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"Press F to Pay Respects": An Empirical Exploration of the Mechanics of Gamification in Relation to the Christchurch Attack

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ABSTRACT
There has been a long-standing yet largely unreported intersection between video-gaming and violent extremism, spanning across jihadist, far-right, and other types of ideologies. Within this framework, until late, scant attention has been paid to the concept of “gamification”; i.e. the application of gaming and game-design principles within non-gaming environments. This paper contributes to this newly emerging area of study by exploring the theoretical underpinnings of gamification and applying these principles to a prominent empirical example: the Christchurch attack in New Zealand in 2019. With a particular focus on the (“setup,” “rule,” and “progression”) “mechanics” of gamification, this article explores two aspects. The first considers how the assailant (intentionally or otherwise) designed and constructed the game; undertaken through an empirical analysis of their manifesto, live-stream video, and original post on the imageboard 8chan (or Infinite Chan). This will be complimented by the second aspect which explores how the game was, in turn, “gamified” through audience reaction to and interaction on the original 8chan post. The article concludes by discussing whether the gamification of the Christchurch attack serves as a framework for future attacks.

Introduction
The Christchurch attack in March 2019 was one of the worst mass shootings in New Zealand’s history and its deadliest ever terrorist attack; the reverberations of which were sustained and transcended numerous international borders. Brenton Tarrant—a twenty-eight-year-old Australian national and self-described “ethno-nationalist” and “eco-fascist”—murdered fifty-one Muslim worshippers and attempted to kill 40 more, primarily at the Al Noor Mosque and Linwood Islamic Centre, before being apprehended by police reportedly on his way to a third location. It became quickly evident that the assailant had made use of a variety of, often complimentary, online and offline resources and strategies. These included producing and disseminating a seventy-four-page manifesto, live-streaming his attack on Facebook, and the initiation of a thread around ten to twenty minutes before the commencement of the attack on the now banned imageboard, 8chan (also known as Infinite Chan). These outputs contained numerous subculturally relevant symbols, sayings, and other indicators, including those relating to video-gaming.

Although the general connection between video-gaming and (violent) extremism has existed for decades, this intersection is generally “poorly understood.” What remains particularly scant within the research and literature are considerations around the “gamification” of violent extremism; something that has been widely associated with the Christchurch attack. Originally developed for addressing challenges in business, at its core gamification refers to “the use of game design elements in non
Although research on gamification is still very much in its infancy, academic literature, news articles, and investigative journalism, amongst others, have, at least anecdotally, described numerous instances of extremist and violent extremist networks adopting aspects that resemble some degree of the concept. More recently, academic literature has also started to broaden the scope of inquiry and explore the concept’s relationships with motivational change, its effects on different social psychological considerations, and its role within processes of radicalisation.

In the context of violent extremism, gamification can broadly be thought of as either “top-down” or “bottom-up.” The former refers to the strategic use of gamification by extremist organisations, such as the use of apps which offer points for undertaking various tasks, in order to recruit, disseminate propaganda, or encourage engagement and commitment, for example. However, it is with bottom-up gamification that this paper is concerned. In contrast to top-down gamification, “… bottom-up gamification emerges organically in (online) communities or small groups of individuals …” One of the more commonly spoken about examples of bottom-up gamification is the Christchurch attack. Here, it is widely accepted that the assailant, purposefully or otherwise, included a number of gamified elements within his assault. This includes the live-streaming of the attack in the format of a first-person shooter (FPS)—a common video-game style used within some of the biggest games and gaming franchises, including Call of Duty, Halo, and Doom—and the likening of the number of people the assailant shot and murdered to a video-game “kill count” and subsequent “leaderboard” as compared to other far-right violent extremist assaults.

Although there have been welcome developments as of late in this academic area of study, what remains distinctly unexplored is the use of established gamification concepts and their application—using relevant empirical data—to examples of violent extremism. What does exist is considered to be “limited, incomplete, and anecdotal.” These writings, despite serving an important function of raising awareness of the issue, lack academic methodological rigour. Further, as with the case of Christchurch, they often only focus on one aspect of the attack, e.g. the manifesto, the live-stream, or the 8chan thread, but do not consider all of the factors, thus failing to take a holistic look at the issue. Alongside determining the effects of gamification, the mechanisms underpinning these processes are highly under-researched.

This paper directly addresses this gap in literature and strengthens the foundation for future work in this area. Through the analysis of empirical data in the form of the Christchurch assailant’s original 8chan thread and user responses, his manifesto, and the live-stream video of the attack, this article investigates the theoretical underpinnings of gamification, with a particular focus on its “mechanics”; adapted from Robson et al.’s “mechanics,” “dynamics,” and “emotions” (MDE) framework. In particular, there will be an investigation of: (1) the “setup mechanics,” i.e. about shaping the environment of the experience, which includes the setting; (2) the “rule of mechanics,” i.e. both the deterministic and non-deterministic rules of the game, including shaping the concept, or the goal of the gamified experience; and (3) the “progression mechanics,” i.e. the achievement-related rewards of the gamified experience. This will enable a better understanding of how, within the context of violent extremism, gamification is constructed by the assailant (i.e. the “player(s)” and “designer(s”) and the audience (i.e. the “spectators” and “observers”).

This paper is organised in the following way. The subsequent section will explore relevant theoretical considerations of gamification. Next, Robson et al.’s MDE framework will be introduced, preceding the methodology section. The findings section then follows. Finally, a discussion concludes which places the findings within the wider context of copycat attacks and contemplates whether Christchurch provides a framework for future threats.

Gamification theory

Although the idea of implementing video-game design elements to address serious business challenges emerged at the beginning of the twenty-first century, it was not until around 2010 that the benefits were properly understood. This led to the conceptualisation of “gamification.” However, regardless
of the rapidly increasing number of gamified approaches and applications, a universally accepted definition of the concept is non-existent. Since its earliest conception, gamification is a term that has been "heavily contested," where, as a result, academics have coined their own definitions. The majority of scholars do, however, agree upon some general aspects of its being. As mentioned earlier, at its very core, gamification "is the use of game design elements in non-game contexts." It is about "facilitating behavioural change," and harnessing the "motivational potential of video games," where there is the "implementation of elements familiar from games to create similar experiences as games commonly do."

