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The Role of Gamification in Radicalization Processes

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| Intro

The livestreaming of attacks, the use of *Call of Duty* footage in propaganda videos, the modification of popular video games to support extremist worldviews, and the development of games and playful apps by extremist organizations have all contributed to an increasing focus on the so-called 'gamification of terror'.[2] Since the livestreamed attack in Christchurch and the realization that subsequent perpetrators in Pittsburgh, El Paso and Halle not only copied the mode and style of attack but were embedded in and sought to appeal to similar online communities, in which gamified language and references to gaming were part of the subcultural practice, journalists, academics, and practitioners have begun to analyze the role games and gamified applications may play in radicalization processes.

Understandably, as the Christchurch shooting has taken place less than two years ago, the analysis into the potential role of gamification in radicalization processes has only just begun and much confusion persists on both terminology and the exact mechanisms by which gamification may influence extremist thought and action. The fact that gamification itself is a fairly new concept, which has only been seriously researched for around ten years, complicates matters further. A large part of this report is therefore dedicated to organizing the current state of knowledge and to provide readers with a baseline of knowledge on gamification in extremist contexts. After a discussion on gamification as such and how it may or may not be differentiated from other gaming appeals, an overview of the current evidence of gamified radicalization processes is provided. Then, research findings on the psychological mechanisms of gamification are applied to the issue of radicalization. Lastly, the report flashlights some preliminary possibilities of applying gamification to preventing and/or countering extremism (P/CVE). Readers must be aware that this final part of the report lacks robust empirical grounding and is not meant to be taken

as evidence of what should or should not be done. Rather, it is meant as an invitation to explore and discuss the implications of gamification for P/CVE.

| What is gamification?

The term gamification refers to the "use of game design elements within non-game contexts".[3] It entails the transfer of game elements such as points, leaderboards, badges, or avatars into contexts not traditionally regarded as spaces of play with the aim of facilitating behavioral change in users.[4] The behavior change encouraged by the gamified application is referred to as 'desired action'. For example, competing against one's friends on a fitness app to lead the scoreboard and to collect achievement badges or trophies often encourages users to increase the number of desired actions and work out more often or with higher intensity to collect more points.[5] The desired action could be anything encouraged by the gamified application, from clicking on links to buying products to eating healthy, inviting friends to play an online game or spend hours collecting points, badges and increase one's virtual ranking. Because humans are naturally drawn to play and an increasing number of individuals engage in gaming activities way into adulthood, gamified applications are perceived by many as appealing, engaging and fun. Gamification is, in essence, a psychological tool to increase users' motivation to become and stay engaged.[6] While the concept of gamification was originally developed in the commercial sector to increase sales and user engagement – used, among others, by Amazon, eBay, Deloitte, Google and Facebook[7] – it is now increasingly applied in non-commercial settings such as education, health, work, sustainability, the military, and the public sector.[8] While theoretically applicable to the offline world, much of the literature on gamification focuses on digitally-mediated context, in which users engage with an electronic device either throughout the whole experience or at least partially as in the case of the fitness app motivating offline workouts.

To be sure, gamification is not a magic bullet that automatically increases user engagement and has drawn its fair share of criticism.[9] Simply putting a leaderboard up and awarding some points to employees, students or users is unlikely to be enough to facilitate sustained engagement and does not automatically create a fun environment users like to participate in. There are plenty of expensive, well-designed applications with amazing graphics that include all kinds of gaming elements a user might want, which fail to generate the users' motivation to engage.[10] Individuals differ in their preferences of different gamified elements[11] and gamified elements that sparked the users' interest may not be the

3 Deterding et al (2011) "From game design elements to gamefulness", p.1
4 Robson et al, (2015) "Is it all a game?"
5 Hamari & Koivisto (2015) "Working out for likes"
6 Sailer et al (2017) "How gamification motivates"
7 Chou (2015) Actionable Gamification
8 Blohm & Leimeister (2013) "Gamification"; van Roy & Zaman (2019) "Unravelling the ambivalent motivational power"; Robson et al (2016) "Game on"; Gonzalez et al (2016) "Learning healthy lifestyles"
9 Fleming (2014) "Gamification: Is it game over?"; Bogost (2014) "Why gamification is bullshit"
10 Chou (2015) Actionable Gamification
11 Bartle (1996) "Hearts, clubs, diamonds, spades"; Marczewski (2015) "User types HEXAD"

same as the elements that sustain the users' engagement over time. In addition, demographic factors such as age partially mediate the motivational effect of gamification[12], i.e. generally, the younger the user the easier one can create motivation with simple gamified elements. Culture and values too may influence the effects of various gamified elements on a given user.[13] Notwithstanding these caveats, considering that 2.4 billion people[14], 1/3 of the world's population, play electronic games (albeit with varying degrees of frequency and seriousness), well-designed gamified applications are likely to resonate with a large number of digitally-savvy media users.

