harvard Law Review (2012), 'Spare the mod: In support of total-conversion modified video games', *Harvard Law Review*, 125:3, pp. 789–810.

Hong, R. and Chen, V. H.-H. (2014), 'Becoming an ideal co-creator: Web materiality and intensive laboring practices in game modding', *New Media & Society*, 16:2, pp. 290–305.

1. Hotho, S. (2013), '"Some companies are fine one day and gone the next": Sustaining business in the digital games industry', in S. Hotho and N. McGregor (eds), *Changing the Rules of the Game*, London: Palgrave Macmillan, pp. 82–104.

Jensen, C. and Scacchi, W. (2010), 'Governance in open source software development projects: A comparative multi-level analysis', in P. Ågerfalk, C. Boldyreff, J. M. González-Barahona, G. R. Madey, J. Noll (eds), *Open Source Software: New Horizons*. OSS 2010. IFIP Advances in Information and Communication Technology, vol. 319, Berlin: Springer, pp. 130–42, https://doi.org/10.1007/978-3-642-13244-5_11.

Jeppesen, L. B. (2004), 'Profiting from innovative user communities: How firms organize the production of user modifications in the computer games industry', *IVS/CBS Working Papers 2004-03*, Department of Industrial Economics and Strategy, Copenhagen Business School, pp. 1–21, http://ideas.repec.org/p/ivs/iivswp/04-03.html.

Johnson, D. (2009), 'StarCraft fan craft: Game mods, ownership, and totally incomplete conversions', *The Velvet Light Trap*, 64:1, pp. 50–63.

Keith, C. (2010), *Agile Game Development with Scrum*, Boston, MA: Addison-Wesley.

Kelliher, F. and Reinl, L. (2009), 'A resource-based view of micro-firm management practice', *Journal of Small Business and Enterprise Development*, 16:3, pp. 521–32.

Kow, Y. M. and Nardi, B. (2010a), 'Culture and creativity: World of Warcraft modding in China and the US', in W. S. Bainbridge (ed.), *Online Worlds: Convergence of the Real and the Virtual*, London: Springer, pp. 21–41.

Kow, Y. M. and Nardi, B. (2010b), 'Who owns the mods?', *First Monday*, 15:5.

Kücklich, J. (2005), 'Precarious playbour: Modders and the digital games', *The Fibreculture Journal*, 5.

Laffan, L. (2012), 'A new way of measuring openness: The open governance index', *Technology Innovation Management Review*, January, pp. 18–24.

Laukkanen, T. (2005), *Modding Scenes: Introduction to User-Created Content in Computer Gaming*, Tampere: University of Tampere Hypermedia Laboratory.

Liberman-Yaconi, L., Hooper, T. and Hutchings, K. (2010), 'Toward a model of understanding strategic decision-making in micro-firms: Exploring the Australian information technology sector', *Journal of Small Business Management*, 48:1, pp. 70–95.

Mintzberg, H. (1993), *Structure in Fives-Designing Effective Organizations*, New Jersey: Prentice-Hall.

Nakakoji, K., Yamamoto, Y., Nishinaka, Y., Kishida, K. and Ye, Y. (2002), 'Evolution patterns of open-source software systems and communities', in *2nd International Workshop on Principles of Software Evolution (IWPSE 2002)*, Orlando, USA, 19–20 May.

Nieborg, D. (2005), 'Am I Mod or not?: An analysis of First Person Shooter modification culture', in *Proceedings of the Creative Gamers Seminar Exploring Participatory Culture in Gaming*, Tampere, Finland, 11–12 January.

Nieborg, David B. (2004), 'Who put the mod in commodification?: A descriptive analysis of the First Person Shooter mod culture', http://www.gamespace.nl/content/CommodificationNieborg2004.pdf (White paper). Accessed 08 July 2017.

Nieborg, D. B. and van der Graaf, S. (2008), 'The mod industries? The industrial logic of non-market game production', *European Journal of Cultural Studies*, 11:2, pp. 177–95.

Pereira, L. S. and Bernardes, M. M. S. (2018), 'Aspects of independent game production: An exploratory study', *Computers in Entertainment*, 16:4, pp. 1–16.

Poderi, G. and Hakken, D. J. (2014), 'Modding a free and open source software video game: "Play testing is hard work"', *Transformative Works and Cultures*, 15, https://doi.org/10.3983/twc.2014.0493.

Poretski, L. and Arazy, O. (2017), 'Placing value on community co-creations: A study of a video game "modding" community', in *CSCW '17 Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*, pp. 480–91, https://doi.org/10.1145/2998181.2998301.

Postigo, Hector (2003), 'From pong to planet quake: Post-industrial transitions from leisure to work', *Information, Communication & Society*, 6:4, pp. 593–607.

Postigo, H. (2007), 'Of mods and modders: Chasing down the value of fan-based digital game modifications', *Games and Culture*, 2:4, pp. 300–13.

Postigo, Hector (2010), 'Modding to the big leagues: Exploring the space between modders and the game industry', *First Monday*, 15:5.

Prahalad, C. K. and Ramaswamy, V. (2000), 'Co-opting customer competence', *Harvard Business Review*, January–February, https://hbr.org/2000/01/co-opting-customer-competence.

Project Management Institute (2017), *A Guide to the Project Management Body of Knowledge*, 6th ed., Newtown Square, PA: Project Management Institute.

Reismanis, S. 'INtense!' (2007), 'Getting started with mods', 11 November, http://www.moddb.com/tutorials/getting-started-with-mods. Accessed 31 July 2017.

Ron, G. and Richard P. G. (2005), 'What is open source?', in G. Ron and P. G. Richard (eds), *Innovation Happens Elsewhere: Open Source as Business Strategy*, San Francisco, CA: Morgan Kaufmann Publishers, pp. 29–73.

Scacchi, W. (2004), 'Free and open source development practices in the game community', *IEEE Software*, 21:1, pp. 59–66.

Scacchi, W. (2007), 'Free/open source software development: Recent research results and emerging opportunities', in *Proceedings of the 6th joint meeting of the European software engineering conference and the ACM SIGSOFT symposium on The foundations of software engineering - ESEC-FSE '07*, Dubrovnik, Croatia, 3–7 September 2007, pp. 459–68, https://doi.org/10.1145/1287624.1287689.

Scacchi, Walt (2009), 'Understanding requirements for open source software', in K. Lyytinen, P. Loucopoulos, J. Mylopoulos and B. Robinson (eds), Design Requirements Engineering: A Ten-Year Perspective, Lecture Notes in Business Information Processing, vol. 14, Berlin and Heidelberg: Springer, pp. 467–94, https://doi.org/10.1007/978-3-540-92966-6_27.

Scacchi, Walt (2011), 'Modding as an open source approach to extending computer game systems', in S. A. Hissam, B. Russo, M. G. de Mendonça Neto and F. Kon (eds), *Open Source Systems: Grounding Research*, Berlin and Heidelberg: Springer, pp. 62–74.

Sethanandha, B. D. D., Massey, B. and Jones, W. (2010), 'Managing open source contributions for software project sustainability', in *Technology Management for Global Economic Growth (PICMET), 2010 Proceedings of PICMET '10*, Phuket, Thailand, 18–22 July, pp. 1–9, http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5602062.

1. Sotamaa, O. (2003), 'Computer game modding, intermediality and participatory culture', http://www.yorku.ca/caitlin/futurecinemas/coursepack2009/Sotamaa_modding.pdf. Accessed 08 July 2017.

2. Sotamaa, O. (2004), 'Playing it my way? Mapping the modder agency', in *Proceedings of the Internet Research 5.0 Conference*, Sussex.

3. Sotamaa, O. (2005), '"Have fun working with our product!": Critical perspectives on computer game mod competitions', in *Proceedings of the 2005 DiGRA International Conference: Changing Views: Worlds in Play*, Vancouver, Canada, 16–20 June, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.98.7776&rep=rep1&type=pdf.

4. Sotamaa, O. (2007), 'On modder labour, commodification of play, and mod competitions', *First Monday*, 12:9.

5. Sotamaa, O. (2010), 'When the game is not enough: Motivations and practices among computer game modding culture', *Games and Culture*, 5:3, pp. 239–55.

6. Steinkuehler, C. and Johnson, B. Z. (2011), 'Computational literacy in online games: The social life of mods', in R. E. Ferdig (ed.), *Discoveries in Gaming and Computer-Mediated Simulations*, Hershey, PA: Information Science Reference, pp. 218–31.

7. Stonecipher, D. (2017), '"Fallout 4" Mods won't be available through Steam Workshop to accommodate Xbox One, PS4 users', 31 October, https://www.inquisitr.com/2522487/fallout-4-mods-wont-be-available-through-stream-workshop-to-accommodate-xbox-one-ps4-users/. Accessed 10 August 2018.

8. Taylor, Lisa (2003), 'A mod, mod, mod, mod world: players turned programmers create the next generation of their favorite games', Computer Graphics World, 26 March, Accessed 08 August 2017.

9. Taylor, T. L. (2006), 'Beyond management: Considering participatory design and governance in player culture', *First Monday*, Special Issue number 7, 4 September, http://firstmonday.org/issues/issue11_9/taylor/index.html. Accessed 31 July 2017.

10. Unger, A. (2012), 'Modding as part of game culture', in J. Fromme and A. Unger (eds), *Computer Games and New Media Cultures*, Dordrecht: Springer, pp. 509–23.

11. Valve (2012), *Handbook for New Employees*, 1st ed., Bellevue, WA: Valve Press.

12. Valve Developer Community (2015), 'Valve developer community - category: Modding', https://developer.valvesoftware.com/wiki/Category:Modding. Accessed 2 November 2017.

13. Weber, S. (2004), *The Success of Open Source*, Cambridge: Harvard University Press.

14. West, D. (2011), 'Water-scrum-fall is the reality of agile for most organizations today', 26 July, http://www.storycology.com/uploads/1/1/4/9/11495720/water-scrum-fall.pdf. Accessed 28 October 2020.

15. West, J. and Gallagher, S. (2006), 'Challenges of open innovation: The paradox of firm investment in open source software', *R&D Management*, 36:3, pp. 319–31.

16. Wolf, M. J. P. (ed.) (2012), *Encyclopedia of Video Games: The Culture, Technology, and Art of Gaming*, Santa Barbara, CA: Greenwood.

17. Yin, R. K. (2003), *Case Study Research: Design and Methods*, 3rd ed., Thousand Oaks, CA: Sage Publications.

SUGGESTED CITATION

CONTRIBUTOR DETAILS

Leônidas Soares Pereira is a research professor and doctoral student in education in the Graduate School of Information Technologies at the Federal University of Rio Grande do Sul (PPGIE-UFRGS), Porto Alegre, Brazil. He holds a bachelor's degree in visual design with M.Sc. in virtual design by UFRGS. His research interests include game studies, virtual emergent environments, organization theory, and design, emotion and technology.

Contact: PPGIE, Ave. Paulo Gama, 110, Annex III, 3º floor, Porto Alegre, Brazil.
E-mail: leonidaspereira@outlook.com

https://orcid.org/0000-0001-9729-7581

Maurício Moreira e Silva Bernardes is a full professor in the Graduate School of Design at the Federal University of Rio Grande do Sul (PgDesign-UFRGS), Porto Alegre, Brazil. He holds a bachelor's degree in civil engineering with M.Sc. and doctoral in construction management and postdoctoral in design by UFRGS and the IIT Institute of Design, Chicago, IL, USA. His research interests include project and design management, design methods, and product development process. He is dean of the Institute of Innovation, Competitiveness and Design at UFRGS.

Contact: PgDesign, Ave. Osvaldo Aranha, 99, 607, Porto Alegre, Brazil.
E-mail: bernardes@ufrgs.br

SIDNEY V. IRWIN
Central Queensland University

ANJUM NAWEED
Central Queensland University

MICHELE LASTELLA
Central Queensland University

The mind games have already started: An in-depth examination of trash talking in *Counter-Strike: Global Offensive* esports using practice theory

ABSTRACT

Trash talking is a contentious and prevalent practice in traditional sports but few studies have examined its practice in esports – a computer-mediated form of sports competition in videogaming. This study used practice theory to identify different forms and dialectical relationships of trash talking in Counter-Strike: Global Offensive. *Fifty hours of structured observations of professional tournaments were*

KEYWORDS

esports
trash talk
practice theory
multiplayer first-
   person shooter

gamesmanship
Counter-Strike: Global
 Offensive
qualitative

conducted followed by semi-structured interviews with fifteen spectators/casual gamers. Inductive analysis of data based on practice theory-related constructs identified varying perspectives on trash talk, and six distinct forms. Trash talk was directed towards players from opposing players, coaches, fans, casters and analysts. 'Teabagging' was the most controversial, but a predominantly positive ethos for trash talk was found, such that it was a distinct part of this esports scene. Theoretical and practice-oriented implications are discussed and a conceptualization of the practice of trash talk is given to encourage further debate and discussion in the field.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. Adopting approach by Stebbins (1982).

2. Lee and Schoenstedt (2011) also note *peer pressure* (knowing when others play video games).

3. Such as relaxation, escape of stress or simply passing time.

4. The in-game character.

5. For example, running down the clock.

INTRODUCTION

Traditional sports and video gaming have merged to create *esports*, widely recognized as a form of new sports culture. A catch-all term for the computer-mediated competitive phenomenon in video gaming, esports has various sub-genres, including First Person Shooter such as Overwatch and Call of Duty, Massive Online Multiplayer Arena, such as League of Legends and DOTA 2, and Real Time Strategy such as Starcraft (Hamari and Sjöblom 2017). Such esports have distinct in-game design, mechanics and mythologies, alluring gamers into playing against each other, practising and applying various skills, and fostering gaming strategy. Given its meteoric rise and intersections with traditional sports, understanding the consumptive needs of professional esports players is an area of increasing research.

Seo (2016)[1] defined esports as a form of *serious leisure* where casual video gamers gravitate towards an esport career through acquisition of advanced skills and experience. While professional players compete for financial reward, they may also strive to meet other personal and social needs, including escapism and competition,[2] where the latter reflects goals to acquire skills sufficient to achieve gaming mastery and strive for victory (Lee and Schoenstedt 2011; Weiss 2011). While different forms of *escapism* are evident in casual video gaming[3] (Bowditch et al. 2018; Frostling-Henningsson 2009; Lee and Schoenstedt 2011), in esports, escapism is associated with immersion into a virtual environment to learn the mechanics and capabilities of the avatar[4] (Weiss 2011).

In sports, socialization and competition encourage the enactment of behaviours and actions that transgress the elementary rules of the game (Kavussanu and Boardley 2009; Kavussanu et al. 2012; Lines 2001). In current sporting literature, these behaviours may be judged as either *prosocial* or *antisocial* (Boardley and Kavussanu 2009; Kavussanu 2008; Kavussanu et al. 2012, 2013; Rutten et al. 2011; Traclet et al. 2011). Prosocial behaviour includes helping injured opponents, cheering on teammates and complimenting the successes of other players – all of which exhibit aspects of *proactive morality* (humane behaviour) and *social affiliation* (development of reciprocal relationships) (Kavussanu and Boardley 2009). In contrast, antisocial behaviour is typically characterized by *cheating* and *hostile aggression* (Kavussanu et al. 2013; Shields et al. 2018), where cheating aims to generate advantage (i.e. via deception),[5] and hostile aggression is driven by goals to inflict harm upon others (Traclet et al. 2011). Traclet et al. also discuss *Instrumental Aggression* as a third form of antisocial behaviour, where acts are performed as a 'means towards an end' (2011: 145) and, in contrast to previous forms, the behaviour is ostensibly

1. acceptable. For this reason, instrumental aggression tends to be encouraged,
2. even promoted within certain sports, for example through public relations.
3. *Trash talk* is a debated example of instrumental aggression. Traditionally
4. recognized as taunts which aim to distract the opponent, trash talking
5. within sports is contested. Howe discusses trash talk in positive terms as
6. 'gamesmanship':
7.
8. The appropriate moral parallel here is with seduction: The opponent
9. who directs a strategy of gamesmanship against a competitor constructs
10. an opportunity for the other to fail, but the decisive move, the fail-
11. ure, belongs to the target. If the gamer's behaviour is within the rules,
12. it cannot be unfair, and the competitive failure of the target is not the
13. result of unfair advantage. It is because the target did not pass one of the
14. fundamental aspects of competition: the test of psychological strength
15. and preparedness.
16. (2004: 214)
17.
18. In contrast, Simons (2003) argues that trash talk goes against the values of
19. sportsmanship, civility and respect. Dixon also extends this perspective and
20. questions its legitimacy in sports:
21.
22. Using such language off the playing field would have such results as
23. angry confrontations, lost friendships and even fist-fights. Outside sport
24. we consider such verbal assaults to be demeaning, insulting and morally
25. reprehensible.[6] Why then is trash talking so widely accepted by the
26. ethos of many sports?
27. (2007: 98)
28.
29. While these views focus on degrees of morality in the machinations of trash
30. talk, the practice of trash talking has also been discussed in relation to the
31. *unwritten* normative rules within various sporting communities that reflect
32. the value of the sport (Conmy et al. 2013; Rainey and Granito 2010). Rainey
33. and Granito (2010) draw on Carron's (1988) work and classify normative rules
34. into behaviours of different types, including *proscribed behaviours* (where the
35. behaviour is considered inappropriate) or *permissive behaviours* (where the
36. behaviour is allowed, but not expected). In some sporting contexts such as ice
37. hockey, American football and golf, trash talking is not only viewed as permis-
38. sible (Trammel et al. 2017), but it is very common. What then, are we to make
39. of trash talking practice within esports, a professional sports domain that is
40. very much in its infancy?
41. When viewed from the casual (non-esports) video gaming perspective,
42. Nakamura (2012) proposes that trash talk can be a potentially distinctive
43. part of its multiplayer culture, even though it does not add any meaningful
44. context to the game itself. However, while research has begun to research the
45. related topic of sportsmanship across various esports (Carter and Gibbs 2013;
46. Irwin and Naweed 2020), to our knowledge, trash talk has not been previ-
47. ously documented empirically in the realm of esports. To address this research
48. gap, this study investigates the trash talking within a single esport community
49. using practice theory (Ortner 2006) to examine the dialectical relationship of
50. how humans are shaped by – and/or can shape – the structure within a given
51. system based on: (1) who trash talk occurs towards; (2) the specific context
52. in which it occurs and (3) the motivations behind it. The present study will

6. In his paper, Dixon (2007) goes on to argue that the practice of trash talking in sports is not only 'morally reprehensible' but 'morally indefensible'.

7. Thus calling it, 'verbal gamership'.

address these questions by identifying the various forms of trash talk in an esport (above and beyond traditional sports) and determining how they are viewed in terms of their acceptability. We begin by extending our review with additional literature on how trash talk is being defined and summarize practice theory as a theoretical framework for our study, including an indication of how it has been used previously.

DEFINING TRASH TALK

While evident in traditional sporting cultures, an all-encompassing definition of trash talk in esports has thus far eluded the literature. In the context of traditional sports, Eveslage and Delaney originally described trash talk as 'verbal taunts that players direct at their opponents during contests' (1998: 239). This description has since been extended, with research linking motives for trash talk, including to distract (Howe 2004; Johnson and Taylor 2020; Rainey and Granito 2010), intimidate (Cook et al. 2017; Ring et al. 2019; Simons 2003; Trammel et al. 2017) or to reduce an opponent's confidence (Kershnar 2015; Kniffin and Palacio 2018; Nguyen and Zagal 2016). Table 1 presents the most commonly used definitions for trash talk in the sports literature and Figure 1 provides a visualized phrase cloud which extends these delineations by including further definitions as well as depicting the relative frequencies of the different aspects.

