

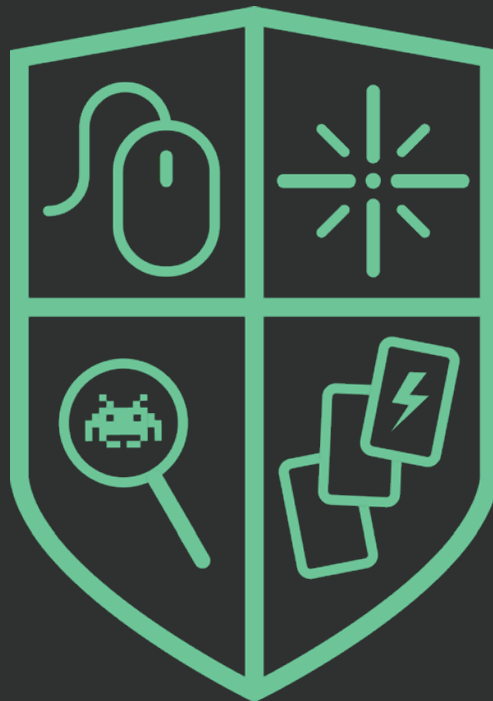


Gamification Group

GL! HF! ... GG!

Esports

Final Report



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Introduction

During the past five years, the activity of watching others play competitive video games has seen a tremendous amount of growth. According to popular estimates, esports has been a rapidly growing part of the entertainment industry, and the global esports audience in 2017 was estimated at 335 million people, with 143 million being active spectators. Esports revenue is currently estimated at \$906 million, with estimates predicting a growth to over \$1600 in 2021. Contemporary live esports events have become increasingly popular and often attract tens of thousands of attendees at tournament locations, simultaneously attracting online spectators by the hundreds of thousands for individual events. In 2017, an estimated 588 major esports events were organized. The spectatorship of games also has ramifications outside of just competitive gaming or esports, with other modes of spectating, such as YouTube let's play videos and other game related video content becoming extremely popular which all are revolutionizing the economics and culture of the media landscape.

For this reason, the Gamification Group (Tampere University) and its industry partners set out to investigate this phenomenon through a Business Finland -funded (project number 40009/16) project: "eSports" (3/2016-1/2019).

The esports project investigated, on one hand, why people choose to consume esports & game streaming content, what motivates them to engage with platforms such as Twitch and YouTube, and how future behavior can be predicted. On the other hand, the project investigated the culture and business of individuals and influencers who create this content. Moreover, a phenomenon that has evolved quickly in tandem with esports & game streaming is the increase in game-related gambling, both direct forms such as esports betting, and methods employed by a variety of companies to aid with monetisation, such as loot boxes.

WP1 focused on the consumption aspects of game video content, both esports and streaming. The research focused on building a better understanding of why people choose to watch others play games on services such as Twitch, what motivates them to continue watching, which factors impact if they are willing to pay actual money, and how social aspects are manifested on these online services.



WP2 researched game video from the production side, focusing on streamers and YouTubers. The goal was here, as well, to build an understanding of why people participate in this activity, something that is becoming increasingly important to understand with the development of micro celebrities and influencer marketing. Additionally, the difficult dynamic between work and play, in the form of playbour, was investigated within the realm of video content creators.

WP3 investigated gambling practices related to video games in general, with a particular focus on those activities associated with esports. Many aspects of game-related gambling are newly-emergent, and the scene is one which is experiencing rapid rates of change. As such, the primary objectives were to understand the forms in which game-related gambling is available, and the characteristics of those who participate in these activities. During the life of the project loot boxes have become a point of interest for regulators, politicians and the mainstream media. Therefore, the project has paid particular attention to the topic with the consequence that both national and international regulators have requested information in order to further their understanding of the issue.

This report is structured into four distinct sections. The first section presents detailed research outcomes related to game media consumption, the second section does the same for game media production, and the third section focuses on game related gambling. The fourth section provides an overview of the dissemination of knowledge throughout the project in the form of events that have been organized, press appearances and keynotes. Alongside these, the fourth section also lists all the relevant publications produced as part of this project.

Good games,

Juho Hamari
Principal investigator

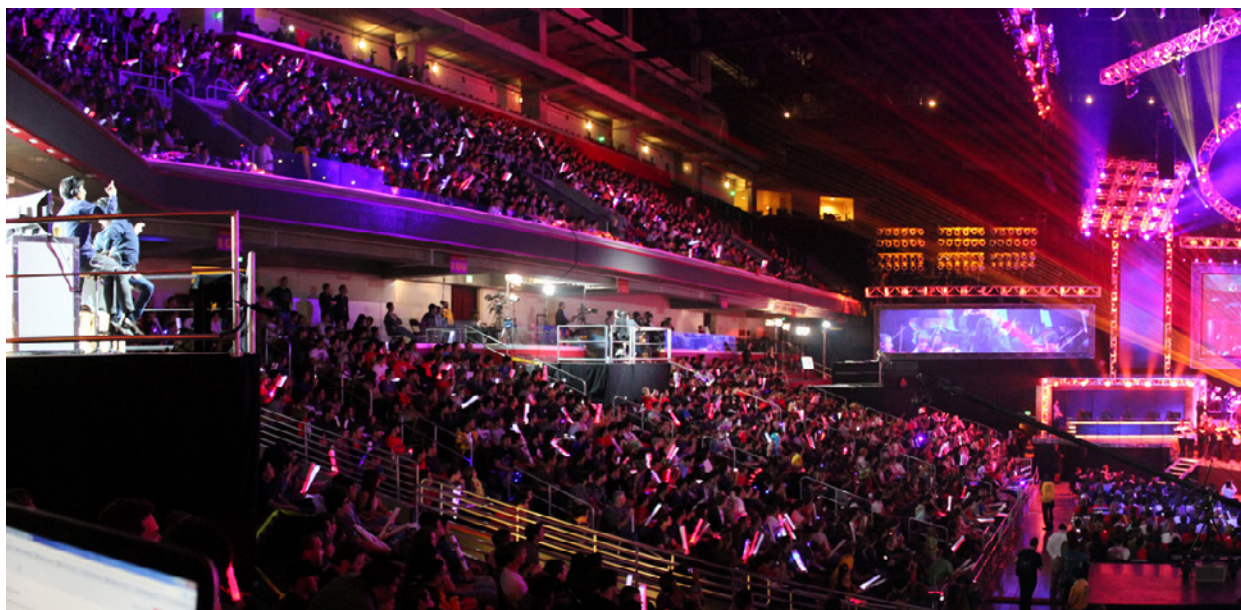


Max Sjöblom
Project manager



Game media consumption

What is esports?



What is eSports and why do people watch it?

Esports is a fast growing form of digital entertainment that attracts hundreds of millions of viewers globally, but why exactly is it that viewers tune in to see the best compete in games such as League of Legends and CS:GO? Also, how can one define esports, in the light of how games, media and traditional sports are perceived? To answer the question on why people spectate esports, we set forth to investigate motivations for consumption using the Motivation Scale for Sports Consumption (MSSC) as our guiding framework for an online survey.

To better capture the essence of the esports activity, we developed a new scientific definition of what esports actually means. We define esports as *"a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the esports system are mediated by human-computer interfaces"*.

The quantitative data used for analysing the spectating motivations was gathered from a number of online sources, collecting a large international sample (N=888).

PUBLICATION

Hamari, J., & Sjöblom, M. (2017).

What is eSports and why do people watch it?

Internet research, 27(2), 211-232.

<https://www.emeraldinsight.com/doi/full/10.1108/IntR-04-2016-0085>



The results of the study indicate that escapism, acquiring knowledge about the games being played, novelty and esports athlete aggressiveness were found to positively predict esports spectating frequency. Interestingly, appreciation of aesthetic elements negatively predicted the spectating frequency of esports.

Escape and acquisition of knowledge are both gratifications that one might assume lead to a higher frequency of esports consumption. Gratifications related to escape from everyday life are commonly associated with increased levels of consumption when it comes to entertainment products. Likewise, a player wanting to learn more about a game or particular strategy is incentivized to keep watching more and more esports to learn from the very best. While it is hard to say how effective this transition of knowledge is, it is however quite clear that it is very important for many spectators, based on the positive predictive power.

The negative effect that appreciation of aesthetics has on spectating frequency is quite interesting, as it is not immediately apparent why this is. One might assume that aesthetics play a large role, as most esports games are very complex audiovisual spectacles with lasers, explosions and fast moving characters. While aesthetic appreciation has been shown to positively impact spectating frequency in some traditional sports (think figure skating), we argue that the level of complexity present in many esports games serves as a hindrance for appreciating the aesthetic aspects present. The fact that many esports require a somewhat comprehensive understanding of the game rule is something that more casual observers might be put off by.

Why watch others play?



Why do people watch others play video games? An empirical study on the motivations of Twitch users

Hundreds of millions of users choose to spend their time watching others play video games through live internet broadcasts, referred to as streams, on services such as Twitch. This type of new media has both been made possible and fueled by the ever increasing bandwidth of networks, advances in video packing and encoding technologies, a user-generated content culture, and, ultimately, by the desire to see others play video games.

Streaming is an interesting context for participatory online media, spearheaded by services such as YouTube, that have put the traditional consumer into the role of content creator. One might regard streaming as yet another form of broadcast entertainment akin to online videos, but for many users it is a more manifold and holistic communication channel than mere video media content,

PUBLICATION

Sjöblom, M., & Hamari, J. (2017).