When applying gamification to radicalization processes, conceptual confusion arises. The term gamification has been used to describe a variety of phenomena, from the creation of videogames by extremist organizations, to the use of actual video game sequences in propaganda videos, the production of video footage with HD-helmet cameras to mimic the visual style of first-person shooter games or the alleged use of gaming to prepare for an attack, to gamified language in online forums and apps such as *Patriot Peer*. The prominence of gaming in extremist subcultures partially mirrors broader societal processes. Some argue that we live in an increasingly "gameful world"[15] even a "ludic century"[16] (from the Latin ludere = to play) characterized by the blending of work and play in both the private and the public sphere and the ludification of culture as a whole. While gamification is certainly on the rise in all areas of life and likely to be increasingly integrated in normal life, it makes little sense at such an early stage of research on the gamification of radicalization to refer to everything containing even a remote reference to gaming as 'gamification'. If we want to uncover the psychological mechanisms by which gamification might influence radicalization processes, we need to understand what exactly the phenomenon entails.

For this report, *only the application of gaming elements in non-gaming contexts*, as described above, will be discussed. Actual videogames developed by extremists such as the newly released *Heimat Defender: Rebellion*[17] are better categorized as the radicalization of gaming rather than the gamification of radicalization. Similarly, the use of footage from games in propaganda videos, mimicking the style of video games with helmet cameras[18] and the modification of existing games for ideological purposes, such as Stormfronts modification of *Doom 2* to enable users to 'play' genocide[19] or gamers re-playing their own version of the Christchurch massacre in *The Sims*[20], are purposefully excluded while acknowledging the fuzziness of the boundaries between gaming, gamification and references to games as part of popular culture. Similarly, while worrying in its own right, the mere presence of extremists on

12 Koivisto & Hamari (2014) "Demographic differences in perceived benefits from gamification"
13 Khaled (2014) "Gamification and Culture"
14 Cyber Athletiks (n.d.) "How many gamers are there in the world?"
15 Walz & Deterding (2014) The Gameful World
16 Zimmerman (2014) "Manifesto for a ludic century"
17 Schlegel (2020) "No Child's Play"
18 Scaife (2017) Social Networks as the New Frontier of Terrorism
19 Ebner (2019) Radikalisierungsmaschinen
20 Stevens (2019) "Twisted gamers create first-person shooter video games"

gaming servers such as *Discord*[21] and the utilization of such platforms to communicate is not regarded as gamification for this report.

| Evidence for Gamification of Radicalization

While video games have been part of the extremist repertoire for quite some time[22], gamification has been added to the 'toolbox' of extremist organizations and subcultures fairly recently. Public attention has only turned towards gamified elements of radicalization and recruitment efforts in the last two years. Therefore, the evidence available must be regarded as limited, incomplete, and anecdotal. The evidence that has been uncovered so far may be grouped in two broad categories, namely top-down and bottom-up gamification. Top-down gamification refers to the strategic use of gamified elements by extremist organizations to facilitate engagement with their content, whereas bottom-up gamification emerges organically in (online) communities or small groups of individuals radicalizing together.[23]

	Top-down gamification	Bottom-up gamification
Who	Extremist groups, recruiters, strategists	Individuals, small groups of friends, online communities
What	Strategic use of rankings, badges, points, leaderboards	Livestreaming, gamified language, virtual scoreboards, personal 'quests'
Why	Facilitate engagement with content and peers, visibility of commitment, motivate users to participate, appeal to young audience	Appeal to online community/subcultural milieu, look cool, make sense of reality via gaming content
Examples	Rankings, badges etc in forums; apps such as Patriot Peer	Attacks in Christchurch and Halle; small-group WhatsApp radicalization; discussions on social media e.g. desire to "beat his score"[24]

21 Ebner (2020) "Dark ops: Isis, the far-right and the gamification of terror"
22 Lakomy (2019) "Let's play a video game"; Dauber et al (2019) "Call of Duty: Jihad"
23 For a full discussion see Schlegel (2020) "Jumanji extremism?"
24 Evans (2019) "The El Paso shooting and the gamification of terror"