Within the literature, there is importance placed on wider considerations around both intrinsic and extrinsic motivations. Although there are some differences across these works on what constitutes these motivations, there are some common observations that can be drawn. Generally, intrinsic motivations relate to undertaking activities for personal satisfaction (e.g., for fun or as a challenge), and "extrinsic motivation refers to motivation external to the behavior ... and is usually derived from the outcomes of the behavior, such as rewards, punishments, or social pressure." These often take the form of points, badges and leaderboards (PBLs); something "that give consumers information about their achievements, progress and high scores."

There is, then, an underlying expectation here that gamification can "foster the initiation or continuation of goal-directed behavior, i.e. motivation," and make non-gaming environments more enjoyable and engaging. As a result, the use and implementation of gamification or gamified applications and systems have diversified into numerous sectors, including finance, education, government, health, news, entertainment, marketing and advertising, public engagement, environmental protection, amongst others. Subsequently, academic research has responded with the development of various conceptual and theoretical frameworks to further elucidate this phenomenon.

**Mechanics: Constructing and gamifying the game**

Robson et al. present a framework—a development of Hunicke et al.’s approach—in a bid to better determine how gamified experiences can be created. Although the primary aim of Robson et al.’s paper is to improve business operations through the implementation of gamification strategies, many, though of course not all, of the underlying principles can be particularly useful to better understand the intersection between gamification and violent extremism. Their framework builds upon the existing knowledge and theory around the incentives that motivate people to play video-games and what makes games engaging and successful. In order to achieve this, they introduce three principles within the framework, including: "mechanics (i.e., the goals, rules, and rewards), dynamics (i.e., how players enact the mechanics), and emotions (i.e., how players feel toward the gamified experience)." It is the “mechanics” aspect that this paper is particularly interested in as it enables an investigation into how the Christchurch attack was set up and gamified by both the assailant and his audience.

At its core, “[g]amification mechanics are the foundational aspects of gamified experience: they determine who the key parties are, how they interact, how to win or lose, and where and when the experience takes place. Mechanics form the structure that the gamified experience exists in . . . .” Further, mechanics “specify the goals, the rules, the setting, the context, the types of interactions (i.e., opponents), and the boundaries of the situation to be gamified.” Within this context, there are three different types of mechanics to consider: setup mechanics, rule mechanics, and progression mechanics. Setup mechanics are about shaping the environment of the experience, which includes the setting. This is about determining who they are playing against, who the competitor (or in the case of Christchurch, the “enemy”) is, and understanding whether they are acting as individuals or as a group. It is also decided here where the game will be played, whether it will be in the real or virtual world. Rule mechanics are responsible for shaping the concept or goal of the gamified experience. Alongside prescribing permissible actions, they also outline which constraints, such as time or location, limit those actions in order to create some pressure for players. Rule mechanics can be both deterministic and non-deterministic. Finally, progression mechanics consider aspects that are
critical to the experience, such as behaviours that are more likely to be repeated if they have rewarding outcomes. This relates to the achievement rewards discussed in the sections above, particularly PBLs. This is a critical consideration within this particular work, where “virtual victory point systems that players accumulate as they progress—such as scores . . . [including] achievement rewards with social significance (e.g., badges, trophies, leaderboards) indicate the social standing within a community and are powerful progression mechanics.” It is progression mechanics which provide the player with important feedback concerning their success towards victory.

To supplement the MDE framework, the authors introduce the specific roles of game “players,” “designers,” “spectators,” and “observers.” Here, what becomes important are the different variations in both participation and connection with the “gamified environment” in terms of player participation, this is about levels of involvement and whether the player actively contributes or is passive. With player connection, this “describes the type of environmental relationship (absorption vs. immersion) that unites the individual with the experience. In absorption, the experience unfolds before the person and occupies the person’s mind, whereas in immersion, a person becomes part of the experience itself, either physically or virtually.” The various types of people involved all take on different roles and responsibilities. Robson et al. argue that they all vary in terms of the extent to which they are involved in a passive or active sense, or whether they are absorbed or immersed within the experience.

The specified roles and responsibilities, according to the authors, is as follows. First, players engage directly in the gamified experience. They compete, perform, and are “highly immersed.” Next, designers develop, design, and often maintain and manage, the gamified experience. Third, spectators do not directly compete in the gamified experience but will have some influence on the experience. They play some part in the gamified experience (e.g., as audience members) and therefore can be highly immersed in the experience. Finally, there are the observers. These individuals have no direct influence or impact on the gamified experience, but watch it from the outside and are “passively involved and absorbed in the experience.” However, their presence alone can potentially impact the experience and, critically, they are potential players or spectators. There is a wider, important, point to make here. To some extent, these roles are fluid where people can move between them, or at least aspire to do so. However, the authors argue that the “majority of the roles these types of people play in a gamified experience will fall onto one end of the spectrums of passive versus active and immersed versus absorbed.” Saying that, due to the structural differences between gamification and business, and gamification and violent extremism, it is argued here that the latter, at least within the example of Christchurch, has more fluidity in terms of adoption of roles and the interaction and influence they have with current and future gamification. Mechanics alone, of course, are not enough to “motivate behaviour,” as the authors argue, with the “dynamics” and “emotions” aspects of the MDE framework having importance. However, focussing upon aspects of the “mechanics” part for this paper enables this work to address some of the core issues at play within this field; predominantly the lack of comprehensive empirical investigation, one that takes an academic approach and places these considerations within an established theoretical framework.