Why do people watch others play video games? An empirical study on the motivations of Twitch users.

Computers in Human Behavior, 75, 985-996.

<https://www.sciencedirect.com/science/article/pii/S0747563216307208>



particularly due to the high levels of interaction. Due to the live-broadcasting nature of video game streaming, it offers a unique relationship between the media creator and media consumer, thus facilitating communication between the two. Video game streaming also blends two distinct mediums: broadcast media and games. While television spectating has largely been considered to be a unidirectional and passive activity, games are commonly perceived as a multi-directional activity requiring active user participation. Hence, a mixture of these media forms leads to an interesting context of spectating video games with a degree of interaction, thus leading to an experience that is more passive than playing games, but at the same time more active than consuming traditional television content.

However, it is not fully clear why peer-to-peer internet streaming gathers such large crowds of spectators, and if this growth is a sign of a more general trend in media consumption and information seeking, or merely a niche form of entertainment. We employed data gathered through an online survey (N = 1097) and analysed the data by employing structural equation modelling. The results indicate that information seeking is shown to be positively associated with the amount of hours that users chose to spend on the service, as well as the amount of individual streamers they choose to watch. Furthermore, we find that tension release, social integrative and affective motivations are positively associated with how many hours people watch streams. We also find that social integrative motivations are the primary predictor of subscription behaviour. Particularly the last of these is highly important, as subscription behavior shows which factors motivate users to spend money on the Twitch service.

Content structure is king



Content structure is king: An empirical study on gratifications, game genres and content type on Twitch

The effects and gratifications from playing video games have been a widely investigated and debated topic within the last decade both in academic literature, e.g. in media psychology, game research and communication studies, and in popular discourse. While this debate is still ongoing, a new yet uninvestigated form of game consumption has emerged: watching others play games via YouTube and live broadcasts on services such as Twitch. Today, millions of people watch others play games on the internet.

Services such as YouTube have spearheaded a major shift in the media landscape, moving production of audiovisual media from large corporations and organizations towards

PUBLICATION

Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2017).

Content structure is king: An empirical study on gratifications, game genres and content type on Twitch.

Computers in Human Behavior, 73, 161-171.

<https://www.sciencedirect.com/science/article/pii/S0747563217301930>



smaller entities and individuals. The democratized process of content creation on video game streaming platforms such as Twitch allows for the existence of many types of content. In this context video game related video content such as “let’s plays” and esports, have become especially popular. The participatory and interactive nature of this emerging form of media serves to bridge the divide between games and traditional media, such as television, via the convergence of interactive, communal and passive forms of media. This evolution of the media landscape towards user generated content also brings into question the legitimacy of genre as the primary means of classifying media content. In the realm of video game streaming particularly, it becomes apparent that genre might not constitute the defining means of classification. As little is known about the gratifications obtained by watching these online video streams, this study aims not only to investigate the general gratifications that people derive from watching online streaming content, but also the differences in various streaming content.

To study this phenomenon, we employ an online questionnaire study (N = 1091) to investigate six categories of gratifications: affective, information seeking, learning to play, personal integrative, social integrative & tension release motivations and their relationship with eleven game genres and seven types of game stream.

The results of this study demonstrate that “the medium is the message” and highlight the importance of archetypal structure (i.e. the type of streamed content) over content topic (i.e. the genre of games being streamed). Particularly the understanding of the archetypal structure of the content is an important step in understanding the factors that drive consumption motivations among the users who engage with and use the Twitch streaming platform. Particularly as the importance of these emerging media platforms, such as Twitch and YouTube, grows, it becomes increasingly important to be able to develop a holistic understanding of the types of content that is being produced, and why they are interesting for viewers, and furthermore, for other stakeholders.

Social Twitch



Social motivations of live-streaming viewer engagement on Twitch

Live-streaming is an interactive form of internet-based multi-media entertainment that has grown rapidly in popularity world- wide since 2011. Live-streaming has become so popular that, in some cases, there are more people watching others do activities, such as play computer games, than doing the activity themselves. Unlike previous streaming services, such as television and YouTube, live-streaming offers real-time human interaction between the streamer and viewers, facilitating their ability to interact with each other. While online technology has made this development possible, what is driving the rapid growth in live- streams, is not well understood from a psychological perspective. While online technology has made this development possible, what is driving the rapid growth in live- streams, is not

PUBLICATION

Hilvert-Bruce, Z., Neill, J. T., Sjöblom, M., & Hamari, J. (2018).

Social motivations of live-streaming viewer engagement on Twitch.

Computers in Human Behavior, 84, 58-67.

<https://www.sciencedirect.com/science/article/pii/S0747563218300712>

<https://www.tut.fi/Gamification/2018/09/14/social-motivations-of-live-streaming-viewer-engagement-on-twitch/>



well understood from a psychological perspective. Despite the popularity of live-streaming consumption, little psychological research has been conducted. Some past research has explored live-streaming consumption motivations including tension release, escapism, and acquiring knowledge, however social-based motivations such as needs for interaction, connection, and community, have not been studied within the context of live-streaming. This study seeks to address this gap by exploring the relationship between live-stream viewer socio-motivations and their psychological and behavioural live-stream engagement.

Little is known about the motivations underlying viewer engagement in the rapidly growing live-streaming multimedia phenomenon. This study trialled an eight-factor socio-motivational model, based on Uses and Gratifications Theory, to explain four aspects of live-stream viewer engagement. Cross-sectional data was collected through an international, online self-report survey of Twitch users (N = 2227). Multiple and ordinal linear regression analyses identified six motivations which helped to explain live-stream engagement: social interaction, sense of community, meeting new people, entertainment, information seeking, and a lack of external support in real life. Compared to mass media, viewer motivations to engage in live-stream entertainment appear to have a stronger social and community basis. Furthermore, live-stream viewers who preferred smaller channels (<500 viewers) were more motivated by social engagement than viewers who preferred larger channels. These findings offer insight into the motivations for live-stream engagement, and help to lay a foundation for further research.

Live esports



Digital athletics in analogue stadiums: comparing gratifications for engagement between live attendance and online spectating of esports

The term “esports” was initially coined in the late ‘90s and first entered academic discussion approximately a decade ago. Popularly and practically, esports manifests as competitive professional video gaming. Esports has been a rapidly growing part of the entertainment industry, and the global esports audience in 2017 was estimated at 335 million people, with 143 million being active spectators. Contemporary live esports events have become increasingly popular and often attract tens of thousands of attendees at tournament locations, simultaneously attracting online spectators by the hundreds of thousands for individual events. In 2017, an estimated 588 major esports events were organized.

PUBLICATION

Sjöblom, M., Macey, J., & Hamari, J.
(forthcoming)

Digital athletics in analogue stadiums: comparing gratifications for engagement between live attendance and online spectating of esports.

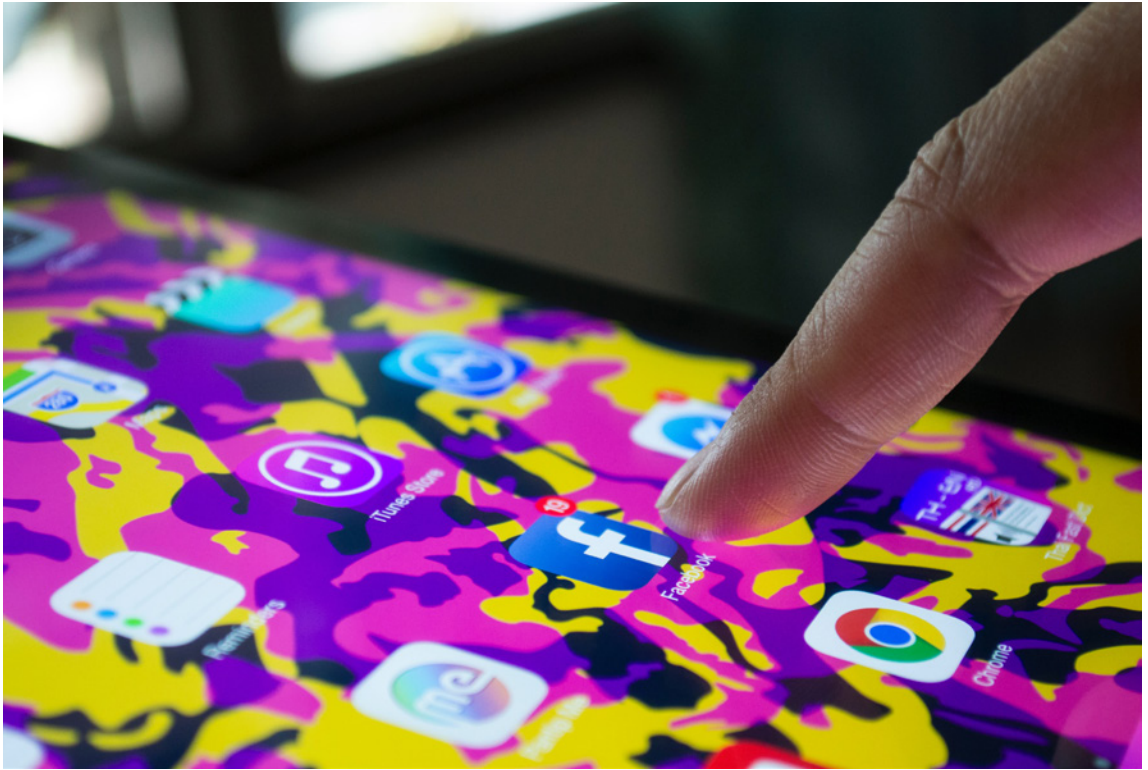


The successful conceptualisation of competitive video gaming as a sport has been attributed to the shift away from player-versus-machine toward the player-versus-player dynamic facilitated by technologies such as LAN connections. Contemporary esports spectator events draw many influences from the long-standing tradition of LAN events, it has been suggested that their popularity is due to the social characteristics of such events; throughout the history of esports and competitive gaming, LAN events of all sizes have been a way for enthusiasts to gather and meet like-minded individuals and to participate in various forms of competition.