Diverse perspectives are evident in the specific context of trash talk. While trash talk has a tendency to be perceived as the use of offensive and hurtful comments, Trammel et al. (2017) state that it may also manifest as positive compliments towards an opponent such as an alternative method of distraction.[7] Dixon (2007) suggests that trash talk is used to gain an unfair competitive

Author(s) and date	Context	Definition and page of reference
Eveslage and Delaney (1998)	Sport	Verbal taunts that players direct at their opponents during contests (1998: 239)
Howe (2004)	Sport	Tactics that are more directly performed with the goal of psyching out the opposition (2004: 214)[*]
LoConto and Roth (2005)	Sport	To demean opponents and cause enough imbalance to diminish their performance (2005: 215)
Dixon (2007)	Sport	Verbal insults and intimidation, designed to gain a competitive advantage (2007: 97)
Nguyen and Zagal (2016)	Video games	Verbally insulting other competitors in an online game (2016: 10)
Cook et al. (2017)	Video games	Putting down or making fun of other players where trash talk falls under 'verbal trolling' (2017: 3329)
Yip et al. (2018)	Sport	Boastful comments about the self or insulting comments about an opponent that are delivered by a competitor typically before or during a competition (2018: 126)

[*] *Note*: Howe (2004) refers to trash talking as *Gamesmanship*.

Table 1: An overview of the key definitions of 'trash talk' in current literature.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.

Intimidate[6]

Reduce confidence[3] Profanity[2] Verbal[6]

Towards team members[2]

Dislike[1] Fans towards players[1] Taunts[3]

Towards opposing players[16]

Coaches towards team[1] Threats[2]

Psych out[2] Physical Distract[3]

Motivate[2]

Putting down[1] Test mental commitment[1] Insults[10]

Boasting[3] Humiliate[2]

Gain competitive advantage[6]
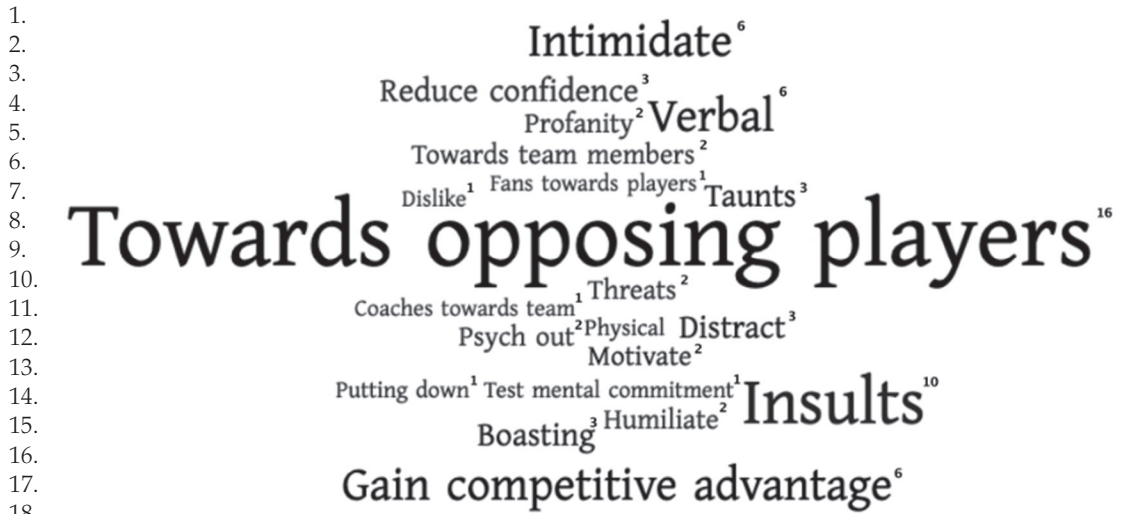
19.
20.
21.
22.
23.
24.
25.
26.
27.

Figure 1: Key aspects of the definitions of trash talk across the sporting and video gaming literature from 1998 to 2020, visualized and unpacked as a phrase-cloud. The size of the text depicts prominence while superscripts indicate frequency counts (definitions obtained from Cook et al. 2017; Cote 2017; Dixon 2007, 2008; Eveslage and Delaney 1998; Feezell 2008; Howe 2004; Johnson and Taylor 2020; Kershnar 2015; Kniffin and Palacio 2018; LoConto and Roth 2005; Nakamura 2012; Nguyen and Zagal 2016; Rainey and Granito 2010; Summers 2007; Trammel et al. 2017).

28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

advantage while Summers (2007) perceives it as a test of the opponent's mental commitment to the game. Despite these conflicting views, Kershnar (2015) indicates that trash talk can occur towards a disliked opponent in order to harm them as a person, irrespective of any motive connected to the goals of the game. Trash talking is not limited to players, instead Kershnar (2015) notes that both coaches and fans contribute to trash talking. From this perspective, the motive then is not to offend, but rather inflict emotional responses to motivate the desired player to perform better (Kavussanu and Boardley 2009; Kershnar 2015).

Studies on trash talk in multiplayer video gaming have presented characterizations parallel to traditional sporting literature. In casual video gaming, excessive trash talk is associated with *toxic behaviour*, a term that refers to actions that are outside the normative boundaries shared within the community (Kordyaka et al. 2020). The motive of toxic behaviours can vary from harassing opposing players to *Griefing* which is to deliberately cause discomfort for personal enjoyment (Irwin and Naweed 2020; Kordyaka et al. 2020). Further gaming research has explored trash talk with other themes. For instance, Cook et al. (2017) define trash talk as a type of verbal *Trolling* where the intent of the *Troll* is to harass or insult the parties present. Nakamura (2012) defines video game trash talk as the use of insults, threats and profanity directed towards opposing players, though Cote (2017) observed that trash talking occurred between teammates. Given the broad definitions and differing perspectives of trash talking, it is difficult to understand the social norms around its use, thus a better understanding of its practice in esports is needed.

8. A 'modification'
when fans or gaming
developers change
or adjust pre-existing
aspects of a single
video game to develop
something new.

THEORETICAL FRAMEWORK: PRACTICE THEORY

As a concept, practice theory examines the ways in which *agency* influences and/or is influenced by the *structure* of a situated system, where agency is the given practice shaped by the conscious thoughts and feelings from people in the system (Myers 2019; Ortner 2006). Thus, identities emerge from the way individuals reflect, problematize and challenge given social environments. Conversely, the structure of a system comprises the three overarching elements which influence practice: history, power relations and culture (Ortner 2006). While there is no coherent framework for practice theory, various *practice approaches* have been defined and implemented among social theorists, including Bourdieu (1984, 1990), Giddens (1979) and Schatzki (1996). This article seeks to understand trash talk by applying Ortner's (2006) approach of practice theory.

A key tenet of Ortner's practice theory is the perception on *social transformation*. Whereas previous social theorists emphasize practice through constraint theories such as *functionalism*, which view social systems as benign and stable, Ortner (2006) proposes that the relationship between structure and agency is dialectical. Thus, Ortner seeks not only to understand 'the genesis/ reproduction' but also the 'change of form and meaning of a given social/ cultural whole' (2006: 149). A substantive example where practice theory has been applied to new media literature is evident in Myers' (2019) analysis of simulated in-game behaviours as enacted expressions of intimacy. Through practice theory, Myers proposes how perceptions have changed and formulated fissures formerly unidentified across the literature.

METHOD

Esports study context

Counter Strike was originally developed in 1999 as a *mod*[8] for Valve's first-person shooter, *Half-Life* (Wagner 2006). The rise and success of Counter Strike are associated with the growth and development of the early US and European competitive gaming scene and has remained central in western esports, with its successors, notably *Counter-Strike: Source*, also developing a prominent esports culture (Crawford and Gosling 2009; Thiborg and Carlsson 2010; Wagner 2006). CS:GO is the fourth instalment of the series and was released in 2012 (Hidden Path Entertainment 2012). As shown in Figure 2, CS:GO is also an esport that engages with media in a way which brings relationships between professional players, their competitors and those within the broader society well into the fore, enabling spectatorship and exchange of experiences before a match. Owing to its current popularity, historic growth within esports and focus in recent related research (Irwin and Naweed 2020; Myers 2019), CS:GO was chosen as the main focus for this study.

Data collection

The research design triangulated data from both indirect (structured observational) and direct (interviewing) methods of collection. In terms of the former, 50 hours of observations were undertaken of professional CS:GO tournaments across numerous channels via *Twitch*; this is a live streaming online media platform in the public domain which hosts esports and other video gaming content, and enables spectators to gain the player's perspective of the game. Previous studies acknowledge the use of online streaming services

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

Figure 2: Screenshot of a provocative tweet made by a professional CS:GO esports player towards an opposing team prior to their match at the Eleague Major in Boston 2018. The '2-0 game' taunt previews the perceived outcome of the game, heralding loss for the opposing team.

hosted within the public domain as an effective method to understand video gaming culture (Cheung and Huang 2011; Ford et al. 2017; Hamilton et al. 2014). In such platforms, spectators can listen-in on in-game commentary by professional commentators, whilst also communicating with one another in live concurrent chat rooms. Such features lend themselves to observational research in this area and are considered important when exploring social esport viewership (Cheung and Huang 2011; Ford et al. 2017; Hamilton et al. 2014). To facilitate analysis, chat room reactions from spectators as well as verbal comments from the commentators were recorded.

For direct methods, semi-structured interviews were undertaken with frequent casual gamers and spectators of CS:GO esports. Informed and developed by insights gained from indirect methods, the interview protocol (see Table 2) encouraged participants to discuss forms of trash talking they had experienced in CS:GO esports. To recruit participants, the study was promoted within CS:GO sub-forums on Reddit and through snowball sampling across several Twitch channels. Key criteria for participation other than CS:GO esports consumption (as casual gamer and spectator) included a minimum age of 18 years and English as a first or second language. A total of fifteen semi-structured interviews were undertaken with via online chat. All participants were male, between the ages of 18 and 35 ($M = 22.07$, SD = 4.91) and of diverse nationality. Methodologically, observations provided an effective and impartial means of observing trash talk, and coding how players, coaches and fans interact and become immersed into the esport, while interviews offered a platform to enrich data with first-hand insights and meaning. The study was approved by the Human Research Ethics Committee of [*name removed to preserve integrity of review process*] (approval number: *removed to preserve integrity of review process*).

Data analysis

To facilitate an open and interpretive understanding of trash talking in CS:GO esports, the definitions of trash talking from both sporting and video gaming literature (see Table 1 and Figure 1) were referenced as markers of its practice. Data were analysed and triangulated through conventional content analysis (Hsieh and Shannon 2005). This is a qualitative approach for inductive category development that does not rely on preformulation of categories and

	Class of question	Overview of content	Example question
1.	Background	Frequency of play-ing CS:GO, frequency of watching CS:GO esports	Describe your relationship with CS:GO. How often do you play it?
2.	Importance of spectatorship	Defining sportsmanlike/ unsportsman-like conduct. Values which reflect sportsmanship	Research says that sportsmanship promotes values, such as trustworthiness and respect. Do you think these values are reflected within CS:GO eSports? How? Are there other values?
3.	Examples of unsports-manlike conduct	Gain examples of unsports-manlike conduct in CS:GO esports	What sorts of bad sportsmanship, or foul play, have you witnessed in CS:GO eSports?
4.	Reaction of unsports-manlike conduct	Perceptions of each example in reflection to sportsmanlike values	How do you typically react when you see such performance occur?
5.	Broader understand-ing	Various perspectives of each form of unsportsman-like conduct	Do you think there are circumstances in which this can become tactically effective? Acceptable?

Table 2: Overview of the semi-structure protocol used for spectator interviews.

is also in line with previous esporting and livestreaming literature which use similar methods for open coding and category revision (Cheung and Huang 2011). The process involved systematic application of open coding, category creation and revision following coding cycles outlined by Saldaña (2012) using NVivo (ver. 11).

Data were analysed inductively (i.e. without pre-formulation of categories) to determine the various forms of trash talk. In line with study aims, coding during analysis made reference to: (1) direction of occurrence (i.e. to whom the trash talk was found to be directed towards); (2) context (the verbal and/or non-verbal context in which the trash talk was found to occur) and (3) motive (the motivation which underpinned the trash talk). Through practice theory, this framework allowed focus on different elements of trash talk, along with an in-depth examination of dialectical relationships in the system.

1. **RESULTS**

The findings associated with the context around the trash talk identified in CS:GO esports are presented first. These results are followed by the various forms observed within the major categories of non-verbal trash talk, trash talk beyond the field of play and trash talk from the community. Excerpts (from participant interviews) and visual imagery (from observations) are presented to support points made where relevant. Given the absence of a single definition for trash talking in esports, supporting literature is narratively woven throughout to engage with varying views and perspectives.

The context of trash talk in CS:GO

Prior to sharing their perceptions on the forms of trash talking, participants emphasized the importance of its context, defining it as '[c]ommenting or cracking jokes about the game or each other […] light hearted ribbing, so making fun but to laugh together. Not to mock or drag down'. Similarly, it was seen as, 'simple jokes to make everyone laugh, while still poking [fun] at someone'. This view corresponds with Wright et al. (2002) who indicated that use of joking, irony and word play among video gamers can provide humour and release tension. In traditional sports, such features of trash talk have been described as 'banter' (Duncan 2019). Trash talk was also considered in terms of the intensity of emotions and enthusiasm: 'there is some trash talking, but most of it is very sportsmanlike. Some players get very emotional, but I would call that passion'. Similarly, trash talk was also seen to symbolize respect between professional CS:GO players:

> Though trash talking can be seen as a mean [*sic*] to belittle your opponent, I believe it is seen as two opposing parties staring each other down as equals and trying to get each other motivated to play to the best of their abilities.

Participants also offered their views on banter as it related to sportsmanship, with one participant indicating that it was 'just normal day to day trash talk, it isn't good sportsmanship, but it isn't bad sportsmanship', reiterating that the two concepts were separated by a 'fine line'. A second participant summarized banter as something that 'keeps things light and lively because what I think most people forget when watching anything competitive, [*sic*] at the end of it it's all just a game'.

Participants also stated that the way trash talk was expressed impacted its experience, for example: 'If you are out spouting trash jokingly, to me its banter, but then you can also say the exact same thing in a malicious tone […] [so] now just you being jerk [*sic*]'. Personal topics including race, gender and sexuality have been described as unsettling and offending to one's opponents (Cote 2017; Trammel et al. 2017). In the context of trash talk, Eveslage and Delaney (1998) have defined this as *getting ugly*, where sexual content, explicit language and name-calling can damage relationships. Ortiz (2019) has recently noted that casual video gamers may use trash talk to effectively humiliate and entertain their peers, but some topics may induce sadness, anger and exhaustion. One participant perceived that:

> A lot of people who are so deeply involved in gaming, especially in the esports area, have more than likely been picked on in their lives, that's

not a good place to come back to right? Like, you got made fun of for being super into games, you sought validation through skill and 'made it' as a professional only to then STILL (emphasis added) get picked on now just in a different sphere.

The forms of trash talk in CS:GO

Non-verbal trash talk: Hand gestures and teabagging

While trash talking is traditionally perceived to manifest through verbal exchange, players may also enact non-verbal gestures in ways that are consistent with trash talking. For instance, as described by Simons (2003) excessive celebrating, dancing and dunking in American football and Basketball can be used to provoke opponents. Simons (2003) further notes that depending on the underlying motivation, the acts can vary, and include wanting to distract or taunt opponents and hype spectators. In the current study, two forms of non-verbal trash talk were observed and identified.

Figure 3: A panel of screenshots from a premiere LAN event recorded during observations. Sound-proofed booths with opposing teams (highlighted) face one another in a circular arena. Insets show an exchange of hand gestures between two opposing team players, including an obscene gesture simulating penetration as intercourse (middle-right). Note: *Images of players obtained during data collection. Background image of stage obtained from HLTV (2017).*

1. The first form of non-verbal trash talk was mediated through direct
2. engagement between players. In esports, premiere LAN events are typically
3. held in live arenas with competing teams situated at opposing sides of a stage.
4. While this provides an enhanced view for a co-located audience, and a suit-
5. able space for within-team communication (Jenny et al. 2018), it limits verbal
6. exchanges between teams. This point is exemplified by an exchange of hand
7. gestures observed between players in facing sound-proofed booths during
8. map vetoes,[9] as shown in Figure 3. Spectators in the chat room erupted with
9. displays of humour (e.g. typing LUL/LOL, LET'S GO), as did the audience in
10. the arena. The caster dialogue that accompanied this was:
11.
12. Caster one: They're looking across from each other
13.
14. Caster two: They're like, 'Guys, c'mon. Pick [the map]'
15. Caster one: It's your turn dude. Everyone is having a good chuckle
16.
17. Caster two: The mind games have already started
18.
19. However, interview participants noted that there could be some difficulty
20. establishing 'whether the trash talk was permissive or proscribed because "the
21. ties players and teams have with one another" were not always transparent,
22. and "it is difficult to tell whether it's banter or just being rude"'.
23. The second form of non-verbal trash talk was direct and resonated with
24. Frostling-Henningsson's (2009) description of video games as a *hallucination of*
25. *the real*, where players can perform certain actions and behaviours which are
26. otherwise impossible to do in real life, and involve in-game manipulation of
27. mechanics and formulation of unique practices. This form of non-verbal trash
28. talk was 'teabagging'. Teabagging is slang for the sex act of dragging one's testi-
29. cles across another (Myers 2019). The use of teabagging has been familiar across
30. other games in the FPS genre with its popularity originating in the 2004 *Halo 2*
31. (Myers 2019). This action was observed in-game and was dynamically mediated
32. through virtual avatars via alternating use of the crouch-stand mechanic over
33. an eliminated opponent. The reactions among spectators concerning the use
34. of teabagging were mixed. Remarks observed in the chat room during this act
35. included 'WTF', 'BM [Bad Manners]', 'LUL/LOL' and 'did he just t bag him damn
36. that's fucked up'. In the interviews, participants' perceptions of teabagging
37. were predominantly centred around shock, disgust and feelings of harassment
38. when it was observed in professional play, with views like, 'a player can only use
39. respect to play against each other for examples [*sic*] in CS:GO, don't T-bag your
40. opponent after killing them'. However, some individuals also perceived teabag-
41. ging as a form of humour and amusement, with one participant describing it
42. as 'close to banter, something that is allowed, or something that gives you an
43. advantage in game but not needed [*sic*]'. Myers' (2019) argued that teabagging
44. in-game may also be viewed as a form of intimacy, and through practice theory,
45. proposed how perceptions of teabagging have changed and formulated new
46. fissures formerly unidentified across literature.
47.
48. *Trash talk beyond the field of play: Social media and pre-match*
49. *interviews*
50. Trash talk can extend beyond the field of play. Through mediums such as
51. social media and pre-match interviews, spectators can witness displays of
52.

professional player trash talk. Social media sites such as Twitter have fostered the means and invitational processes through which professional players can interact with their fans (Kassing and Sanderson 2015; Pegoraro 2010; Sanderson 2013; Sanderson and Truax 2014; Wegner et al. 2014). Pegoraro states that 'Twitter has brought fans closer to their sports heroes because it allows athletes to communicate as openly and honestly as they wish without any Third-party mediation' (2010: 501). In the current study, participants perceived social media to play a role in 'friendly' trash talk.

Trash talking was observed during pre-match interviews. During one tournament, for example, the host interviewed team players from opposing sides (in connection with a new coach that had been employed by one team) and seemed to encourage the trash talk:

Host:Do you have a set game plan for [Team B]?

Team A member:Yeah, it's to play our own game and beat them with our own style.

Host:Final thing that I would like to ask is that Team B have a brand-new coach, how is that going to factor in [to your performance]?

Team A member:Yeah, I mean [Team B's coach] has been my good friend for years, I wish him all the best. I'm sure he's going to have a lot of success with Team B – but it's just not going to be today.

[Following a short break, the camera cuts to the host, now interviewing the new coach for Team B]

Host:First things first, what do you have to say to [Team A member] who just fired some shots your way?

Team B Coach:I mean the thing I know they are afraid of is my preparation. These guys know me from the past and, well, if they fell for my trick about playing their own game and all that, then there are in hell of trouble [*sic*].

