

Live Streaming Gambling: Who watches, why, and what effects is it having?

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Executive Summary

Live Streaming Gambling: Who watches, why, and what effects is it having? is the first research project to address “gambling live streaming” – the internet broadcast of live video showing individuals gambling for real-world money. Gambling live streaming takes place on many websites including Twitch and Kick, which are the focus of this research. Broadcasts of live gambling are viewed by audiences ranging from a handful to tens of thousands, who see and hear the live streamer gambling, talking about their gambling, and interacting in real-time with them or other viewers.

While digital gambling is well researched, as is live streaming, the intersection of the two has not been previously studied. This is despite the scope and scale of the practice, and despite growing public concern and awareness about it. The aim of this research was to explore this relationship between two activities that have rarely before come into close contact: these being digital gambling on the one hand, and online influencer culture, “content creators”, and digital celebrity, on the other. We were guided by three core research questions: who is watching these broadcasts, why are people watching these broadcasters, and what effects might they be having?

Methodology

The research used a four-part methodology. We conducted a textual analysis of a hundred news and commentary pieces from a range of both Australian and global media outlets which addressed gambling live streaming; surveyed over three hundred gambling live stream viewers; conducted observational research on gambling live stream broadcasts themselves on both Twitch and Kick; and studied the viewer-to-viewer and viewer-to-streamer interactions taking place in the “chat” windows of these broadcasts.

Who watches live streaming gambling?

There was a strong overlap between those who consume *gambling* live stream content, and those who consume *gaming* live stream content. Live streaming gambling channels appear to be watched by viewers who are generally older than many live streaming consumers, have an almost perfectly equal gender split, are involved in their own gambling both online and offline, are better educated than average, are normally employed, have been watching gambling streams for many years, and watch a significant amount of gaming content as well as gambling content. The survey data also showed that live streaming is not limited to leading sites Twitch and Kick, with many viewers consuming gambling live stream content on YouTube, TikTok, and others.

Why do people watch live streaming gambling?

Viewers of these live streams enjoy communities of shared gambling interests and experiences – such as wanting to learn about gambling, enjoying watching the thrill of gambling play without their money being risked, a general interest in gambling, and an interest in the amount of money being gambled. These channels also displayed similar dynamics of community to other Twitch streamers, demonstrating that some motivations are comparable to other live streams despite the different content. These findings mean that gambling live

streaming cannot be fully understood without an understanding of online video communities and cultures more generally, and that these streams are offering a complex range of different rewards to their viewers.

What effects is live streaming gambling having?

In the “stream chat”, we found the regular presence of irrational comments about gambling (such as superstitious beliefs about winning streaks or losing streaks) from stream viewers and gambling streamers themselves. Stream chats also contained a substantial amount of other conversation – both viewer-to-viewer, and viewer-to-streamer – about other gambling activities, both online and offline. As such, these channels appear to be emerging as a “safe space” for sharing inaccurate and illogical information about gambling odds, strategies, and so on. We also found a regular presence of chat integration with fake-money gambling games (such as slots-like games *within* these stream chats) which viewers were regularly engaging with, and we observed that these chat windows were generally a little more “risqué” than is the case in many streams. Many viewers financially support the streamers, leading to an unusual scenario where the streamers’ gambling is being financially supported – perhaps, enabled – by their viewers. In the survey, most respondents said that gambling live streams would encourage rather than discourage them from gambling, although for some viewers live streams decreased their own interest in gambling.

This report represents the first body of work on gambling live streaming, and has established the importance of further research to understand not just gambling live streams, but also online gambling videos more broadly, in an age of “content creators”, “influencers”, and their tremendously large online followings.

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Study Aims and Background

Gambling and live streaming

The “live streaming” of people playing video games has exploded in the last decade, with the leading platform Twitch boasting over five million regular broadcasters and several hundred million viewers. The average gaming live stream involves an individual broadcasting themselves live as they play a video game, alongside a webcam (showing their facial expressions and responses) and a “chat” window (Ford et al, 2017; Recktenwald, 2017) in which viewers can talk to each other and the broadcaster (“streamer”). Although this might seem like a potentially niche activity, Twitch is now one of the fifty most-viewed websites on the planet as a result of the popularity of game live streaming. Live streaming also takes place on many other sites, such as Twitch’s recent competitor Kick, and sites including YouTube and TikTok, as well as others. Successful video game streamers can bring in tens or even hundreds of thousands of concurrent viewers from around the world to watch them playing games, with some live streamers making six-figure or even seven-figure incomes from their gaming (Johnson & Woodcock, 2017). Many streamers and viewers also find community and support on *Twitch*, while the platform itself has become increasingly central to video gaming culture as a whole (Gandolfi, 2016; Pellicone, 2016; Johnson & Woodcock, 2019a; Brown & Moberly, 2020).

Streamers make money primarily by encouraging viewers to donate money to them, either as one-off payments or as a regular contribution (Sjöblom et al., 2019; Yoganathan et al., 2021; Johnson, 2024). Other sources of income include “referral links” – hyperlinks to other websites which pay the streamer a small amount if a viewer subsequently makes a purchase – and sponsorships from companies, such as those in the games industry (Johnson & Woodcock, 2019a). More broadly, however, money is central to Twitch’s streams and the flow of this money is actually one of the most visible things one will see in many live streams, although not all. The transfer of money from viewers to streamers is thus not something that goes on hidden beneath the surface, but rather has a prominent role on Twitch. This is not just because of the sheer number of ways by which streamers can be financially supported, but also because donations, subscriptions and the like are key presences in the actual content broadcast. Streamers will express verbal appreciation for those who financially support them, sometimes in quite dramatic manners. The financial element is essential to Twitch and Kick in other ways – Twitch is owned by Amazon, one of the largest and most profitable companies on the planet, while Kick’s ownership is tightly entangled with that of Stake.com, a major and primarily Australian online casino. Although the sites are host to significant and meaningful cultures and communities, it must also be kept in mind that both are owned by wealthy and powerful corporations.

Twitch grew out of site Justin.tv which was originally a site for so-called “lifecasting”, which involved 24/7 (or close to it) broadcast of the everyday existence of “lifecasters” (Taylor, 2018). This was novel and successful, but the site soon became more of a destination for the streaming of gaming content, and thus rebranded itself to emphasise this element (Johnson, 2024). Although it lacks the name recognition of Instagram or Facebook even for those who don’t use the site, its size - well over a hundred million users - and the association many have between Twitch and live streaming in general, make it an important site of study. In turn, from no more than a handful of papers a decade ago, there are now many hundreds of publications

on Twitch and live streaming, with key topics of enquiry including the experiences of aspirational and hobbyist streamers (Phelps et al., 2021), the equivalent for professional or aspiring broadcasters (Johnson & Woodcock, 2017) the experiences and motivations of viewers who tune in to watch (De Wit et al., 2020; Carter & Egliston, 2021; etc), the often problematic and contested dynamics of gender on the platform (Ruberg et al., 2019), and many others. Live streaming is therefore emerging as an important area of research in media and communication studies, while also touching on a number of other cognate domains, and even those further afield – such as, for the first time, gambling studies. This is because while live streaming remains primarily associated with gaming, in recent years the live broadcasting of real-money gambling has taken off on Twitch (and subsequently on Kick) - and it is this phenomenon that this report examines.