To fully understand the appeal of these live events for esports spectators, and how these relate to online spectating of esports, perhaps the de facto form of consumption, we investigated motivations for attending a live esports event. This study combined quantitative data from both an online sample (N = 888) and a sample obtained at the Assembly 2016 live event (N = 221).

The results indicate that online spectators rate drama, acquisition of knowledge, appreciation of skill, novelty, aesthetics and enjoyment of aggression higher than live attendees. Correspondingly, social interaction and physical attractiveness were rated higher by live attendees. Vicarious achievement and physical attractiveness positively predicted intention to attend live sports events while vicarious achievement and novelty positively predicted future online consumption of esports. Finally, vicarious achievement and novelty positively predicted recommending esports to others.

Liking the game



Liking the Game: How Can Spectating Motivations Influence Social Media Usage at Live Esports Events?

Esports has been a quickly growing phenomena during the last 3-5 years, attracting an increasing number of viewers, players, teams and businesses interested in getting a slice of the pie. While one would assume that the majority of esports takes place online, as that is after all where the games themselves happen, there has been a growing interest in live events as well. The large leagues & championships of the esports world commonly host their finals as big stadium scale events. Examples include the LoL Worlds, Dota 2 TI and the Overwatch League (OWL) Finals. At the end of July, the Barclays Center in New York hosted the finals of the OWL, with tickets selling out extremely quickly.

PUBLICATION

Sjöblom, M., Hassan, L., Macey, J., Törhönen, M., & Hamari, J. (2018).

Liking the Game: How Can Spectating Motivations Influence Social Media Usage at Live Esports Events?

In Proceedings of the 9th International Conference on Social Media and Society (pp. 160-167). ACM.

<https://dl.acm.org/citation.cfm?id=3217908>

<https://www.tut.fi/Gamification/2018/08/31/how-do-people-use-social-media-at-live-esports-events/>



While this growth has been going on, so has the parallel growth of social media. Recent years have seen multiple discussions on how we are using social media in society & our daily lives. One interesting topic which has not yet been studied, is how we use social media services while attending live events of various kinds (concerts, art shows, protests, sport events). In order to understand the usage of social media in the context of live events, we set out to investigate the usage of various social media services and how these might affect motivations.

We set out to collect data at the 2016 Assembly Summer event, the largest computer-culture event in Finland, attracting thousands of visitors throughout the weekend. We approached people during the event and collected a total of 255 usable paper surveys. Our survey collected a lot of data, but the most relevant data in the context of this study was the usage of social media services during the event, as well as the motivations for watching esports.

The first, and very simple, finding of our study, was that people indeed use a lot of social media services during live events like these. The three most popular services that people reported following during the event were Twitch (37.4% followed), Twitter (35.6%) and Facebook (35.1%). The services that the largest amount of people reported posting to were messaging services (29.9%), Facebook (23.0%), Twitter (21.4%) and Snapchat (20.1%).

Within the regression analysis, a number of interesting results were found. One thought provoking finding was that some of the relations between motivations and social media usage were negative, which can indicate that using the social media services might be a detriment to the general event experience. That is to say, using social media services during the event might distract from the event itself, which if you are an event organizer, is likely not what you are looking for.

The results show that esports spectating can indeed be a social experience, something that we could not confirm in our previous studies on online spectating. For example, the data showed that people who were motivated to watch esports by social aspects then followed messaging services more. This was likely to stay connected with peers who are not at the event, as well as potentially being able to effectively communicate with friends who are at the same event, but not in the same physical location, as the event halls can be huge.

Watching & purchasing



How Watching Others Play Affects How Much Players Play and Buy Games

Consuming digital game content through recorded and streamed video on services such as YouTube and Twitch has become a significant aspect of modern gaming and online media culture, and the audience for game video content has been reported to reach over 665 million people. The content of these videos often reflects the subjective experience of the content creator, the game streamer or broadcaster, and therefore extends the original media content and its value for the consumer of these videos. The majority (73%) game video content consumers have been known to have a previous relationship with digital game culture.

PUBLICATION

Törhönen, M., Sjöblom, M., & Hamari, J., Vahlo, J. (forthcoming).

How Watching Others Play Affects How Much Players Play and Buy Games.



It has been argued that watching such content may replace some first-hand gaming activities. On the other hand, it has also been argued that consuming video content may further spur increased gaming activities and purchases. However, beyond such anecdotal evidence, there has been no empirical evidence one way or the other. This study examines the effect of the consumption of three distinct types of game video content (game reviews, let's plays and esports) on game related purchasing behaviour, through an online survey.

The data for this study (N = 845) was gathered through an online survey and the respondents were primarily gathered from Finland. The qualified respondents all had previous experience with games and gaming. The results of the study indicate that the consumers of esports and review game video content are likely to make game related purchases, whereas the consumption of let's play content does not have a similar effect on consumer behaviour. We conclude that esports and review game video content differ from let's play game video content in nature, as esports and review game video content have a more direct commercial aspect through sponsorship (in esports content) and product representation (in review video content). These videos are also more informative in nature and present a strong social stimulus through community involvement, which may affect consumer behaviour. Let's play videos often focus more on the individual personal broadcaster and their personality, which may divert the commercial focus from the commercial products in those videos, but merits for more thorough analysis of these game video genres in the future.

The results of the study also indicated that the consumption of all examined types of game video content were associated with playing games. We conclude that this finding may reveal that players gain new perspectives from game video content that they then may want to either test or try through their own gameplay. We also conclude that the game video content provides new social dimensions to game content, which has been known to motivate gameplay.



Game media production

Ingredients of Twitch



The ingredients of Twitch streaming: Affordances of game streams

During the last five years, game streaming has developed from a niche market into a mainstream activity and the supply of services and technology on offer has exploded. Today, some streamers garner audiences larger than big media houses, and services such as the game streaming service Twitch host millions of daily active users. This consumption of streaming video is a manifestation of a larger movement within the media industry, where parallel to the large media production companies, more and more content is being generated by users of various content sharing services. While large media corporations have highly optimized methods of production that have developed over decades, it is unclear exactly how the new wave of video content producers are approaching their endeavour. Are they using vastly different methods of production, or are their common practices and trends among video content creators?

PUBLICATION

Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2019).

The ingredients of Twitch streaming: Affordances of game streams.

Computers in Human Behavior, 92, 20-28.

<https://www.sciencedirect.com/science/article/pii/S0747563218304965>



To build a better understanding of this, we utilize the existing understanding of affordance theory, and analyse the most popular elements and practices employed by streamers in their video streams and profile pages through the investigation of the 100 most popular individual streamers on the Twitch platform. We examine both the direct live video stream, as well as the profile page of the streamer, both of which allow for individualisation and customisation of the media content.

Our investigation identified a number of practices to be extremely common among practitioners, such as the use of a webcam and microphone, and the integration of additional social media channels as parts of the media experience. We also separated the identified affordances into two main categories: social affordances and revenue affordances. The strong presence of the social affordances strengthen previous research within video streams, that indicate the social aspect of live video streams to be very important for viewers. Additionally, the opportunity to generate social revenue, in the form of donations, subscriptions and tips, is a strong element that is present among these popular video content creators.

While these results apply directly to the Twitch service, they are also applicable for other online video services such as YouTube or Periscope, where individuals actively produce content that is then consumed by others, and certain modes of reciprocity may exist in the form of both indirect and direct economical contributions.

Popularity in online video content creation



How to become an internet celebrity? A study on predictors of popularity in video sharing services such as YouTube and Twitch

We constantly spend more time engaged with online services that form the basis of a digital ecosystem, one that has become a second home for the generations of digital natives. Through the development of digital collaborative culture, social media services and continuously developing technology, online behaviour on these online services has become a functioning hybrid of passive consumption and active production of media content.

PUBLICATION

Törhönen, M., Sjöblom, M., & Hamari, J.
(forthcoming)

How to become an internet celebrity? A study on predictors of popularity in video sharing services such as YouTube and Twitch.



This type of online behaviour is especially visible in the production of digital video content, which has, through the use of specified social video sharing services such as YouTube and Twitch, become a social activity, *social video content creation*. On these video sharing platforms, content creators are able to disseminate their content to communities consisting of their own social networks, or a larger sphere of audiences and communities in various social realms. The widespreadness of these online video sharing platforms, and their ability to attract a large audience, has made the creation of social video content a popular activity among digital natives, especially the younger generations of consumers such as millennials and Generation Z. In recent years, the game streaming platform Twitch has gathered over 2 million unique monthly broadcasters, and over 300 hours worth of video is uploaded onto YouTube every minute. With this type of growth, we are witnessing an oversupply of content and the possibility to stand out as a content creator has become increasingly difficult.