Participants perceived pre-match interviews as an arena for trash talking. One participant considered it a method for professional players to 'funnel the anger into some other form of art or maybe putting time into practicing [*sic*] for the next game'. Other respondents touched on how such trash talk can provide 'hype' towards the match, promoting it as a form of entertainment comparable to traditional sports (Su 2010).[10]

Trash talk from the community: Broadcast talent and chat room-based spectators

Esport tournaments frequently require a variety of broadcaster talent to enhance the spectator experience. In-game matches, for instance, have at least one caster to provide game commentary (Cheung and Huang 2011). Leading events also feature analysts who provide and broadcast knowledge about teams and individual players as well as their match predictions. Furthermore, following a match, casters provide reflections on match highlights and team/player performances.

Kershnar (2015) observed that fans and coaches can both participate in trash talk. Participants referred to this as 'friendly banter', and noted that 'even the commentators making [*sic*] a joke or light jab about a specific player'. This analyst-led trash talk was exemplified during observations. Prior to a match, analysts wrongly predicted that one team (Team B) would win based on their prior victories on the chosen map. During their post-game discussion, a video montage replayed moments where players executed strategic manoeuvres and kills, as well as featured several notable actions from one player [Player One] on the winning team (Team A). In their discussion, the analysts expressed:

Analyst 1: It was a decent performance from Team A and the fact they picked up Team B's map does set a tone for the rest of this best of three.

Analyst 2: Even looking at these highlights here, there were some big Player One kills in this game.

Analyst 1: There was.

Analyst 2: Logically, it should happen. If you know how 'averages'[11] work, to get such a low average, you got to have some massive games every now and then, right?

[Analyst 1, 3 and desk host laugh and spectator chat room fills with responses of laughter (e.g. LUL) and support (e.g. GET REKT)]

This instance of analyst-driven trash talk could perhaps reflect an underlying dislike of being wrong and/or a blurring of the line between analyst and entertainer.

Chat room-based spectators also engage in their own form of trash talk. Heckling is a part of sporting culture where spectators verbally taunt players (Rudd 2017). Compared to trash talk between athletes, spectator-led heckling is not implemented to influence a scoring advantage, but to express identification or solidarity with a given team (Cote 2017; Howe 2004). Ford et al. (2017) describe how chat room-based spectators on Twitch express unique forms of communication. One example of this is *short hand* where messages containing a single word or emote symbolize a given meaning.

When a professional player was seen to perform poorly during observations, the chat room was spammed with spectator references to the player as a 'BOT' – an assessment of poor performance through comparison to something that is not humanly controlled. Seo (2016) discussed the notion that a language system of a given culture is an implicit theory of reality among the people of that culture. Thus, esports consumption is reinforced by the specialized language developed amongst players and spectators which have little meaning outside the semiotic domain of these video games. The use of *short hand* messages then are effective through *insider knowledge* and only expressed within the esport community (Ford et al. 2017).

A second method of chat room communication was 'copypastas', where spectators effectively copy and paste a single message (Ford et al. 2017), often as a way of taunting players. Figure 4 exemplifies a form of copypasta that is frequently observed across esports tournaments. In this instance, the spectator

11. Analyst 2 mimed finger/ air quote hand gestures when speaking the word 'averages'. This action is typically adopted to express satire, sarcasm, irony, euphemism and so on.
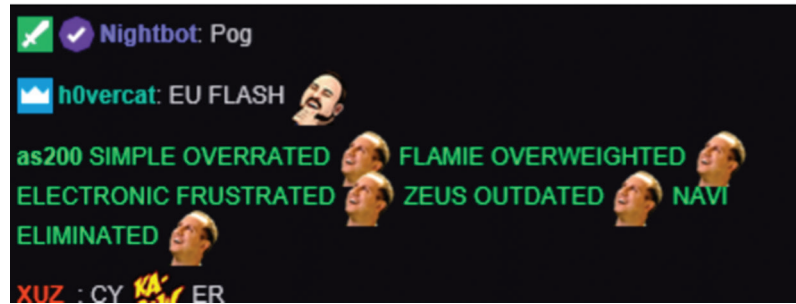
Figure 4: An example of 'copypasta' in a chat room text. The green messages are taunting the performance of four players in a team. The name of the players can alter depending on the team present.

taunts a number of professional players in one team while other spectators join in on the spamming, an action that is comparable to chanting at live tournaments.

DISCUSSION

This study investigated the practice of trash talk within CS:GO esports to identify its various forms and examine the dialectical relationships in the system. The broader aim was to use a single esports games to gain further insight about how trash talk is viewed in this setting, particularly in terms of its acceptability, and to identify what (if any) dialectical relationships influence its practice in esports above and beyond traditional sports. Various forms and practices of trash talking within CS:GO esports were revealed, with the practice not only between professional players, but also by spectators and tournament casters/analysts.

Study findings echo Wright et al.'s (2002) observations of a positive social ethos of verbal banter in the earliest incarnation of the Counter-Strike series, with the assertion that game meaning was embodied through social mediations. The results also support and extend Nakamura's (2012) assertions from the casual video gaming context, namely that trash talk is a distinctive part of the player culture. Hence, it could be argued that, over the last two decades, such social comportments and practices have continued throughout the series and shifted from the casual part of the community towards the professional esports scene in ways that have established, agreed and reproduced them.

By and large, interviewed participants presented a broadly favourable view of Instrumental Aggression in CS:GO, with most forms of trash talk being viewed as a permissible practice/fundamentally acceptable, especially when testing the mental commitment of an opponent. This point is in line with sporting literature that notes the role of psychological capabilities (Howe 2004; Johnson and Taylor 2020; Nakamura 2012) and trash talk as a competitive skill in its own right (Omine 2017). However, not every observed form of trash talking was considered permissible; the practice of teabagging, for example, elicited spectator-based reactions of misconduct that were near-comparable with harassment (Ivory et al. 2014) and *grief play* (i.e. deliberating aiming to cause discomfort) (Smith 2004). In some cases, trash talking within esports may therefore be a proscribed practice, reinforcing the importance of
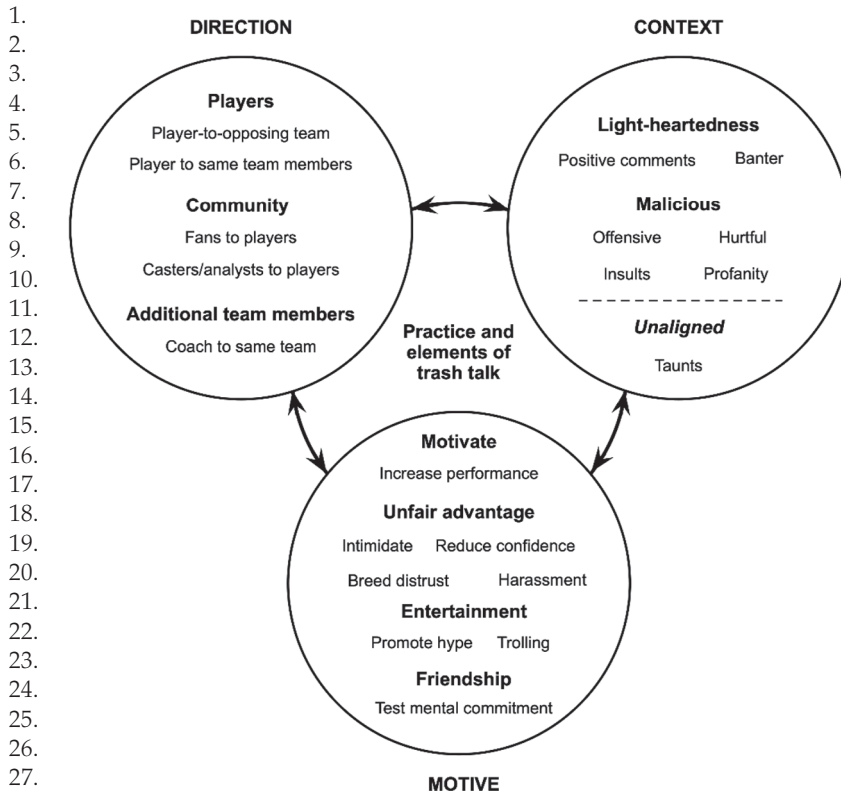
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.

DIRECTION

Players
Player-to-opposing team
Player to same team members

Community
Fans to players
Casters/analysts to players

Additional team members
Coach to same team

Practice and
elements of
trash talk

CONTEXT

Light-heartedness
Positive comments   Banter

Malicious
Offensive   Hurtful
Insults   Profanity
— — — — — — — — — — —
Unaligned
Taunts

Motivate
Increase performance

Unfair advantage
Intimidate   Reduce confidence
Breed distrust   Harassment

Entertainment
Promote hype   Trolling

Friendship
Test mental commitment

MOTIVE

Figure 5: A succinct conceptualization of the practice of trash talk in professional esporting contexts, with elements categorized according to the coding results of the present study, including elements unique to the present study (i.e. community direction of casters/analysts to players; entertainment motive to promote hype).

35.   its overarching context as something that sets boundaries and normative rules
36.   of its use.
37.   Building on the definitions of trash talk unpacked in the phrase cloud (see
38.   Figure 1) and study aims to examine the (1) directionality, (2) contextuality
39.   and (3) motivations shaping the practice of trash talk, Figure 5 disaggregates
40.   and categorizes these definitions into a succinct conceptualization of trash talk
41.   practice according to study findings (i.e. dimensions of its practice in CS:GO
42.   esports). Many of the elements of trash talk found in the study are shared by
43.   elements in traditional sports. Nevertheless, the ostensibly unique and hith-
44.   erto empirically undocumented findings from this study are integrated. These
45.   observations include trash talk directed towards players arising from casters/
46.   analysts within the esports community, and the motive for using trash talk to
47.   promote hype in the entertainment category. While taunts were identified in
48.   the study, an overarching category for these was challenging to determine as
49.   context ranged from sarcasm and humour to malice. The difficulty of pinning
50.   down the context of taunts as a sub-facet of trash talk is also reflected within
51.   the literature (e.g. Breuer et al. 2015); thus, taunts were left unaligned.
52.

Study findings go some way towards highlighting the dialectical relationship structure of trash talk in esports, based on various combinations. For example, a player may instigate trash talk towards an opposing team (direction) as a light-hearted taunt (context) to promote hype, or to reduce their confidence (motive). To some extent, the direction of the trash talk has relatively limited pathways. While there may be some ambiguity, the context can also be identified to a greater extent; however, a salient motive reflecting the agency for trash talking can be difficult to discern because of its multifaceted, opaque and interior nature. Unlike mainstream literature which focuses on trash talk through single perspectives/definitions, the findings of this study suggest that trash talk may be mediated by various instruments in sport/esports community.

Strengths, limitations and future research directions

The present study fills an important gap in that it provides the first attempt to empirically examine trash talk in the esports arena. Through use of a multi-method orientation and appropriate underlying theoretical framework, this work has identified various forms of trash talk including unique practices (e.g. virtual teabagging as trash talk). While the multi-method orientation elicited rich data and analysis reached saturation (i.e. returned no new results), the study is limited by its focus on a single esports scene (CS:GO). Any attempts to generalize the emergent findings to other esports or even the same genre (first-person shooter) are thus limited and must be interpreted with care. Nevertheless, as the first empirical investigation of trash talk in esports, the findings of this study (as conveyed in our conceptualization) broaden the various ways that trash talk is enacted, observed and debated in current literature.

The study methodology enabled navigation of coding from different perspectives, with cross-validation of observations provided from spectators and casual players. Nevertheless, no professional players were interviewed in this work and this limits our understanding of the specific motives around practice from their perspective. Accordingly, future research should draw on professional player insights and elicit more first-hand examples of trash talk, complete with underlying motivations.

While the gender of those participants in chats in the observational of the study could not be discerned, all the spectators interviewed in the study were male. As this is the case, it may not provide an accurate representation of the male to female ratio in CS:GO, or esports more broadly. Low representation and high animosity against women in esports have both been recognized as growing issues (Witkowski 2018), with female gamers more likely to be victims of targeted harassment in both casual and competitive video gaming (Cook et al. 2017; Cote 2017; Ruvalcaba et al. 2018). As such, research on females in esports have identified key perceptions of certain provocative, toxic and trolling behaviours, including different forms, their social and mental impact on victims, and development/use of coping mechanisms (Cote 2017; Ruvalcaba et al. 2018; Witowski 2018). In the context this article, understanding the gendered aspects of trash talk, toxicity and competitive play is important for future research and may potentially uncover more about trash talking in both professional and casual modes of play.

Study findings highlight the importance of context when considering the ethics, acceptability and underlying philosophy around trash talk in esports. While this position may vary in traditional sports, it is pertinent to esports

where some scenes may frown on trash talk, even if it is used in a so-called 'friendly' manner. More research about the acceptability of trash talk in first-person shooter esports, as well as other esports genres is warranted. Although this research did not seek to develop or unify a single definition for trash talk in esports, additional research in this area may enable such a delineation to be obtained.

CONCLUSION

Similar to traditional sports, this article revealed that trash talking is predominantly accepted within the esports community of CS:GO. The findings of this study identified the dialectical relationships that influence trash talking practice in esports, including observations of trash talking directed towards players via multiple avenues comprising other players, coaches and fans, as well as casters and analysts. For the most part, this study showed a predominantly positive ethos towards trash talking such that it may be considered a distinct part of CS:GO esports. The practice of teabagging as a form of trash talking was considered controversial to the extent that it provoked reactions of misconduct, harassment and discomfort. While malicious trash talk generally constitutes proscribed behaviours, light-hearted trash talk may be considered a symbol of respect among players and the broader community in the context of this esport. Further study of trash talk in other esporting contexts is warranted.

REFERENCES

Boardley, I. D. and Kavussanu, M. (2009), 'The influence of social variables and moral disengagement on prosocial and antisocial behaviours in field hockey and netball', *Journal of Sports Sciences*, 27:8, pp. 843–54.

Bourdieu, P. (1984), *Distinction: A Social Critique of the Judgement of Taste*, Cambridge, MA: Harvard University Press.

Bourdieu, P. (1990), *In Other Words: Essays Towards a Reflexive Sociology*, Stanford, CA: Stanford University Press.

Bowditch, L., Chapman, J. and Naweed, A. (2018), 'Do coping strategies moderate the relationship between escapism and negative gaming outcomes in World of Warcraft (MMORPG) players?', *Computers in Human Behavior*, 86, pp. 69–76.

Breuer, J, Scharkow, M. and Quandt, T. (2015), 'Sore losers? A reexamination of the frustration–aggression hypothesis for colocated video game play', *Psychology of Popular Media Culture*, 4, pp. 126–37.

Carron, A. V. (1988), *Group Dynamics in Sport: Theoretical & Practical Issues*, London: Spodym Publishers.

Carter, M. and Gibbs, M. R. (2013), 'eSports in EVE online: Skullduggery, fair play and acceptability in an unbounded competition', in *Proceedings of the 8th International Conference on the Foundations of Digital Games, FDG 2013*, Crete, Greece, 14–17 May, pp. 47–54.

Cheung, G. and Huang, J. (2011), 'Starcraft from the stands: Understanding the game spectator', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, Vancouver, Canada, 7–12 May, pp. 763–72.

Conmy, B., Tenenbaum, G., Eklund, R., Roehrig, A. and Filho, E. (2013), 'Trash talk in a competitive setting: Impact on self-efficacy and affect', *Journal of Applied Social Psychology*, 43, pp. 1002–14.

Cook, C., Schaafsma, J. and Antheunis, M. (2017), 'Under the bridge: An in-depth examination of online trolling in the gaming context', *New Media & Society*, 20, pp. 3323–40.

Corbin, J. M. and Strauss, A. (1990), 'Grounded theory research: Procedures, canons, and evaluative criteria', *Qualitative Sociology*, 13, pp. 3–21.

Cote, A. C. (2017), '"I can defend myself": Women's strategies for coping with harassment while gaming online', *Games and Culture*, 12, pp. 136–55.

Crawford, G. and Gosling, V. (2009), 'More than a game: Sports-themed video games & player narratives', *Sociology of Sport Journal*, 26, pp. 50–66.

Dixon, N. (2007), 'Trash talking, respect for opponents and good competition', *Sport, Ethics and Philosophy*, 1, pp. 96–106.

Dixon, N. (2008), 'Trash Talking as Irrelevant to Athletic Excellence: Response to Summers', *Journal of the Philosophy of Sport*, 35:1, pp. 90–6.

Duncan, S. (2019), 'Sledging in sport – Playful banter, or mean-spirited insults? A study of sledging's place in play', *Sport, Ethics and Philosophy*, 13, pp. 183–97.

Eveslage, S. and Delaney, K. (1998), 'Talkin' trash at hardwick high: A case study of insult talk on a boys' basketball team', *International Review for the Sociology of Sport*, 33, pp. 239–53.

Feezell, R. (2008), 'Vulgarians of the World Unite: Sport, Dirty Language, and Ethics', *Journal of the Philosophy of Sport*, 35:1, pp. 17–42.

Ford, C., Gardner, D., Horgan, L. E., Liu, C., tsaasan, a. m., Nardi, B. and Rickman, J. (2017), 'Chat speed OP PogChamp: Practices of coherence in massive twitch chat', in *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, Denver, Colorado, 6–11 May, pp. 858–71.

Frostling-Henningsson, M. (2009), 'First-person shooter games as a way of connecting to people: 'Brothers in Blood', *CyberPsychology & Behavior*, 12, pp. 557–62.

Giddens, A. (1979), *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis*, Berkeley, CA and Los Angeles, CA: University of California Press.

Hamari, J. and Sjöblom, M. (2017), 'What is eSports and why do people watch it?', *Internet Research*, 27, pp. 211–32.

Hamilton, W. A., Garretson, O. and Kerne, A. (2014), 'Streaming on twitch: Fostering participatory communities of play within live mixed media', *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, Toronto: ACM, pp. 1315–24.

Hidden Path Entertainment (2012), *Counter Strike: Global Offensive*, Bellevue, WA: Valve Cooperation.

HLTV.org (2017), 'PGL Major Krakow 2017', photograph, https://www.hltv.org/gallery/view/91176. Accessed 16 September 2019.

Howe, L. A. (2004), 'Gamesmanship', *Journal of the Philosophy of Sport*, 31, pp. 212–25.

Hsieh, H.-F. and Shannon, S. E. (2005), 'Three approaches to qualitative content analysis', *Qualitative Health Research*, 15, pp. 1277–88.

Irwin, S. V. and Naweed, A. (2020), 'BM'ing, throwing, bug exploiting, and other forms of (un)sportsmanlike behavior in CS:GO esports', *Games and Culture*, 15, pp. 411–33.