Methodology

The research commenced by using an inductive exploratory approach. By this, the authors explored the data to better understand the under-researched phenomenon of using the online platform 8chan during and after an in real life (IRL) attack. This included the use of the platform by the assailant himself, but also the responses that flooded in after the assailant had announced the attack on 8chan, specifically relating to the attack itself. The limited information and scant prior research meant that there needed to be a detailed familiarisation with the content of the assailant’s seventy-four-page manifesto, the original 8chan post, and the subsequent seventeen-minute live-stream video. There was further exploration of the 749 replies posted by 8chan users to the assailant’s original thread, a conversation that lasted around one hundred minutes and was taking place concurrently to the IRL attack. After familiarisation with and coding of the data, different topics of interest or themes
started to emerge, including, but not limited to, the use of gamer language within the original and subsequent 8chan posts, the hateful language and further victimization of victims, the merging of this real life violence with the virtual world, and the memeification of the attack. Although these are all topics of interest for future papers (ones the authors are currently working on), the present article focuses on what has previously been highlighted as gamification, as this appeared as a prominent theme, one that is becoming of increasing concern within terrorism studies.

Once the gamification theme was focussed upon—including a familiarisation of the scarce gamification literature which related to violent extremism, as well as the MDE theoretical framework put forward by Robson et al.—the data was investigated using a content analysis approach. Content analysis is a technique which acknowledges the importance of different types of communication within society to understand a social phenomenon, here the phenomenon of gamification mechanics used by the assailant within the content made available via 8chan immediately before the event, as well as within the communication that followed by 8chan users online. Such communication with each other establishes relationships between those sending and those receiving messages and can lead to the creation of communities with a sense of knowing one other. This is an important aspect of contemporary content analysis, as the use of social media brings together communities that may have not been connected otherwise offline.

Although research on “lawless online forums” is gaining traction, the anonymity of 8chan user posts and the possibility of threads disappearing within a few hours obscures this research process. An investigation into 8chan is further complicated by the convoluted nature of the platform and its content, the “shitposting” and the use of subcultural language, and the preference of 8chan users to communicate via very short posts. This also makes it difficult to present and analyse the multitude of often overlapping conversations, something that was continuously crosschecked via the original thread while coding manually within Microsoft Word and Excel documents. Each researcher coded the original 8chan post, the manifesto, and the 749 replies separately, concentrating on any mention of Robson et al.‘s set-up, rule or progression mechanics. The intent was to determine how the environment of the experience was shaped (e.g., the competition, the location), the rules and goals that were laid out (e.g., what is permitted, any constraints), and any mention of or feedback on progressing further within the gamified experience (e.g., achievements, rewards). Overall, the goal was to better illuminate the intentions and consequences of such gamified language and experiences, which was present within the initial exploration of the data.

The coding process also included ensuring intercoder “consistency,” an element of comparing individual coders’ interpretations of the data, quite commonly used within qualitative research teams. The two authors independently coded these data, with regular “check-ins” conducted during the process to discuss the coding of certain sections or specific posts. This process was especially important to ensure that there was agreement amongst coders on interpreting the often short text components and gamer language correctly. During these check-ins, the authors also highlighted examples for inclusion into the paper’s results and discussion. It should be noted here that only one of the researchers coded the video due the other researcher feeling uncomfortable watching such a graphic video in order to protect their mental health and wellbeing; an issue that is becoming of increasing concern with terrorism researchers. However, the analysis of the video was complimented by the inclusion of additional accounts of the content from the literature into this section (see, e.g., Royal Commission of Inquiry). Krippendorff states that communications are “created and disseminated to be seen, read, interpreted, enacted, and reflected upon according to the meanings they have for their recipient,” meanings in need of interpretation beyond just the written text and video footage, meanings that were used to decipher and uncover the presence and effects of gamification mechanics in both the written text and visual elements.

Research within these types of online spaces is in need of specific ethical considerations, especially around researcher risk and visibility. Asymmetry exists between the visibility of academics researching these spaces and the relative invisibility of those posting anonymously online. The visibility of researchers in these online spaces and subsequent published work poses specific risks which can be mitigated, for example, by being part of a network of researchers, by increasing departmental and institutional support throughout the research process, and by closely engaging with technologists,
The audience on The Findings: legislative reactions considering the setup was websites At the player 4chan, history,” and manifesto decided everyday to the衙 setting. Weights and the responses the setup mechanics, rule mechanics, and progression mechanics. The findings will be structured by first considering the assailant’s role as the designer and player of the game through an analysis of his manifesto, live-stream video, and original post on 8chan. This will be followed by the role the 8chan audience played as the spectators and observers in the gamification process by analysing their reactions to and interactions within the assailant’s thread.

Findings: The mechanics of gamification

The results will highlight the gamification mechanics within the set-up of the IRL attack itself as well as the responses to the gamified event by 8chan users responding to and communicating with each other on the assailant’s thread, drawing on examples of the three different types of gamification mechanics: setup mechanics, rule mechanics, and progression mechanics. The findings will be structured by first considering the assailant’s role as the designer and player of the game through an analysis of his manifesto, live-stream video, and original post on 8chan. This will be followed by the role the 8chan audience played as the spectators and observers in the gamification process by analysing their reactions to and interactions within the assailant’s thread.

The construction of the gamified event: Setup and rule mechanics

The attack on Christchurch led to a Royal Commission of Inquiry, considered to be the most serious response to an incident or issue that is available to the New Zealand government. Within this inquiry, the Christchurch assailant was described as an “avid internet user and online gamer” where this fascination in video-games developed early on in childhood and progressed into an interest in “multiplayer online role-playing games, other online role-playing games and first-person shooter games.” Given that the assailant started playing video-games at a young age and that he frequented 4chan, and then later 8chan, for fourteen years, there can be a reasonable assumption that he was well-versed in gamer and social media language and therefore considered “a digital native.” He was heavily involved in the set-up mechanics of the gamified event; mechanics that shaped the environment of the gamified experience. The subsections below outline the setup and rule mechanics put in place by the assailant as both the designer via his manifesto and original 8chan post, and as an active player through his live-stream video.