In this type of phenomenon, the attention of the audiences has become a commodity and a metric, through which popularity is measured. Views and follows are already used to determine the commercial potential of a content creator, and can be seen to directly relate to higher income levels, as specific amounts of audiences provide entry to exclusive monetisation services on social media platforms. As the abundance of available content and content creators continues to grow, the ability to stand out from the crowd becomes an imperative part of online success. However, with the rapid development of consumer tastes and requirements as well as the dynamic digital environment, obtaining a level of online popularity has become a difficult endeavour, which contains many laborious and entrepreneurial elements and characteristics.

This research examined how different elements of popularity are utilized to predict popularity of a social video content creator. Although there is no recipe for success this paper provides better understanding of the strategies and ways in which content creation activities can be approached.

Fame or Fun, motivations to create online video content



The rise of online media entrepreneurs: A study on the motivations of video content creators on YouTube and Twitch

Consumers becoming producers of media content has reshaped our understanding of labour and leisure, and developed new dimensions of labour practices. Activities that have traditionally been considered as labour are increasingly gamified, whereby game design and the practices of gamer communities are reshaping the way we work, and work practices are increasingly difficult to distinguish from game-like practices and behaviour. On the other hand, leisure activities, such as playing video

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Törhönen, M., Sjöblom, M., Hassan, L. & Hamari, J. (forthcoming)

The rise of online media entrepreneurs: A study on the motivations of video content creators on YouTube and Twitch.



games, have begun to adopt work-like elements exemplified in activities such as esports (competitive video gaming). Hence, next to the gamification movement, we are also witnessing a “playbour” movement that - in contrast to gamification - diffuses professionalised elements to play and leisure activities.

Perhaps the most prominent manifestation of the notion of playbour is social video content creation. This new wave of content creation and dissemination is undertaken by private individual prosumers, and built around a perceptually playful and social activity: production and distribution of content through one, or many, social media channels and social video sharing services such as Twitch and YouTube. Yet, it has become an increasingly laborious activity, due to the economic incentive provided by the distribution platforms, and the lure of the celebrification of these modern practices and individuals involved in them. The recent rise in the popularity of social video content can be attributed to the increasing prosumerism (consumers acting as producers of content), development of live streaming technologies and popular social video sharing sites such as YouTube, Twitch, Snapchat, and Instagram. The prosumption habits of millennials and Generation Z have also made a significant contribution to the rise of social video content, as they increasingly utilise video content to gather and generate information and entertainment.

In this research we argue that the increased professionalisation, digital celebrification and the accessibility of different digital revenue provided by the developments in the business models of video sharing platforms, have blurred the relationship between leisure and work in social video content creation. Therefore, we utilized the framework provided by the self-determination theory, to specifically examine the effects of intrinsic and extrinsic motivating factors in this increasingly professionalised activity. The data was collected through an online survey from 377 social video content creators. By examining the hybrid form of work and play, this research enables us to further our understanding of the possible emerging challenges of labour and play practices in digital environments and how they can be supported by technological design, work re-organization and the organizational structures around them.

Video content creation – work or play?



Play, Playbour or Labour? The Relationships between Perception of Occupational Activity and Production among Streamers and YouTubers

The development of digital technology and the information society has had a significant impact on our working environments and cultures. Technology has advanced our work and communication practices beyond the borders of physical location, but has also provided us with the ability to introduce work into our free time and vice versa. This transition is exemplified in new forms of online work, such as the gig economy (e.g. Uber), sharing economy (e.g. Airbnb) and crowdsourcing (e.g. Wikipedia). But it is also evident in practices that aim to either merge play with work, such as gamification, or merge work with play such as playbour.

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Therefore, the attitude and perception we hold towards our occupation activities might have a strong effect on our productivity. For example, if an activity were perceived as work, engagement with it would usually be expected to be serious and professional albeit not intrinsically motivating. On the other hand, if an activity is perceived as leisure, engagement with it could often be characterized by playfulness and the pursuit of enjoyment albeit possibly lacking a serious focus. What is relevant behaviour in one context may not be relevant in another. Therefore, understanding how we perceive different activities is of high importance, in order to understand how we engage with them and what outcomes we expect from them.

Content creation in digital and social media formats is often considered a leisure activity, where individuals produce and share content presumably in their free time, in order to connect with their social networks and to explore their creativity. It is an activity that may lead to enjoyment and a feeling of sociability among other outcomes. However, as digital and social media develop and become more integrated into our lives, the digital economy around an individual content creator and their content has begun to evolve.

This has been particularly evident in video content creation, or personal broadcasting activities, through digital platforms such as YouTube and Twitch that have begun to develop sophisticated monetisation systems and commercial benefits for their content creators. The introduction of direct income and commercial incentives to this activity has led to the increasing professionalisation of this type of personal broadcasting. Practices, such as scheduling, time-management and risk-taking, which are often associated with work, are becoming more common within the activity. This has led to an increasing merger of work and play within personal broadcasting activities. Therefore, these new forms of online work provide opportune avenues to research how people view and negotiate their work in the internet era.

The purpose of this research is to understand how personal broadcasters perceive their video content creation and how that perception correlates with their activities and the kinds of outcomes they gain from their content creation. Data was collected through an online survey (N = 382) and was analysed in SPSS. The results allow us to examine this modern form of digital labour in relation to our traditional political economy understanding of work and labour. The results also provide possible opportunities for personal broadcasters to renegotiate their place in this digital “work” environment.

Online video content creator's perceptions of popularity



Likes and views: investigating internet video content creator's perceptions of popularity

The online environment allows digital natives to participate in various forms of collaborative and productive efforts through the use of social media and digital services such as YouTube, Twitch, and Instagram. These types of activities have turned the consumer of online media content and services, into a social producer of content, a prosumer. This has become particularly evident in the prosumption activities related to social video content.

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Social video content is digital video content that is generated by private individuals and distributed to social networks through commercial services such as YouTube, Twitch and Facebook Live. The rapid development of supporting technologies (live-streaming, VR video formats, short video “story” integrations), dissemination platforms, and even monetisation services (subscriptions, partner programs, donations) related to the creation of video content, have made this activity more approachable and available for the general public. Additionally, the emergence of online video influencers and celebrities such as PewDiePie and Zoella has increased the allure of online fame and fortune associated with social video content creation. The increase in the popularity of this activity has led to greater competition for the attention of the online audiences and their engagement with social video content.

Social video content creation revolves around a complicated set of new economic structures that combine both play and labour: playbour; the platform economy, where the platforms facilitates content distribution as well as monetization structures and human interaction; and the attention economy, where the attention of the viewers acts as a form of payment for the creators of content. The increasing merger of our leisure activities with elements of work has developed the traditional structures of labour and our understanding of our workforce.

However, these elements of playful work have also increased the allure of social video content creation as both an activity and a potential career, this has led to an oversupply of content and a constant battle for viewers’ attention. This aspect of social video content creation is related to the idea of an attention economy, something that has played a crucial part in the creation of economic value in digital media formats and markers of popularity. The idea of the attention economy evolved from a simple notion: that attention itself is a commodity.

The different aspects of popularity and the attention economy in digital realms have been studied in relation to various differing forms of social media formats. For example, studies related to Facebook have examined the content posted on Facebook and its effects on popularity and, additionally, the “like economy” of Facebook which exemplifies how technology, through buttons and interactions, can transform our social interactions into transactions. This research examines the aspects of popularity of social video content creators through an online survey (N=385). In an effort to determine what social video content creators consider important aspects of popularity, the research will analyse and evaluate which elements content creators perceive to be most valuable contributors to their popularity, and on which of those elements they focus most effort.



Game gambling

Video games, esports & gambling



Investigating relationships between video gaming, spectating esports, and gambling

In recent decades we have seen a general trend toward liberalisation of gambling practices internationally. Against this background active participation in gambling has been growing, as have rates of at-risk and problem gamblers in both adolescent and adult populations. Gambling is big business, and big news. The same timeframe has also seen the increased gamification of our everyday life; in many areas services, systems and practices are converging with games and gameful design, and the ludification of culture.

The growing prevalence of games as both leisure and instrumental activities, virtual economies, and the increased use of both micro-transactions and the free-to-play business model, have all contributed to the increased accessibility and appeal of both video games

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and gambling. While gamification of our lives can generally be considered a positive development, the larger media convergence related to video games, gambling and game industry of has also brought about potentially problematic aspects.

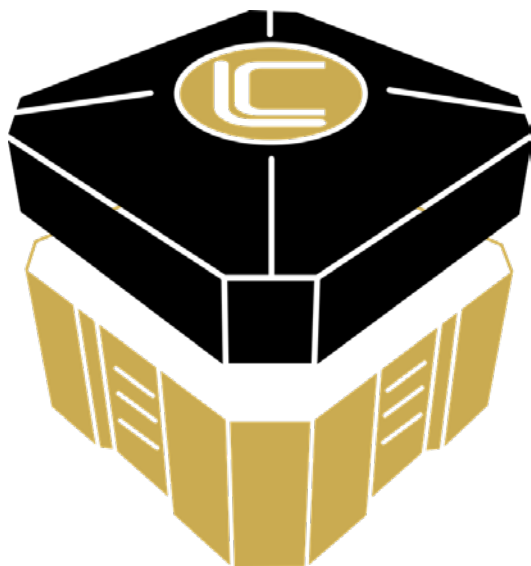
Although the consequences of increased convergence are yet to be fully assessed, concerns regarding the potentially negative effects are numerous, they include: the targeting of vulnerable populations, most notably young people, through “gambling-like” experiences; and increased penetration of gambling using socially-accepted vehicles, whether sports or video games. Allied to these specific concerns are those aspects of internet gambling which have been highlighted as potentially facilitating problematic behaviour, such as increased ease of access and the continuous availability of formerly discontinuous gambling activities.