1.   Ivory, A. H., Fox, J., Waddell, T. F. and Ivory, J. D. (2014), 'Sex role stereoty-
     ping is hard to kill: A field experiment measuring social responses to user
     characteristics and behavior in an online multiplayer first-person shooter
     game', *Computers in Human Behavior*, 35, pp. 148–56.
     Jenny, S. E., Keiper, M. C., Taylor, B. J., Williams, D. P., Gawrysiak, J., Manning,
     R. D. and Tutka, P. M. (2018), 'eSports venues: A new sport business oppor-
     tunity', *Journal of Applied Sport Management*, 10, pp. 34–49.
     Johnson, C. and Taylor, J. (2020), 'More than bullshit: Trash talk and other
     psychological tests of sporting excellence', *Sport, Ethics and Philosophy*, 14,
     pp. 47–61.
     Kassing, J. W. and Sanderson, J. (2015), 'Playing in the new media game or
     riding the virtual bench: Confirming and disconfirming membership in the
     community of sport', *Journal of Sport and Social Issues*, 39, pp. 3–18.
     Kavussanu, M. (2008), 'Moral behaviour in sport: A critical review of the lite-
     rature', *International Review of Sport and Exercise Psychology*, 1, pp. 124–38.
     Kavussanu, M. and Boardley, I. D. (2009), 'The prosocial and antisocial beha-
     vior in sport scale', *Journal of Sport and Exercise Psychology*, 31, pp. 97–117.
     Kavussanu, M., Boardley, I. D., Sagar, S. S. and Ring, C. (2013), 'Bracketed
     morality revisited: How do athletes behave in two contexts?', *Journal of
     Sport and Exercise Psychology*, 35, pp. 449–63.
     Kavussanu, M., Willoughby, A. and Ring, C. (2012), 'Moral identity and emotion
     in athletes', *Journal of Sport and Exercise Psychology*, 34, pp. 695–714.
     Kershnar, S. (2015), 'The moral rules of trash talking: Morality and ownership',
     Sport, Ethics and Philosophy, 9, pp. 303–23.
     Kniffin, K. M. and Palacio, D. (2018), 'Trash-talking and trolling', *Human
     Nature*, 29, pp. 353–69.
     Kordyaka, B., Jahn, K. and Niehaves, B. (2020), 'Towards a unified theory of
     toxic behavior in video games', *Internet Research*, 30, pp. 1081–1102.
     Lee, D. and Schoenstedt, L. J. (2011), 'Comparison of eSports and traditional
     sports consumption motives', *The ICHPER-SD Journal of Research in Health,
     Physical Education, Recreation, Sport & Dance*, 6, pp. 39–44.
     Lines, G. (2001), 'Villains, fools or heroes? Sports stars as role models for
     young people', *Leisure Studies*, 20, pp. 285–303.
     LoConto, D. G. and Roth, T. J. (2005), 'Mead and the art of Trash Talking: I got
     you gesture right here', *Sociological Spectrum*, 25:2, pp. 215–30.
     Myers, B. (2019), 'Friends with benefits: Plausible optimism and the practice of
     teabagging in video games', *Games and Culture*, 14, pp. 763–80.
     Nakamura, L. (2012), 'It's a nigger in here! kill the nigger! User-generated
     media campaigns against racism, sexism, and homophobia in digital
     games', in K. Gates (ed.), The International Encyclopedia of Media Studies,
     Malden, Massachusetts: Blackwell Publishing, pp. 2–15.
     Nguyen, C. T. and Zagal, J. P. (2016), 'Good violence, bad violence: The ethics
     of competition in multiplayer games', in *Proceedings of the First International
     Joint Conference of DiGRA and FDG*, Dundee, Scotland, 1–6 August, pp. 1–16.
     Omine, M. (2017), 'Ethics of trash talking in soccer', *International Journal of
     Sport and Health Science*, 15, pp. 120–25.
     Ortiz, S. M. (2019), 'The meanings of racist and sexist trash talk for men of
     color: A cultural sociological approach to studying gaming culture', *New
     Media & Society*, 21, pp. 879–94.
     Ortner, S. B. (2006), *Anthropology and Social Theory: Culture, Power, and the
     Acting Subject*, Durham, NC: Duke University Press.

Pegoraro, A. (2010), 'Look who's talking – Athletes on twitter: A case study', *International Journal of Sport Communication*, 3, pp. 501–14.

Rainey, D. W. and Granito, V. (2010), 'Normative rules for trash talk among college athletes: An exploratory study', *Journal of Sport Behavior*, 33, pp. 276–94.

Ring, C., Kavussanu, M., Al-Yaaribi, A., Tenenbaum, G. and Stanger, N. (2019), 'Effects of antisocial behaviour on opponent's anger, attention, and performance', *Journal of Sports Sciences*, 37, pp. 871–77.

Rudd, A. (2017), 'Sport spectator behavior as a moral issue in college sport', *Journal of Amateur Sport*, 3, pp. 96–114.

Rutten, E., Carlo, S., Evelien, D., Stams, G. J. J. M. and Biesta, G. (2011), 'Predictors of antisocial and prosocial behavior in an adolescent sports context', *Social Development*, 20, pp. 294–315.

Ruvalcaba, O., Shulze, J., Kim, A., Berzenski, S. R. and Otten, M. P. (2018), 'Women's experiences in eSports: Gendered differences in peer and spectator feedback during competitive video game play', *Journal of Sport and Social Issues*, 42, pp. 295–311.

Saldaña, J. (2012), *The Coding Manual for Qualitative Researchers*, London: Sage.

Sanderson, J. (2013), 'From loving the hero to despising the villain: Sports fans, Facebook, and social identity threats', *Mass Communication and Society*, 16, pp. 487–509.

Sanderson, J. and Truax, C. (2014), '"I hate you man!": Exploring maladaptive parasocial interaction expressions to college athletes via Twitter', *Journal of Issues in Intercollegiate Athletics*, 7, pp. 333–51.

Schatzki, T. R. (1996), *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*, Cambridge, MA: Cambridge University Press.

Seo, Y. (2016), 'Professionalized consumption and identity transformations in the field of eSports', *Journal of Business Research*, 69, pp. 264–72.

Shields, D. L., Funk, C. D. and Bredemeier, B. L. (2018), 'Relationships among moral and contesting variables and prosocial and antisocial behavior in sport', *Journal of Moral Education*, 47, pp. 17–33.

Simons, H. D. (2003), 'Race and penalized sports behaviors', *International Review for the Sociology of Sport*, 38, pp. 5–22.

Smith, J. H. (2004), 'Playing dirty-understanding conflicts in multiplayer games', in *5th Annual Conference of the Association of Internet Researchers*', Sussex, England: University of Sussex, 19–22 September, pp. 1–15.

Stebbins, R. A. (1982), 'Serious leisure: A conceptual statement', *Pacific Sociological Review*, 25, pp. 251–72.

Su, N. M. (2010), 'Street fighter IV: Braggadocio off and on-line', *Proceedings of the 2010 ACM Conference on Computer Supported Cooperative Work*', Savannah, GA: ACM, pp. 361–70.

Summers, C. (2007), 'Ouch.... you just dropped the ashes', *Journal of the Philosophy of Sport*, 34, pp. 68–76.

Thiborg, J. and Carlsson, B. (2010), 'Law and morality in counterstrike', *Entertainment and Sports Law Journal*, 8, pp. 1–13.

Traclet, A., Romand, P., Moret, O. and Kavussanu, M. (2011), 'Antisocial behavior in soccer: A qualitative study of moral disengagement', *International Journal of Sport and Exercise Psychology*, 9, pp. 143–55.

Trammel, R., Van Raalte, J. L., Brewer, B. W. and Petitpas, A. J. (2017), 'Coping with verbal gamesmanship in golf: The PACE model', *Journal of Sport Psychology in Action*, 8, pp. 163–72.

Wagner, M. G. (2006), 'On the scientific relevance of eSports', in *International Conference on Internet Computing*, ICOMP 2006, Las Vegas, Nevada, 26–29 June, pp. 437–42.

Wegner, M., Bohnacker, V., Mempel, G., Teubel, T. and Schüler, J. (2014), 'Explicit and implicit affiliation motives predict verbal and nonverbal social behavior in sports competition', *Psychology of Sport and Exercise*, 15, pp. 588–95.

Weiss, T. (2011), 'Fulfilling the needs of eSports consumers: A uses and gratifications perspective', in *Proceedings of the 24th Bled eConference 'eFuture: Creating Solutions for the Individual, Organisations and Society*, Bled 2011, Bled, Slovenia, 12–15 June, pp. 572–80.

Witkowski, E. (2018), 'Doing/undoing gender with the girl gamer in high-performance play', in K. L. Gray, G. Voorhees and E. Vossen (eds), *Feminism in Play*, Cham: Springer International Publishing, pp. 185–203.

Wright, T., Boria, E. and Breidenbach, P. (2002), 'Creative player actions in FPS online video games: Playing Counter-Strike', *Game Studies*, 2, pp. 103–23.

Yip, J. A., Schweitzer, M. E. and Nurmohamed, S. (2018), 'Trash-talking: Competitive incivility motivates rivalry, performance, and unethical behavior', *Organizational Behavior and Human Decision Processes*, 144, pp. 125–44.

SUGGESTED CITATION

CONTRIBUTOR DETAILS

Sidney Irwin is a Ph.D. candidate at the School of Human, Medical and Applied Sciences at Central Queensland University. She received her bachelor of psychological science (with Honours) from the same university. She is currently researching in the interstices of internet culture, psychology and esports.

Contact: Appleton Institute for Behavioural Science, Central Queensland University, 44 Greenhill Road, Wayville, SA 5034, Australia.
E-mail: sidney.irwin@cqumail.com

https://orcid.org/0000-0002-0400-1209

Anjum Naweed is a research professor of applied cognitive science at the Appleton Institute for Behavioural Science in South Australia. He received his Ph.D. in psychology from Sheffield University (UK). His focus on decision-making and knowledge representation is concerned with the relationship between people and technologies, tools, environments and systems, beginning with the user experience.

Contact: Appleton Institute for Behavioural Science, Central Queensland University, 44 Greenhill Road, Wayville, SA 5034, Australia.
E-mail: anjum.naweed@cqu.edu.au

� https://orcid.org/0000-0002-5534-4295

Michele Lastella is a senior lecturer at the Appleton Institute for Behavioural Science in South Australia. He received his Ph.D. in psychology from Central Queensland University. His currently teaches applied sports psychology, and his research interests involve examining the sleep/wake behaviours of elite athletes and how various stressors may impact their psychological state and performance.

Contact: Appleton Institute for Behavioural Science, Central Queensland University, 44 Greenhill Road, Wayville, SA 5034, Australia.
E-mail: m.lastella@cqu.edu.au

🅫 https://orcid.org/0000-0003-1793-3811

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

KAREN SCHRIER
Marist College

MATTHEW FARBER
University of Northern Colorado

A systematic literature review of 'empathy' and 'games'

ABSTRACT

Scholarship on the intersection of games and empathy is limited. However, over the past decade peer-reviewed articles have started to be published in this area. This study investigates this emerging scholarship on empathy and games to understand how researchers are describing, defining and communicating their work. For example, How are research articles about games defining empathy? From which disciplines are the researchers framing their studies? Which types of games are being used in the investigations? Forty-nine articles were found, coded and analysed by searching six different databases. For this investigation, each article was analysed based on the discipline, keyword(s) used to find the article, definition(s) of empathy used, types of games used in the article and the themes used in the article. Articles emerged from twelve different disciplines and described over thirteen different types of empathy. Findings were shared, as well as recommendations for researchers studying this area.

KEYWORDS

games
empathy
gaming
digital games
literature review
compassion

INTRODUCTION

'Empathy' is not a new concept; however, it is being practiced in new contexts and applied in differing ways, which require further analysis (Brown 2018; Sousa and Tomlinson 2017; Tomlinson and Murphy 2018). For instance, some games are being purposefully designed and used to support prosocial behaviours and social and emotional learning (SEL), which may include enhancing empathy, compassion and related skills and concepts (Schrier and Farber 2019). Researchers like Ruberg have noted that game scholars and journalists have increasingly started to use the rhetoric of 'empathy' in relation to games, such as when describing ones that help players 'walk in another's shoes' (Ruberg 2020).

The intersection of games and empathy is an emerging area, starting to be studied over the past decade by researcher communities from all different fields, such as computer science, media studies, and the social sciences. However, they may not be in dialogue with each other, and there is no meta-level discussion of what or how it is being studied. Further, the term 'empathy' may be used very differently in different contexts, and without precision, nuance or even accuracy (Hall and Schwartz 2018). The use of the term may even be misused, which could have ethical and discriminatory implications (Ruberg 2020). This article seeks to contribute to this conversation by conducting a systematic review of peer-reviewed scholarship that use the terms empathy and games, and analysing how these terms are used.

The intersection of games and empathy is an emerging area of inquiry. There are a number of reasons why this new area is important to study, and further define. One, people are spending more time playing games (Entertainment Software Association 2019), and this has increased even further during the COVID-19 Pandemic (Schrier 2021). When playing any game, players may experience prosocial interactions, such as friend-making and mentorship, as well as antisocial interactions, such as harassment and bullying through online games (ADL 2019; ADL 2020). Understanding how to encourage people to practice empathy towards other players can better support further prosocial interactions, and reduce the antisocial ones. For instance, practicing empathy through games may help to reduce conflict and aggression towards others, including bullying (de Vos et al. 2013).

Second, games may be another type of experience, alongside others, including film, books and theatre, which help us understand more about ourselves, others and humanity (Schrier 2019), as well as support the practice of social and emotional skills and behaviours. For example, Bréjard et al. (2016) observed that those who self-report frequent game play as being more adept at regulating their emotions than those who report occasional play.

Third, because games may connect people from all over the world, or may represent different types of people, cultures, and/or perspectives, games may help players see others as more familiar and as part of their 'in-group', rather than an 'out-group', possibly enhancing empathy (Darvasi 2016; Farber and Schrier 2017). Understanding the mechanisms by which we can connect with others through experiences such as games can help to possibly reduce biases and support cultural awareness and understanding (Schrier 2019).

Finally, games are civic communities and public spheres (Schrier 2021). They are places where we practice ethical and civic decisions and learn about how we can engage with the world. They even may more directly pose moral choices, or enable the practice of ethics. Developing empathy through games

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. may be useful for moral and civic education, as they may support the practice
2. of ethics, alongside caring for others (Noddings 2010; Read 2019).
3.   Thus, in this article, we seek to review the intersection among two fields
4. of research: games and empathy. This intersection has been explored in a
5. number of recent articles and books (Sampat 2017; Farber and Schrier 2017;
6. Darvasi 2016; Schrier 2021), though it is still understudied. The area of empa-
7. thy and games has been not well defined and there has been no systematic
8. review of recent scholarship.
9.   As such, we aim to explore the scholarship in this area, describe the disci-
10. plinary approaches, identify their definitions, and recommend next steps. We
11. specifically want to understand the following:
12.
13. •   What are the types (definitions) of empathy that are discussed in research
14.   (peer-reviewed and scholarly) on games and empathy?
15. •   What are the disciplinary approaches that are used?
16. •   What are the themes that emerge in the articles on games and empathy?
17. •   What types of games are they using?
18.
19. We hope that this investigation will serve as an initial map to this emerging
20. area and will help us to explore new questions within it, as well as help us in
21. refining our usage of empathy as applied to games.
22.

What is empathy and why study it?

24.
25. What is empathy? Colloquially speaking, empathy is feeling how someone
26. else feels or understanding what someone else has experienced (Gaesser
27. 2013). Affective, cognitive and motivational components of empathy have
28. been cited and debated (Gerdes et al. 2011; Bailenson 20l8; Batson 1991; Zaki
29. 2017).
30.   There are a number of reasons why it is useful to study empathy. Researchers
31. have connected empathy to prosocial behaviour, or behaviours that aim to
32. help others and connect people (Gaesser 2013). Batson (1991) hypothesized
33. that empathetic concern for an others' plight could lead to more altruistic,
34. prosocial outcomes. Empathy and perspective-taking are key components of
35. the Collaborative for Academic, Social, and Emotional Learning's (CASEL)
36. Framework (Core SEL Competencies 2019), which describes the types of skills
37. needed for SEL understanding. Empathy has also been seen as an integral
38. component to moral education (Read 2019); to reducing conflict and bully-
39. ing in educational settings and beyond (de Vos et al. 2013); and to developing
40. a strong teacher-student relationship (Tomlinson and Murphy 2018). Finally,
41. empathy may be related to reducing biases and enhancing respect for other
42. cultures (Schrier 2019).
43.   While some researchers have called for the need to teach empathy
44. in schools and the workplace (Brown 2018; Sousa and Tomlinson 2017;
45. Tomlinson and Murphy 2018), other researchers have criticized empathy as
46. not being a useful concept, inconsistently applied, and that its use may even
47. be problematic or harmful (Bloom 2017; Ruberg 2020; Hall and Schwartz
48. 2018). Researchers have suggested that the societal value of being empa-
49. thetic compared to other social emotional traits (e.g. compassion) may in fact
50. be overstated (e.g. Bloom 2017; Marinova et al. 2018), as compassion often
51. includes action, such as being nurturing, whereas empathy does not. Being
52. empathetic can cause some people to become biased towards in-groups over
    out-groups (Bloom 2017; Field 2017).

Empathy and digital games

Games can be defined as 'a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome' (Salen and Zimmerman 2003: 80). The boundaries of what a game is or is not – whether a walking simulator, VR experience, live-action role-playing game (LARP), or board game – is not the focus of this article. We included research on games and empathy based on what the researchers themselves defined as 'games' (by using the word, 'games', in our search).

An overriding research question is whether digital games can support the practice of empathy, and related skills and behaviours, such as perspective-taking, empathic concern, and prosocial behaviour. Related questions posited by researchers include: whether a game can spur participants to practice empathy outside of the game, similarly to within the game; whether empathy practice can lead to prosocial attitudes and behaviours; and whether designing games, as well as playing them, can support the practice of empathy-related skills, like thinking about views or evidence from another's perspective (Schrier and Farber 2019). For example, research has considered whether games can stimulate imagination and episodic memory in ways that may induce empathy (Addis and Schacter 2008; Gaesser 2013; Szpunar and Schacter 2012). Research has also considered whether some games can mentally transport players into fictional worlds (Gerrig 1993; Gerrig and Prentice 1991; Green and Brock 2000; Murphy et al. 2011), and whether this immersion also requires a strong narrative context (Bowman 2010; Cragoe 2016). Research has also investigated how players who are immersed in a fictional world may feel empathetic towards experience as a whole, as well as with virtual characters that populate the worlds (Schrier 2017; Belman and Flanagan 2010; Greitemeyer and Osswald 2010; Flanagan and Nissenbaum 2014; Mahood and Hanus 2017). For instance, in some digital games, players navigate a digital on-screen persona, projecting their identity onto an avatar. The extent to which players can perspective-take using a projective identity onto a digital avatar, choice-making as another persona, may (or may not) evoke feelings of empathy (Belman and Flanagan 2010). Players may also feel empathy towards nonplayable (computer-controlled) characters, as well as other players, in online multiplayer game worlds (Greitemeyer et al. 2010; Harth 2017; Isbister 2016; Lepron et al. 2015; Mahood and Hanus 2017; Turkle 2011). Researchers have also explored whether the interactions in game worlds can support (or limit) the practice of empathy-building skills, as well as ethics and morality (e.g. Schrier 2021; Schrier 2015; Belman and Flanagan2010; Maclagan 2003; Noddings 2010). Finally, researchers have also considered the ethical implications of using games for empathy, and have noted instances where games may backfire, and spur misconceptions or even harm (Ruberg 2020; Schrier2021).

Why conduct a systematic literature review on empathy and games?

The application of empathy to gaming is a new area of study. As this area continues to be studied, we argue that it is a useful moment to understand how researchers are investigating it – thus motivating this investigation. There are two main reasons that justify our pursuits in describing the research in this nascent area.