The manifesto: Setting the scene

At 1:26 P.M. local time, the assailant updated his Facebook status linking to seven different file sharing websites that hosted his manifesto. The cultural style within the manifesto suggests that the assailant was fluent in “the language customarily used on extreme right-wing websites and associated memes and in-joke.” When analysed against the framework outlined by Robson et al., various indicators relating to setup and rule mechanics can also be demonstrated (whilst taking some caution with consideration that aspects of his manifesto were about “shitposting”). For example, as with video-games, the assailant develops the character of the chief protagonist, i.e. himself. He talks, albeit briefly, about who he is and aspects of his background, family, and upbringing. Positioning himself as an everyday and unsung “hero,” he argues, “I am just a regular White man, from a regular family. Who decided to take a stand to ensure a future for my people.”

He also sets the scene for his own violent act and the foundation for future attacks by others. The manifesto provides the narrative, or storyline, to the event, something that is often found within games and gamified experiences. He argues that White people are being replaced in their own lands around the world, amounting to “White genocide.” This, he further states, leads to a loss of language, tradition, culture, and core beliefs. He argues, “[w]e are experiencing an invasion on a level never seen before in history,” once again using language that is not necessarily gamified in nature, though a narrative of
invasion and protection that can be found in numerous video-gaming scenarios, whether that is an invasion by people, aliens, or zombies, for example. Who does he believe he is protecting and representing? “Millions of European and other ethno-nationalist peoples . . . .”

What will be the setting of the fight, or in relation to Robson et al.’s framework, where will the game be played? Although the assailant chose New Zealand, he argues that settings can be far broader, where he implores people to “turn around, face your enemy, make your stand.” In terms of who they are playing against, who the competitor—or in the case of Christchurch, the “enemy”—is, the manifesto outlines a plethora of possibilities. He describes how the target should be the “invaders,” i.e. those who are considered to be non-White. The list of enemies spans far wider than this, which includes as well as immigrants and other non-White groups, families of those convicted of rape, prominent figures perceived to be “enemies” of “their” race; other “race traitors” including owners and CEOs of businesses who use non-White “cheap labour;” drug dealers (both legal and illegal), amongst others. He explicitly calls for their death. Finally, for various reasons, the assailant chose to target Islam, and specifically selected the two mosques due to several motives, including their location as they, in his own words using gaming language, enabled him to target a third location as a “bonus objective.”

In terms of rule mechanics, there are subtle indicators of the rules of the game, including various immediate objectives and longer-term goals. The “goals” outlined in the manifesto are plentiful, including to “crush immigration,” to “take revenge” for various issues and people, to “avenge,” “incite violence,” “create an atmosphere of fear and change . . . ,” and “create conflict,” among numerous other considerations such as promoting a slightly adapted version of David Lane’s “fourteen words.” As a self-declared “eco-fascist,” another goal is to protect the environment primarily through violence. As with gaming more generally, there are semblances of time restrictions here, where the assailant argues, “The best time to attack was yesterday, the next best time is today.”

Similar to video-games, there are a number of rules the assailant outlines for his own attack and wider attacks. As part of this he also dispels other rules. First, the assailant argues there are no innocents in an invasion and that all of those involved “share guilt.” Thus, regardless of whether people are armed, they should be killed. In fact, he attempts to convince that those who are unarmed can be far more dangerous than those who are armed. He claims that non-Whites are fine as long as they are in what he describes as their own lands. However, once they migrate to countries with what he considers to have “White populations,” he will be “forced to fight them, and hold nothing in reserve.” Particularly disturbing are his opinions about killing children. Thus, another “rule,” or lack there of, is that children can be targets as they will eventually become adults and reproduce. He argues, “[a]ny invader you kill, of any age, is one less enemy your children will have to face,” where “[y]ou burn the nest and kill the vipers, no matter their age.” However, he does outline that he does not intend to kill police officers, as “[t]he police force in New Zealand is on overall good terms with the public and, unlike in other European nations such as France, the UK, or Norway they have so far remained loyal to the people.” However, there are caveats to this similar to video-game rules being able to change under certain circumstances, including if the officer is from “an invaders background” or non-fatally wounding White officers by “targeting non-vital areas of their body.” As with numerous video-games where either all targets are viable or there are no overt impediments, restrictions, or for that matter retributions for harming those who you are competing against or the “enemy” within the game, he argues that, apart from the few rules he outlines, the general rule is that there are no rules. He claims the most important aspect is victory where all methods are permissible and “all morality is ambiguous.”

The live-stream video and its parallels with gamification
It is reported that the assailant had in his car: six firearms with large magazines; “four crude incendiary devices, two ballistic armour (bullet-proof) vests, military style camouflage clothing, a military style tactical vest, a GoPro camera, an audio speaker and a ballistic style tactical helmet. He also had a scabbard with a bayonet-style knife (with anti-Muslim writing on it).”68 A few minutes after posting his thread on
8chan, he linked his GoPro camera which was mounted on the front of his helmet to his mobile phone, which in turn started live-streaming to his Facebook page. As with his manifesto, there were a number of intersections between his attack and the concept of gamification. There were also numerous references to gaming scenarios where the assailant can be heard on the GoPro mentioning “targets” and even talks about a “firefight” in the mosque, even though he was the only one shooting.