Top-down gamification

The beginnings of top-down gamification can be traced to the forums hosted on extremist websites since the early 2000s. Many forums included visible measures of commitment, such as different ranks or levels users could obtain for posting comments, reputation meters awarding recognition to those posting 'interesting' content and answering peer questions, and virtual badges for reaching certain milestones of engagement such as a certain number of comments or years as an active member. Members were also rewarded for their continuous commitment by earning the right to personalize their avatars and signatures or by being invited into certain 'secret' groups only a selected elite demonstrating outstanding commitment to the forum could access. One forum even included a 'radicalization meter' as a visualization of one's progress toward extremism.[25] While the importance of forums may have decreased with the rise of extremist activity on social media, gaming elements such as ranks have been transferred into other virtual settings. Ebner reports, for instance, that the far-right Reconquista Germanica group on *Discord* implemented a military-style ranking and badge system, creating a clear hierarchy and a way to overtly display status differences between users.[26] In the section on "Mechanisms of Influence" (p. 7), the motivational drivers of such status elements are explored in more detail.

As mainstream social media platforms became increasingly hostile environments to extremist groups due to account removals, content take-down and other repressive measures, some are migrating to fringe platforms such as *Gab* or develop their own communication and networking tools. Potentially the most prominent example of such top-down gamification in alternative settings is the app *Patriot Peer*, which was planned by the Identitarian Movement (Identitäre Bewegung; IB). Ultimately, the app was never launched, but it nevertheless provides a useful case study illustrating that extremist organizations are aware of the potential of gamified elements and make strategic use of gamification in the development of new 'tools'. *Patriot Peer* was envisioned not a fully-fledged game, but a communication and networking tool with gamified elements featuring prominently for its users, which would "turn resistance into a game".[27] The plan was that users would collect points by acquiring virtual connections to other 'patriotic individuals' near them – to be found with a *Pokémon-Go*-like "Patriot Radar"[28] - , visiting designated cultural places and uploading pictures for their network to see, taking part in protests or visiting IB events and then compare themselves to others on a virtual leaderboard.[29]

Bottom-up gamification

Incidences of bottom-up gamification may be grouped into three broad categories: gamification driven by perpetrators of attacks, gamification within online communities, and gamification in radicalization processes of individuals and small groups.

25 Hsu (2011) "Terrorists use online games to recruit future jihadis"
26 Ebner (2019) Radikalisierungsmaschinen
27 Brust (2018) " Rechtsextreme Scheinspielereien"
28 Prinz (2017) "'Patriot Peer' als Mischung zwischen Tinder und Pokemon Go"
29 Schlegel (2020) "Jumanji extremism?"

The gamification initiated by perpetrators of attacks is the most well-known aspect of bottom-up gamification. Norwegian right-wing perpetrator Anders Breivik was the first who allegedly gamified his attack. He reported that he trained for his attack with *Call of Duty* and imagined himself as his avatar, effectively gamifying the experience for himself.[30] Gamification also became evident in his manifesto. He 'played' the leader of a secret underground organization, the Knights Templar, and pretended to be part of an alternative reality.[31] In 2012, a year after Breivik's attack, the next step in the gamification of attacks was taken by an extremist perpetrator in Toulouse, who videotaped his killings with a GoPro camera strapped to his chest and posted the footage online.[32] His viewers and supporters had a 'front row' seat in the violence by watching the video, gamifying not only his experience but the experience of his viewers. The video's setup mimicked the visual style of Let's Play videos of popular first-person shooter games. Let's Play videos, which allow users to observe someone else playing a video game, are extremely popular in the gaming community: In April 2018, users spend 128 million hours on *Twitch* watching others play the popular game *Fortnite*.[33] However, the viewers of the Toulouse video were watching and engaging with the content only in retrospect, long after the events shown had taken place. The current generation of gamifying perpetrators, from Christchurch to El Paso and Halle, is especially well-known for livestreaming their attacks, although not every perpetrator will necessarily attempt the livestreaming.[34] It does not get more 'front row' than watching a livestream of an attack mirroring the style of first-person shooter games and commenting on the perpetrator's actions in real time, much like a livestreamed Let's Play video. Livestreams, therefore, gamify both the attacker's and the viewers' experience of the event.[35]

The perpetrators, who livestreamed their attacks, were often embedded in far-right online subcultures. Bottom-up gamification has become increasingly prominent in such online communities, for instance on *Gab* or *8chan* (now 8kun). Certain parts of such digital subcultures are highly supportive of far-right extremist violence. The Halle attacker, for instance, has been celebrated as a "saint" on far-right *Telegram* channels.[36] Various online communities keep virtual scoreboards that rank the 'success' of far-right perpetrators and some users have expressed the desire to "beat his [the Christchurch attacker] score" or rated attacker's 'body counts'.[37] These are the communities perpetrators livestreaming their attacks seek to appeal to with gamified language used during their livestreams and from these communities stems the social recognition perpetrators 'placing high on the scoreboard' receive. Gamified language might seem less important than gamified action, but it sets the stage to understand reality through a gaming lens and can encourage the gamification of behavior.