First, empathy itself is an 'umbrella term' (Zaki 2017: 60), and can have different nuanced meanings, based on the context in which it is used. In the

1. field of service design, empathy can mean the imagined potential experience
2. of a client or customer or patient (Hess and Fila 2016), while historical empa-
3. thy purports to engage people in the reconstruction of 'others' beliefs, values
4. and goals, any or all of which are not necessarily those of the historical inves-
5. tigator' (Riley 1998: 33). As we discuss later, a number of different types of
6. empathy have been identified and described by researchers. Cognitive empa-
7. thy describes 'intentionally taking another person's point of view' (Belman and
8. Flanagan 2010: 6), and affective empathy defines empathy as connected to
9. emotions and feeling what others feel (Oswald 1996). Being able to appropri-
10. ately define empathy will help us to better understand it in relation to gaming,
11. will help to resolve any inconsistencies, will help to further establish this area
12. of inquiry, and will help to better foster dialogue across researchers.
13.   Second, empathy is a complex concept that is challenging to measure
14. and assess, and the methodologies used to assess it may vary across different
15. fields. Researchers have pointed to investigating specific skills, actions, behav-
16. iours, attitudes and practices, such as perspective-taking, empathic concern,
17. personal distress, and fantasy involvement (Davis 1983), as well as the ability
18. to express, identify and regulate one's emotions (Batson 1991; Baron-Cohen
19. and Wheelwright 2004). For example, the ability to take on other perspec-
20. tives may be fundamental to being an empathetic person, as it describes those
21. who: (1) see the world as others see it, (2) are non-judgmental, (3) understand
22. another's feelings (4) and can communicate this understanding (Wiseman
23. 1996: 1165). Being able to appropriately measure and assess it will help us to
24. accurately understand how games may (or may not) support the development
25. of empathy, and will further define and refine this new area.
26.   Current research on empathy often asks more questions than answers
27. them. Thus, an impetus for this study is also to review the current research
28. that exists around empathy, particularly in relation to games and gaming, and
29. to identify gaps and themes, and to describe and further define its terms and
30. metrics.
31.
32. **METHODOLOGY**
33.
34. In this section, we describe the methodology for conducting the systematic
35. literature review of published peer-reviewed research on empathy and games.
36.
37. *Use of a systematic literature review*
38. Systematic literature reviews are form of standalone research review where
39. constructs such as search terms and databases are predetermined by
40. researcher(s) (Adroher et al. 2018; Fink 2019; Okoli 2015). Similar to other
41. forms of literature reviews, researcher(s) take the following steps: (1) decide
42. upon research questions, (2) develop an agreed-upon review protocol,
43. (3) search literature databases, (4) rescreen for inclusion of all search terms,
44. (5) assess quality of search results, (6) extract data, (7) analyse and synthesize
45. data and finally (8) report the findings (Xiao and Watson 2019: 102). Systematic
46. literature reviews have methodological roots in the health sciences (e.g. Okoli
47. 2015), but increasingly this approach is also conducted in other fields such
48. as information sciences, learning sciences, and in game-based learning (Fink
49. 2019; Hainey et al. 2016; Papamitsiou and Economides 2014). For instance,
50. Hainey et al. (2016) conducted an extensive systematic literature review on
51. game-based learning in primary education over a thirteen-year period. In this
52.

review, Hainey et al. (2016) sought to understand efficacy through analysis and synthesis of empirical evidence of outcomes found in literature. As with Boyle et al. (2016) and Connolly et al. (2012), we hypothesized that search terms 'empathy' and 'games' may be used differently in different contexts depending of fields of study (empathy may mean something different in an historic-set educational game than in a nursing student training game). Unlike Boyle et al. (2016) and Connolly et al. (2012), we agreed upon the use of Boolean logic, which enabled us to combine search terms (i.e. search: 'empathy and games' rather than each term on its own).

Databases searched

We used a systematic literature review in which we searched and reviewed literature with specific keywords using inclusion and exclusion criteria, and relevant databases (see, for instance, Androher et al. 2018; Noyes et al. 2020). To conduct our review and analysis of relevant literature, we looked at six different major databases, ACM Digital Library, ProQuest, Academic Search Elite (EBSCO), Google Scholar, Sage and DOAJ, during March and April of 2018. We chose these databases as they were available through our libraries and have been previously used to conduct literature reviews related to the intersection of gaming and games with SEL (Schrier 2015). Systematic literature reviews can use a sample of databases rather than being exhaustive of all databases that exist (Okoli 2015; Xiao and Watson 2019).

Search terms and inclusion criteria

Using these databases, we systematically searched for all relevant studies and scholarly research literature using the following search terms: empathy AND games and empathy AND videogames. We used the following criteria to find the set of articles: (1) published in the previous ten and a half years from our search start date (2) appeared in scholarly, peer-reviewed journals or proceedings and (3) were related to videogames and empathy as a primary focus of the study, rather than just having those two words appearing in the article, as determined in part by the 'relevance' of being in the first 100 search results and by a review of the article by the reviewers (e.g. an article with the idiom 'blame game' in the title may fit the search criteria but is not relevant to the area of inquiry). Our search took place during Winter 2018; we set the publication date criteria to begin on July 2007 and to go up through December 2017, as 2007 and 2008 are when studies on empathy and games started to appear more frequently. Our search using these criteria resulted in 49 total articles (see Appendix 1 for a list of all the articles).

Coding strategies and interrater reliability

We coded 49 articles on six different categories: (1) discipline(s) of the article, (2) the database used to find the article, (3) keyword(s) used to find the article (Empathy AND games or Empathy AND videogames), (4) types and definition(s) of empathy used, (5) types of games used or researched and (6) whether fifteen specific terms or phrases were used in the article (in other words, whether the exact term or phrase was found in the article). Other categories were coded but were not included in this particular article. The discipline areas were defined based on both a top-down and bottom-up approach. We first looked at the common groupings of disciplines, based on the list of

1. subject guides in an institution's (anonymized) database. Then, we also looked
2. at the fields typically represented in the study of games, and how these disci-
3. plines are grouped (Coavoux et al. 2016). Finally, we looked at the tags and
4. keywords in the articles we found to narrow down the list of fields we used
5. to categorize. We omitted any disciplines that were not represented in the
6. articles.
7.   To elicit the codes we used and create a coding scheme (including the list
8. of fifteen themes), we first reviewed 10 per cent of the articles and generated
9. codes using an inductive thematic analysis (Corbin and Strauss 2014). A list of
10. possible codes was generated from the key terms and phrases that emerged
11. from an inductive, qualitative approach, conducted done by the research-
12. ers, which involved in vivo (labelling significant words) and thematic coding
13. (Saldana 2015) of the articles. Overlapping and similar codes were omitted or
14. revised. After the researchers individually created a set of possible codes, they
15. collaboratively compared the codes, refining the list iteratively. The researchers
16. coded an additional 10 per cent of the articles and then compared the codes
17. used, further refining the coding scheme.
18.   Finally, the researchers coded all of the remaining articles. Individually,
19. they first achieved 89 per cent agreement for the codes in the six categories.
20. They then re-reviewed all of the articles together until they achieved 100 per
21. cent agreement on the codes used. The full coding scheme can be viewed in
22. Appendix 2. The list of 49 articles can be viewed in Appendix 1.
23.
24. ### *Methodological limitations*
25.
26. Systematic literature reviews are not intended to be exhaustive, but rather
27. snapshots of empirical research in a specified field of study (Xiao and Watson
28. 2019). As with literature reviews in general, there are always limitations such
29. as search terms used, time windows for searches, and databases selected. In
30. our review, we omitted any article that was (1) not peer-reviewed, (2) was only
31. an abstract (and not a full article) or (3) was not in English, due to our inabil-
32. ity to otherwise read and interpret the article. We also selected databases that
33. were available through our university libraries, and have been previously used
34. to conduct literature reviews related to the areas of inquiry (e.g. Boyle et al.
35. 2016; Connolly et al. 2012; Hainey et al. 2016). These are all limitations to our
36. study.
37.
38. ### RESULTS AND ANALYSIS
39. The total number of articles included in this study were 49 (N=49, or 49 cases).
40. A full list of articles by database (including duplicates) is found in Table 1.
41.
42. ### *Disciplines used*
43.
44. Disciplinary approaches used in each article were also coded. Overall, the
45. most frequently coded discipline was psychology (including psychologi-
46. cal effects; social; behavioural aspects of games) with 25 articles being coded
47. as relating to this discipline, or 51 per cent of the total articles. Additionally,
48. communication/media effects and education/learning were coded for thirteen
49. different articles each. Table 2 shows the disciplines that were coded for the
50. 49 articles. To decide which discipline(s) to ascribe to an article, we used the
51. following methods. One, we looked at the key terms of the article and title of
52. the article. Two, we looked at the journal, and what subjects it is categorized

Database	N	Percent of cases
ACM Digital Library	16	32.7
ProQuest	16	32.7
Sage	4	8.2
EBSCO (Academic Elite)	17	34.7
DOAJ	6	12.2
Google Scholar	20	40.8

Note: The total is greater than 49 because some articles show up in multiple databases.

Table 1: The number of articles that fit the criteria for this study, found in each database searched.

Discipline	N	Percent of cases with this
Psychology	25	51
Nursing/health	6	12.2
Economics/social science	6	12.2
Gaming/gaming studies	9	18.4
Communication/media effects	13	26.5
Design (HCI/user experience design)	10	20.4
Philosophy/ethics	4	8.2
Computer science	3	6.1
Civics	4	8.2
Art/performing arts	3	6.1
Education/learning	13	26.9
Humanities/media studies	5	10.2

Note: The total is greater than 49 because some articles were coded as being multiple different disciplines.

Table 2: The number of articles coded with the twelve different disciplinary approaches.

under. Three, we looked at the text of the article, and which types of literature and methodologies were used and cited in the article. For instance, an article such as 'Determining reactive and proactive aggression and empathy levels of middle school students regarding their video game preferences', was coded as being from the disciplines: psychology, communications and education.

The wide range of disciplines represented in the 49 articles reflects the multidisciplinary nature of empathy and games, as well as their intersection. Many articles were coded with multiple disciplines, suggesting that research in this area may benefit from having researchers or approaches from multiple different disciplines. Some journals appeared more than once (Computers in Human Behaviour, PLoS One and Frontiers in Psychology).

1. However, there was a wide range of journal types and disciplines of journals
2. (for instance, journals and proceedings as diverse as the Theatre Journal and
3. the PervasiveHealth'17: Proceedings of the 11th EAI International Conference
4. on Pervasive Computing Technologies for Healthcare). This further suggests a
5. diversity of approaches, uses and contexts for empathy and games. The high-
6. est frequency of articles, in sum, comes from the social science fields (e.g.
7. psychology, economics/social science, education/learning).
8.
9. ### Themes that emerged
10.
11. Fifteen different themes associated with research on empathy and games
12. were identified and coded by identifying the terms and phrases used in the
13. articles (see Table 3). In analysing the associated themes that were most
14. frequently used overall by all 49 articles, 'Feelings/emotional understand-
15. ing/emotion/empathetic concern' was by far the most frequently discussed,
16. with 41 instances and 83.7 per cent of the articles including this theme. After
17. that, 'Perspective-taking/perspective/put self in other's shoes' showed up in
18. 75.5 per cent of the articles analysed. Other terms 'Narrative/storytelling',
19. 'Identification with others/relate to others', and 'Immersion/engagement'
20. showed up in almost half the articles. Less frequently coded were themes such
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

Theme	N	Percent of cases with this
Reflection	9	18.4
Communication	11	22.4
Perspective-taking/perspective/put self in other's shoes	37	75.5
Prosocial	19	38.8
Critical thinking	3	6.1
Cultural awareness/global/cultural understanding	14	28.6
Agency	12	24.5
Narrative/storytelling	21	42.9
Feelings/emotional understanding/ emotion/empathetic concern	41	83.7
Civics/civic engagement	6	12.2
Identification with others/relate to others	23	46.9
Immersion/engagement	22	44.9
Violence/violent	15	30.6
Altruism	3	6.1
Ethics/values/fairness/justice	4	8.2

Note: Often, multiple different terms appeared in the same article.

Table 3: The fifteen themes that were coded, and how frequently they appeared in the 49 articles analysed.

as those related to ethics and fairness; critical thinking; empathy as integral to altruism; or civics and civic engagement.

A common misperception is that research on games and empathy is focused more on the cognitive aspects of empathy rather than the more affective, feeling-focused ones (Pavliscak 2018). However, our research suggests that emotions, feelings and care were also investigated, as themes associated with emotion were frequently identified in the articles reviewed (83.7 per cent).

The themes that more frequently emerged in relation to empathy and games suggest how games are being used to elicit the practice of empathy. Many of the more frequently identified themes are ones related to skills that a player may perform through a game or behaviours that the game may help elicit (perspective-taking, communication, reflection, identification with others, concern for others), as well as game design principles that may connect to an immersive, engaging environment where empathy can be practiced (storytelling, engagement). Thus, these themes may suggest possible goals and design patterns for future empathy games (Björk and Holopainen 2005). Or, the themes may help us to further refine how and when we use the term empathy in relation to games. Do we need to use the term 'empathy', or could we instead use the more specific skill or behaviour we want to elicit, such as reflection or concern for others?

'Violence' was a frequently used term and was used in almost a third of the articles reviewed. However, the themes that emerged suggest that the research on this topic is not just related to the limitations of games (e.g. aggression, violence), but also on the beneficial aspects (e.g. to support perspective-taking, cultural awareness, feelings). This is important to note, as media reports often cite the antisocial aspects of games, rather than the prosocial aspects (Schrier 2019).

Finally, the lower frequency of the themes of equity and ethics among the data set we studied suggest a gap in the scholarship. We should be considering not only how games may be supporting prosocial change, but the ethics of that transformation. What are the equity-related and ethical implications of the use of empathy games? (Ruberg 2020; Rusch 2017; Rusch 2019; Schrier 2021).

Types of empathy

Many different types of empathy were described in the research articles analysed. Thirteen kinds of empathy emerged (see Table 4), including a general term for 'empathy'. Shin and Ahn (2013) describe cognitive empathy as a social behaviour that involves reading and interpreting the thoughts of others. Dodge (2011) describes cognitive empathy as including four different processes: 'perspective taking (understand another's point of view) and fantasy identification (imagining oneself in the place of another), as well as […] empathy reflection (recollecting one's response) and empathy projection (hypothesizing response in another context)' (288). Edele et al. (2013) distinguish between cognitive and affective empathy, and explain that cognitive involves 'understanding what another person is thinking or feeling' and relates to actions like 'metalizing, perspective-taking, social cognition, mindreading or theory of mind'. Affective empathy focuses on experiencing or sharing another's feelings or emotional state, and relates to activities such as 'emotional contagion, affect matching, empathic concern' or sympathy (Edele et al. 2013).

Definitions	N	Percent of cases with this
Cognitive empathy	18	36.7
Emotional/affective empathy	19	38.
Psychological/psychoanalytic empathy	1	2
Reactive empathy	4	8.2
Global empathy	2	4.1
Other (auto, player-specific)	12	24.5
General empathy also (general term of empathy)	44	89.8
Parallel empathy	3	6.1
Fantasy empathy	1	2
Cultural empathy	3	6.1
Trait empathy	3	6.1
Game/gameplay empathy	2	4.1
Critical empathy	2	4.1

Note: The total is greater than 49 because some articles included more than one type of empathy in the research.

Table 4: The types of empathy that were identified and/or defined in the articles.

Edele et al. (2013) argue that these two types of empathy comprise both the cognitive and affective aspects. Cognitive empathy and affective empathy were used somewhat frequently, in about one-third of the cases. Likewise, these two types of empathy are often found together in the same article, with eighteen articles mentioning both cognitive and affective empathy. Overall, the most frequently used definition type was a general use of the word 'empathy', which was used in 89.8 per cent of the articles, rather than a specific type of empathy. Other types of empathy were used, though less frequently, such as reactive (8.2 per cent), parallel (6.1 per cent), and cultural empathy (6.1 per cent). Types of empathy that were coded as 'other types of empathy' included player-specific empathy and auto-empathy. Three additional types of empathy (historical empathy, motivational empathy, and literary empathy) were found in research outside the criteria for this study. Researchers may want to consider them in future research.

The use of so many different types of empathy-related terms suggests that there is little consistency across disciplines in how they are defining, applying and measuring empathy. This has implications for how empathy is operationalized in a game, or researched and measured through a game environment. Moreover, the majority of articles use the term 'empathy' in a general sense, rather than focus on a specific type of empathy, suggesting that many of the articles are using this complex concept as a stand-in for a number of skills, behaviours and practices, rather than using previously defined models, standards or measurements.

Part of the reason for this may be because empathy itself has been understudied, misunderstood and used differently depending on the context (Zaki 2017; Hall and Schwartz 2018). There is no empathy 'discipline', and, as discussed earlier, multiple disciplines may approach this concept differently, which then affects how it is further applied to games. The wide range of how empathy is used in the 49 articles, and the fact that there are so many different types of empathy that emerged in such a small sample, suggest the need for standardizing the definitions of the term 'empathy' and how it is measured and used. Researchers should consider whether it is empathy they are studying and whether there is another term, skills, behaviour, concept, or process that would be more relevant, precise or accurate.

Types of games

The type of game(s) that were described, researched and interpreted in the research articles were also coded (e.g. digital games, analogue games) (see Table 5). Digital games, generally, were the most frequently coded type of game used in the study (87.8 per cent of all articles include at least one digital game in their research). Commercial off-the-shelf (CoTS) games were also used frequently, with 44.9 per cent of the cases.

Around a quarter of all the articles included a game that was created by the researchers, and was used to conduct the research. For instance, Tong et al. (2017) researched a game, As If, which aims to help players understand what it is like to have chronic pain and experience body limitations. This game was coded as being their own game, and a digital game. Likewise, Kors et al. (2016) researched A Breathtaking Journey, which is a mixed reality game that the researchers created, which helps to share the perspective of a refugee. This was coded as a digital game, as a game made by the researchers, and as a game for change.

We chose a maximum of three game categories that best described the games used in each of the articles. While some of the categories are not overlapping (analogue vs. digital game), many of the categories can be overlapping (CoTS game and digital game).

Game categories	N	Percent of cases with this
Commercial off-the-shelf (CoTS)	22	44.9
Educational game	8	16.3
Analog (non-digital) game	6	12.2
Games for change/social impact	16	32.7
Digital games	43	87.8
Role-playing games	4	8.2
Their own game used for testing	13	26.5
Economics/game theory game	5	10.2

Note: The total is greater than 49 because some articles included more than one type of game in their research, or the game was coded with multiple categories.

Table 5: The types of games used or researched in the articles.

These results suggest that practicing empathy is not the domain of just one type of game (such as a game for social change or educational game) but that it may be part of the experience of many different types of games, including ones that are solely focused on entertainment. Participating in empathy is part of the human experience, and not just the domain of games intentionally created for prosocial goals.

The results also showed that about a quarter of the research included a researcher-created game. This suggests the interest on the part of researchers to create games for empathy, the possible lack of models to use to answer research questions about empathy, and the need for supporting research in this field by funding both the creation of game experiences alongside the research of those experiences. However, an open question is why these researchers sought to label their game using the term 'empathy', rather than using other terms.

NEXT STEPS AND RECOMMENDATIONS

This research describes and analyses scholarship around the intersection of empathy and games. This area is characterized by being diverse in terms of disciplines used to approach the topic, where this scholarship is found, and the ways in which empathy is used and defined in the articles.

Taking a step back, we start to see how the different disciplines approach the intersection of empathy and games. Not surprisingly, the disciplines from the social sciences (e.g. psychology, economics, civics, education) look at the affective and emotional aspects of games, as well as the cognitive aspects. The economics discipline more regularly created and used their own games to help better understand human behaviour, such as around altruism. However, it may be surprising that other disciplines, such as computer science and HCI, also considered the affective aspects of empathy. It suggests that researchers studying interactions among computers and human beings are not just thinking about technical and usability questions, but are also considering the affective aspects of these interactions. The humanistic pursuits – such as game studies, arts and media studies – have themes related to emotions, but also perspective-taking, narrative/storytelling, and identifying with others, suggesting that these disciplines consider games a type of text, where story, characters and other elements draw in a player, and help them to empathize with others, just as they might with good literature or film.

Finally, certain disciplines were more likely to use certain types of games. As mentioned before, economics researchers used their own games, while nursing and HCI did as well, which suggests that these fields could benefit from vetted design frameworks, principles and patterns. We should also encourage other fields to develop their own games so that we can see the full range of what games can do, and not just limit their use to certain fields (such as testing for usability and human interactions as in the case of HCI, or addressing healthcare needs or nursing education). As suggested by this research, researchers from some fields have focused more on analysing others' digital and commercial games, such as those from computer science, psychology, philosophy and humanities. We may want to encourage these disciplines to consider applying analyses to non-digital games, games for social change, and games for education. This will help to further the area of empathy and games, as it will benefit both from a consistent taxonomy of terms

and methodologies, as well as a diverse range of questions being asked and answered, and perspectives being applied (Zaki 2017).

We make the following recommendations for researchers.

Define and interpret how to use the term empathy

This study identified at least thirteen different 'types of empathy' in the literature. Rather than continuing to generate new definitions of empathy or new ways of describing empathy (e.g. affective empathy, critical empathy, motivational empathy), researchers should consider devising a shared set of standardized, clearly defined, specific and measurable terms. Researchers need a shared language and taxonomy to be able to build on each other's studies and replicate results. Researchers should continue to consider whether the term 'empathy' is the correct term to use, or whether there are other more precise or accurate terms (Hall and Schwartz 2018), such as allyship, civic engagement or cultural humility.