It can be, and has been, argued that his attack had distinct features of video-games and in many respects, at times, felt like a video-game. The live-streaming of the attack, for example, had distinct parallels with popular “Let’s Play” videos where audiences watch people play video games live (or as a recording afterwards), “giving the viewers the illusion of watching footage from a first-person shooter game (FPS).” In fact, similar to the majority of these “Let’s Play” videos, the assailant often narrated and talked through the attack. In addition, mounting his GoPro to his helmet gave the attack the feel (as mentioned above) of a FPS, a popular gaming style where the player sees the game, or mission, from the view of the character or avatar, as used in globally popular and widely-recognisable game franchises like Call of Duty, Halo, or Doom. The use of multiple weapons was also reminiscent of a video-game, with Call of Duty once again holding distinct similarities. At 1:40 P.M. local time, the assailant approached his first target, the Masjid al-Nur (or Al Noor Mosque). First using his shotgun to kill four worshippers at the entrance, he continued its use inside. Once ammunition had run out, he abandoned it and used a semi-automatic rifle he had with him. When he returned to his car after the first wave of his attack, he dropped his semi-automatic rifle and picked up another. He also momentarily picked up one of his incendiary devices but decided for some reason to leave it in the car. In video-games, like Halo for example, the main character often carries guns as well as alternative (sometimes incendiary) devices, including frags, grenades, and others. Music was also featured within the assault, which was heard throughout most of the attack as it was played on his car radio and also on the speaker attached to his tactical vest. Although the music was thought to be curated and featured songs linked to wider far-right extremist narratives, including “Remove Kebab” (also known as “Serbia Strong”), what is important in this analysis is considering the parallels between using music for the attack and the use of music to add effect within many FPS games.

After his attack ended in the first mosque, the assailant got back into his car and drove to the second target. Although his live-stream cut out before this attack (though his GoPro continued), the footage part of his drive to this location is relevant to the narrative of this paper. This recording has distinct parallels to the popular Grand Theft Auto (GTA) franchise. This included his actual driving, where he reached speeds of 130 kilometres in a fifty kilometre per hour zone, driving erratically “weaving in and out of traffic, driving on the wrong side of the road and up onto the grass median strip.” In addition, as with most GTA games, the assailant used his weapon, in this case a second shotgun, to fire out of his car at pedestrians near the first mosque. Similarly, he also attempted, unsuccessfully, to shoot the drivers of two cars he passed on the road.

The role of “spectators” and “observers”: The rule and progression mechanics of gamification

Prior to the attack, at 1:28 P.M. local time, the assailant posted the anonymous message below onto now banned imageboard 8chan. In the post, the designer and player of the gamified attack described his potential opponents of the game as “the invaders” as well as the real time nature of the game (“by the time you read this I should be going live”). Gamification and gamified language not only played a role in the “setup” and “rule” mechanics by the assailant, but was also visible within the thread of comments users posted as a response to his original post. The assailant’s thread elicited much reaction by and communication between other 8chan users, similar to wider collaborative/online gaming scenarios. As well as voice and text-chat interaction within games, there has been the emergence of platforms like Twitch, which enable players to live-stream themselves gaming where they can interact in real time with their audience, or their audience can interact with one another. Others, like Robson
et al.’s “observers” can “lurk” in the background. It can be assumed that the assailant was aware of the impact his post would have on the 8chan/pol community, even though it does not appear that the spectators directly communicated with and influenced player behaviour.

There are also gaming cultural overlaps which contribute to the gamification of the attack. As seen in the example comment below, Press F or just the letter F, a prominent gaming feature, was used thirty-six times within the assailant’s thread. Press F to pay respects first emerged in 2014 within the first-person shooter game “Call of Duty: Advanced Warfare,” and was an interactive element where players of the game had to touch a casket at a funeral to pay respect, featured in the opening scene of one of the missions. Although mocked at first, Press F later became associated with sorrow and fails. Here, although some of the manifesto, live-stream, and 8chan thread is steeped in “shitposting,” Press F within this thread seems to relate to the first intended use, which is to pay respect, as seen within the second example post below.
The thread was also littered with numerous gaming references from pictures, to quotes, to obscure cultural references. From posters excitedly claiming, “[r]emember anons, this is how we win,” to references to cult and indie game characters like Klonoa, and games like “Magical Pop’n,” those responding on these threads are clearly intertwined within gaming culture and subculture. One user even asks if this is “Hotline Miami 3 confirmed?,” a reference to the long-awaited sequel of the Hotline Miami series, a top-down violent indie game where the main character(s), for various reasons, enter different buildings and kill all they encounter using a variety of weapons, holding distinct similarities to the Christchurch attack that was unfolding.

**Points, badges and leaderboards**

As mentioned earlier within the theoretical considerations of gamification, extrinsic motivation has the potential to play an important role. This type of prestige given by high rankings or high scores was evident within the reactions to the Christchurch assailant by 8chan commenters and is part of the progression mechanics experienced by the player, something also noticed and counted by the spectators within the thread. The spectators were visibly keeping count within the thread and were even challenged by one user to “GUESS THE BODY COUNT,” which other posters responded to with “I’m gonna go with . . . . 31,” “I count at least 22 plus the first one on the way in,” “I counted 23 at the very least.” Others asked, “So what’s the fucking highscore?” and “Did you count the highscore?” Although there was some apprehension with the attack by some, albeit few, questioning the morality of targeting civilians, and others simply being worried that the attack would lead to 8chan being taken down, many others celebrated the assault. One user excitedly wrote, “. . . this guy went for high score and did pretty fucking decent . . . tonight WE DRINK FOR BT [the assailant’s initials] THE MADMAN.” One user even posted a picture of a chart, originally posted on 4chan a number of years ago and subsequently updated as new incidents occur, of mass shooters, including for example Elliot Roger, and asked “where will he fit in[?]” The chart which includes pictures of the shooters, resembles a “Top Trumps” style approach where it rates them based on how many adults and children they killed, extra points if the shooter committed suicide after the attack, and bonus points for having (perceived or otherwise) various psychological issues, including autism and schizophrenia. As discussed earlier, the “scoreboard” signals the player’s success as compared to other assailants who hold similar far-right violent extremist ideologies, and sets a target to beat for those who come after. It has been linked to the social standing within particular communities. From these, it can be better understood how spectators take part in the gamified event and have an influence in the rule and progression mechanics.