30 Pidd (2012) "Anders Breivik 'trained' for shooting attacks by playing Call of Duty"
31 Breivik (2011) "2083 – A European declaration of independence"
32 Weimann (2012) "Lone wolves in cyberspace"
33 Bowels (2018) "All We Want to Do Is Watch Each Other Play Video Games"
34 Macklin (2019) "The Christchurch attacks: Livestream terror in the viral video age"
35 Schlegel (2020) „Jumanji extremism?"
36 Owen (2019) "White Nationalists on Telegram Are Hailing the Germany Synagogue Shooter as a 'Saint'"
37 Evans (2019) "The El Paso shooting and the gamification of terror"

The last category includes instances of gamification in private chats and small groups. Here the evidence base is the most limited. Whereas livestreaming of attacks seeks the highest degree of publicity possible and online communities on *chan*-boards or *Gab* are often at least partially accessible to researchers for analysis, individual and small-group gamification is the most difficult to trace. Currently, it cannot be estimated with any reasonable degree of certainty how prevalent gamification is in such private communication channels. One of the few cases available - because evidence was preserved in a *WhatsApp* chat protocol - is the gamified radicalization of a group of young men from Rochdale (UK).[38] During the process of jihadist radicalization, they used gaming elements they had encountered in videogames to make sense of their own reality and gamify their own experience. For instance, they conducted 'raids' against Shia individuals they perceived as 'sorcerers'. These 'raids' included surveillance of the individuals in question, taking pictures as well as the theft of 'black magic objects', ultimately culminating in physical harm. Raids are a popular element in video games such as *World of Warcraft*. A group of players, often belonging to the same guild, break into a dungeon together and defeat an adversary to collect points, increase their levels, and steal valuable assets such as new weapons or body armor from the dungeon. The young men transferred this game element into reality, turning their radicalization into an extension of the video games they had played and, importantly, experienced the same social relatedness driving the action of guilds. Contrary to popular belief, the appeal of many video games is the community and social connection to others,[39] which too carried over into the mens' gamified perception of reality.

| Mechanisms of Influence

Because the mechanisms by which gamification operates are often discussed either in terms of what motivates individuals to play in general or in terms of initiating and sustaining customer engagement in the commercial sector, not all mechanisms of influence are immediately applicable to the context of radicalization. In addition, as already discussed, the evidence base for the gamification of radicalization is small and may not be easily observable (e.g. in private chats and closed forums). Therefore, while the mechanisms detailed are grounded in gamification research, they have not been analyzed empirically in the context of extremism and represent a preliminary framework to understand the gamification of radicalization. The following discussion of mechanisms of influence gamification might have on radicalization processes is based on a selective and condensed application of motivational drivers gamification is believed to facilitate.[40] Five mechanisms of influence are discussed below: Pleasure, positive reinforcement, empowerment, competition, and social relatedness.

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38 McDonald (2018) Radicalization
39 Rapp (2017) "Designing interactive systems though a game lens"
40 The mechanisms detailed here are derived from the following theories:
Self-determination theory (Ryan & Deci, 2000; Deci & Ryan, 2000)
Octalysis (Chou, 2015)
Discourses of a gameful world (Deterding, 2014)

Pleasure

Humans are naturally drawn to 'play', not only as children but way into adulthood, leading some to speak of humans as *homo ludens*.[41] The most obvious mechanism by which gamification leads to increased and sustained user engagement is by making engagement more fun. Writing on the influence of music in extremism, Pieslak writes "when attempting to draw people to radical ideology, do not lead with the ideology if you can find a more attractive garment in which to dress the message. And music provides very fashionable clothes."[42] Gamification too provides very fashionable clothes for the transmission of ideology, especially for those who have grown up with video and smartphone games. Gamified elements can lead to the perception that 'it is just a game', thereby normalizing extremist content conveyed through these applications and linking the experience of fun with the ideological substance transmitted. In addition, the perception that 'it is just a game' can limit psychological reactance; that is, the resistance displayed when persuasion attempts are very obvious. Because gaming elements are not perceived as belonging in the realm of persuasion tools and users are letting their guard down when having fun, gamification can be a useful tool to influence users subconsciously and 'by the back door'.