Establish norms around measurement and assessment

This study suggested that there are a number of different disciplinary approaches taken when studying empathy (twelve distinct disciplines emerged), each with their own standards, metrics and terminology. Rather than just finding novel ways to measure empathy, researchers should first consider how to establish norms and standards for assessing and comparing empathy across disciplinary boundaries, while also still encouraging a diversity of analyses from a variety of disciplinary approaches.

Partner or collaborate with researchers from other disciplines

This study has suggested that a wide range of disciplinary approaches are being used to study empathy and games. Given the complexity of empathy and games, researchers may want to connect with researchers from other fields. This will help to share best practices across fields while also enhancing multiple perspectives on the area.

Generate more research and games in this area

The area of empathy and games is still nascent and has few peer-reviewed journal articles published on the topic. Yet, many open questions remain (Schrier and Farber 2019). Researchers may want to explore themes associated with empathy and games (such as those fifteen themes identified in this study), with full consideration to the limits and benefits of games. In particular, some areas of empathy and games may be understudied, such as the ethics of empathy games, or critiques of using games to cultivate empathy (Ruberg 2020). Finally, we should encourage researchers to analyse and create the full range of gaming experiences, such as games that are non-digital or non-commercial. Currently, games are being more frequently created and analysed in the disciplines of HCI, nursing and economics. We should also encourage other disciplines to create games as part of their scholarship.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

REFERENCES

Addis, D. R. and Schacter, D. L. (2008), 'Constructive episodic simulation: Temporal distance and detail of past and future events modulate hippocampal engagement', *Hippocampus*, 18:2, pp. 227–37.

ADL (2019), 'Free to play? Hate, harassment, and positive social experiences in online games', December, https://www.adl.org/free-to-play. Accessed 1 July 2021.

ADL (2020), 'Free to play? Hate, harassment, and positive social experiences in online games 2020', December, https://www.adl.org/free-to-play-2020. Accessed 1 July 2021.

Adroher, N. D., Prodinger, B., Fellinghauer, C. S. and Tennant, A. (2018), 'All metrics are equal, but some metrics are more equal than others: A systematic search and review on the use of the term "metric"', *PLoS One*, 13:3, p. e0193861.

Bachen, C. M., Hernández-Ramos, P. F. and Raphael, C. (2012), 'Simulating REAL LIVES: Promoting global empathy and interest in learning through simulation games', *Simulation & Gaming*, 43:4, pp. 437–60.

Bailenson, J. (2018), *Experience on Demand: What Virtual Reality Is*, New York: Norton, 2018.

Baron-Cohen, S. and Wheelwright, S. (2004), 'The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences', *Journal of Autism and Developmental Disorders*, 34:2, pp. 163–75.

Batson, C. D. (1991), *The Altruism Question: Toward a Social-Psychological Answer*, Hillsdale, NJ: Erlbaum.

Belman, J. and Flanagan, M. (2010), 'Designing games to foster empathy', *Cognitive Technology*, 14:2, pp. 5–15.

Björk, S. and Holopainen, J. (2005), *Patterns in Game Design*, Hingham, MA: Charles River Media.

Bloom, P. (2017), 'Empathy and its discontents', *Trends in Cognitive Sciences*, 21:*1*, pp. 24–31.

Bowman, S. (2010), *The Functions of Role-Playing Games: How Participants Create Community, Solve Problems and Explore Identity*, New York, NY: McFarland.

Boyle, E. A., Hainey, T., Connolly, T. M., Gray, G., Earp, J., Ott, M., Lim, T., Ninaus, M., Ribeiro, C. And Pereira, J. (2016), 'An update to the systematic literature review of empirical evidence of the impacts and outcomes of computer games and serious games', *Computers & Education*, 94, pp. 178–92.

Bréjard, V., Bonnet, A. and Gaetan, S. (2016), 'Video games in adolescence and emotional functioning: Emotion regulation, emotion intensity, emotion expression, and alexithymia', *Computers in Human Behavior*, 61:C, pp. 344–49.

Brown, B. (2018), *Dare to Lead: Brave Work. Tough Conversations. Whole Hearts*, New York, NY: Penguin.

Chen, A. M. H., Kiersma, M. E., Yehle, K. S. and Plake, K. S. (2015), 'Impact of the geriatric medication game on nursing students' empathy and attitudes toward older adults', *Nurse Education Today*, 35:1, pp. 38–43.

Coavoux, S., Boutet, M. and Zabban, V. (2016), 'What we know about games: A scientometric approach to game studies in the 2000s', *Games and Culture*, 12:6, pp. 563–84, doi:10.1177/1555412016676661.

Coeckelbergh, M. (2007), 'Violent computer games, empathy, and cosmopolitanism', *Ethics and Information Technology*, 9:3, pp. 219–31.

Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T. and Boyle, J. M. (2012), 'A systematic literature review of empirical evidence on computer games and serious games', *Computers & Education*, 59:2, pp. 661–86.

Corbin, J. and Strauss, A. (2014), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 4th ed., Thousand Oaks, CA: Sage.

Core SEL Competencies (2019), https://casel.org/core-competencies/. Accessed on July 1, 2021.

Cragoe, N. G. (2016), 'RPG mythos: Narrative gaming as modern mythmaking', *Games and Culture*, 11:6, pp. 583–607.

Darvasi, P. (2016), 'Empathy, perspective and complicity: How digital games can support peace education and conflict resolution', *UNESCO MGIEP Working Paper 2016-03*, November, https://www.gcedclearinghouse.org/sites/default/files/resources/170025eng.pdf. Accessed 1 July 2021.

Davis M. (1983), 'Measuring individual differences in empathy: Evidence for a multidimensional approach', *Journal of Personality and Social Psychology*, 44:1, pp. 113–26.

Decety, J. and Jackson, P. L. (2004), 'The functional architecture of human empathy', *Behavioral Cognitive Neuroscience Review*, 3:2, pp. 71–100.

Decety, J. and Moriguchi, Y. (2007), 'The empathic brain and its dysfunction in psychiatric populations: Implications for intervention across different clinical conditions', *BioPsychoSocial Medicine*, 1, p. 22.

Dodge, T. (2011), 'Effects of interactivity on children's cognitive empathy toward narrative characters', *International Journal of Instructional Media*, 38:3, p. 287.

Edele, A., Dziobek, I. and Keller, M. (2013), 'Explaining altruistic sharing in the dictator game: The role of affective empathy, cognitive empathy, and justice sensitivity', *Learning and Individual Differences*, 24, pp. 96–102.

Entertainment Software Association (2019), 'Essential facts about the computer and video game industry', https://www.theesa.com/esa-research/2019-essential-facts-about-the-computer-and-video-game-industry. Accessed 20 July 2020 (link no longer available).

Farber, M. and Schrier, K. (2017), *The Strengths and Limitations of Using Digital Games as 'Empathy' Machines*, New Delhi: UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development.

Field, S. (2017), 'Critical empathy through oral histories after apartheid', *Continuum*, 31:5, pp. 660–70.

Fink, A. (2019), *Conducting Research Literature Reviews: From the Internet to Paper*, 5th ed., Thousand Oaks, CA: Sage.

Flanagan, N. and Nissenbaum, H. (2014), *Values at Play in Digital Games*, Cambridge, MA: MIT Press.

Gaesser, B. (2013), 'Constructing memory, imagination, and empathy: A cognitive neuroscience perspective', *Frontiers in Psychology*, 3, doi:10.3389/fpsyg.2012.00576.

Gerdes, K. E., Segal, E. A., Jackson, K. F. and Mullins, J. L. (2011), 'Teaching empathy: A framework rooted in social cognitive neuroscience and social justice', *Journal of Social Work Education*, 47:1, pp. 109–31.

Gerrig, R. J. (1993), *Experiencing Narrative Worlds: On the Psychological Activities of Reading*, New Haven, CT: Yale University Press.

Gerrig, R. J. and Prentice, D. A. (1991), 'The representation of fictional information', *Psychological Science*, 2:5, pp. 336–40.

Green, M. C. and Brock, T. C. (2000), 'The role of transportation in the persuasiveness of public narratives', *Journal of Personality and Social Psychology*, 79:5, pp. 701–21.

Greitemeyer, T. and Osswald, S. (2010), 'Effects of prosocial video games on prosocial behavior', *Journal of Personality and Social Psychology*, 98:2, pp. 211–21.

Greitemeyer, T., Osswald, S. and Brauer, M. (2010), 'Playing prosocial video games increases empathy and decreases schadenfreude', *Emotion*, 10:6, pp. 796–802.

Guo, Q. and Feng, L. (2017), 'The associations between perceived parenting styles, empathy, and altruistic choices in economic games: A study of Chinese children', *Frontiers in Psychology*, 8, p. 1843.

Hainey, T., Connolly, T. M., Boyle, E. A., Wilson, A. and Razak, A. (2016), 'A systematic literature review of games-based learning empirical evidence in primary education', *Computers & Education*, 102, pp. 202–23.

Hall, J. A. and Schwartz, R. (2018), 'Empathy present and future', *The Journal of Social Psychology*, 159:3, pp. 225–43.

Harth, J. (2017), 'Empathy with non-player characters? An empirical approach to the foundations of human/non-human relationships', *Journal of Virtual Worlds Research*, 10:2, pp. 1–25.

Hess, J. L. and Fila, N. D. (2016), 'The manifestation of empathy within design: Findings from a service-learning course', *Codesign*, 12:1&2, pp. 93–111.

Huizinga, J. ([1938] 1955), *Homo Ludens: A Study of the Play-Element in Culture*, Boston, MA: Beacon Press.

Isbister, K. (2016), *How Games Move Us: Emotion by Design*, Cambridge, MA: MIT Press.

Kors, M. J. L., Ferri, G., van der Spek, E. D., Ketel, C. and Schouten, B. A. M. (2016), 'A breathtaking journey: On the design of an empathy-arousing mixed-reality game', in *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play – CHI PLAY '16*, Austin, Texas, October 2016, Association for Computing Machinery, Inc, pp. 91–104, doi.org/10.1145/2967934.2968110.

Lepron, E., Causse, M. and Farrer, C. (2015), 'Responsibility and the sense of agency enhance empathy for pain', *Proceedings: Biological Sciences*, 282:1799, pp. 20142288.

Maclagan, P. (2003), 'Varieties of moral issue and dilemma: A framework for the analysis of case material in business ethics education', *Journal of Business Ethics*, 48:1, pp. 21–32.

Mahood, C. and Hanus, M. (2017), 'Role-playing video games and emotion: How transportation into the narrative mediates the relationship between immoral actions and feelings of guilt', *Psychology of Popular Media Culture*, 6:1, pp. 61–73.

Marinova, D., Singh, S. K. and Singh, J. (2018), 'Frontline problem-solving effectiveness: A dynamic analysis of verbal and nonverbal cues', *Journal of Marketing Research*, 55:2, pp. 178–92.

Martin, V. S. (2008), 'Online videogames in an online history class', *Proceedings of the 2008 Second IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning (DIGITEL '08)*, IEEE Computer Society, Banff, Canada, November 2008, pp. 146–48, doi:10.1109/DIGITEL.2008.46.

Murphy, S. T., Frank, L. B., Moran, M. B. and Patnoe-Woodley, P. (2011), 'Involved, transported, or emotional? Exploring the determinants of change in knowledge, attitudes, and behavior in entertainment-education', *Journal of Communication*, 61:3, pp. 407–31.

Noddings. N. (2010), 'Moral education and caring', *Theory and Research in Education*, 8:2, pp. 145–51.

Noyes, J. A., Welch, P. M., Johnson, J. W. and Carbonneau, K. J. (2020), 'A systematic review of digital badges in healthcare education', *Medical Education*, 54:7, pp. 600–15.

Okoli, C. (2015), 'A guide to conducting a standalone systematic literature review', *Communications of the Association for Information Systems*, 37:43, pp. 879–910.

Oswald, P. (1996), 'The effects of cognitive and affective perspective taking on empathic concern and altruistic helping', *The Journal of Social Psychology*, 136:5, pp. 613–23.

Papamitsiou, Z. and Economides, A. A. (2014), 'Learning analytics and educational data mining in practice: A systematic literature review of empirical evidence', *Journal of Educational Technology & Society*, 17:4, pp. 49–64.

Pavliscak, P. (2018), *Emotionally Intelligent Design: Rethinking How We Create Products*, New York, NY: O'Reilly Media.

Plewe, C. and Fürsich, E. (2018), 'Are newsgames better journalism?: Empathy, information and representation in games on refugees and migrants', *Journalism Studies*, 19:16, pp. 2470–87.

Read, H. (2019), 'A typology of empathy and its many moral forms', *Philosophy Compass*, 14:10, n.pag., doi:10.1111/phc3.12623.

Riley, K. L. (1998), 'Historical empathy and the holocaust: Theory into practice', *International Journal of Social Education*, 13:1, pp. 32.

Roxworthy, E. (2014), 'Revitalizing Japanese-American internment: Critical empathy and role-play in the musical "Allegiance" and the video game "Drama in the Delta"', *Theatre Journal*, 66:1, pp. 93–115.

Ruberg, B. (2020), 'Empathy and its alternatives: Deconstructing 'empathy' in video games', *Communication, Culture, Critique*, 13:1, pp. 54–71.

Rusch, D. (2017), *Making Deep Games: Designing Games with Meaning and Purpose*, Boca Raton, FL: CRC Press/Taylor & Francis.

Rusch, D. (2019), Personal interview with the authors.

Saldana, J. (2015), *The Coding Manual for Qualitative Researchers*, 3rd ed., New York, NY: SAGE.

Salen, K. and Zimmerman, E. (2003), *Rules of Play: Game Design Fundamentals*, Cambridge, MA: MIT Press.

Sampat, E. (2017), *Empathy Engines: Design Games That Are Personal, Political, and Profound*, Seattle, WA: CreateSpace.

Schrier, K. (2015), 'EPIC: A framework for using video games for ethics education', *Journal of Moral Education*, 44:4, pp. 393–424.

Schrier, K. (2017), 'Designing role-playing video games for ethical thinking', *Educational Technology Research and Development*, 65:4, pp. 831–68.

Schrier, K. (June 2019), 'Designing ourselves: Identity, bias, empathy, and game design', ADL Whitepaper, https://www.adl.org/designing-ourselves. Accessed on June 30, 2021.

Schrier, K. (2021), *We the Gamers: How Games Teach Ethics and Civics*, New York, NY: Oxford University Press.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. Schrier, K. and Farber, M. (2019), 'Open questions for games and empathy', *Connected Learning Summit 2018 Conference Proceedings*, August, 2018, Boston, MA; Pittsburgh, PA: ETC Press (Carnegie Mellon), doi:10.1184/R1/7793804.v1.

2. Shin, D. and Ahn, D. (2013), 'Associations between game use and cognitive empathy: A cross-generational study', *Cyberpsychology, Behavior and Social Networking*, 16:8, p. 599.

3. Sousa, D. and Tomlinson, C. A. (2017), *Differentiation and the Brain: How Neuroscience Supports a Learner-Friendly Classroom*, 2nd ed., Bloomington, IN: Solution Tree.

4. Suits, B. (1978), *The Grasshopper: Games, Life and Utopia*, Ontario, CA: Broadview Press.

5. Szpunar, K. K. and Schacter, D. L. (2012), 'Get real: Effects of repeated simulation and emotion on the perceived plausibility of future experiences', *Journal of Experimental Psychology: General*, 142:2, pp. 323–7.

6. Tomlinson, C. A. and Murphy, M. (2018), 'The empathetic school', *ASCD Educational Leadership*, 75:2, pp. 20–27.

7. Tong, X., Ulas, S., Jin, W., Gromala, D. and Shaw, C. (2017), 'The design and evaluation of a body-sensing video game to foster empathy towards chronic pain patients', in *Proceedings of the 11th EAI International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth '17)*, May 2017, Barcelona, Spain, Association for Computing Machinery, pp. 244–50, doi:10.1145/3154862.3154869.

8. Turkle, S. (2011), *Alone Together: Why We Expect More from Technology and Less from Each Other*, New York, NY: Basic Books.

9. de Vos, B., van Zomeren, M., Gordijn, E. H. and Postmes, T. (2013), 'The communication of "pure" group-based anger reduces tendencies toward intergroup conflict because it increases out-group empathy', *Personality and Social Psychology Bulletin*, 39:8, pp. 1043–52.

10. Wang, W., Singh, K., Chu, Y. and Huber, A. (2016), 'Educating bicycle safety and fostering empathy for cyclists with an affordable and game-based VR app', in *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct (MobileHCI '16)*, September 2016, Florence, Italy, Association for Computing Machinery, pp. 883–90, doi:10.1145/2957265.2961846.

11. Wilde, P. and Evans, A. (2019), 'Empathy at play: Embodying posthuman subjectivities in gaming', *Convergence: The International Journal of Research into New Media Technologies*, 25:5&6, pp. 791–806.

12. Wiseman, T. (1996), 'A concept analysis of empathy', *Journal of Advanced Nursing*, 23:6, p. 1162.

13. Xiao, Y. and Watson, M. (2019), 'Guidance on conducting a systematic literature review', *Journal of Planning Education and Research*, 39:1, pp. 93–112.

14. Zaki, J. (2017), 'Moving beyond stereotypes of empathy', *Trends in Cognitive Sciences*, 21:2, pp. 59–60.

SUGGESTED CITATION

CONTRIBUTOR DETAILS

Dr Karen (Kat) Schrier is an associate professor and director of the games & emerging media programme at Marist College. She has also spent twenty years designing media at organizations such as Scholastic, Nickelodeon, BrainPOP and McGraw-Hill. She has written or edited over 100 published works, including *We the Gamers: How Games Teach Ethics and Civics* (Oxford University Press, 2021). She is the editor of *Learning, Education & Games* (Carnegie Mellon, ETC Press, Volume 1, 2014, Volume 2, 2016, Volume 3, 2019). She also authored the book, *Knowledge Games* (Johns Hopkins University Press, 2016). Dr Schrier holds degrees from Columbia University, MIT and Amherst College. For more details, visit www.karenschrier.com.

Contact: Marist College, 3399 North Road, Lowell Thomas, Poughkeepsie, NY 12601, USA.
E-mail: kschrier@gmail.com

https://orcid.org/0000-0003-4114-488X

Matthew Farber, Ed.D., is an assistant professor of technology, innovation and pedagogy at the University of Northern Colorado. He has been invited to the White House, to twice keynote for UNESCO, and he has been interviewed about games and learning by NPR, Fox News Radio, USA Today and The Wall Street Journal. Dr Farber's books include Gamify Your Classroom: A Field Guide to Game-Based Learning (Peter Lang, 2015; 2017) and Game-Based Learning in Action: How an Expert Affinity Group Teaches with Games (Peter Lang, 2018), and Gaming SEL: Games as Transformational to Social and Emotional Learning (Peter Lang, 2021). For more details, visit http://matthew-farber.com.

Contact: University of Northern Colorado, School of Teacher Education, Campus Box 259, Greeley, CO 80639, USA.
E-mail: Matthew.Farber@unco.edu

https://orcid.org/0000-0003-2819-6263

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

1. Journal of Gaming & Virtual Worlds
2. Volume 13 Number 2

BOOK REVIEWS

***PLAYING NATURE: ECOLOGY IN VIDEO GAMES*, ALENDA Y. CHANG (2019)**

Minneapolis, MN: University of Minnesota Press, 294 pp.,
ISBN: 978-1-5179-0632-0, p/bk, $27.00

Reviewed by Brian Henderson, Southern Illinois University Edwardsville

Even scholars (and/or gamers) supposedly ensconced in Ivory Towers, staycationing in Azeroth or Tamriel, or working in a waste-free, utopian, digital farm community, are undoubtedly aware of key aspects of the looming ecological crisis facing our planet in the age of the Anthropocene. Directly turning hackneyed assumptions about gaming as a form of escapist fantasy on its head, Alenda Y. Chang offers a refreshing perspective by weaving together concepts and perspectives from fields as diverse as ecocriticism, ludology, media and film studies, ecology and environmental science, and environmental philosophy. *Playing Nature* is a provocative and ambitious scholarly contribution. Chang acknowledges the complexity of the challenges ahead while avoiding the more dystopic visions offered by some of the scholars she draws from in her work. She displays a remarkable versatility in engaging current and historical games, at times even touching on literary texts, board games and escape rooms. This book would be of interest to anyone working in-game studies or related fields wishing to think through a range of ecological/materialist questions. Chang's explorations range from non-anthropomorphic game design to environmental education as she critically reflects on how we think about gamespaces.