**Discussion: A framework for future attacks?**

This paper has explored the concept of gamification, i.e. the application of gaming and game-design principles within non-gaming environments, within the context of violent extremism. Although there have been emerging pieces of both non-academic and academic literature discussing the concept in relation to recent attacks and incidents, this article has particularly contributed to this under-researched field of study by exploring the theoretical underpinnings of gamification and applying these principles to an empirical example; an aspect that is particularly scant within this area of study. Thus, adopting the “mechanics” aspect of Robson et al.’s  MDE framework, there has been
a particular focus here on “setup,” “rule,” and “progression” mechanics to investigate the Christchurch attack in New Zealand in 2019. The research found that across the data examined, there were numerous obvious and more subtle elements of both gaming culture and gamification present.

There are, however, some wider considerations when applying Robson et al.’s theoretical framework within this particular context. The authors outline that “[t]hese gamification mechanics are known before the experience starts and they remain constant. In other words, they do not change from one player to the next, and they stay the same each time a player engages in the experience.” However, within the case of Christchurch and subsequent attacks by others which had distinct gamification parallels, the “setup,” “rule,” and “progression” mechanics changed depending on various positions. For example, within the manifesto of the Poway synagogue shooter in 2019, considered to be another gamified attack, he outlines that he used a gun instead of a flamethrower as this is what was used during the Christchurch attack. However, he enables a potential change of mechanics by encouraging the use of a flamethrower if people’s “goal is strictly carnage and the highest score.” Other aspects are far more vigorously debated and argued, such as the setup mechanics regarding who the enemy should be. For instance, after the Christchurch and Poway shootings, there were conversations on various online threads about who should be the target, Muslims or Jews. Much of this depends on the intentionality of gamifying the attack. What remains unclear is whether the Christchurch assailant intentionally gamified his attack as a strategy to, for example, recruit others to his cause, to publicise his attack more widely, to appeal to the subculture of 8chan (parts of which has distinct linking to video-gaming), or whether it was more organic due to him reported being an “avid internet user and online gamer,” with some going as far as describing him as having a “severe [gaming] addiction.”

As indicated above, what is clear from the data, however, is that there are a number of gamification parallels across various far-right violent extremist attacks across history. It is thought, for instance, that the Christchurch assailant was himself, to some extent, inspired by Anders Breivik’s attack in Norway in 2011. Similar to the Christchurch assailant, it is believed that Breivik had gamified elements of his attack and was a keen gamer himself, where it is thought that he trained for his assault using popular FPS franchise, Call of Duty, and even imagined himself as an avatar. This has continued post-Christchurch. Various attacks, some of which happened in a relatively short time after the New Zealand attack in 2019, have demonstrated some distinct gamification-related similarities. Many of the perpetrators, predominantly within their own manifestos, have even mentioned the Christchurch assailant as a source of inspiration. These attacks that have been inspired or motivated in some way by Christchurch have included, as mentioned above, an assault on a synagogue in Poway, California on April 27, 2019, a Walmart attack in El Paso, Texas on August 3, 2019, a mosque in Bærum, Norway on August 10, 2019, and an attempted attack on a synagogue in Halle, Germany on October 9, 2019.

Thus, many of these attacks have been gamified in some way where the attackers “seem to have been familiar with gaming environments and employed both the skills they acquired and the visual style often found in first-person shooter games during their attacks.” Further, they have “sought to appeal to similar online communities, in which gamified language and references to gaming were part of the subcultural practice.” This is evident in various materials produced by the attackers, including —similar to the Christchurch assailant—manifestos, FPS live-streams of their attacks, and reactions by users to their attacks on online spaces like 8chan (or subsequent spaces since it has been shut down), Telegram, etc. For example, as found in most video-games, the Halle shooter had a list of “objectives” and “achievements” in his manifesto that he hoped to unlock. As part of this, “[p]oints would be scored, he explained, for killing Jews, Muslims, Christians, blacks, children and communists, as well as through the use of different means, including 3D-printed guns, grenades, swords, a nail-bomb,” and his “secret weapon,” which likely referred to his car. The gunman was doubtless hoping future attackers would tally up his “high score” and eventually try to “beat it.” The achievements outlined by the shooter included: “Cultural Appropriation—Stab a Muslim;” “Nailed it—Kill someone with a nail bomb;” and “The fire rises—Burn down a synagogue.” The “ironic tone” outlined here “is not uncommon for achievements in the gaming scene.”
As mentioned, FPS-style live-streaming of attacks was also an increasingly common occurrence. As the Christchurch assailant “visually choreographed his attack, filming the atrocity using a GoPro camera, which gave the footage the quality of a first-person “shoot ’em up” [and] ‘Terrorism as theater’ became terrorism as video game,” so did others. Fortunately, although the Poway and Bærum attackers attempted to live-stream their attacks on Facebook, they were both unsuccessful due to technical difficulties. The Halle attacker, on the other hand, was unfortunately successful with live-streaming his attack online, with the chosen platform further indication of the intersection between violent extremism and video-gaming. Using a smartphone fixed to a helmet, the perpetrator broadcast his attack to Twitch. Originally launched in 2011, and acquired by Amazon in 2014, Twitch is a platform where users live-stream themselves playing video games with others being able to simply watch or interact with the gamer in real-time using the in-app chat function. In fact, the live-stream had distinct parallels to (the aforementioned) Let’s Play videos, where people are able to watch other people play video-games in real-time, interact with the player through voice and text chat, and interact with other observers. Let’s Play videos are recorded and can be watched after the event, which is important as it allows for far more views than the original live-stream. As outlined by Lakhani, the Halle attack stream was live for thirty-five minutes, with around 2200 views of the automatic download to Twitch (according to Twitch, only five people watched the livestream itself). However, the stream was downloaded and outlinked to other platforms, including Twitter and Telegram, where it accumulated far more views. It can be argued, then, that live-streaming is a tool that is familiar to the gaming community “and has been utilized by extremists to increase their visibility and appeal to potential gaming audiences who are familiar with this mode of engagement.”