The gambling live streaming phenomenon began in the early-to-mid 2010s when Twitch allowed real-money poker to be broadcast, with the game becoming essentially the “test bed” for gambling content on Twitch. Given poker’s high skill content compared to any other gambling game - and Twitch’s focus on competitive gaming in its earlier years - it was an obvious place for the website to test the waters. Poker content from around 2013 until 2016 was well-received on the platform but also remained relatively niche - poker is a strategically complex game and requires a substantial level of prior knowledge to really understand, especially when one is watching top professionals explaining complex thought processes in their play. At the same time a number of “streamers” on Twitch who did not broadcast gambling content but broadcast video game content began using “gamblified” techniques such as raffles and the like to monetise their broadcasts (Abarbanel & Johnson, 2020), which in hindsight is clearly part of the broader gamblification of online social life currently taking place (Zaucha & Agur, 2023; Zaucha, 2024; Macey & Hamari, 2024; cf. Zanesescu et al., 2021).

However, from around 2016 or so, gambling streams began to diversify on the platform. Most visible were “slots streams” that started to appear on *Twitch* in which individuals would broadcast themselves playing real-money online slots, to potentially massive audiences. Whereas the most popular poker streams would rarely bring in more than a few thousand viewers, the broadcasting of real-money slots has seen tremendous growth in the past half-decade, with now hundreds of broadcasts streaming to a total audience of **tens, and sometimes even hundreds, of thousands of viewers**. In these channels the streamer shows themselves playing on online slots sites for real money - either fiat currency or cryptocurrency, or a mix - and enabling their viewers to watch every spin, every loss, and every win. Some of these streamers are playing at relatively low stakes, but others broadcast channels with hundreds of thousands of dollars seemingly at stake, and do everything they can to increase and emphasise the sense of excitement and thrill that viewers are supposedly meant to feel from this vicarious high-stakes gambling.

Given the massive viewer numbers it appears that this is effective, with some of these broadcasters attracting extremely high levels of attention to the point where they have enjoyed time as some of the most watched broadcasters on the site as a whole, not just in the “Slots” category. Alongside these slots streams we have also seen live broadcast of real-money roulette play, blackjack, and also video game gambling systems such as so-called “skin betting” (Thorhauge & Nielson, 2021) and others. Although Twitch does remain focused on video game streaming, gambling streaming has nevertheless become a very substantial – and essentially wholly unresearched – element of the platform attracting huge crowds to

consuming video content around real money digital gambling. Kick, in turn, is a newer live streaming platform with a similar range of content, but has also become a haven or refuge for streamers leaving Twitch for political reasons – including those over what is often framed as “censorship”, such as a reduction of allowed gambling content. These are thus the two platforms most fully associated with gambling live streaming, and form the core of this research project.

Rationale

This practice of gambling live streaming is both an almost entirely unknown (despite its large and growing reach) aspect of digital gambling (cf. Schull, 2005; Gainsbury *et al*, 2015; Albarrán-Torres, 2018) and raises a number of important issues that have yet to be addressed. This live streaming of real-money gambling poses questions about who its viewers are, whether viewers are being encouraged into gambling play, and potential relationships between gambling streamers and gambling companies. In turn the practice’s accountability and legality is unclear, with potentially a streamer from nation A (e.g. Germany) broadcasting their gambling on a site in nation B (e.g. South Africa) through a platform (*Twitch*) hosted in nation C (the USA), to a viewer in nation D (e.g. Australia). Most centrally, however, these streams herald a previously unparalleled extent to which gambling can be *spectated*, and - given Twitch’s extremely lax age-gating - is a form of gambling (and often for high stakes) that is trivial to watch for anyone of any age who has access to Twitch, or other live streaming sites or sites which offer live streaming functionality.

This is hence an extremely contemporary, novel, and apparently compelling intersection between digital gambling and online social media “influencer” culture (cf. Woodcock & Johnson, 2019). It is also an immediate and urgent area for study given that it is a rapidly-changing domain increasingly getting public attention, and one that is at present entirely unstudied, despite the large audiences watching these broadcasters and engaging with these streamers. Given gambling live streaming’s extremely rapid ascent to prominence and the extremely large audiences it attracts, is one that merits our immediate attention and understanding. Awareness of this subject will help public, policy, and charity actors in strategic decision-making regarding consumer protection, public outreach, and world-first recommendations for participation / avoidance in gambling live streaming activities.

This project was designed to produce entirely new research findings about the phenomenon of gambling live streaming, while also laying the groundwork and foundations for future studies of the area, and presenting immediate and actionable recommendations to the New South Wales Office of Responsible Gambling and responsible gambling bodies and other relevant stakeholders in Australia more broadly. Given the scope and scale of the practice and the lack of research or even just foundational data on the topic, the costs of not beginning to research this area are potentially significant. Around four million Australians tune into Twitch every month, and while of course not all of them are watching gambling streams, some will be – yet we know nothing about how many people this entails, their ages or other demographics, nor what effects watching internet celebrities playing online gambling live for large amounts of money might be having on them. In light of the large numbers of people involved in online gambling live streaming, this project was designed and carried out to lay out foundational understandings about this practice, and to guide both our current immediate appraisal of gambling live streaming, and further future research into this phenomenon – as well as the

growth of gambling celebrities online, the increase in the number of gambling videos online more broadly, and other related contemporary dynamics of the emerging influencer-platform ecosystem.

Recent research on the experiences of online slots play and the techniques that these websites / applications use to enrol and maintain players formed an important foundation to the study, and has also allowed us to propose highly novel questions. For example, the work of Percy *et al* (2021) on volatility in online slots play offers an intriguing point of comparison and contrast when the viewer is watching someone *e/se* experiences the ups and downs of online slot play – do viewers find this more or less compelling than playing themselves, for example, and is the experience fundamentally different or similar? Equally, Bramley and Gainsbury's (2015) work on the multimedia aspects of online slot sites has offered us potential routes in to understanding online slot sites in visual and media terms as well as sites for gambling play, and the highly audiovisual nature of Twitch and Kick (and YouTube, TikTok, etc) live streaming complicates this even further.