While others have raised various ecological questions related to gaming, the approach has often functioned primarily as a metaphor. Chang's work is an attempt to take the material concerns of ecology seriously while simultaneously unsettling the notion of 'environment' as implicitly meaning 'natural ecosystem'. She argues that 'games can offer a compelling way to reconcile a

deep connection to nature and the nonhuman world with an equally impor- 1.
tant connection to technology and the virtual' (5). After all, inhabiting a 2.
virtual world in the way she suggests requires a more nuanced interaction 3.
than simply navigating past an inert background, however visually appealing. 4.
Her book is an attempt to answer the key question: 'What new or neglected 5.
aspects of games and gaming might ecology, for now defined as the science 6.
of interrelation between organisms and between organisms and their environ- 7.
ments, enable us to see?' (6). Each chapter thinks through the broader ques- 8.
tion through the lens of a key concept: *mesocosm, scale, non-human, entropy and* 9.
collapse. 10.

In the first chapter, she notes the way that ecocriticism, environmental 11.
education and environmental activists have 'historically excluded designed 12.
landscapes and methods of mediated interaction perceived as detracting from 13.
direct experience of the natural world' (10). The cultural analysis that follows 14.
identifies a number of flaws derived from 'nature writers' and others who carry 15.
ecomimetic conceptions of nature. I would paraphrase it thus: getting rained 16.
on in front of the Old Faithful Lodge Cafeteria is neither intrinsically a morally 17.
superior nor ecologically richer experience than playing a video game that 18.
calls attention to its virtual environment. To build her argument, she draws 19.
on the ecological concept of *mesocosm*, which is a kind of experimental enclo- 20.
sure that is larger than a closed-system laboratory experiment (e.g. an aquar- 21.
ium), but smaller in scope than field research (e.g. the ocean) with its reduced 22.
control over independent variables. She then adapts the concept to think 23.
about games as 'boundary objects that facilitate passage between the material 24.
and seemingly immaterial contexts of the physical world and virtual playspace' 25.
(11). Viewed in this light, games and scientific experimentation are shown to 26.
have more in common than one might have assumed. Reworking Jesper Juul's 27.
claim that games consist of real rules embedded in fictional worlds, she sees 28.
games themselves as potentially operating as a kind of *mesocosm*, blending 29.
'real worlds and fictional rules' (20). She then moves to the question of what 30.
makes an 'environmental game' while making it clear that she does not mean 31.
to limit her focus to games that exhibit overt environmentalist rhetoric. Taking 32.
on the gaming industry as a whole, she argues that most games commit one 33.
of three common missteps in their design of in-game environments: (1) the 34.
'environment' simply consists of background scenery, (2) the landscapes are 35.
stereotypical and (3) the 'environment' operates primarily as a standing reserve 36.
for the extraction of resources (21). 37.

The second chapter explores some of the ways that attention to scale can 38.
provide a useful lens for thinking about game environments, in part because 39.
scale does not maintain a neutral or stable value, which intensifies the empha- 40.
sis on questions of relation. Focusing on the common game concept of 'leveling 41.
up', Chang highlights the way games can seduce players with the promise of 42.
limitless gain, arguing that game design tends to valorize autonomous human 43.
agency and intentionality. However, she thinks that a scalar approach carries 44.
the capacity to rethink game design by implicitly emphasizing environmental 45.
ethics. Drawing on a base example of how economies of scale operate in a way 46.
that allows them to claim that environmental impact (we might add misog- 47.
yny or systemic racism) is 'external' to the system and so able to be ignored, 48.
Chang asserts, on the contrary, that a scalar approach does not allow such 49.
exclusions. Similarly, a player's feelings of mastery or awe are directly influ- 50.
enced by questions of scale, which leads Chang to argue that the potential 51.
to experience both mastery *and* awe in games opens up a space for 'bridging 52.

1. local and global, micro and macro domains' (71). Ultimately, she thinks such
2. bridging encourages a kind of environmental consciousness. More narrowly,
3. she also draws on her analysis of scalar thinking to make a compelling case
4. that 'video games may be even better suited to scientific visualization than the
5. conventional moving, but non-interactive, image' (91). She sees this as part of
6. a larger trend away from the privileging of vision per se towards interactivity.
7.   The heart of her book with its focus on the 'nonhuman' gives Chang the
8. space to expand on ideas and arguments that she passed over more quickly
9. in earlier chapters (e.g. her discussion of the game *Flower*). For example, she
10. examines games that emphasize a non-human perspective (her wide net even
11. references *Frogger*), but she also offers a broader perspective in which games
12. can be seen as exhibiting 'nonhuman agency as a manifestation of software,
13. hardware, and infrastructural process' (12). And while her analysis does take
14. in a variety of games that explicitly intend to offer a non-human perspective
15. or that present a more interactive playspace, she also explores the limit case.
16. A particularly interesting example involved an experiment where the player
17. had no agency at all: Brent Watanabe's 2016 hack of *Grand Theft Auto V* where
18. he set up a live-stream video from the deer's perspective. She also describes
19. a late-eighteenth- and early-nineteenth-century object-based literary genre,
20. the it-narrative (124), and proposes an adaptation she calls the bit-narrative.
21. She defines the bit-narrative as 'stories that either feature computers or digi-
22. tal objects as protagonists, or that are themselves digital creations' (128). She
23. concludes the chapter speculating about the significant role digital objects
24. pose to 'reveal our dependence on and attachment to the nonhuman, given
25. their colonization […] of our daily routines' (144).
26.   The fourth chapter takes on the concept of *entropy*. Building on the previ-
27. ous chapter, Chang continues her work at decentring the human and related
28. anthropomorphic trends in gaming. In exploring the concept, she covers
29. everything from the physical processes of manufacturing and energy costs
30. associated with gaming to the postmillennial explosion of casual games. She
31. offers particular focus on the so-called farm game in order to highlight the
32. way its very design makes invisible the 'realities of environmental degradation
33. and exploited labor' (12). Her wide-ranging examples even include discussions
34. of scientific research on connections between the use of laptops and infertility.
35.   The book concludes with *collapse*, although its overall tenor is not as
36. dark as the final chapter's title might suggest. In fact, Chang pushes against
37. what she calls the 'apocalyptic tone' of environmental discourse to argue for
38. the benefits of failure and loss 'as felt through play' for provoking the kind of
39. multiscalar environmental awareness that offers hope 'in the face of ecologi-
40. cal precarity' (12). In part, this chapter builds on the critiques she offers in her
41. second chapter, about economies of scale, in terms of the way she thinks of
42. failure in play as a way to remind us of the internal logic that drives collapse,
43. which, in turn, requires us to face complications that otherwise tend to be
44. excluded as 'external' factors. Of particular interest in this chapter is her take
45. on permadeath, particularly when it involves the destruction of virtual worlds
46. (as opposed to individual player characters).
47.   The book lives up to its promise in terms of the breadth of its engagement
48. with gaming and ecology and environmental science, and Chang's sheer knowl-
49. edge of current and historical games (digital, popular, serious, casual or other-
50. wise) is notable, giving her analysis enormous versatility. (The gameography
51. alone is impressive.) Anyone whose field intersects with this book will learn
52. something. And while her cultural/theoretical trajectory will be of interest to

many, some of the most provocative analysis, from a materialist/ecological perspective, may be where she calls attention to the yet-to-be explored (thoroughly) impact of production, energy or e-waste costs of games or where she looks more specifically at the potential for altering how non-game problems might be responded to more effectively though different styles of game-playing. I would think that game designers would be equally interested in many of her more localized analyses of specific games or gaming platforms. While I hesitate to call it a weakness, the moments where representation or 'accuracy' loom largest are the least compelling moments for me (although they may be of great interest to the environmental scientist or activist being asked to think about gaming studies). For example, in chapter one she seems to conflate 'environmental representation' with 'real places' (21), when I would argue that her very adaptation of the concept of *mesocosm* suggests the serious limitations of scientific research once it moves outside carefully controlled laboratory spaces. On an ethical register, invocation of 'the real' is always a dangerous game. Overall, this book offers a number of provocations for thinking about intersections still to be explored between gaming studies and ecological and environmental sciences on the one hand, and a more extended engagement with new materialist thinkers, such as Jane Bennett and Timothy Morton, on the other. As Morton writes, 'What makes humans the most dreadful is their ecological power' (200), and one way to attempt to disrupt that power may well be to challenge the kind of hubristic anthropocentrism Chang points out in her analysis – not in order to create new systems of mastery, but to attune ourselves to the human/nonhuman assemblages suggested by gamespaces.

REFERENCE

Morton, T. (2013), *Hyperobjects: Philosophy and Ecology after the End of the World*, Minneapolis, MN: University of Minnesota Press.

CONTRIBUTOR DETAILS

https://orcid.org/0000-0003-1269-7266

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

THE POKÉMON GO PHENOMENON: ESSAYS ON PUBLIC PLAY IN CONTESTED SPACES, JAMIE HENTHORN, ANDREW KULAK, KRISTOPHER PURZYCKI AND STEPHANIE VIE (EDS) (2019)

Jefferson, NC: McFarland, 235 pp.,
ISBN 978-1-47667-413-1, p/bk, US$39.95

Reviewed by Jes Klass, DePaul University

The Pokémon Go Phenomenon: Essays on Public Play in Contested Spaces (2019), edited by Jamie Henthorn, Andrew Kulak, Kristopher Purzycki and Stephanie Vie, is a collection of essays that looks at *Pokémon Go* (Niantic Labs 2016) from different games studies perspectives. Henthorn is a writing professor at Catawba College who uses a rhetorical perspective to write about games, geek culture and fitness. In an interview with Review Fix, Henthorn stated, 'I was interested in looking at a recurring use I saw early in public conversations about the app as a fitness app and as a strategy to encourage people to augment their physical therapy' (2019: n.pag.). Kulak researches online pedagogy, video games, literary theory and rhetorical approaches to digital and physical hybridity. Purzycki researches computer games and is a lecturer at the University of Wisconsin – Milwaukee. Vie is a professor of English at the University of Hawaii at Manoa. The collection's strength of perspective is evident immediately, given the diverse range of scholarly foci represented among the editors. Together, they share an interest in studying games and digital culture through rhetorical frameworks and have curated this collection of essays to open discussions about *Pokémon Go* that focus on the game's cultural sphere while unravelling the growing history of its scholarship.

In the opening paragraphs of this collection, the editors bring the reader back to the growing tensions, disaster and hardship burdening the world in July 2016. They detail the divide in the United States highlighted by the 2016 presidential election and provide a harrowing snapshot of 2016's foreshadowing of conflict to come. Then, almost as unexpectedly as *Pokémon Go* took the world by surprise (also in July 2016), the editors transition into the remainder of the introduction with '[t]hen the monsters appeared' (1), which sets the stage for this collection's skilful approach to linking real-world events to in-game mechanics and themes.

The editors examine the cultural and social impact of *Pokémon Go*, while also lowering the drawbridge for future scholarship around augmented reality (AR) in medical, pedagogical and cultural environments. Henthorn et al. also hope to 'articulate the player experience of *Pokémon Go* and the phenomenon of AR play' (2). They examine the game from three lenses: 'How We Play', 'Why We Play' and 'The Impact of Play', which comprise the book's sections.

Section 1, 'How We Play', includes essays about intergenerational gaming, *Pokémon Go* as a fitness app, a discussion about if we are really 'playing together', and AR design. These essays highlight 'how' different players are playing *Pokémon Go*. In 'Playing alone, together: *Pokémon Go*, public mobility and locational privacy', Ryan S. Eanes and Claire Y. Van Den Broek frame play of *Pokémon Go* through Sherry Turkle's *Alone Together* (2011) to argue that many players *are* playing alone (while physically together) and do not form lasting friendships from the game – despite the game's encouragement that players play cooperatively. Henthorn, in 'The world's most popular fitness app', examines the history of fitness as a hobby, the cultural necessity to (at least) seem like we are trying to participate in fitness, the varying levels of 'hardcore' or 'casual' gaming and how *Pokémon Go* relates to these foci. Henthorn argues that *Pokémon Go*'s success is in part due to enabling players to move past the tedium of creating a daily fitness habit by appealing to a more leisurely and laid-back crowd. In 'Augmented reality design through experience architecture', Jill Anne Morris discusses her experiences bringing *Pokémon Go* into her classroom as a vehicle to get her students excited about experience architecture (XA) and situates *Pokémon Go* as an important landmark AR project for game designers and scholars. Wendi Sierra and Ginger Burgoon discuss, in 'Gaming across the years: Gotta catch 'em all together', the intergenerational qualities of *Pokémon Go*. They detail a case study of three generations of a specific family playing the game simultaneously, highlighting the different ways in which the Pokémon franchise and *Pokémon Go* can impact family play by creating a continued source of activity for intergenerational play. The essays in this section work together to create a pseudo-holistic picture of how various people choose to play the game.

Section 2, 'Why We Play', examines what motivates players to continue playing *Pokémon Go* as the game wanes in popularity … on a grand scale. Jason Chew Kit Tham and Deondre Smiles position *Pokémon Go* as a rhetorical device for augmented play in 'Rhetorical augmentation: Public play, place and persuasion in *Pokémon Go*'. Through analysis of e-mails from Niantic, the developer of *Pokémon Go*, and interviews with players, they emphasize that future developers are putting increased consideration into player/real-world interaction. They conclude with a hopeful description of the game's (and AR's, in general) pedagogical potential and describe ways in which AR can influence geospatial education. In 'To be the very best … you gotta pay', Eric Murnane studies the monetizing of *Pokémon Go*, revealing that despite the emphasis of health and friendship in the marketing of the game, it is designed to 'frustrate the player into investing money into the game' (116): Murnane's essay effectively makes the case that a lot of the in-game mechanics (incubators, experience and limited resources) were designed strategically to invite the player to *spend* their way out of waiting and is sure to make any *Pokémon Go* player or enthusiast critically examine their own spending (or lack of) within the game and how it has impacted their play. 'Addiction and the apocalypse' is a discussion about cultural norms, social expectations, and how addiction and the apocalypse are used in criticisms of *Pokémon Go*: Kristen L. Cole and Alexis Pulos argue that media representations of addition and the zombie apocalypse are used to position *Pokémon Go* players as 'anti-social, not differently social' (130). They conclude that *Pokémon Go* emphasizes the dangers of moral and ideological myopia more than it serves as a cautionary tale about the dangers of losing one's self to a game, or a phone, as critics have argued (128). In the final essay of the chapter, 'Pokéstores: On narrative

1. and the construction of augmented reality', Cody Mejeur discusses three types
2. of narrative that exist in *Pokémon Go*, concluding that all three ('determined',
3. 'collective' and 'personal') are necessary when discussing the game's (and any
4. AR game's) narrative potential. Mejeur argues that various playstyles and
5. categories of intersectional identity factor greatly into how players experience
6. the game, and thus how narrative is developed on a person-by-person basis.
7. I found this piece to be exceptionally meaningful and thought-provoking,
8. considering the game's potential weight and influence in players' lives.
9.   Section 3, 'The Impact of Play', focuses on the influence the game has
10. had on real-world spaces and policy since its launch. In 'Placemaking across
11. the digital-physical divide', William Heili, Chen Zu and Nicholas Jon Crane
12. argue that *Pokémon Go* challenges the physical-digital dualism that scholarly
13. and popular commentary hold on cyberspace. They conclude that '*Pokémon Go*
14. should be conceived as a relay in placemaking' (205). More so, they categorize
15. *Pokémon Go* as a means to realize a collective sense of space after examining
16. the game through a conversation between cybernetics and literature on place
17. and examination of gameplay. In 'A tale of two screens', Luiz Adolfo Andrade
18. uses actor–network theory to discuss the functionality and symbolic meaning
19. of the relationship between his smartphone and Apple Watch while playing
20. *Pokémon Go.* He concludes that through its connectivity between wearables
21. and smartphones, *Pokémon Go* might become a useful resource for loca-
22. tive gaming design in the future. In 'For anatopistic places: *Pokémon Go* vs.
23. Milwaukee county', Kristopher Purzycki details the case, *Milwaukee County*
24. *v. Niantic, Inc.*, to set the stage for an argument that uses the player's sense
25. of space to make the case that the overarching conflict between Lake Park
26. and *Pokémon Go* is better examined as overlapping *senses* of space rather than
27. examined through overlapping space itself. Peter Schaefer and Margaret
28. Schwartz examine, in 'Raid Pass', the launch of the EX Raid Pass in contrast
29. with an important Deferred Action for Childhood Arrivals (DACA) protest in
30. the United States. While protesters were barricaded out of Columbus Circle,
31. *Pokémon Go* players were allowed entry by the New York Police Department –
32. merely because they flashed proof that they were *invited* to the Ex Raid that
33. was taking place at the same time as the protest. The authors argue that '[t]
34. he term "augmented reality" is a bit of a misnomer, covering the dynamics of
35. money and power that link the virtual and physical world' (169).
36.   *The Pokémon Go Phenomenon* incorporates a diverse pool of authors, render-
37. ing it a prominent work of interdisciplinary scholarship that sets up what is
38. sure to be a long line of scholarship about the game and AR. However, there
39. is a large spectrum of familiarity with the game and its mechanics among
40. the authors, with some essays making it very clear that the author(s) has a
41. thorough understanding of the game, its affordances and its functions; other
42. moments in the collection seem as though the author(s) found interest in the
43. game as a point of scholarship, but took the word of others about (even merely
44. read descriptions of) how gameplay actually operates. In addition – to abso-
45. lutely no fault of the editors or contributors – the collection cannot account
46. for major changes in *Pokémon Go*, which has been rapidly and grandly restruc-
47. tured in some elements, since this work was published in 2019. For instance,
48. developers largely increased the range at which players can participate in
49. raids; what used to be a few yards is now a few blocks. Additionally, Remote
50. Raid Passes were introduced, a new type of raid pass that players can purchase
51. in unlimited quantities at roughly $1 (USD) apiece. These passes allow players
52. to take part in any raid, anywhere in the world, if another player invites them.

These changes were largely in response to the necessary restrictions placed on many countries during the COVID-19 pandemic, which resulted in many players staying home, no longer having the ability to 'get up and go', as the game's slogan suggests. These changes do not enable readers to discount the validity of any argument made, but do, in some moments, enable them to point out differences in the fine details of gameplay. In a few specific instances, familiarity with later versions of the game will reveal inconsistencies between the game's current mechanics and those as originally referenced. One major example of these inconsistencies is glaring: Schaefer and Schwartz begin 'Raid Pass' with a retelling of a chilling event, mentioned above, in which *Pokémon Go* players were allowed into Columbus Circle in New York City by showing NYPD officers valid Ex Raid Passes, while DACA protesters were kept out with barricades. At the time of the writing of this review, Ex Raid Passes (and Ex Raids) are no longer in the game. This change presents an inconsistency between the essay and the game's current mechanics, but also helps to reinforce Schaefer and Schwartz's argument by demonstrating how 'in-game capital affords privilege that transcends into real life' (157). Ex Raids were, in large part, replaced by Remote Raid Passes, allowing those with the most in-game capital (purchasable with *actual* capital) to attend as many raids as they want. This collection of essays doubtlessly helps to broaden the relevance of *Pokémon Go* within games scholarship and encourages readers to think about the many ways which it can be examined (and in this specific case, now 'historically').