Positive Reinforcement

In contrast to the real world, video games often provide players with instant feedback for their actions, e.g. by failing a level or winning points for a successful move. Many gamified applications use the power of feedback loops to nudge users' behavior in a certain direction.[43] For instance, fitness apps display feedback on length and intensity of workouts as well as how the workout compares to the user's performance the previous week or the previous month. When behaving 'good', users are given positive feedback, creating positive reinforcement and increasing the likelihood that users will continue to engage in the desired actions. Extremists may benefit from such instant feedback and positive reinforcement mechanisms. Rather than having to instruct each individual user, users know what is expected of them and considered 'good behavior' by learning how to gain points, badges or level-up in the context of a gamified application. They can monitor themselves and their own engagement with and commitment to the extremist group by reviewing how many points they gained or how many 'quests' they fulfilled in the previous week or month. Being rewarded for continuous 'good behavior' is a strong motivational incentive to continue this behavior or even increase engagement with the extremist content displayed on the gamified application.

Empowerment

Gamification can help users feel empowered, autonomous, and competent. A key element of gaming is choice: A game in which there is only one way to play and one strategy that will lead to victory will become boring very fast, whereas a game that offers multiple routes to success, affords the player a

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41 Huizinga (2016) Homo Ludens
42 Pieslak (2017), "A musicological perspective on jihadi anashid", p.75
43 Deterding (2014) "The ambiguity of games: Histories and discourses of a gameful world"

variety of choices and the chance to be creative within the gaming context, will be engaging for longer periods of time. Similarly, gamified applications which offer this choice, for example by awarding points for a variety of different activities and accommodating the different preferences of players, will generate more sustained engagement as applications that do not afford such choices. Extremists could provide users with a variety of choices for engagement, for instance by awarding points to users for posting comments, liking pages, 'trolling' under an article of a mainstream news outlet, but also by visiting designated places, taking part in a protest or designing a flyer. The perception of personal choice, regardless of how meaningful the choices actually are, increases feelings of autonomy and empowerment as well as affording users the possibility for creative navigation of the digital world.

Feeling competent, in control and self-confident in the meaningfulness of one's actions have been discussed as facilitators of need-driven radicalization processes.[44] Gamification may afford users such experiences. Users may feel empowered not only by choice but by the perception that their own competency increases. When overcoming a challenge, successfully mastering a task and being rewarded for it by points, level-ups or badges, dopamine is released in the brain leading users to feel good about themselves and their skills.[45] Completing a gamified task increases self-confidence and often leads to seeking another dopamine rush, i.e. continuing to engage with the gamified application to collect more points and feel accomplished. Because users feel good about themselves, engagement with the application and therefore with the extremist content displayed, increases. Ultimately, this feeling of competency may spill over to the real world. Individuals in the process of radicalization need to possess a certain degree of self-efficacy; that is, the believe that they are capable to be successful within an extremist context and that *they* (as opposed to someone else) have an important role to play.[46] Leading the scoreboard and being successful in the digital world may increase perceptions of self-efficacy regarding one's 'calling' as an extremist actor and could accelerate radicalization processes.

Competition

Users of gamified applications differ in the degree of competitiveness they exhibit. Individuals scoring high on competitiveness enjoy collecting points, increasing their ranking, and comparing themselves to others on a virtual leaderboard. They are motivated to improve their position relative to others and 'win' against their peers. For these users, publicly visible badges, a high number of points collected, and a prominent position on the scoreboard provide a sense of accomplishment. Psychological well-being is increased, because users feel competent and are proud not only of mastering the challenges the gamified application presenting themselves with but of their *relative* accomplishments in comparison to their peers. Gamified elements such as points, badges, rankings and leaderboards provide visible, quantifiable and clear goals to users; i.e. they know exactly what they need to do and how many points they need to collect in order to improve their position on the scoreboard. In other words, gamification

44 Möller et al (2016). "Die kann ich nicht ab!"
45 Zicherman, G. (2014) "The Future of Creativity and Innovation is Gamification"
46 Schlegel (2019) "Yes I can"

provides visible measures of engagement and 'success'. Users may begin to collect coins by harmless, low threshold actions such as connecting to other users or liking a Facebook page, but as a competitive motivation sets in, users may be willing to take more meaningful action to collect more points, which may draw them deeper into an extremist group. Competition may lead certain users to engage more thoroughly with extremist content on gamified applications and to take 'desired actions' when asked to do so in an effort to 'win' against other users.