Such studies give us a foundational for exploring these aspects, and a basis to work on when developing our own theorizations of the appeal of watching – and listening to – someone else gambling instead of gambling oneself. Work by Lalande *et al* (2020), meanwhile, explores players' perceptions of likely return rates and estimations about profit and loss, and these aspects are again interesting to explore in the live streaming context – how do streamers present their wins and losses to their viewers? How do viewers perceive these events, and does this differ from when actually playing for real money themselves? These are all extremely novel questions which this study has addressed, by drawing on existing literature on online slots (and online gambling more broadly) and taking them further into highly cutting-edge directions.

In terms of the growing connections between gaming and gambling, meanwhile, several elements are especially important. The “gateway” hypothesis (Delfabbro & King, 2020) and the idea of a “convergence” between gambling and gaming (King & Delfabbro, 2020) are key aspects of the crossover literature between gaming and gambling used in the intellectual underpinnings of this project. Scholarship on this convergence has tended to focus on similarities in play and potential behavioural responses between gamers and gamblers, but has not yet examined similarities in *spectating* and how this might be shaping gambling behaviours and responses to gambling content. In turn, Twitch's primary status as a site for video game play means that the overwhelming majority of Twitch gambling stream viewers can be reliably assumed to be gamers themselves, and this novel gambling streaming activity on the site therefore offers a new angle to address these questions.

From game studies, meanwhile, we will be drawing on literature addressing the increasing gamblification of digital games and the increasing presence of gambling-esque systems within digital play. For example, the works of Whitson & French (2021), Zanescu *et al* (2021), Ross & Nieborg (2021), Macey & Hamari (2022) and others are essential groundings for understanding the continuing blurring of these two domains and not just their blurring in terms of gameplay mechanics and technologies, but also in terms of cultural perceptions and changing norms among both gamers and gamblers. Live streaming research, meanwhile, brings to the table increasingly sophisticated and detailed understandings of this new media form, with a particular focus useful here being literature on the interactions between streamers

and viewers – which is to say, in our case, the interactions between gambling streamers and viewers of gambling live streams. For example, the work of Scully-Blaker *et al* (2017), Wohn & Freeman (2020), Wulf *et al* (2021), Kim & Kim (2022) all examine these relationships and what it is that makes them compelling for both streamers and viewers. Understanding this, and adding it to our understandings of digital gambling and the gaming-gambling convergence, has allowed for the generation of highly novel insights from this project across this range of related fields.

Lastly, this project is also of consequence from two other perspectives – the relationship between gambling and advertising, and the relationship between gambling and social media. Social media is “densely populated” (Torrance *et al.*, 2021) with gambling advertising in many countries, including Australia, with over half of young people in the country reporting having seen gambling advertisements on social media platforms (Thomas *et al.*, 2018). In a related article, Newall *et al* (2018) identify online advertising and social media advertising as being “research priorities” for understanding how gambling-related marketing content is finding its way to potential viewers, including teenagers and young people – who make up a sizeable portion of those using live streaming sites like Twitch and Kick. Understanding gambling live streaming as a form of advertising and marketing for gambling, even if a far less formal one than traditional “adverts” or banners and the like, is therefore a valuable additional perspective on an overlooked aspect of this ecosystem. When we consider the appeal that influencers and “content creators” have for their fans and how exciting their activities can easily seem, it is clear how such broadcasts might indeed function as advertising for gambling, and of a sort that has not yet seen anything in the way of research or critical enquiry.

Scope

This project was originally designed to focus solely on Twitch, but subsequently expanded to Kick as the research progressed. Twitch was selected as the core focus because it is the biggest streaming platform in Australia (and in most other countries) with around 4 million monthly users in Australia alone, making it the most clearly appropriate site to focus this study on. It is also the site that the research team has the most experience with, and therefore requires no time for familiarising ourselves with a different platform, making new connections, etc. However, given that most other sites with live streaming functionality base these in large part on what Twitch is doing, and the overall commonalities between live streaming sites simply by nature of their shared function, our findings are also applicable to other platforms that offer live streaming functionalities.

In turn this focus on Twitch also resonated closely to the “convergence of gaming and gambling” and “new or growing forms of gambling” areas of focus in the Emerging Technologies and New Trends priority theme listed in the grant guidelines, demonstrating the suitability of this work for exploring these new, emerging, and often hard to grasp online gambling dynamics. Twitch has undoubtedly now become one of the most important digital / video gaming websites in the world (Taylor, 2018; Johnson & Woodcock, 2019a; Johnson, 2024) and this project therefore has allowed us to contribute to understanding this gambling-gaming convergence in a novel manner. Gambling live streams do not themselves involve digital games, but the emergence of live real-money gambling as a popular pastime on a primarily gaming site is nevertheless a phenomenon highly worthy of our attention.

As such, although Twitch as a site hosts a tremendous range of content (Anderson, 2017; Faas *et al*, 2018; Fraser *et al*, 2019; Ruberg & Lark, 2021), we focused solely on gambling streams. We did not spend time studying video gaming streams – the main broadcast form on Twitch (Burroughs & Rama, 2015; Sjöblom & Hamari, 2017) – nor broadcasts of other activities on the site such as cooking, creative works, exercise, “just chatting” channels, arts and crafts, and so forth. By gambling streams we specifically mean streams where the content being broadcast involves **real-money gambling** such as online slots, online poker, online blackjack, and other forms of novel gaming-gambling convergence such as “skin betting”. As the first study of gambling live streaming this project looked to capture as broad a variety of types of live streaming gambling, and associated social dynamics, as possible. This links clearly to “understanding the impact of specific gambling products and forms and their accessibility” as described in the “Regulation of Gambling Products, Practices and Environments” priority theme. Future research in this area should address potential harms from gambling live streaming – and this is an area the research team are aiming to develop after this initial project – but this primary foundational project has focused on in the gathering of initial information on, and the conducting of initial analyses about, gambling live streams, streaming, and streamers.

However, as the research proceeded, we expanded the scope to include Kick. There were several reasons for this. The primary cause was that during the project the gambling elements of Twitch began what might be a consistent decline, with a large number of streamers who had previously been broadcasting the content on the site moving over to Kick. Kick has emerged in recent years as a potentially serious competitor to Twitch – it is not the first, as that title arguably goes to the now-defunct “Mixer” – and its initial offerings have been quite strongly focused on gambling content, as well as the idea that Kick is less moderated than Twitch. Twitch’s already lax moderation has often been criticized by many streamers and viewers who object to having even offensive or bigoted language moderated (Johnson, 2024), and the demographic of Kick’s viewers and streamers similarly took offense to, and rejected, Twitch’s late and still haphazard regulation of gambling broadcasts. Indeed, with Kick now broadcasting easily as much gambling content as Twitch – if not more, depending on how one defines it – it emerged as a vital secondary research site. It also stood out from YouTube, TikTok, and the like, because just like Twitch, Kick is specifically focused on live streaming, and has specifically framed itself as an alternative to Twitch for those who object to the site on various ideological grounds. As such, the project both addressed the core of gambling live streaming to date – Twitch – but also had enough flexibility to adjust to taking into account the site that may well be the future of gambling live streaming – Kick – and to use this dual data collection process both to pin down key trends in contemporary gambling live streaming, and identify potential trends and future research directions as well.