Esports gambling is virtually identical to match betting and fantasy sports are virtually identical to established formats which use football, baseball, or any other traditional sport where wagers are placed on outcomes and events. However, more novel manifestations of gambling practices have been realised, they include: PvP betting, opening loot crates/cases, skins lotteries, and the use of skins as wagers for casino and card games. Other forms of gambling related to video/digital games but not associated with eSports are: Social Network Casino games (SNCs), free-play or practice areas of casino sites, in-game simulated gambling, and in-game gambling with proprietary virtual currencies.

This research has found that the contemporary gaming and gambling environments do not have shared patterns of addictive behaviours, in fact the more engaged players are with video games, the less likely they are to gamble. Indeed, rates of gambling in video gamers and esports enthusiasts are lower than those in the general population. Second, results indicate that gambling connected to esports may indeed be an area of concern due to the fact that rates of problematic gambling, measured using PGSI, are significantly higher among esports enthusiasts compared to the general population. Additionally, results indicate that as engagement with esports grows, so does both the frequency of gambling and the range of gambling activities in which individuals participate.

The value of this research is further demonstrated by the fact that it has produced results that contribute to a growing body of evidence in which traditional understanding of the relationship between playing video games and gambling is questioned. As such, the role of media convergence in facilitating problematic behaviours has been further highlighted, an important issue to consider when developing a holistic understanding of potentially problematic gambling in a digital context.

Esports, skins and loot boxes



Esports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling

Gambling connected to esports and video games is big business, with current estimates valuing the market at several billion \$US a year. Until now there has been little evidence, beyond anecdote, as to who participates in these new forms of gambling and how they play. One of the first empirical investigations of video game-related gambling suggests that typical participants are almost exclusively young males, including a significant section (27%) under the age of 18. And that although video gamers and esports viewers participate in gambling to a lesser degree than the wider population, rates of problematic and potentially problematic gambling are higher.

Recent decades have seen the internet transform the gambling environment, not simply in regard to the ways in which gambling activities are accessed but also the types of products, promotions, and activities which are now available. Alongside this growth and maturation of the

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eSports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling.

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<https://www.tut.fi/Gamification/2018/07/18/esports-and-video-game-related-gambling-the-participants-and-practices-of-newly-emergent-phenomenon/>



digital gambling servicescape we have seen the development of online video gaming and, as a direct result, esports. Esports is essentially competitive video gaming which, like traditional sports, is structured around league- and tournament-play, furthermore, there is a growing ecosphere which includes team managers, trainers, sponsors, and dedicated broadcasters. Also like traditional sports esports is subject to gambling in the form of sportsbook-style betting and fantasy sports, with some estimating that the value of the gambling market outstrips that of the esports market by a ratio of 4:1. However, unlike traditional sports, the fact that esports utilise video games means that they offer several novel gambling experiences: from skin-based gambling such as crash betting through to the heavily debated issue of loot boxes.

The development of esports gambling in particular, and video game-related gambling in general, is a recent phenomenon, with little known about the participants, their gambling habits, or the potential manifestation of problematic gambling behaviours. This study is one of the first to address such questions, utilising data gathered from social media sites, discussion forums and dedicated esports pages. Data was gathered via an online survey ($n = 582$) with global reach: over 61 different nationalities participated, and every continent was represented. The sample highlighted the prevalence of young, often under-age, males in eSports-related gambling activities. Participation in gambling, and gambling-like activities such as loot box opening, was found to be 67%, with rates of problematic and potentially problematic gambling, assessed using the Problem Gambling Severity Index (PGSI), being 50.34%. Finally, increased gambling was found to be associated with increased spectating of esports. Due to the method of data collection the results are not generalisable to the wider population, however, they suggest a need for increased attention both from academia and regulators in regard to newly emergent gambling behaviours in contemporary digital culture.

In addition to the issues discussed above, the paper offers a description of contemporary gambling activities related to video games and esports, including the means by which they can be accessed through real-world currencies, digital currencies, and in-game virtual items. Finally, the current legal situation regarding loot box opening is presented. As such, it is one of the first academic treatments of video game-related gambling which brings together in one place a description of video game-related gambling activities, a discussion of contemporary legal issues related specifically to loot box opening, and an empirical investigation of participation rates and demographic characteristics of esports and video game-related gambling.

A game of skill?



A game of skill? Miscognitions and problematic behaviour in video game players who gamble

Under the growing influence of new media gambling has not only been brought into the realm of web-based electronic commerce, but also into many other areas of online life, such as video games, social media networks, and electronic sports. The coalescence of video gaming and gambling is just one example of the wider trend of digital convergence, and has emerged as the popularity of esports has increased worldwide. The convergence of gambling and gaming has resulted in the emergence of new forms of gambling, with activities connected to video games and esports available in many forms, both familiar and novel.

Recent legal cases and a community backlash have highlighted the prevalence of gambling-like experiences in contemporary video games. Previous work has

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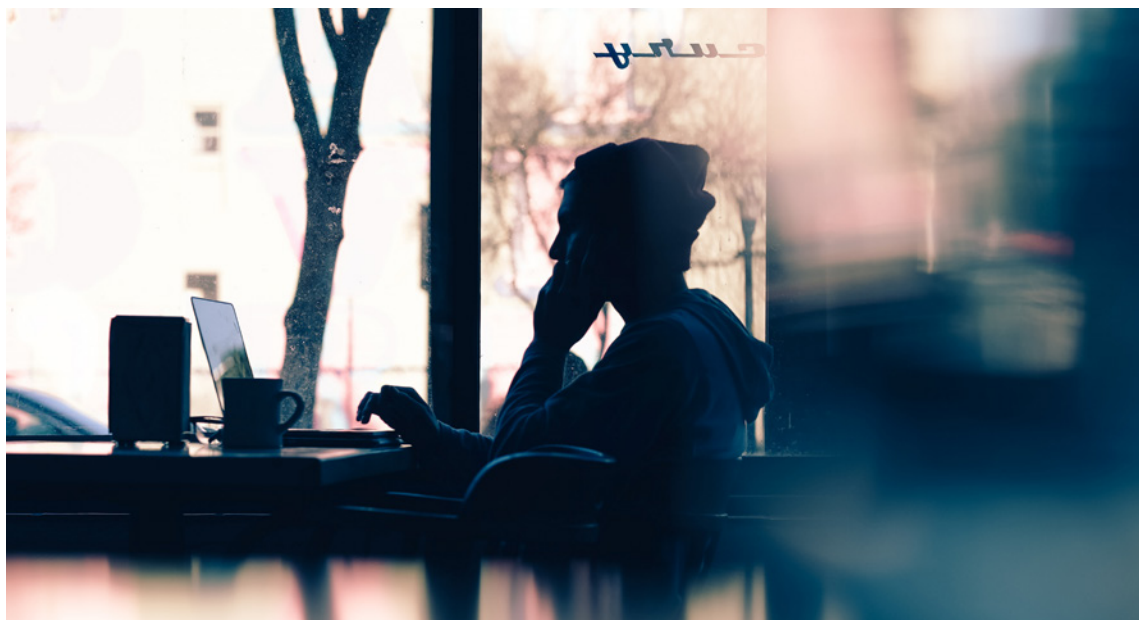
theorised the possibility that such experiences are associated with the development of cognitive biases which then promote more problematic gambling behaviours. Problematic gambling has been shown to be associated with the presence of miscognitions concerning the nature of probability and the misinterpretation of cause and effect, an example of one of these miscognitions is the “gambler’s fallacy”.

This study uses the Gambling Related Cognitions Scale (GRCS) to investigate the presence of cognitive biases associated with gambling in a population of regular video game players who also consume esports. Furthermore, it aims to understand the ways in which cognitive biases interact with the consumption of gambling activities related to video games, and the prevalence of problematic and potentially problematic gambling behaviours by using the Problematic Gambling Severity Index (PGSI). These issues give rise to the following questions which guide this research:

The results of this work suggest that miscognitions related to gambling function in the same manner for the newly emergent behaviours of esports and video game-related gambling as they do for established forms of gambling. Clear evidence was found of positive correlations between miscognitions and both consumption of gambling, and of problematic gambling. With this in mind, approaches such as Cognitive Behavioural Therapy are likely to be as effective methods for addressing problematic behaviour in video game-related gambling as they are for traditional types of gambling. However, the results also show that the constructs that make up the GRCS are not as universally applicable in respect to emergent gambling activities as for established activities, with only three of five demonstrating statistically significant relationships.

This work has also highlighted several areas which would benefit from further investigation, for example the roles played by specific miscognitions and their effects on problematic behaviour in emergent forms of gambling based on video games. Furthermore, this work identified a potential issue with the GRCS in regard to the population of video game gamblers; further work is required in order to assess whether the subscale Illusion of Control is applicable to this particular group. The discrepancies between established and emergent gambling activities are likely to become more meaningful as casino operators, and the gambling industry as a whole, seek to attract younger generations by offering new forms of skill-based gambling derived from, and inspired by, video games.

Online abuse and age in Dota 2



Online Abuse and Age in Dota 2

As the social impact of technology becomes ever more widespread younger generations are coming of age in an arena dominated by digital spaces and computer mediated communication. Studies have shown that adolescents and young adults use mobile devices to maintain daily, even continuous, communication with friends and family. In addition to social contact, digital technologies are used to access a range of entertainment, ranging from streamed video and music to playing online games.