An additional mechanism by which gamification can increase a user's engagement with extremist content and groups is by affording a route to increase one's social status within the group. Leading or placing high on the scoreboard may provide prestige within the group and affords status-seeking individuals[47] the opportunity to gain recognition. Virtual points may not mean anything in the real world, but other users of the gamified application are well aware how much effort and commitment needs to be displayed to collect a large amount of points. Gamification elements such as scoreboards provide visible and quantifiable indicators of commitment and, therefore, of social status. Competitive users may rise in the informal hierarchy of the group and increase their relative social position by intense commitment to the gamified application and its contents.

Social Relatedness

In contrast to highly competitive users, there are users who are not driven by seeking friendly rivalry but by the wish for cooperation, shared goals, and social connectedness. Research has shown that social interaction and cooperation are key drivers of successful games with a large and loyal user base such as *World of Warcraft*, where guilds are more than instrumental tools to defeat enemies, often presenting spaces of constant interaction about life in general and create lasting friendships.[48] Gamified applications may include elements that facilitate social interactions - such as awarding points or badges for making connections, liking and commenting on other people's achievements or participating in a forum – and include goals that users can only reach by working together. Aside from strengthening the network among users, it can keep socially-oriented players engaged and facilitate the emergence of a social community, which is often crucial for radicalization processes on the group level. Similar to competitive users benefitting from the visible display of other users' commitment to 'work hard' and 'win', gamified elements also provides socially-oriented users with easy measurements of their peers' commitment. Rather than being motivated to 'beat' them, users scoring high on social relatedness may take high rankings of others as evidence of high commitment being the group norm and may be inspired to live up to the social expectations, thereby increasing their engagement with the gamified content.

Social relatedness is also a key part of what Chou calls "Epic Meaning & Calling".[49] One of the key motivational drivers for gaming is the feeling of being engaged in something bigger and more meaningful than oneself. This often builds on social connections and the feeling of belonging to an

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47 Venhaus (2010) "Why youth join Al-Qaeda"
48 Rapp (2017) "Designing interactive systems"
49 Chou (2015) Actionable Gamification, p.65

important group. Many games start with an introductory narrative detailing that the world is in danger and only the player can save the world; a narrative often mirrored in extremist propaganda and by those on a 'quest for significance' seeking to 'be a hero'.[50] While gamification only incorporates some elements of video games, providing a larger narrative is often part of the gamification 'toolbox' in order to motivate users to work hard and 'save the world'. Because humans are storytellers, narratives are powerful forces to create meaning, inspire action, and help us make sense of the world. The gamification of extremist narratives through 'play' can provide a low threshold entry point into broader ideological discussions and make use of a potential longing for significance in users by providing a first step to be part of something meaningful. Seen in this light, providing users with a prologue detailing an epic narrative and then guiding them to 'desired actions' via gamified elements such as points and badges, could afford the possibility to gamify the entry into radicalization processes.

| The Potential of Gamification in P/CVE

Countering the gamification of radicalization directly is extremely difficult for a variety of reasons. Firstly, gamification utilizes human psychological drives to increase user motivation. It is a technique that can be and is used in a variety of contexts unrelated to extremism or politics more generally. Therefore, while it is likely to be beneficial to educate people on the psychological mechanisms by which gamification operates to support digital media literacy, users will encounter gamification regardless of the online communities they belong to and the websites they visit. A prevention of gamification or of exposure to gamification is unfeasible. Secondly, gamification may take place in semi-private online spheres such as groups on servers or forums. Attempting to police such spaces short of de-platforming the groups is impossible. Thirdly, gamification is not dangerous in itself. The video gaming community has been heavily criticized for the alleged role of video games in school shootings and violent behavior more generally without conclusive evidence of a causal link between playing a game and acting violently. P/CVE stakeholders should be cautious not to repeat such destructive discourses with the gaming community by approaching gamification as 'a problem to be solved'. Lastly, as noted previously, the 'ludic century' and the proliferation of gaming elements throughout our lives has only just begun. Trying to counter such a change in cultural practice in a variety of contexts is likely to be unfruitful. Gamification is here to stay and should be navigated rather than fought.

While directly countering the gamification of radicalization is difficult, practitioners may benefit from the possibilities gamification has to offer for P/CVE measures. As indicated in the introduction, the following section should be read as an invitation to reflect upon and discuss the potential gamification may or may not hold for P/CVE or deradicalization measures, not as conclusive suggestions.