Research Objectives

This is a true foundational study on a topic with no current research. Almost nothing is known about this space beyond what has already been described here – it is clearly sizable and of consequence, and involves a substantial number of people both in Australia and beyond – and it was therefore premature to proceed via specific hypotheses. This is particularly the case with a risk of specific hypothesis generation both reducing the scope and scale of what data we can capture and address in this study, *and* the risk of hypothesis shaping our findings in particular directions through unconscious bias. By contrast, the goal of this study was to

explore questions like: what are the most important parts of gambling live streaming? What should future studies focus on? In conducting the studies we expected to find how people engaged with gambling streams, to understand how gambling streamers behave, to develop a deep characterisation of the cultures and practices of these channels, and to offer initial identification of potential harms. These were not explicit hypotheses but rather entirely novel domains of new knowledge which have successfully been opened up by this project, and through which we would (and will) be able to measure the success of the study. This foundational study was hence designed generate the initial understanding of this space through which focused hypotheses – especially relating to harms – can be formulated in the future.

Specifically then, in looking to generate this foundational data on the gambling live stream phenomenon, we selected five methodologies that would give us information relevant to the practice – examining popular commentary and discussion about gambling live streaming in the press, surveying gambling live stream viewers, examining the content of gambling live streams, examining what goes on in the “chat” windows of gambling live streams, and interviewing gambling live streamers themselves. For reasons discussed later the fifth of these proved unviable, but the other four have each yielded up significant insights. With these methodologies, the goal was to secure answers to three primary research questions, which were developed to be as follows:

Firstly, who is watching these broadcasts? Although hundreds of thousands of people are watching these channels we had no information on who these people are and what demographics they belong to. In asking “who watches?” we were also asking “who creates this content?” – who are the live streamers putting this real-money gambling content online, and how does understanding them help us to understand viewers and those potentially affected? Live streaming is so highly contingent on the sense of a social and personal relationship between a streamer and their viewers (Leith, 2021; McLaughlin & Wohn, 2021) that we cannot fully understand who watches without also understanding who *broadcasts*. This study of the people involved in these channels was designed to allow future research to make targeted interventions to reach these demographics and support these viewers in avoiding problem gambling, understanding how realistic (or not) the real-money gambling they see on streams is, and who is most (and least) at risk from this new gambling form. This research question is primarily explored via our survey, although our news story analysis, and chat analysis, also contribute.

Secondly, why are people watching gambling live streams? What is the appeal of these channels? The enticing and compelling aspects of actual gambling are of course extremely well studied (e.g. Cotte, 1997; Neighbors, 2002; Pantalon *et al*, 2008; Binde, 2009; Lee *et al*, 2017, etc) but the interest in *watching* gambling has seen no research attention. The appeal of spectating digital game play has been studied and offers us a valuable point of comparison and insight (Cheung & Huang, 2011; Macey & Hamari, 2018; Qian *et al*, 2020; etc), but we had no data on what it is that viewers find attractive in watching others gambling for real money instead of doing so themselves. Gaining this information has shed fundamental light on the appeal of watching gambling and will help to inform future targeted interventions to address this new and rapidly-growing form of gambling activity. This question is explored via all four of our methods (news analysis, surveys, stream observation, chat analysis).

Thirdly, what effects is it having? We knew nothing prior to this research project about whether watching others gambling on such live streams is a massive encouragement for viewers to play; whether perhaps it serves the opposite effect and gives a vicarious gambling enjoyment for viewers without actually needing to risk their money; something else, or some combination of these. Through studying the conversations in these streams, studying viewers and studying the popular commentary around the practice, we have now begun to understand what effects gambling live streamers have on their audiences, and thus what future interventions should focus on. This question is inevitably the most challenging given the novelty of this field of research, but we primarily explore this area via our surveys and our chat analysis, and present a number of key findings in this area, as well as gesturing towards how future research can take these understandings further.

As there was no prior scholarship on this area this was a deeply foundational project designed to generate a substantial and easily-usable knowledge base for both practitioners and scholars. As above, in order to understand gambling streaming on Twitch we therefore proposed an ambitious mixed-methods study that would look to grasp all the main elements of the phenomenon and present a first and comprehensive picture of what is going on here. The study was designed with five distinct aspects – news story textual analysis, surveying, stream observation, stream chat observation, and interviews – that would highlight all dimensions of the practice and help to guide future interventions. It is to these we now turn.

Methodology

To gain a comprehensive sense of gambling live streaming, a number of different phenomena were measured in this project through a variety of different methods. To recap, this project proceeded from three core research questions: who watches these broadcasts, why do they watch them, and what effects might they be having? The presence of three distinct lines of enquiry, as well as the novelty of the overall area of study, merited a mixed-methods approach that would seek to gather as many diverse and novel streams of data as possible, which could then be brought together in constructing a foundational understanding of the gambling live stream phenomenon. In this section we will first briefly describe each method, and then go into more detail on how each part of the study was conducted.

Firstly, in our analysis of news coverage regarding gambling live streamers, we wanted to examine to what extent gambling live streams are popularly seen as problematic, or widely accepted; whether journalists and commentators are discussing gambling streams as a potential site of addiction and problem gambling, or as just another string to Twitch's bow; what the concerns are of those who are aware of these streams; and consequently what sorts of angles and perspectives will be most valuable and resonate most strongly with readers when disseminating the research. Doing so was designed to give important foundational information, which subsequently informed the rest of the study, and contributed to answering the first two research questions: who watches, and why?

In the survey portion of the study we then measured viewers' backgrounds and demographics, their experiences on Twitch in general, their prior experiences with gambling, what led them to gambling streams, how often and to what extent they watch these streams, which gambling streams they watch and why, how engaged they are in these streams, whether they give financial support to the streamer(s) they watch, their own gambling activities on online gambling sites (and/or in offline contexts), whether they feel gambling streams have encouraged them towards gambling (or the reverse), and to what extent they think gambling streams should be regulated. This part of the project was primarily concerned with answering our first research question – who watches these broadcasts? – and contributed substantially also to the other two research questions – why do people watch, and what effects might these streams have?

In our video analysis segment we sought to measure how streamers behave in these channels, what websites and gambling games are being broadcast, the amount(s) of money being wagered, the type of currencies being wagered, what websites or gambling providers are being used in these streams, and what sorts of things these streamers say to their viewers, as well as what sort of extra or peripheral information is available on these streams, such as referral links to gambling websites. The video analysis was focused on our second two research questions assessing why people watch (i.e. what is attractive and compelling about these broadcasts?) and what sorts of effects these channels might have.