This trend of increased communication via digital and online technologies has engendered concern for the potential effects on the emotional and psychological development of contemporary youth. A significant body of research exists in which an anonymous environment and lack of social cues in computer mediated communication has the potential to result in increased amounts of hostility and aggressive behaviour, both in everyday online communication, and in online gaming and virtual worlds.

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In addition to anonymised communication, competitiveness and competitive elements can have a correlation with increased feelings of aggression and associated anti-social behaviour. While not all online gaming is competitive four of the top 5 games in the free-to-play genre in 2017 feature players directly competing against one another. Studies have shown that young people on the internet, and during online gaming, can encounter hostility, slander, racism, threats of violence and other forms of aggressive communication. Although these toxic behaviours are experienced by all, irrespective of age, young people especially are considered to be prime targets for online harassment.

The high frequencies of communication abuse and its detrimental effects, seen both while playing online and in other forms of computer-mediated communication, mean it forms the bedrock of investigations into experiences of toxic behaviour among youth and young adults. With this in mind, the current research is motivated by the following research question: how do young players perceive and experience verbal aggression (Communication Abuse) in the Multiplayer Online Battle Arena game Dota 2?

This study investigated how young players in the video game Dota 2 perceive, experience and partake in verbal aggression (Communication Abuse). Two of the four presented hypothesis were supported: in our sample, Communication Abuse was found to be taken more seriously by older players of Dota 2 (H2); and player age negatively correlated with placement in the low priority pool (H4). Of the two hypotheses which were not confirmed, participation in CA was found to increase as age increases (H3), however, this may be the result of differing perceptions as to what constitutes CA. Finally, no significant correlations were found to exist between being a target of CA and age (H1), similar to H3 this may be the result of different interpretations of constitutes abuse according to demographic characteristics.

The findings have implications both for the ways in which online abuse and harassment is investigated, and for the ways in which it can be addressed. Most notably, providers of online gaming, particularly games of the MOBA genre, should take a more proactive approach to addressing instances of toxic behaviour, rather than current reactive approaches which may in fact serve to ingrain and perpetuate toxic behaviour. Additionally, educators in media, game studies and youth development should focus on reversing the normalisation of toxic language and raise awareness of what constitutes communication abuse in general.

Developments in skins wagering



VGO, NFT, OMG! Commentary on continued developments in skins wagering

Regulatory agencies in jurisdictions around the world have been hard-pressed to continually revisit their duties in review of new products that blur the lines between gambling and gaming. Most recently, popular topics at this intersection have included the defining of loot boxes as gambling (or not), as well as an array of different gambling options fuelled by the use of a tradable commodity - skins - as its currency; these have been widely discussed in legal, academic, and media circles. But even as these discussions progress on how industry, regulators, and other stakeholders should be approaching such subjects, the state of play continues to evolve. One such case, described here, presents a prime example of how a variety of different technological developments can be combined to form a new gambling-related product: VGO skins.

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Gaming Law Review.

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VGO skins are unique digital items, which employ blockchain technology to create non-fungible tokens (NFTs), a classification similar to other crypto non-currency items, such as those in the popular CryptoKitties game. Fungible tokens, such as cryptocurrencies (e.g., Bitcoin), are fungible in that they can be directly exchanged; there is no difference between a dollar or a Bitcoin owned by any given party and one owned by any other party. An NFT, meanwhile, contains information in its metadata that makes each token unique.

VGO skins appear in gambling settings in similar ways to those of traditional skins. The purchase of vKeys/vCases, for example, parallels the purchase of loot boxes on the Steam marketplace. Furthermore, the enclosed item does have a monetary value beyond the abstract value for in-game use, as all VGO skins can be exchanged for fiat currency. In the case of VGO skins, the monetary value far outstrips the in-game value, as these skins were specifically created to replace a product and market that contributed to an oft-illegal gambling market, and are not currently available for use in any major gaming title.

A key difference from the original skins market, however, is that the user owns their skin, and not the game developer. In this case, there is an intermediary (i.e., the bank) and thus, the VGO skins can be converted to a fungible commodity. And here, the original skins betting issue is paralleled – items that have “money’s worth” are replicating the gambling that took place within the original skins wagering sites. Because the VGO skins were created without a game, it is difficult to argue that they are not meant to have “money’s worth”; they were specifically created to be a tradable commodity that can be exchanged for fiat currency in the manner of Valve’s skins.

This commentary presents an informational summary of a development in virtual and cryptocurrency gambling that also draws on factors present in the merging of gambling and gaming. VGO skins present a prime example of how a variety of different technological developments can be combined into a new gambling product, and demonstrates that recognizing these developments in their own individual silos may not be an effective approach to assessing the respective regulatory needs. Meanwhile, this is a firm reminder that the speed of innovation often far surpasses the speed of regulation, and it continues to evolve while stakeholders are still grappling to understand the previous iteration.

GamCog: Adapting the GRCS for game-related gambling



GamCog: Adapting the Gambling Related Cognitions Scale (GRCS) for video game-related gambling

Gambling has become increasingly normalised as part of contemporary western culture, with increased regulatory liberalisation a characteristic of recent years. This trend is evident in the “gambification” of media spaces, an example being the convergence of video gaming and gambling which has become a prominent online phenomenon. The convergence of video gaming and gambling is usually associated with esports, the freemium business model, and the use of virtual items and currencies. Concerns about the potential effects of gamblified media, especially in relation to the ways in which adolescents and young adults perceive gambling, have resulted in a debate about the moral, ethical, and legal status of gamblified products and services.

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GamCog: Adapting the Gambling Related Cognitions Scale (GRCS) for video game-related gambling.



Researchers in the field have theorised that the combination of skill-based video gaming and chance-based gambling may result in cognitions which differ from those endorsed by non-gaming gamblers. Examples of such potential cognitions can be found in respect to: the effect of gaming on perceptions of control over chance-based events; the role of Locus of Control; the desirability of gambling; and the potential influence of new ways in which video games are consumed.

The aim of this research was to, firstly, investigate psychometric properties of an existing instrument (Gambling Related Cognitions Scale: GRCS) in order to investigate the validity and fit of the instrument in the context of video game-based gambling. Secondly, this work investigated cognitions that have been theorised as promoting problematic gambling behaviour in video game players who also gamble.

This study has found that the Gambling Related Cognitions Scale is not a robust measure for use in a population of video game players who gamble, either in respect to established activities or those newly-emergent forms facilitated by video games. As the GRCS has been designed for use in non-clinical populations and is broader in scope than many other scales addressing gambling related cognitions, it is likely that the above finding holds true for all extant measures.

Perceptions of skill and luck were found to be the principle factors which accounted for the GRCS's lack of suitability for the sample population. Therefore, it seems that an interest in video games and esports is associated with the development of cognitive biases which differ from the non-gaming population. With these facts in mind, the GamCog scale was formulated for use in the target population which incorporated items from existing measures and those theorised by researchers in the field but not previously tested. Finally, this work suggests that gambling connected to hobbies or personal interests may be a significant influence on gambling behaviour. Two constructs included in the final GamCog scale were developed which can easily be amended and extracted for use in regard to any specific hobby or interest.

Gamers who gamble



Gamers Who Gamble: Differentiating Characteristics of Betting between Esports and Other Gambling Participation

According to popular estimates, the global esports market has grown rapidly, reaching estimated revenues of \$900M in 2018, in the large part bolstered by significant investments and corporate sponsorships. The mainstream casino industry, meanwhile, has aimed to integrate esports into its product mix, with such moves including: the hosting of large-scale esports events and tournaments; the creation of esports lounges and arenas within casino resorts. With the social and economic power behind esports and the parallel gambling industry, growth has been rapid, fuelled by snowballing social media presence and mainstream media exposure.

Using a data set collected from a sample of participants who had played video games and gambled at least once in the prior 12 months, this study contributes to both

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Gamers Who Gamble: Differentiating Characteristics of Betting between Esports and Other Gambling Participation.



gaming and gambling research literature in two primary ways. First, the study provides a profile of gambling behaviors for a population of video gamers, with a particular focus on gamers who bet on esports events, compared to gamers who participate in other gambling games, such as slot games, lottery, and table games. Second, the study also includes a look at the predictive factors that contribute to video gamers' propensity to bet on esports vs. other gambling game play, with a particular emphasis on potential problem gambling behavior and spectatorship preferences.

Consistent with prior research on different types of gamblers, esports bettors display some defining characteristics that differentiate them from other types of gamblers in a gaming population. In the examined population, esports bettors were more likely to: gamble more frequently across all gambling games, spend more time per gambling session, have a higher likelihood of screening positive on the BBGS classification, and be more likely to have watched an esports event in the past year, when compared to other gamblers. Other gamblers, meanwhile, were more likely to have lower levels of education than esports bettors. Univariate analyses also revealed that age and marital status differentiate esports bettors from other gamblers; esports bettors skewed younger and were less likely to be divorced than their counterparts who gambled on other games.

In the profile representation of younger age groups, higher education levels, and more frequent gambling behavior, esports bettors in this gamer population are similar to early adopters of Internet gambling. These parallels suggest that esports betting may similarly grow in popularity; this trend can already be seen in growth patterns reported by sports books. Esports bettors were also found to be more frequent gamblers, replicating results in prior studies within all-gambler samples.

Of particular note in the findings was that esports bettors were significantly more likely to have spectated an esports event than other gamblers. This result falls in line with prior findings that gambling and sport spectatorship behaviors are related; interest in esports spectatorship makes gamers more likely to place wagers on esports events.