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50 Kruglanski et al (2019) The Three Pillars of Radicalization; Jasko et al (2016) "Quest for Significance and Violent Extremism"

Generating attention

Gamification may be utilized with various goals in mind, but on social media and in digital communication more generally, it may be especially conductive to generating attention. It is widely known that the online sphere is an attention economy. There is not just abundance but an oversupply of both information and entertainment content. While everyone can say something online, not everyone is heard through all the noise. The first task for digital P/CVE is therefore to generate attention, because only after users become aware of and click on the content provided can any form of meaningful engagement take place.

Using gamified elements may be one way to cut through the noise online and generate attention. Before building sophisticated technological applications that track points and badges for every user or programming mini games to draw users to channels with P/CVE content, gamification is likely to take a more rudimentary form. In the initial stages of experimenting with gaming elements to generate attention for P/CVE content, a lower degree of technical sophistication may suffice. For instance, one possibility could be to run a caption contest on a platform such as Instagram. Users could comment with suggested captions and the one with the most likes wins (competition, points, social relation), then the best 3-5 could be published in a separate post (leaderboard) and the winner could receive a symbolic reward, such as picking the theme for the next image to be posted, suggesting the music for the next video in a story or something similar. Activities such as these are a basic option to test gamification elements and do not require a high degree of programming or design skills. However, activities should be tailored to the platform they are supposed to be used on. A caption contest may make sense on Instagram, it may not be suitable for other types of social media platforms.

Learning from video games

To the knowledge of the author, no resources exist detailing how to apply gamified elements in P/CVE contexts. A useful starting point is, therefore, existing work on the application of games more generally. Games have been used, for instance, to support conflict resolution and peace education measures or to facilitate the maintenance of remembrance culture.[51] Games are part of entertainment education interventions more generally as having fun is believed to decrease resistance to the persuasive content delivered through entertaining media such as games or TV series.[52] Because games involve perspective taking and the engagement with conflicting positions of various social groups, participants can be motivated to reflect upon and ultimately change group-based stereotypes.[53] Game environments offer the possibility to explore a different reality and 'what could be' without asking participants to compromise in the real world. While in reality conflicts may be protracted, the gameful setting and knowledge that 'it is just play and not real' may encourage the development of inter-group empathy prevented by

51 Stiftung Digitale Spielekultur (2020) "Wie können digitale Spiele zur Erinnerungskultur beitragen?"; Banerjee (2018) "The next frontier: Gamification of peace education"
52 Grady et al (2019) "Influencing the means but not the ends"; Moyer-Gusé (2008) "Toward a Theory of Entertainment Persuasion"
53 Davarsi (2016) "Empathy, perspective and complicity: how digital games can support peace education and conflict resolution"

cognitive constraints in the offline realm. This has been shown, for instance, for the conflict between Israelis and Palestinians,[54] but elements may be applicable to other inter-group conflict settings.[55]

Practitioners have begun to use games in the context of P/CVE specifically. From browser games highlighting the importance of small choices and peer pressure in creating a slippery slope of radicalization dynamics[56] to incorporating narrative reflection and cooperative play in deradicalization measures,[57] and even the use of virtual reality formats,[58] the P/CVE community has begun to explore to possibilities offered by games to increase engagement and make measures more fun. This is a promising basis as gamification necessarily requires knowledge on gaming elements in order to be successfully utilized. It may also be useful to draw on games used in related fields, such as the fight against disinformation.[59] For instance, in the Android game *The Adventures of Literatus*, the player assumes the role of Prince Literatus, who is trying to save Princess Veritas from the evil Manipulus in order to save the kingdom of Informia. Here, a fictional setting and storyline is used to help users develop the ability to spot and fight disinformation in the real world. Similar formats may help P/CVE actors to facilitate knowledge and skills pertaining to the prevention of radicalization.

Applying gamification elements

Many elements used in gamification may be more or less directly applicable to the P/CVE context. For instance, Chou[60] details various gamification techniques such as the building of virtual peer mentorship schemes or utilizing epic narratives and a search for meaning/identity to set the stage for the gamified application. This may nudge users into imagining themselves as part of a meaningful group on a mission to positively influence its surroundings (what Chou calls 'humanity hero'), which might be immediately transferrable to working with those at risk or in the process of deradicalization. Quests are another element that might be easily incorporated in existing procedures, depending on the nature of the preventive or intervention measures. For instance, suggesting quests to participants in universal prevention settings, e.g. in schools, may be suitable to encourage participants to take theoretical knowledge gained during the workshop or lesson into the real world and take action against polarizing tendencies within their immediate surroundings.[61]