Is this then about an expectation from the audience (i.e. the spectators and observers of the game), and related to general audience engagement with gamification which excites them and draws them in, something the assailant was aware of? From the gamification of the attack and gaming-related responses from other 8chan users, it appears that this could be a strong possibility. If this is the case, even in part, it can reasonably be argued that live-streaming has been used by violent extremists to not only increase their visibility, but also to appeal to those audiences familiar with gaming and these modes of engagement. In fact, following the Christchurch attack, “edited versions of the video even appeared online with the interface of a game added.” One of these was New Zealand White supremacist Philip Nevile Arps, who asked a friend to add a “kill count” to the video. A screenshot was found on the friend’s phone, “overlaid with text that read ‘Call of Duty Mosque NZ edition.’” Macklin further echoes these sentiments and outlines that while “it is tempting to refer to these attacks as ‘copycat’ acts—— it would be more accurate to describe them as following the same ‘cultural script.’” This could also be described as “terror and entertainment,” demonstrating the excitement people derive from watching others “win” or achieve new “high scores.” In fact, the Halle attacker even apologised to his “audience” on the live-stream for failing to achieve what he promised (i.e. his listed “achievements”) and what the audience expected.

As the Christchurch assailant’s attack was gamified by the audience (discussed within the findings section of this paper), in turn the audiences of the attacks that came after did similar. For example, numerous online communities—including on chan boards, Telegram, and others—have kept virtual scoreboards in a bid to rank the “successes” of far-right violent extremists, where there have been desires to “beat his [the Christchurch assailant] score or [rate] attackers’ ‘body counts.’” This is about challenging one another to get the highest score by killing as many as possible, whereby people constantly out-perform those that came before them, in turn framing terrorism as a competitive act. Some of the attackers have even been mocked and criticised for not beating others’ “scores.” For instance, after the shooting in Halle, various message boards including on 8chan fervently discussed. Thus,
Although the idea of leaderboards might seem like a relatively recent phenomenon, it has been argued that it is in fact linked to a “decades-long tradition of murder,” where similarities have been drawn with the Oklahoma City bombing and the Columbine High School shooting in Colorado.\(^{111}\)

However, although these mostly anecdotal examples of gamification exist across numerous instances, what needs further empirical investigation is the potential (or lack) of gamification as a tool to radicalise, recruit, and motivate acts of violence. Is gamification alone enough to inspire attacks of violence or does there need to be the consideration of aspects that have traditionally been considered within examples of radicalisation and/or violent extremism? Further, although there is some general agreement of the value of gamification within violent extremism, there have been some reservations and criticisms aimed at the concept.\(^{112}\) Although some, like Schlegel,\(^{113}\) argue that gamification is “a useful tool to achieve behavioral change,” she also points out that wider literature suggests the “underlying mechanisms of gamification are still contested and some assume that its effects are overestimated as positive effects could be caused by the novelty of these applications rather than gamification itself.” Thus, gamification does not automatically increase user commitment; where “[s]imply putting a leaderboard up and awarding some points to employees, students or users is unlikely to be enough to facilitate sustained engagement . . .”\(^{114}\) Further, authors, such as Mitchell et al.,\(^{115}\) outline that although it is broadly accepted that gamification can impact behaviour, how this is achieved is still debated; “[i]n fact, one of the most common criticisms of gamification research is its focus on whether—to the exclusion of how—gamification can modify behavior.” To this, the control group scenario needs to be considered. That being, how can it be explained why others who have had similar exposure to violent video games and engage in various (violent) extremist subcultural practices, such as frequenting and contributing to particular threads on 8chan, or gamifying violence, do not engage in violence themselves? Like with other forms of violent extremism, it is more than likely a complicated multifaceted area, inhabited by human actors who have individual and overlapping motivations, conditions, needs and desires, etc.\(^{116}\)

Saying that, although gamification alone more than likely will not be enough to motivate people to engage in violent extremism, it can play some, possibly quite important, role. For instance, it publicises the attack to a wider audience, blurs the line between “shitposting” and violent extremism, and appeals to a wider and potentially younger audience, amongst other considerations. Gamification also enables people to blur boundaries between the real and virtual world and for some is a way to structure reality.\(^{117}\) In addition, as Macklin\(^{118}\) has argued, “[g]iven the deliberately self-referential nature of such actions, calculated to inspire further atrocities, many of these individual acts of violence are perhaps better understood not as isolated acts, but as part of a cumulative continuum of ‘collective’ extreme-right violence.” This then can decrease individuals’ thresholds to violence every time an act of violence occurs.\(^{119}\) Further, regardless of whether gamification alone motivates individuals to participate in violent extremism, it can have an effect on motivating those who do participate in causing more death and destruction than the previous attacker. As Macklin\(^{120}\) explains, while the attacks outlined in his chapter “were the work of individual actors unconnected with one another, they were not ‘random’: their violence gained a cumulative momentum from this online milieu, which actively encouraged and glorified each successive act of violence in the hope of generating more terror.”\(^{121}\)

**Future research**

It is then clear that gamification has played some potentially important role within both historical attacks and those of late. What is needed, however, is methodologically rigorous empirical research which endeavours to answer the numerous unanswered questions within this field of study. There are a number of avenues that future research could explore. For one, there is the possibility to build upon the use of the “mechanics” aspect of Robson et al.’s\(^{122}\) MDE framework in order to demonstrate its value against other empirical case studies. As has been discussed throughout this paper, particularly emphasised within the Discussion thus far, there are numerous other (albeit mostly anecdotal) examples of the gamification of
violent extremism, including ones that have distinct similarities and overlaps with Christchurch. This will enable the development of this framework to capture considerations that were not present within this particular case study to determine the robustness of the theoretical position.