Esports betting has grown into a meaningful vertical that crosses over the sports betting, gaming, gambling, and esports industries. The current study describes the differentiating characteristics of video gamers who bet on esports, compared to those who prefer to gamble on other games. The results here contribute to the growing body of research into the dynamic profile of esports gamblers by providing a background on the gambling behaviors of a video gaming population.

The games we play



The Games We Play: Relationships between game genre, business model and loot box opening

The use of loot boxes is endemic in contemporary games, having originated in the free-to-play games of China and Japan they are now a common feature in almost every type of business model and genre. Primarily used to increase monetisation they are not without controversy as they have been accused of driving a “pay-to-win” approach to gaming and have even been linked to the development of problematic gambling behaviours. Loot boxes are virtual items which provide players with a range of in-game items as rewards, the contents are commonly determined by a form of random number generation and loot tables based on item rarity at the point at which they are opened.

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The Games We Play: Relationships between game genre, business model and loot box opening.



Given that purchasing loot boxes is currently one of the most important revenue streams for game publishers and that it has been shown to be positively associated with problematic gambling behaviours there is a need to understand the contexts in which players of video games are being exposed to this specific activity. Two primary avenues of investigation, the esports environment and the economic practice of micro-transactional payments, have already been found not to correlate with increased purchases of loot boxes. It is the combination of money, whether paid opening or transferable contents, and loot box mechanics which results in gambling-like behaviours, as defined by international regulators. Considering the fact that there are a huge range of disparate practices connected to loot boxes, and that loot boxes are present in all forms of contemporary games this research asks the following question: Which business models and game genres, if any, are associated with increased purchasing of loot boxes?

Despite the lack of significant relationships found between game consumption habits and loot box opening, there are several theoretical and practical implications that arise from this study. First, of which relates to consumers and consumer protection agencies as the spread of monetisation techniques into the retail model means the true cost of games are hidden and that initial purchases can be the start of an ongoing financial investment. This is especially important for those who buy games for younger players, and who themselves may not be aware of current economic practices employed by the games industry. Furthermore, both consumer protection agencies and gambling regulators need to assess the way in which monetisation techniques resemble, and potentially encourage participation in, gambling and gambling-like behaviours.

This research adds to the current body of work on loot boxes by investigating potential relationships between consumption of video games, defined according to genre and business model. We can conclude that while loot boxes appear to be pervasive, there is no strong evidence that any business model or genre would clearly predict loot box opening activities. It is likely that players of all kinds of games encounter them in the gaming activities one way or the other and the issue, therefore, requires continued investigation. However, we can also conclude that loot box opening activities seems to be most strongly connected with both the retail and free-to-play business models as well as shooter game genre. A fruitful avenue for future work may be to examine loot box opening in the context of specific games.

International research visits



Joseph Macey: Visit to UNLV, Nevada, USA

During his visit Joseph was based at the International Gaming Institute at UNLV, a institute that works closely with a range of businesses in both the esports and gambling sectors and is at the forefront of regulatory research. In addition to working closely with Professor Brett Abarbanel, collaborating on the writing of 2 - 3 papers, Joseph attended two of the largest industry conferences in the fields of esports and gambling: Esports Business Summit (Oct 1st - 3rd) and G2E (Oct 8th - 11th). In addition he presented project research at the Esports Conference held at the University of California, Irvine (Oct 11th - 12th). Finally, he made site visits to assess the latest developments in skill-based gaming machines, effectively video games re-purposed for gambling, which are currently only available in the US. As such, Joseph will accumulated a wealth of knowledge relating to regulatory developments, business practices and technological developments which were disseminated by the project on his return. He also promoted both the esports research project and its outputs to a wide range of stakeholders, academic and industry, in the US.



MariaTörhönen: Visit to Sungkyunkwan University, Seoul, South Korea

Maria visited the Sungkyunkwan University, in Seoul South-Korea, in autumn 2016 to gain better understanding of the content creator culture in South Korea. During her trip Maria visited the largest streaming platform in South Korea, Afreeca.tv, and met with members of the local game and media industries to discuss the development of esports and streaming in South Korea. Maria also took part in various esports related events, in order to better understand the development of esports and streaming culture in South Korea and based on this research visit, Maria was able to construct a better understanding of the South Korean video content creation market and contrast it with the Western and Chinese streaming markets in her research.

Industry Days

During the project, three Industry Day events were organized. The aim for all three events was to disseminate knowledge that had been generated through the project, to organisations through the Finnish games & media industry. The three separate half-day seminars were free of charge for attendees, and the tickets for all three events were sold out quickly.

The first Industry Day was organized in September 2016 at Yle premises in Helsinki. The event served as a form of kick-off in the early stages of the project, aiming to gather opinions on interesting research directions from professionals within the games, media & entertainment industries in Finland. The event featured scientific presentations, a researched panel discussion and industry presentations from Yle and SEUL (the Finnish esports federation). The event ended with an interactive workshop session that facilitated the gathering of industry feedback.

The second Industry Day was organized in Helsinki in September 2018 and focused on game gambling & esports. The event featured a scientific presentation from the research team, a researcher panel with two esports researchers from Finland outside of the research team, and ended with the two main industry presentations by the teleoperator Telia and Helsinki REDS, an esports subsidiary of longtime Helsinki sports organization HIFK.

The third and final event was organized as an official Slush side-event in December 2018. The third Industry Day focused on video content creators & influencer marketing. The event featured a scientific presentation by the research team, and industry presentations by streamer & YouTuber Ninaonilo, online retailer Verkkokauppa.com, influencer network United Screens and influencer marketing platform Matchmade.

All three events garnered praise both from attendees and speakers, particularly due to the interactive nature and the willingness of the audience to participate and ask questions, making most of the talks more interactive than just pure presentations.



Publications

Publications WP1

Sjöblom, M., Macey, J., & Hamari, J. (revision under review). Digital athletics in analogue stadiums: comparing gratifications for engagement between live attendance and online spectating of esports.

Hamari, J., & Sjöblom, M. (2017). What is eSports and why do people watch it? *Internet Research*, 27(2), 211-232.

Sjöblom, M., & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985-996.

Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2017). Content structure is king: An empirical study on gratifications, game genres and content type on Twitch. *Computers in Human Behavior*, 73, 161-171.

Hilvert-Bruce, Z., Neill, J. T., Sjöblom, M., & Hamari, J. (2018). Social motivations of live-streaming viewer engagement on Twitch. *Computers in Human Behavior*, 84, 58-67.

Sjöblom, M., Hassan, L., Macey, J., Törhönen, M., & Hamari, J. (2018, July). Liking the Game: How Can Spectating Motivations Influence Social Media Usage at Live Esports Events?. In *Proceedings of the 9th International Conference on Social Media and Society* (pp. 160-167). ACM.

Publications WP2

Sjöblom, M., Törhönen, M., Hamari, J., & Macey, J. (2019). The ingredients of Twitch streaming: Affordances of game streams. *Computers in Human Behavior*, 92, 20-28.

Törhönen, M., Sjöblom, M., Hassan, L., Macey, J., & Hamari, J. (under review). A labour of love: A study on the motivations of video content creators on YouTube and Twitch.

Törhönen, M., Hassan, L., Sjöblom, M., & Hamari, J. (2019). Play, Playbour or Labour? The relationships between perception of occupational activity and productivity among YouTubers and streamers. In *Proceedings of the 52nd Hawaii International Conference on System Sciences (HICSS'52)*, 2558-2567, Maui HI, USA.



Publications WP3

Törhönen, M., Sjöblom, M., & Hamari, J. (2018). Likes and views: Investigating internet video content creators perceptions of popularity. In *Proceedings of the 2nd International GamiFIN Conference, GamiFIN 2018*. CEUR-WS.

Abarbanel, B., & Macey, J. (2019). VGO, NFT, OMGI: Commentary on Continued Developments in Skins Wagering. *Gaming Law Review*.

Macey, J., & Hamari, J. (October 2018). Perceptions of Skill and Chance: Cognitive Biases and Gambling in a Population of Esports Consumers. *UCI Esports Conference 2018*, Irvine, California, USA.

Mattinen, T., & Macey, J. (2018). Online Abuse and Age in Dota 2. In *Proceedings of the 22nd International Academic Mindtrek Conference* (pp. 69–78). ACM.

Macey, J., & Hamari, J. (2018). Investigating relationships between video gaming, spectating esports, and gambling. *Computers in Human Behavior*, 80, 344–353.

Macey, J., & Hamari, J. (2018). eSports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling. *New Media & Society*, 20–41.

Macey, J., & Hamari, J. (2018). A game of skill?: Miscognitions and problematic behaviour in video game players who gamble. In *Proceedings of the 2nd International GamiFIN Conference, GamiFIN 2018*. CEUR-WS.

Macey, J., & Hamari, J. (under review). GamCog: Adapting the Gambling Related Cognitions Scale (GRCS) for video game-related gambling.

King, D. L. & Gaming Industry Response Consortium. (2018). Comment on the global gaming industry's statement on ICD-11 gaming disorder: A corporate strategy to disregard harm and deflect social responsibility? *Addiction*. As member of Gaming Industry Response Consortium.

Publications WPX

Hassan, L., Hamari, J., & Dias, A. (2019). How motivational feedback increases user's benefits and continued use: A study on gamification, quantified-self and social networking. *International Journal of Information Management*, 46, 151-162.

Hassan, L., & Hamari, J. (2019). Gamification of e-participation A Literature Review. In *Proceedings of the 52nd Hawaii International Conference on System Sciences (HICSS'52)*, 3077-3086, Maui HI, USA.