Because of the variety of perspectives included, *The Pokémon Go Phenomenon* contributes meaningfully to scholarship across several fields: game studies, media studies, game design, cultural studies and health sciences. Thus, scholars and practitioners in these fields would benefit from reading this collection. Furthermore, I would recommend this book to game designers focused on making locative games, AR games or games that involve a player–environmental relationship. Ultimately, this collection appeals to anyone with a vested interest in *Pokémon Go.* It offers several studies from different scholarly frameworks and successfully positions *Pokémon Go* as a point of interest that is sure to fit within the greater pantheon of games scholarship as an interdisciplinary focal point for years to come. This collection successfully exhibits how a wide variety of lenses can be used to look at this game, and perhaps indicates that *all* games would benefit from being looked at critically with a wide scope of perspectives and backgrounds.

REFERENCES

Niantic (2016), Pokémon Go, San Francisco, CA: Niantic.

Review Fix (2019), 'Review Fix exclusive: Inside "*The Pokémon Go Phenomenon: Essays on Public Play in Contested Spaces*"', 19 August, https://reviewfix.com/2019/08/review-fix-exclusive-inside-the-pokemon-go-phenomenon-essays-on-public-play-in-contested-spaces. Accessed 17 May 2021.

CONTRIBUTOR DETAILS

https://orcid.org/0000-0003-2520-7764

5.
6.
7.
8.
9.
10.
11.
12.
13.
14.

GAME REVIEW

15.
16.
17.
18.
19.

20. ***SURVIVING MARS*, HAEMIMONT GAMES (2018)**

21. Stockholm: Paradox Interactive
22. PC download, USD 29.99

23.
24. *Reviewed by Heather G. S. Johnson, Southern Illinois University Edwardsville*
25.
26.
27.

Surviving Mars[1] is largely a standard civilization building game; those who know the genre know what that means – a fair amount of micromanagement, significant pauses in active gameplay while resources are gathered or structures built and challenges that threaten the health and happiness of the colony. The graphics are quite charming, and there are unique elements that make the game enjoyable, such as amusing Mars-themed radio stations and various 'mysteries' that unfold as the Mars society develops. Many of these 'mysteries' relate directly to contemporary concerns, having to do with issues like the militarization of space, fears of global pandemics and rapidly developing AI. Those who like civ-builder games are likely to get some pleasure out of the game, though it may not hold their interest for long.

For the scholar, the game presents some fascinating details that are well worth examining, especially in conjunction/comparison with other such games. For all their similarities, civ-and-city building games often reveal quite different foundational philosophies about the *goals of human life* and of civilization itself. Most posit survival as one main goal, and most add at least one (overt or implied) additional objective. Such objectives might include population growth; military, cultural or religious domination; scientific discovery and 'progress'; exploration and geographic mapping; trade and trading systems; or the cultivation of personal prestige and power. Some games comment on the goals they have set, consciously critiquing or discussing them (a game series like *Tropico* leaps to mind), while others seem unconcerned with the socio-political implications of the game system. In the case of *Surviving Mars*, the most explicit goal (as the name of the game implies) is 'survival', and indeed, getting your Mars colonists enough food, water and air to make it on the red

1. This review is of the base game; add-ons are not considered.

28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

planet is not easy, especially if your in-game 'sponsor' is stingy with money 1.
and supplies. And like the game's mysteries, its in-game sponsors are also 2.
designed with at least some political commentary in mind, with entities such 3.
as the United States, Russia, India, Europe and China funding Mars missions 4.
alongside the 'Blue Sun Corporation', 'SpaceY' and 'Church of the New Ark'. 5.
But there are other goals that, though somewhat less apparent, are more 6.
interesting – and disturbing – to the scholar. 7.

I have begun thinking of *Surviving Mars* as a kind of Foucauldian vision of 8.
political dreams, a playground/laboratory for experimenting with biopower. In 9.
Discipline and Punish, Michel Foucault delineates at least two 'political dreams', 10.
each connected with a disease-driven fantasy: the leprosy-born dream of a 11.
pure community and the plague-born dream of a disciplined society (198). 12.
Both 'dreams' hinge on the identification, discipline and segregation of those 13.
who are dysfunctional, unnatural, undesirable, aberrant, perverted or other. 14.
Elsewhere, in *The History of Sexuality*, Foucault discusses the 'othering' of 15.
segments of the population, referring to the 'numberless family of perverts' 16.
(40). The disciplined society relies on modern *biopower*, which Foucault defines 17.
as the ability to 'make live or let die', through which the sovereign uses regula- 18.
tory mechanisms to support the lives and reproduction of preferred segments 19.
of the population, to leave other, less preferred populations to die (physically 20.
or socially), and to subject some populations to active oppression or extermi- 21.
nation (*Society Must Be Defended*: 241 and 256). On the bare surface, ALL civi- 22.
lization building games are, to some extent, dreams of a pure, well-regulated, 23.
or well-disciplined society: in most, there are ways to guide your colonists (or 24.
villagers, or workers, or settlers, or what-have-you), and *Surviving Mars*' game 25.
mechanics include the things you would expect – you need to build domes to 26.
house your colonists, infrastructure to support them, jobs to keep them busy, 27.
etc. But *Surviving Mars* puts a strange twist on population management that is 28.
made possible by the Martian setting. 29.

Population management happens in two primary ways in *Surviving Mars*: 30.
trait selection and dome control. Domes are the residences of colonists, and 31.
they provide protection from the harsh Martian elements, in addition to 32.
distributing food, delivering health care and offering opportunities for social 33.
interaction. But domes, especially at the start of the game, are small; they can 34.
hold only a limited number of colonists and offer a small spattering of services. 35.
(You can provide your colonists exercise, entertainment, socializing, shopping, 36.
etc., but not all of those things at once. You *need* to provide them with food, air 37.
and water … if you want them to survive.) You can connect small domes with 38.
passages through which colonists may pass, thereby expanding the available 39.
living space and services … or you can leave a given dome cut off from the rest 40.
of the population. Most importantly (for this discussion), you can *manipulate* 41.
domes and their passages. Domes can be configured to keep some people in and 42.
some people out in a Martian version of 'red-lining' (you can allow or disallow 43.
by traits, age, sex or profession – this will be discussed more in a bit). Domes 44.
can be open to new colonists or be 'quarantined'. Passages can be fully open, 45.
partially closed – where colonists are not allowed to use neighbouring domes 46.
for services or employment – or simply eliminated altogether. The regulatory 47.
mechanism of the domes allows for surprisingly minute segmentation and 48.
administration of populations (and feels a great deal like the plague measures 49.
described by Foucault in *Discipline and Punish*). 50.

Population management is based largely on the system of colonist traits, 51.
which fall into a number of categories, such as age, gender, specialization 52.

1. (profession), perks, flaws and quirks. The traits and flaws are perhaps the
2. most interesting of these, since they represent the game's delineation of what
3. is *desirable* and what is considered a liability or aberrant (with perks being
4. generally 'positive' attributes and flaws being negative ones). Desirable traits
5. include descriptors like 'Sexy' (increases the rate of reproduction), 'Nerd' (gains
6. morale from completed research) or 'Survivor' (loses less health in times of
7. scarcity). Listed under flaws are such characteristics as 'Gambler', 'Lazy' and
8. 'Chronic Condition', but also 'Melancholic', 'Loner' and 'Whiner', all of which
9. come with various risk factors or disadvantages (decreased comfort, produc-
10. tivity or sanity). The player can *prevent* colonists with chosen characteristics
11. from ever boarding the ship for Mars or can *segregate* them from other colo-
12. nists once they arrive. The game *invites* an initial 'dream of purity' as undesir-
13. able traits can be eliminated in the founding colony population; later, once
14. children are born on Mars, those traits are less easy to eliminate and must be
15. managed in another way (to be addressed below). When colonists age into
16. 'seniors', they exit the workforce, leaving fewer individuals to provide suste-
17. nance for the colony; they too, given the game mechanics, become 'undesir-
18. able'. If you were *that* kind of player, it would be entirely possible to exile all
19. the undesirable colonists into a single dome and then deprive that dome of
20. water and oxygen, thus *leaving them to die*.
21.   Families are conspicuously absent on Mars, in spite of the game's empha-
22. sis on reproduction as a necessary element of colony survival. Children are
23. disconnected from their parents and may be housed in a separate 'nursery',
24. sometimes in domes away from where they were born (and they do not take
25. parents' names). There are no marriages in the game – only males and females
26. who are comfortable enough to 'want children'.[2] The game reduces sex and
27. sexuality to an issue of mere population growth and decline (a central concern
28. of biopower) and eliminates family in favour of the dome as the foundational
29. social unit.
30.   As readers of Foucault know full well, the 'political dreams' occasioned by
31. leprosy and the plague, by fantasies of madness and sexual perversion, resem-
32. ble nothing so much as dystopian hellscapes for most of us. While *Surviving*
33. *Mars* presents the Martian colonial project as largely benign (what with its
34. cute robot drones and playful shuttlecraft), there are hints of darker designs
35. built into the game narrative. One of these is revealed later in the game, when
36. the player can research a new structure portentously called a 'sanatorium'. In
37. this building, colonists can be 'cured' of their flaws (melancholy no more!).
38. Perhaps even more ominously, another scientific breakthrough (which only
39. happens in some play-throughs) is the 'positronic brain', which allows you
40. to replace all of your human colonists with obedient, human-like robots who
41. never rebel, never commit suicide and never age (oddly, they still have 'flaws'
42. – which of course can be treated at the sanatorium). They might seem to be
43. the ultimate dream of biopower. Except, of course, that they are simultane-
44. ously the ultimate nightmare of biopower … since they would remove the
45. need for obsessive regulation and segmentation that is at the heart of biopo-
46. litical systems. To build a perfectly managed society, one in which all members
47. function perfectly according to their roles, can respond quickly and effectively
48. to crises, and never express hurt, displeasure or dissatisfaction would render
49. biopower useless. It would mean the end of a system that, in order to func-
50. tion, needs to ceaselessly identify new 'others' to surveil and segment: it would
51. mean the end of the biopolitical *game*. While *Surviving Mars* has other goals
52. (scientific research, profit and self-sufficiency), the effective deployment of

2. Noteworthy: there are also a small percentage of colonists who are listed as 'other' sex. They cannot reproduce.

biopower is central: without it, there would be far less *play*. And that may be the most disturbing element of all civilization building games: not that they can turn social control, colonial destruction, environmental exploitation, cultural repression and economic domination into a game … but remind us that those activities have always *been* games to those who derive power and pleasure from them.

REFERENCES

Foucault, Michel (1990), *The History of Sexuality: An Introduction, Volume I* (trans. R. Hurley), New York: Vintage Books.

Foucault, Michel (1995), *Discipline and Punish: The Birth of the Prison* (trans. A. Sheridan), New York: Vintage Books.

Foucault, Michel (2003), *'Society Must Be Defended': Lectures at the Collège de France, 1975–76* (eds M. Bertani and A. Fontana, trans. D. Macey), New York: Picador.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44.
45.
46.
47.
48.
49.
50.
51.
52.

NOTES FOR CONTRIBUTORS

Aims and Scope of *Journal of Gaming & Virtual Worlds*
The Journal of Gaming & Virtual Worlds (JGVW) is an international, peer-reviewed journal devoted to the study of games and playful practices across media platforms and genres. It is a leading forum for interdisciplinary dialogue within game studies, focusing primarily on theory and criticism of games, the intersection of media, game design and gaming culture, and the performative and transformative dimensions of games and virtual worlds. The journal is open to diverse research approaches including: theoretical, empirical/ethnographical, creative and pedagogical methods, as well as submissions from essayists and reviewers. We are particularly interested in inter- or multi-disciplinary contributions that connect scholars across multiple discourses.

Illustrations
We welcome images illustrating an article. All images need a resolution of at least 300 dpi. All images should be supplied independently of the article, not embedded into the text itself. The files should be clearly labelled and an indication given as to where they should be placed in the text. Reproduction will normally be in black-and-white. Images sent in as e-mail attachments should accordingly be in greyscale.

The image should always be accompanied by a suitable caption (the omission of a caption is only acceptable if you feel that the impact of the image would be reduced by the provision of written context). The following is the agreed style for captions:

Figure 1: Artist, *Title of Artwork*, Year. Medium. Dimensions. Location. Copyright holder information.

Please note the colon after the number and the terminating full point, even if the caption is not a full sentence. Copyright clearance should be indicated by the contributor and is always the responsibility of the contributor.

Language
The journal follows standard British English. Use 'ize' endings instead of 'ise'.

Length of Articles
Short articles must not exceed 5,000 words and long articles 8,000 words, including notes and references – but not including the author biography, keywords or abstract.

Metadata
Contributors must check that each of the following have been supplied correctly:
- Article title.
- Author name.
- Author addresses – the submitted material should include details of the full postal and e-mail addresses of the contributor for correspondence purposes.
- Author biography – authors should include a short biography of around 100 words, specifying the institution with which they are affiliated.
- Author ORCID identifier. This must be supplied in the following format: https://orcid.org/0000-0002-1825-0097. If you do not yet have an ORCID identifier, please register here: https://orcid.org/register.
- Contributor publishing agreement giving us your permission to publish your article should it be accepted by our peer review panel. An electronic template is available from the Intellect website.
- Abstract of 200 words; this will go on to the Intellect website.
- Keywords – six to eight words, or two-word phrases. There is a serious reduction in an article's ability to be searched for if the keywords are missing.
- References – Intellect requires the use of Harvard references embedded in the main text in the following format (Harper 1999: 27).
- Bibliography – titled 'References'.

Notes
In general, we discourage the use of extensive notes – if something is worth saying, it is worth saying in the text itself. A note will divert the reader's attention away from your argument. If a note is necessary, please use Word's note-making facility, and ensure that these are endnotes, not footnotes. Place note calls outside the punctuation, after the comma, full stop, colon etc. The note call must be in superscripted Arabic ([1], [2], [3]).

Opinion
The views expressed in *JGVW* are those of the authors, and do not necessarily coincide with those of the Editors or the Editorial or Advisory Boards.

Permissions/Copyright/Liability
Copyright clearance should be indicated by the contributor and is always the responsibility of the contributor. Unless a specific agreement has been made, accepted articles become the copyright of the journal. The contributor publishing agreement should be completed and sent to the editors to accompany every submission.

Presentation/House Style
All articles should be written in Word. The font should be Times New Roman, 12 point. The title of your article should be in bold at the beginning of the file, but not enclosed in quote marks. Bold is also used for headings and subheadings (which should also be in Times New Roman, 12 point) in the article. Italics may be used (sparingly) to indicate key concepts.

Any matters concerning the format and presentation of articles not covered by the above notes should be addressed to the editor.

Quotations

Intellect's style for quotations embedded into a paragraph is single quote marks, with double quote marks for a second quotation contained within the first. All long quotations (i.e. over 40 words long) should be 'displayed'– i.e. set into a separate indented paragraph with an additional one-line space above and below, and without quote marks at the beginning or end. Please note that for quotations within the text, the punctuation should follow the bracketed reference. For a displayed quotation the bracketed reference appears after the full stop.

All omissions in a quotation are indicated thus: [...] Note that there are no spaces between the suspension points.

When italics are used for emphasis within quotations, please ensure that you indicate whether the emphasis is from the original text or whether you are adding it to make a point.

Referees

JGVW is a refereed journal. Strict anonymity is accorded to both authors and referees.

References

All references in the text should be according to the Harvard system, e.g. (Bordwell 1989: 9). The default term used for this list is 'References'. Please do not group films together under separate a 'Films cited' heading. Instead, incorporate all films into the main body of references and list them alphabetically by director. The same rule applies to television programmes/music/new media: identify the director/composer and list alphabetically alongside books, journals and papers.

Please note in particular:
- 'Anon.' for items for which you do not have an author (because all items must be referenced with an author within the text)
- A blank line is entered between references
- Year date of publication in brackets
- Commas, not full stops, between parts of each reference
- Absence of 'in' after the title of a chapter if the reference relates to an article in a journal or newspaper.
- Name of translator of a book within brackets after title and preceded by 'trans.', not 'transl.' or 'translated by'.
- Absence of 'no.' for the journal number, a colon between journal volume and number.
- 'pp.' before page extents.

The following samples indicate conventions for the most common types of reference:

Anon. (1957), *Narrative in Early Renaissance Art*, Oxford: Books Press.

Bashforth, K. (2016), 'The rules for socialising with work colleagues', *Harper's Bazaar,* July, http://www.harpersbazaar.co.uk/people-parties/bazaar-at-work/news/a37383/how-to-socialise-effectively-at-work/. Accessed 15 July 2016.

'Blood of My Blood' (2016), J. Bender (dir.), *Game of Thrones*, Season 6 Episode 6 (29 May, USA: HBO).

Bowie, D. (2016), 'Blackstar', *Blackstar*, sleeve notes, New York: Colombia Records.

Brown, J. (2005), 'Evaluating surveys of transparent governance', *6th Global Forum on Reinventing Government: Towards Participatory and Transparent Governance*, Seoul, Republic of Korea, 24–27 May.

Denis, C. (1987), *Chocolat*, France: Les Films du Paradoxe.

Derrida, J. (2002), 'The university without condition', in P. Kamuf (ed.), *Without Alibi,* Stanford: Stanford University Press, pp. 202–37.

Gibson, R., Nixon, P. and Ward, S. (eds) (2003), *Political Parties and the Internet: Net Gain?,* London: Routledge.

Gliesmann, N. (2015), *Denkwerkstatt Museum* ('Think workshop museum'), Norderstedt: Books on Demand.

Overdiek, A. (2016), 'Fashion designers and their business partners: Juggling creativity and commerce', *International Journal of Fashion Studies,* 4:1, pp. 27–46.

Richmond, J. (2005), 'Customer expectations in the world of electronic banking: a case study of the Bank of Britain', Ph.D. thesis, Chelmsford: Anglia Ruskin University.

Roussel, R. ([1914] 1996), *Locus Solus,* Paris: Gallimard.

Stroöter-Bender, J. (1995), *L'Art contemporain dans les pays du 'Tiers Monde'* (trans. O. Barlet), Paris: L'Harmattan.

UNDESA (United Nations Department of Economic and Social Affairs) (2005), *Report on Reinventing Government, New York: United Nations*.

Woolley, E. and Muncey, T. (forthcoming), 'Demons or diamonds: a study to ascertain the range of attitudes present in health professionals to children with conduct disorder', *Journal of Adolescent Psychiatric Nursing.*

Zhang, Z. (2004), *Shi mian mai fu (House of Flying Daggers),* China: Beijing New Picture Film Co.

Personal communications

Unless an informal conversation, interviews can be cited in text and included in the references. In the references, the name of interviewer/interviewee, type of communication, location, day and month should be included [if available].

Björgvinsson, Evan (2009), telephone interview with A. Høg Hansen, 23 January.

Branson, Richard (2014), in-person interview with J. Doe, Birmingham City University, 4 July.

Website references

Website references are similar to other references.

There is no need to decipher any place of publication or a specific publisher, but the reference must have an author, and the author must be referenced Harvard-style within the text. Unlike paper references, however, web pages can change, so there needs to be a date of access as well as the full web reference. Website or blog titles should be in roman font. In the list of references at the end of your article, the item should read something like this:

Kermode, Mark (2017), 'Audience appreciation', Kermode Uncut, 17 November, http://www.bbc.co.uk/blogs/markkermode/entries/61bec71c-916d-4a13-a782-79c3afb3c2b9. Accessed 20 November 2017.

Submission Procedures

Articles submitted to *JGVW* should be original and not under consideration by any other publication. Contributions should be submitted electronically as an e-mail attachment in Microsoft Word format.

Translations

If readers are unlikely to understand the title of a non-English-language work in your text (and references), the title in the original language may be accompanied by an English translation by the author, especially if its sense is not implied by the surrounding text. This applies to all types of work (journal article, book, film etc.).

Unofficial translations (e.g. those by the author) should be placed in quotation marks with parentheses, in roman type with an initial capital on the first word of title and subtitle (see Gliesmann in References). After the first mention in text, the original title should be used alone.

The official titles of published translations are set in italics inside parentheses (see Zhang in References). After the first mention in text, the English title should be used alone.

The guidance on this page is by no means comprehensive: it must be read in conjunction with Intellect Style Guide. The Intellect Style Guide is obtainable from http://www.intellectbooks.com/journals, or on request from the editor of this journal.