In our textual analysis of stream chat we examined how viewers talk to the streamers in gambling channels, how viewers talk to each other in gambling channels, what sorts of memes or in-jokes or references circulate, how comparable the conversation is in gambling channels to other research on the social behaviours of gamblers, to what extent viewers discuss their own gambling activities in streams, how engaged they are with what the gambling streamer is

doing, and how viewers respond to - for example - large wins, large losses, or just the repetitive quotidian passing of time during gambling activities. The textual analysis contributed to all three research questions – who watches, why do they watch, and what are the potential effects?

We also hoped to use interviews with gambling streamers to learn about their ages, personal backgrounds, interest and motivations towards gambling live streaming, their educational and employment histories, their experiences on Twitch, and their perceptions of and knowledge about potential gambling harms from their practices – both for themselves, and their viewers – but ultimately this one part of the project was unsuccessful. The reasons for this lack of success are in fact themselves of interest, and tell us much about these broadcasters, but it is clear that other techniques will be required if we are to reach this demographic and learn from them directly. Nevertheless, the nature of the extreme difficulty in acquiring these interviews was itself telling, and we will address this in the findings and discussion sections.

News Stories

The first part of the study explored how the current public discourse around gambling streams is being shaped. There are already hundreds of news stories on the topic available both from large or mainstream publications, and more specialist publications covering gaming or gambling topics, that address gambling streaming. For this part of the research we used databases Factiva, Gale, and ProQuest via searches “(Twitch or Kick) and gambl*” and “(stake.com OR stake.us) AND Australia AND gambl* AND (Twitch OR Kick OR stream*)”. The first search was deliberately broad and reflected global issues affecting the platforms. The second search terms added a focus on Australian issues as well as the popular online gambling platforms Stake.com and Stake.us. The latter emerged as an important focal point as a combination of our observational data (these platforms were both very popular among gambling streamers) and controversy around Stake’s founder being Australian but the platforms not being accessible within Australia. We searched for articles that were published at the start of this project – October 2023 – and then worked backwards from there, resulting in a sample of articles from 2018 to 2023, at which point one hundred had been collected.

To ensure that articles provided by the most relevant sources were included in our collection, we also performed a Google search with keywords “Twitch”, “Kick”, and “gambling.” From there, we used the same keywords to search each of most popular sites for additional articles. These are an important additional source of data which doesn’t help us to understand who is broadcasting these channels, or who is watching, or what goes on in these channels - but *does* help us understand how these channels are being talked about. Are these popularly seen as problematic, or are they widely accepted? Are journalists and commentators discussing gambling streams as a potential site of addiction and problem gambling, or as just another string to *Twitch*’s bow? How much awareness is there already of *Kick*, and its position within this emerging gambling video ecosystem? What are the concerns of those who are aware of these streams? What sorts of angles and perspectives will be most valuable and resonate most strongly with readers when disseminating the research?

With the articles collected we proceeded to conduct a thematic analysis of the material (e.g. Cain et al., 2017; Kersbergen et al., 2022; Huang & Loo, 2023) with the goal of finding the recurring themes, patterns, or ideas that manifested themselves regularly within the data set.

This required several sweeps of the material as well as subsequent collating of thematic material, with some of the ideas emerging straight away and others becoming only apparent after several cycles. In particular, four elements emerged as being regularly discussed in this material – the sense that gambling live streams might carry risk for children and young people, a sense that this is an unrelated area which needs to be more closely controlled and monitored, a sense that addiction is a real danger in these channels for streamers and viewers alike, and discussion of ongoing controversies surrounding the streams, as well as Twitch’s “crackdown” on these channels and some of their elements in recent years. In our findings section we explore each of these in more detail than here, but analysis of these articles helped us to understand how public opinion and conversation are currently evolving around gambling live streams, and also shaped other aspects of the project onto questions with the strongest public interest.

Surveys

The second part of the project involved conducting a survey of *Twitch* and *Kick* viewers who engage with gambling streams. Our survey asked questions about their backgrounds and demographics, their experiences on *Twitch* in general, their prior experiences with gambling, what led them to gambling streams, how often and to what extent they watch these streams, which gambling streams they watch and why, how engaged they are in these streams, whether they give financial support to the streamer(s) they watch, their own gambling activities on online gambling sites (and/or in offline contexts), whether they feel gambling streams have encouraged them towards gambling (or the reverse), and to what extent they think gambling streams should be regulated. To recruit potential survey respondents we emailed all streamers from our initial representative list that had an active email address attached to their social media accounts, or contacted those who had an active Discord server on that platform instead. We further distributed recruitment messages for our survey through a number of relevant “subreddits” (forums on Reddit dedicated to particular topics, such as gambling, poker, Twitch, Kick, and so on).

This unfortunately yielded few responses, and so to broaden the pool of survey respondents, we recruited via Prolific, by firstly distributing a short screening survey to identify gambling streamer viewers. This screening survey was distributed to three thousand people and 330 were identified as eligible candidates for the primary survey. In total, we therefore received 359 responses to the primary survey from these two methods. All human recruitment in this study was in line with the requirements set out by the Human Research Ethics Committee (HREC) at the University of Sydney (2023/HE000813). Survey questions have then been examined for what they can tell us about the macro-scale demographics and interests of survey viewers, pending further statistical analysis of the results in the future to unpack more complex connections within the data. Even at this highest level, however, the survey has told us much about the viewers of these channels, their backgrounds, demographics, interests and motivations, and some key directions for future study into these individuals in both Australian, and global, contexts.

Stream Observation

The project was designed to first gather foundational information about gambling live streams, which had not yet been collected. What goes on in these channels; what sorts of gambling

games are being broadcast; how much money is being wagered; is this fiat currency or cryptocurrency or some combination; what websites or gambling providers are being used in these streams; how do gambling streamers present their channels to their viewers; what sorts of things do these streamers say to their viewers; and what sort of extra or peripheral information is available on these streams, such as referral links to gambling websites? No information on these topics had yet been collected by scholars and this was designed to make for an essential database of information about what goes on in these channels. As such, it was vital for a part of this study to involve studying the channels themselves, and examining these videos as data in their own right that needed to be understood. For this we planned and carried out observational work on gambling live streams on both Twitch and Kick, with particular focuses on how the streams look, how the streamers behave, and the gambling activities themselves which are being streamed.

The first step in our observational method was identifying relevant streams to observe. We collated a representative list of English-language gambling streams on Twitch and Kick using the platforms themselves and third-party websites that record viewership data on both platforms. In the former case, we collected a range of candidates by briefly observing live streams in the following categories: Slots; Virtual Casino; Casino; Casino Jackpot; Poker (Twitch); Slots & Casino; Poker (Kick). Additionally, we manually searched for the term “pokies” as Australian vernacular for slot machines to increase Australian representation. In the latter case, the sites SullyGnome (for Twitch) and Stream Charts (for Kick) were used to identify additional streamers not captured by the first method and to capture streaming frequency, typical stream duration, and average audience size. This data allowed us to understand the popularity and consistency of the candidate streamers we had identified when selecting streams to observe. Through these methods, we collected a list of one hundred channels that balanced presence on Twitch and Kick, represented a range of typical viewerships (from single digits to tens of thousands of viewers), and streamed a range of different types of gambling content.