Points, badges, trophies, progress bars and other achievement measures may be applied, for instance, in long-term engagement with individuals. Not only might such gamified applications increase engagement but also give participating individuals visible measures of their own progress within the context of the intervention program. While feedback from the program coaches cannot and should not be replaced by mere quantitative indicators of progress, some individuals may respond favorably to

54 Alhabash & Wise (2012) "PeaceMaker"; Alhabash & Wise (2015) "Playing their game";
55 Chudhar & Kampf (2014) "Learning about Conflict and Negotiations through Computer Simulations"; Kampf & Choudhar (2015) "Do computer games enhance learning about conflicts?"
56 http://game.extremismus.info/
57 Cooley & Cooley (2020) "Child's play: Cooperative gaming as a tool of deradicalization"
58 Pelletier & Drozda-Senkowska (2020) "Virtual reality as a tool for deradicalizing the terrorist mind"
59 https://innovation.dw.com/fighting-the-infodemic-one-game-at-a-time/
60 Chou (2015) Actionable Gamification
61 See Ramirez & Squire (2014) "Gamification and learning" on the use of quests and other element in educational settings

such gamified elements as they present an 'objective' measurement of how far they have come. As discussed under "Measures of Influence", not all players are motivated by the same gamified elements. Similarly, which gamified elements are most useful might change throughout a user's journey through the application or, in the case of P/CVE, over the course of the intervention. Gamification offers practitioners another tool to personalize intervention measures aimed at individuals or small groups depending on what motivates them and keeps them engaged. It can therefore help to further tailor P/CVE measures to different cognitive styles of participants while offering them engaging elements to facilitate commitment.

If gamified elements are used in P/CVE, they should be used for the sake of the participants. However, gamification via points, badges and other achievement measures may also benefit practitioners and program evaluators. Evaluation of P/CVE and deradicalization interventions is a contested issue, ranging from the question of what constitutes 'success' in such a setting, concerns pertaining the comparability of cases, the impossibility of proper control groups, the privacy of participants, and sometimes even the unwillingness to publish internal evaluations for strategic reasons. The quantifiability of engagement and 'progress' gamified elements provide may aid evaluation and reporting practices of P/CVE actors as it allows for a comparability of individual cases. For example, reporting to evaluators that out of 15 participants 13 earned more than 80% of the badges available for different activities may be a useful way of showcasing engagement results regardless of the unique circumstances of each case. Gamification allows for a high degree of personalization and participants may earn different types of badges for different types of activities and engage with different (ideological) content. However, because the overall number of achievement measures or the number of points on a progress bar may be comparable, reporting on a large variety of individual cases may become easier.

| Conclusion

The gamification of radicalization is an emerging phenomenon that has only come to the forefront of attention in the last few years. Therefore, the evidence base researchers and practitioners can draw from is limited and anecdotal. From the limited evidence available and the transfer of research findings on gamification generated in other fields, we can draw the following preliminary conclusions:

| Extremist actors seem to be aware of the benefits of gamification and seek to utilize them for strategic purposes (top-down gamification).

| Certain individuals, groups and online communities are increasingly using gamified elements and gaming language to make sense of their reality and to gamify their radicalization processes or attacks (bottom-up gamification).

| A diverse range of psychological mechanisms underpins gamification and make it useful for extremists, including an increase of pleasure, positive reinforcement, empowerment of

users, peer competition, and social relatedness. These and other potential benefits of gamification deserve more attention in the context of radicalization processes to support a holistic understanding of digitally-mediated radicalization.

│ The potential benefits of using gamification in P/CVE have not been explored yet, but limited encouraging evidence exists on the possibilities afforded by video games in this context. A discussion on the implementation of gamification in P/CVE is urgently needed.

Gamification is here to stay, in fact it "may just become the normal way we design, implement, and interact with the world around us".[62] Given the increasing proliferation of gamified elements and human-centered design in commercial, educational, and professional settings coupled with the fact that extremists are usually early adopters of new technological affordances, it must be regarded as highly likely that the gamification of propaganda tools, extremist online communities and, ultimately, radicalization processes will not only continue but accelerate. More research is needed into the exact mechanisms and the different forms of gamification employed by extremists and their supporters in various circumstances. Practitioners too will have to engage with this issue and specifically with both the difficulties in countering the influences of gamification on digitally-mediated radicalization processes and the possibilities of incorporating gamified elements into new or existing P/CVE measures. If gamification is likely to become an increasingly important element of digital extremist conduct, it is best to start engaging with the topic now rather than playing catch-up in the future.

│ Recommended Reading & Listening

Gamification and its applications

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62 Chou (2014) Actionable Gamification, p. 20

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