Hassan, L., Harviainen, J. T. & Hamari, J. (2018). Enter Hogwarts: Gamified Education Lessons from the Wizardlings World of Harry Potter. In *Proceedings of the 2nd International GamiFIN Conference (GamiFIN2018)*, (pp. 30-39). Pori, Finland.

Hassan, L., Morschheuser, B., Alexan, N., & Hamari, J. (2018). First-hand experience of why gamification projects fail and what to do about it. In *Proceedings of the 2nd International GamiFIN Conference (GamiFIN2018)*, (pp. 141-150). Pori, Finland.

Hamari, J., Alha, K., Järvelä, S., Kivikangas J. M., Koivisto, J, & Paavilainen, J. (2017). Why do players buy in-game content? An empirical study on concrete purchase motivations. *Computers in Human Behavior*, 68, 538-546.

Hamari, J., & Keronen, L. (2017). Why do people play games? A Meta-Analysis. *International Journal of Information Management*, 37(3), 125-141.

Hamari, J., & Parvinen, P. (2018). Introduction to Gamification Minitrack. In *Proceedings of the 50th Annual Hawaii International Conference on System Sciences (HICSS)*, Hawaii, USA, January 4-7, 2018.

Parvinen, P., Hamari, J., & Pöyry, E. (2018). Introduction to the Minitrack on Mixed, Augmented and Virtual Reality. In *Proceedings of the 51th Annual Hawaii International Conference on System Sciences (HICSS)*, Hawaii, USA, January 3-6, 2018.



Morschheuser, B., Hassan, L., Werder, K., & Hamari, J. (2018). How to design gamification? A method for engineering gamified software. *Information & software technology*, 95, 219-237.

Hamari, J. (2017). Do badges increase user activity? A field experiment on effects of gamification. *Computers in Human Behavior*, 71, 469-478.

Hamari, J., Hanner, N., & Koivisto, J. (2017). Service quality explains why people use freemium services but not if they go premium: An empirical study in free-to-play games. *International Journal of Information Management*, 37(1), 1449-1459.

Hamari, J., & Keronen, L. (2017). Why do people buy virtual goods: A Meta-analysis. *Computers in Human Behavior*, 71, 59-69.

Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets*, 27(1), 21-31.

Morschheuser, B., Hamari, J., Koivisto, J., & Maedche, A. (2017). Gamified Crowdsourcing: Conceptualization, literature review, and future Agenda. *International Journal of Human-Computer Studies*, 106, 26-43.

Morschheuser B., Riar, M., Hamari, J., & Maedche, A. (2017). How games induce cooperation? A study on the relationship between game features and we-intentions in an augmented reality game. *Computers in Human Behavior*.

Vesa, M., Hamari, J., Harviainen, J. T., & Warmelink, H. (2017). Computer Games and Organization Studies. *Organization Studies*, 38(32). 273-284.

Matallaoui, A., Koivisto, J., Hamari, J., & Zarnekow, R. (2017). How effective is "exergamification"? A systematic review on the effectiveness of gamification features in exergames. In *Proceedings of the 50th Annual Hawaii International Conference on System Sciences (HICSS)*, Hawaii, USA, January 4-7, 2017.

Morschheuser B., Werder K., Hamari J., & Abe J. (2017) How to gamify? Development of a method for gamification. In *Proceedings of the 50th Annual Hawaii International Conference on System Sciences* (HICSS), Hawaii, USA, January 4-7, 2017.

Parvinen, P., Kaptein, M., Pöyry, E., & Hamari, J. (2017). Introduction to Customer Analytics and Data-Led Omnichannel Commerce Minitrack. In *Proceedings of the 50th Annual Hawaii International Conference on System Sciences* (HICSS), Hawaii, USA, January 4-7, 2017.

Pöyry, E., Hietaniemi, N., Parvinen, P., Hamari, J., & Kaptein, M. (2017). Personalized Product Recommendations: Evidence from the Field. In *Proceedings of the 50th Annual Hawaii International Conference on System Sciences* (HICSS), Hawaii, USA, January 4-7, 2017.

Theses

Sjöblom, M. (2019). Spectating Play: Investigating Motivations for Watching Others Play Games. Doctoral thesis. Aalto University, Finland.

Hassan, L. (2018). Means to Gameful Ends: How Should Gamification be Designed?. Doctoral thesis. Hanken School of Economics, Finland.

Sabia, T. (2017). Managing the popularity of streams in the Twitch.tv gatekeeping network. Master's thesis. University of Tampere.

Tyrväinen, V. (2019). Influence of esports spectating on customer retention in freemium video games. Master's thesis. Tampere University of Technology.



Awards, editorial & chairing positions and positions of trust

Awards

Juho Hamari
Prestigious publications records award
[Tampere University of Technology](#)

Juho Hamari
Researcher of the Year
[UC Pori](#)

Juho Hamari & Max Sjöblom
Emerald Literati Award of Excellence
[Emerald](#)

Juho Hamari
Information Systems Science Scholar of the Year

Lobna Hassan
Best presentation
[GamiFIN 2018](#)

Editorial positions

Special issue – International Journal of Human-Computer Studies; Special issue – Journal of Business Research;

Chairing positions

Gamification Track, 52nd annual Hawaii International Conference on System Sciences HICSS, January, 2019; VR/AR/MR Track, 52nd annual Hawaii International Conference on System Sciences HICSS, January, 2019; Gamification Track, 51st annual Hawaii International Conference on System Sciences HICSS, January, 2018; VR/AR/MR Track, 51st annual Hawaii International Conference on System Sciences HICSS, January, 2018; GamiFIN 2019; GamiFIN 2018.

Positions of trust

Chairman of Game Studies Thesis competition 2018; Computer and information science-panel, JUFO

Outcomes

Keynotes

- 2018** Pocket Gamer Connects Helsinki; Influencer Marketing Essentials; Tutkijoiden Yö; Social Media & Society Conference; FOOM Fest 2018; Gambling Regulators of Europe Forum 2018; Demola event; Digital Coliseums NTU Singapore; The Finnish Parliament
- 2017** IGDA Finland; Kauppakeskus Puuvilla; Teknologia '17; Pocket Gamer Connects Helsinki; Tutkijoiden Yö; Heritage, Tourism, Hospitality – International Conference; Teknologiateollisuus Ry; Junior Chamber International; Aalto University; Missä mennään pelikasvatus? seminar; Spectating Play Seminar; Liikesivistysrahasto; Pelipäivät seminar; Finnish insurance company; Game Education Conference; Finnish Tax Office; Edupoint; Rotary Club of Pori; Nuori 2017
- 2016** Vaasa Game Days; Esports Industry Day

Appearances, seminars, & meetings

- 2019** Hanken School of Economics; Peliklinikka
- 2018** Media-alan tutkimussäätiö; Esports Conference, University of California, USA; LIFT Helsinki; Esports Industry Day; Pelituki-forum; Slush planning meeting; Finnish Games Industry Meetup
- 2017** Arpajaishallinto; HelsinCHI; Science Slam Pori; Nordic Esports Academy; University of Turku; GamiFIN Conference

Courses

- 2019** TIE40306 course; TIE40406 seminar TUNI
- 2018** TIE-10100 course TUT; ITIS45-course UTA; TIE40306-course UTA
- 2017** GamesNow! Aalto University



- Events**
- 2019** GamiFIN 2019; Gamification Track, 52nd annual Hawaii International Conference on System Sciences HICSS; VR/AR/MR Track, 52nd annual Hawaii International Conference on System Sciences HICSS
 - 2018** Influencer Marketing Essentials; Esports Industry Day; GamiFIN 2018; Gamification Track, 51st annual Hawaii International Conference on System Sciences HICSS; VR/AR/MR Track, 51st annual Hawaii International Conference on System Sciences HICSS
 - 2017** Spectating Play Seminar
 - 2016** Seminar on esports & internet game streaming

- Press appearances**
- 2018** Veikkauksen X-magazine; Yle Kulttuuriyökkönen; Yle Kioski Gaming; BBC Radio; Hanken Magazine; Yle Radio; Österbottens Tidning; UC Pori Säikeitä; Yle Puhe; Yle Ajankohtainen Kakkonen; Tampere3 Press; NordicEdu; Tekniikan Maaailma
 - 2017** Aamulehti; Aurora; Blue Wings (Finnair Magazine); Forbes; Tekniikka & Talous; Satakunnan Kansa; UC Pori News; LähiTapiola; Canal+; Talouselämä; Radio Pori; Business Mirror; Sydän-Hämeen Lehti; Kangasalan Sanomat; AMICASE; Yle; Helsingin Sanomat; CloudDriven; Financial Times
 - 2016** Kangasalan Sanomat; Rajapinta; Hämeen Sanomat; Keskipohjanmaa; Kaleva; Turun Sanomat; Pohjolan Sanomat; Kainuun Sanomat; Satakunnan Kansa; Ilkka; Aamulehti; Tykkäri; TUT University Press; Turku University Press; Turun ylioppilaslehti; Yle; Gamasutra; How We Get to Next; FUN! Times; Parempi Bisnes.fi; Radio Sun; Radio Pori; Länsi-Suomi; Keskisuomalainen; Aamulehti; Mikrobitti



Gamification Group

GL! HF! ...GG!

Esports

This report, produced by the Esports research project, features research outcomes related to esports consumption, the production & consumption of streaming and game video, as well as video game gambling.