We then selected twenty-five channels to observe for one hour each that reflected this diversity of platform, popularity, and stream content. We first included any Australian streamers, and subsequently completed the remainder of the list with a balance between Twitch and Kick streamers; gender representation; and those who streamers virtual slots, poker, and virtual casinos. We further prioritised consistent streamers with a range of average audience sizes, number of weekly streamers, and typical stream length. This resulted in a list of twenty-seven streams under the assumption that some may stop streaming or be banned (a trend among this channels that became apparent during the initial collation described in the previous paragraph). Ultimately only twenty-three of these channels were still streaming sufficiently consistently to collect observational data. As such two new channels were then selected that maintained representations of platform, content type, streamer gender, and audience size. Lastly before observing streams and to ensure the most efficiently approach to observations, we created a schedule based on typical live time and noted which streamers made recordings of their streamers available and hence did not need to be observed live (even if the content *watched* had been created live, and was live at the time for its viewers) – an essential consideration when considering global time differences between popular parts of the world like Europe, the UK, and parts of the US from Australia.

The observational data was recorded in the form of fieldnotes that captured stream

appearance – including colour schemes, the organisation of the stream screen, the inclusion and location of facecam, and any other information – any game/gambling content, elements of streamer performance – comments that they made and their interactions with viewers – and viewer interactions/comments. Our notes focused on elements related to gambling however our prior expertise with non-gambling streams also informed the inclusion of fieldnotes that were not explicitly related to gambling but provided context on ways that gambling stream content and interactions may be similar to or differ from those of non-gambling streams. For example, we made notes on subscriptions and donations that signalled the transfer of money from spectators to streamers. To ensure complete records, we downloaded VODs using third-party software Twitch Downloader and Kick VOD Downloader and captured live streams using OBS in the event that any notes required clarification or further checking. The additional elements that we captured included screenshots of streamer profiles on Twitch and Kick, both in the form of screenshots and in a table for ease of comparison, and a screenshot of each channel's emote collection as emotes have previously been found to be significant to the culture of streams on Twitch. All of this collected data was then examined and coded to bring out the key themes that we explore in the “Findings” and “Discussion” sections of the report.

Stream Chat

The final part of the project proposed to explore how viewers are interacting in these channels - how do viewers talk to the streamers in gambling channels, how do viewers talk to each other in gambling channels, what sorts of memes or in-jokes or references circulate, how comparable is the conversation in gambling channels to other research on the social behaviours of gamblers, to what extent do viewers discuss their own gambling activities in streams, how engaged are they with what the gambling streamer is doing, and how do viewers respond to - for example - large wins, large losses, or just the repetitive quotidian passing of time during gambling activities? Examining stream chat has been a well-established methodological element of studying live streaming for what is now the better part of a decade (Recktenwald, 2017; Ford et al., 2017; Yu et al., 2021; Carter & Egliston, 2021) and live streaming scholarship in general has demonstrated the high importance of chat to understanding the phenomenon – this was therefore a vital inclusion in our study.

To answer these questions we thus gathered the “chat” data from each of these channels, and performed a close textual analysis on these windows from the one hour each of these twenty-five observed channels. As noted above, the chat windows in Twitch and Kick are rapidly-moving textual chats where viewers post messages to be read by other viewers and by the streamer of the channel they're watching, and in gambling channels these chat windows appear to be extremely rich in data. This part of the project was similarly a first close study of how the viewers of these gambling channels are engaging with this gambling content, and our hope was to shed significant light on their interactions, their engagements, and their potential interest in the gambling content being watched. Applying a second method to the same channels as our first method has also allowed us to significantly deepen the information we have about these channels, and to begin understanding how the various aspects of gambling live streams intersect and interact with one another in the creation of a real-money gambling spectacle that hundreds of thousands find sufficiently existing and compelling to watch.

Interviews

The last part of the project was designed to pursue interviews with the streamers who operate gambling channels on *Twitch*. We began by prioritising Australian broadcasters of gambling channels, and then looking globally for the remaining respondents. In these interviews we wanted to explore a number of questions about these gambling live streamers such as their personal backgrounds, their backgrounds in gaming and in gambling, their educational levels and previous employment, their experiences on Twitch before becoming gambling streamers (if any), their motivations for broadcasting gambling content on Twitch, how they chose whatever specific content they broadcast (e.g. slots, roulette, etc), their experiences as gambling streamers on Twitch, their perspectives on gambling live streaming, and their views about potential harms from gambling live streams. This part of the study was designed to give key insights about who these people are, why they broadcast, and how they understand their broadcasts and what role they might be having in the lives of their viewers. Live streaming and game live streaming research has addressed extensively (Gros *et al*, 2017; Zhao *et al*, 2018; Young & Wiedenfeld, 2022) the motivations and interests of live streamers – the author's own work includes the first publication on this topic (Johnson & Woodcock, 2017) and several others (Johnson *et al*, 2019; Johnson, 2019; Johnson, 2024) – and in this project we intended not to focus generally on why people are streaming *per se*, but why people are streaming gambling content.

However, despite extensive efforts, it proved impossible to secure even a single interview with a gambling streamer. We received some response via diverse recruitment methods, but unfortunately many streamers were unavailable for interview or unwilling to participate without remuneration, and a small number expressing that they would be willing to participate but were simply too busy. Many simply ignored our contacts, and a small number were actively hostile towards the project. Zero interviews is an unheard-of outcome for interviewing live streamers – the author has been working in this area for over a decade now and has previously carried out the largest body of interviewing work on live streamers to date, making this all the more striking. However, although extremely frustrating, there are observations which can usefully be made here about why this might have been. It is well established that live streamers are very busy and time-conscious individuals (Johnson & Woodcock, 2017; Taylor, 2018; Johnson *et al.*, 2019; Johnson 2021; Escobar-Lamanna, 2024) and that has always been a challenge with securing interviews, yet the intensification of this challenge here can, ultimately, only be laid at the feet of the specifically *gambling* topic we were looking to address.