In addition, it would be useful for future research to explore the remaining aspects of the MDE framework, which include “dynamics” and “emotions.” When coding the data, it became clear that both the dynamics and emotions aspects were present, though including them within the analysis would have diluted the concentration and value of the “mechanics” aspect of gamified attacks; particularly as this is an exploratory study. However, this does not mean that the other aspects are not important, quite the contrary. Thus, although this paper has focused extensively on Robson et al.’s gamification mechanics, there is an acknowledgement that the gamification experience needs more than just the mechanics to motivate behaviour change, including both dynamics and emotions. The gamification dynamics include the player behaviour that changes throughout taking part in the game, depending on how the players follow the mechanics set out by the designer. The spectators and observers can indirectly impact the player dynamics, as players are more competitive when they know they are being watched. The gamification emotions relate to the mental state and reactions evoked among individual players when they take part in the gamified experience such as enjoyment, excitement, and wonder. With both of these aspects, there are elements of work that are already being undertaken which could prove to be useful, and established theoretical approaches that can complement Robson et al.’s MDE framework. For example, with emotions, work on the existential attractions and phenomenological foreground of violent extremism would be helpful to further illuminate this relatively under-researched area of concern. Once these elements have been explored, it will then be possible to understand how mechanics, dynamics, and emotions work together in unison, understanding the interplay and potential tensions between the different elements in order to provide a richer picture of how violent extremism is gamified and to determine whether this weaves a similar or alternative narrative.

What is clear here is that the study of gamification within the context of violent extremism is in its infancy. With new and emerging topics there will naturally need to be starting points, exploration of data in new and diverse ways, and the testing of hypotheses and new and established theoretical frameworks (often across disciplines) to make sense of and illuminate the area of study. This paper provides a strong foundation for this by taking an interdisciplinary approach utilising an established theoretical framework within management studies and using it to investigate a contemporary issue within the study of terrorism. This approach enables the emerging phenomenon of gamification to move between being discussed anecdotally to one that is methodologically grounded and empirically rich. The continued intersection between video-gaming and violent extremism is a topic that is only going to increase in prominence and usage, and within this the gamification of acts of violence can play a prominent role, particularly as video-gaming increases in popularity globally. These subcultural overlaps with violent extremism are issues that need to be better understood. Only then can there be formulations of counter-narratives and counter-strategies in order to begin to deal with this contemporary threat.

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Notes

2. For the remainder of the paper, we will refer to him as the assailant. Elsewhere, he has been referred to as a terrorist and the individual (see, e.g., Royal Commission of Inquiry, 2020. Ko Tō Tātou Kāinga Tenei—Report: Royal Commission of Inquiry into the Terrorist Attack on Christchurch Masjidain on March 15, 2019. https://christchurchattack.royalcommission.nz/(accessed December 6, 2021)).
3. Since 8chan was banned, it is thought that its users have migrated to various different platforms/imageboards including other chan-related boards and wider online spaces including Telegram.
10. Schlegel, “The Role of Gamification.”
15. Ibid.
19. Deterding et al., “From Game Design Elements to Gamefulness.”
20. Ibid: 10; emphasis in the original.
27. Sailer et al., “How Gamification Motivates”
28. Deterding et al., “From Game Design Elements to Gamefulness.”
30. Robson et al., “Is It All a Game?”
33. Ibid: 412.
34. Ibid: 415.
35. Ibid: 414.
38. Ibid.
41. Ibid: 414.
44. Robson et al., “Is It All a Game?”
46. Ibid.
49. Robson et al., “Is It All a Game?”
53. Krippendorff, Content Analysis.
54. p. xii
56. Ibid.
57. Ibid.
59. Ibid: 166.
60. Ibid: 168.
61. Ibid: 231.
62. Robson et al., “Is It All a Game?”
63. Royal Commission of Inquiry, Ko tō Tātou Kāinga Tēnei.
64. Ibid: 234.
65. Robson et al., “Is It All a Game?”
67. Robson et al., “Is It All a Game?”
68. Royal Commission of Inquiry, Ko tō Tātou Kāinga Tēnei.
69. Ibid.
72. Royal Commission of Inquiry, Ko tō Tātou Kāinga Tēnei.
73. Macklin, “The Christchurch Attacks.”
74. Royal Commission of Inquiry, Ko tō Tātou Kāinga Tēnei.
76. Robson et al., “Is It All a Game?”
79. Robson et al., “Is It All a Game?”
80. Ibid.
82. Evans, “The El Paso Shooting and the Gamification of Terror.”
83. The site’s popularity substantially increased after the GamerGate controversy, where 4chan users migrated elsewhere, predominantly, it is thought, to 8chan (McLaughlin, “The Weird, Dark History of 8chan,” Wired. 2019, https://www.wired.com/story/the-weird-dark-history-8chan/ (accessed December 17, 2021)).
91. Ayyadi, “Antisemitische Tat in Halle.”
92. The use of recording and live-streaming violent extremism has a history beyond Christchurch, including being used as a tactic by Jihadists (cf. Macklin, “The Christchurch Attacks”); Macklin, “Praise the Saints.”
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This becomes even more important in the age of social media and online video-gaming, where livestream events reach an even bigger audience containing spectators and observers.


96. Macklin, ”’Praise the Saints.’”


98. Ibid.

99. Schlegel, ”Can You Hear Your Call of Duty?”


101. Macklin, ”’Praise the Saints.’”

102. Ibid.

103. Ibid.


105. Ibid.

106. Ibid.

107. Schlegel, ”The Role of Gamification.”

108. Crawford and Keen, ”The Hanau Terrorist Attack.”


110. Macklin, ”’Praise the Saints.’”

111. Evans, ”The El Paso Shooting and the Gamification of Terror.”

112. Sailer et al., ”How Gamification Motivates”; Schlegel, ”Jumanji Extremism?”; Schlegel, ”The Role of Gamification.”

113. Schlegel, ”Jumanji Extremism?”; Schlegel, ”The Role of Gamification.”

114. Schlegel, ”The Role of Gamification.”


117. Schlegel, ”Can You Hear Your Call of Duty?”

118. Macklin, ”The Christchurch Attacks.”


120. Macklin, ”’Praise the Saints.’”

121. Ibid.

122. Robson et al., ”Is It All a Game?”

123. Ibid.

124. Ibid.

125. Ibid.