We therefore propose that gambling live streamers, as a demographic, may have become unusually private compared to most streamers, or at least unusually unwilling to engage with researchers compared to streamers broadcasting more generally “acceptable”, and less contentious, live stream content. As the gambling focus is the only variable here changed from previous interview-led studies of live streamers, this hypothesis seems strongly supported. Equally, active hostility from a streamer asked for an interview was an entirely new phenomenon, yet one reported here. All of these observations, when taken together, suggest that the sensitivity of the gambling topic – combined with the complex legal and regulatory frameworks these streamers exist within, their awareness of the controversial nature of the practice, and their awareness of Twitch having cracked down on gambling streams recently – likely all contributed to the widespread and overall reticence to engage with our project. Subsequent and further review of the interview approach materials has entirely confirmed that

no unreasonable or provocative language was accidentally used in these first-contact approaches, nor in follow-ups; it is therefore clear that this is a demographic of “content creator”, influencer, and live streamer, who is going to be extremely hard to reach in research. This, however, only reinforces the importance of reaching them and understanding who these individuals are – their unwillingness to be interviewed demonstrates an awareness of the controversial nature of their content creation practice, and they remain the one gap in the detailed picture we have otherwise been able to draw during this project.

Risk Analysis and Mitigation

Potentially identifiable research subjects

Twitch is a public website and individual channels on Twitch are themselves public, meaning that all contributions to the site – either live streamed content or text chat content – are public (Ford *et al*, 2017; Nematzadeh, 2019). In turn although live streamers are highly visible in a channel – since they generally broadcast a webcam image of their face during broadcasts and often have their real names noted on a channel (Hamilton *et al*, 2014; Ruberg, 2022) – most channels do not transcribe what a streamer says, meaning that direct quotes we might attribute to a streamer cannot simply be traced back to the streamer via a search engine. Viewers meanwhile tend to be highly anonymous with only a username to identify them (Anderson, 2017; De Wit *et al*, 2020; Zhou & Farzan, 2021).

However, potential risks in studying these individuals and their Twitch channels and communities in a gambling context included risk to reputation, potential distress if inclusion in research is discovered without their knowledge, and the risk of something private or personal – such as a viewer’s comment about their own gambling habits – being traced back to them in the “real world”. Given that gambling can be a sensitive subject, we have therefore deidentified all research participants/subjects.

- In the case of live streamers this means we do not mention the name of their channel nor the streamer, nor anything else by which they could be easily identified. Many streamers for example create collective names for their communities, e.g. “the wolfpack” or “the freaks” or “the cosy club”, and these terms are also not used due to how readily they will appear in a search engine. We will also not mention easily identifiable aspects of streamers, and all streamers have been granted pseudonyms with any identifying analyses avoided.
- In the case of observed viewers of these channels we do not use their usernames and we will also not relate anything they say in chat which could be potentially identifiable, such as where they live. Equally, despite the fact that usernames are pseudonyms on Twitch, an individual could still be potentially identifiable from that username (e.g. if they use it on another site where it is associated with their real name) – and so even usernames need to be protected. In the published data we do not and will not reference any specific username and all users speaking in Twitch chat logs will have pseudonyms granted them. Twitch chat logs – unlike usernames – cannot be searched for on Google or other search engines and so direct quoting of viewers in Twitch chat *is* safe, but using usernames and any identifiable data is *not* safe, and thus will be avoided.

- In the case of survey respondents the surveys are entirely anonymous and this has been clearly communicated to potential respondents on the landing page of the survey. We have collected demographic data but no identifiable personal data. For any respondents who chose to leave something identifiable in one of the open-text responses on the survey listing their name, or their channel name, or their personal details, or anything of this sort, these have been entirely ignored when analysing the data set.

Minimising risks of harm

Observational methods (video analysis and stream text analysis)

- As above, all usernames of streamers and viewers have been anonymised and we will not report any non-username data that might identify them. In general we keep in mind that Twitch is a public forum and thus anything done by streamers and viewers is a public matter – indeed, this is unusually the case for live streamers, whose livelihoods / hobbyist practices as streamers are fundamentally based on being visible and public (Johnson & Woodcock, 2019a; Persaud & Perks, 2022). However, given that users will not be explicitly consenting to research despite Twitch being a public forum, we have deidentified all streamers, channel names, and viewers. This is an appropriate and standard procedure for conducting online research in these sorts of public fora and is fitting given the above-mentioned inability to use search engines to search for direct quotes and the like, making both the streamers and viewers we research essentially impossible to identify from the data we have collected and used.

Surveys

- Prior to commencing with the survey, all respondents were provided with a detailed information page that included all relevant information about the protection of their privacy / anonymity as well as the goals of the project and how their contributions might be used, alongside contact details for general and specialised mental health and gambling support services. The PI's contact details were included at the end of the survey so that respondents could contact them in the event that they wish their response to be removed from the data set or have any other questions relevant to the research. The survey also included links to NSW and Australian gambling support websites.

Textual analysis

- This is public data and carried no risks beyond any that existed in the original publication of a news story or a guide or a commentary piece.

Data Analysis

Detailed coding of all four sources of data has yielded a substantial number of key results as described and related in this report.

Firstly, our analysis of the news data involved the identification of common themes being discussed. The first step here was to locate themes and phrases and issues which were raised in a substantial number of the headlines or headings of these news stories, which then

informed what sorts of topics should be most closely looked-at within the articles themselves (and indeed throughout the rest of the research project). The second step was to examine each news story in more detail, both making notes of salient and recurring themes which appeared throughout many of these articles – see the Findings and Discussion section below – as well as key quotes that will be valuable case studies and demonstrations of these main themes. Several passes were required to exhaust these themes and to begin identifying some of the connections and potential relationships between the key themes in these stories, both in terms of the language used but also in the growing realization that these themes did not and do not exist independently, but are rather all components of a wider concern around gambling live streamers, and gambling live stream viewers. It was also important during this process to identify a number of key background elements in these news stories, such as discussions of live streaming and internet video practices more generally, particular framings and understandings of what young people do on the internet, ideas about digital gaming, and ideas about how online communities function and regulate their members, activities, and content. This process yielded the key themes that emerged from the news story analysis, which both guided our subsequent enquiries, and offer value data into a key actor in this space – which is to say, public opinion.

Next, our analysis of the survey data was conducted firstly on a question-by-question basis. This yielded significant insight into who watches these gambling live stream broadcasts. As noted in the discussion and findings sections below, we sought particularly to identify surprising or unusual findings here, especially those which might run counter to our normal expectations about what viewers of non-gambling live streams might have said in an equivalent set of questions, and those which shed particular light on what about gambling live streams is hence distinctive and unusual – as well as where they sit very much in the normality of Twitch and Kick. However, we were also able to note – as discussed in the following sections – points of relationship between the overall sets of answers delivered for a given survey question, such as the surprising finding that many gambling live stream viewers report watching esports broadcasts, yet very few report engaging in “skin betting”, the form of digital gambling most closely associated with esports games. These connections have allowed us to form a number of strong hypotheses from the data which are outlined in the following section. The survey has proven to be one of the most valuable sources of information acquired in this study – despite its initial recruitment challenges – and establishes a number of key research directions for continued investigation of gambling live streams, and gambling-related online video production and consumption more broadly.

Thirdly, the live stream data’s initial analysis took place through identification of the core themes in the in-stream occurrences, as well as the conversations between the live streamers and their chat window participants, noted down as being of potential note in the observational work by the research assistant. Having completed a doctorate studying Twitch and live streaming, the research assistant took on the role of identifying potential observations that might be of interest, and distinguishing those from the ordinary everyday of live streams which have been well studied by scholars, and well described. This meant that incidental interactions did not subsequently have to be coded, and the data set instead prioritized comments that streamers made which had any possible connection to their streaming practice, the visual elements of these live stream channels that also connected to gambling in some way, conversations between streamers and viewers with a gambling-related dimension to them, and also any data collected about topics like income, stakes being played for, financial

relationships or sponsorships with gambling companies or sites, and so on. Review of this collected data identified the three major themes discussed in the following sections with regards to the in-stream data collected, and subsequent passes over the data allowed for the refining of these themes and the collection of all data appropriate to each one. The three major headline observations from the live streams themselves are discussed in the Findings and Discussion sections below.

Finally, the stream chat element of the study was aided by the fact that numerous scholars have already laid the foundations and groundwork for methodologies in examining Twitch chat – e.g. Recktenwald (2017), Nematzadeh *et al* (2019), Leith & Green (2022) – and we followed these, particularly the work of Recktenwald, in examining these chat logs and looking to decipher what they can tell us about viewer engagement in these gambling streams. The actual volume of text data in a 1-hour stream varied from channel to channel, ranging from larger channels with several thousand messages in an hour to channels with perhaps only a dozen messages in an hour. Nevertheless, once all the observed streams had been collated, coding began by watching back through the streams to identify regular comments that appeared often, and similar sorts of discussions and other events in chat, before then beginning to construct a set of relevant codes. Once this had been done for all streams, comparisons were drawn between the chats of multiple streams – and this also inevitably took place before all streams were coded, as the dominant themes (gambling-style games in the chat windows themselves, examples of irrational comments about gambling, regular discussion of other gambling activities, more hostile or aggressive humour and a greater use of slurs, and a lot of “normal” live streaming behaviours or types of humour) all emerged very quickly and were then subsequently borne out as the coding continued. Once the themes were fully identified, relevant quotes from each channel were combined within these now fully developed themes, and analysis subsequently shifted to drawing out the most detailed analysis possible of each of these topics, connecting them to existing live streaming scholarship and to existing gambling scholarship – and other bodies of work, as well, when appropriate.

Findings

News Coverage Content

Our first major body of data in this study comes from the news stories collected. As noted above, we secured 100 news stories both from Australian and global news outlets, with a number of goals. First and foremost we wanted to understand what elements of gambling live streams were being discussed in the press and were in circulation in wider culture, in order to inform future interventions and to get a stronger sense of what elements are especially important for us to focus on. We also, however, wanted to understand how gambling live streamers and gambling live streams are being seen by a wider population beyond live streamers, gamers, and researchers, and how this might potentially shape and influence the practice in the future. As noted previously it was largely a substantial public backlash and outcry which led to Twitch changing its rules around gambling live streams, thus demonstrating that the wider discourse around gambling live streams are actually an important actor here in their own right.

Firstly, we found here a prominent theme involving concern around children or young people in these news stories. Many described concern with the - as discussed in this report - lax or often essentially non-existent age-gating on gambling live streams, and hence the possibility that children and young people might be watching these broadcasts. Scholarship in the past decade has noted the influence wielded by many successful gaming influencers and content creators - both on Twitch and elsewhere - over their fans, especially young fans, as exemplified by the followings of influential creators in games like Minecraft and Fortnite, both extremely popular amongst children and teens. These articles, sometimes explicitly and sometimes implicitly, articulated concern that just as children and teenagers have often become ardent followers of gaming influencers – often the most excited, the most “hyper”, the most humorous, - so, too, is there a risk of a comparable trend taking place through gambling live streamers.

This shows that there is indeed a growing level of public and popular concern about these channels and their potential impacts on, and accessibility for, young people. Although such concerns may well have been shared amongst researchers and other Twitch streamers, this is the first data to confirm that these worries have indeed become part of the wider public conversation around Twitch, around Kick, and around live streaming and online video influencers in general. Ongoing analysis of this data, as with all the findings in this project, will seek to draw out more detailed insights about the specific nuances of these concerns, and how they interact and intersect with our understandings of the public understandings of live streaming, gambling, and gaming – as well as internet celebrity more broadly. What is clear, however, is that the ages of those watching gambling live streams are an important topic to consider, and that the possibility of young people gaining access to gambling through these streams (in a way not possible in casinos, for example), is becoming a key element of the public discourse surrounding the practice.

Secondly, we noted a recurring concern with regulation, legislation, “licensing”, and other equivalent terminology, all of which were essentially to do with worries about the fact that there are few controls over the broadcasting of gambling live streams, their content, and their viewing. The latter point here was of course connected to the first theme – and indeed the third theme discussed in the next paragraph – but this theme in the data consisted of quotes

and comments which emphasised both the absence of clear rules in this space, and a seemingly widely-held belief that the absence of rules and regulation is a significant issue. As noted throughout this report, age-gating is minimal in these streams, but this is only one element of the concern expressed in *these* news stories, with many journalists and interviewees discussing issues around the sponsorship of these streams and the opacity of these processes and arrangements, as well as questions about the legality and regulation of such broadcasts, given the inherently transnational nature of live streaming coupled with the extremely local nature of gambling-related laws, regulations, and legislation.

This is therefore again the first data to demonstrate that there is a growing public and journalistic awareness of the legislative and regulatory issues which these streams produce, in both local and global contexts, and that future research should therefore look to interrogate these complications more fully, and what they mean for our understanding of live streams. In both of these findings it is therefore apparent how this project, and continued research into this area, have clear public value beyond pure research, and offer the possibility for a response to growing concerns of various sorts amongst the wider public aware of gambling live streams. Without meaning to anticipate some of our subsequent analysis in this report, it is interesting to compare this finding against the comparatively few viewers in our survey who felt that strong regulation and legislation were required in this area. We might therefore be seeing a separation of opinion and perspective from “insiders” and “outsiders” in this domain, with gambling live stream viewers and potentially streamers being perhaps unsurprisingly unperturbed by the practise and its ramifications, while wider communities and stakeholders are far more troubled.

Thirdly, we noted significant discussion about the risk of addiction. This discussion was sometimes focused on streamers and sometimes focused on viewers and was found regularly throughout our sample of news stories. Many expressed concern that gambling addiction would be promoted by these streams, an important finding when combined with our observational data which demonstrates how often these streamers are making verbal statements that seem to suggest a possible presence of disordered thinking around gambling play. Concerns around gambling addiction and disordered play more generally are of course central to wider public concerns about gambling practises, both in Australia and elsewhere on a global scale, and it is unsurprising to see these issues arising in the news stories we examined. What cause marks these out as distinct is that these commentary and news pieces are articulating a fear of addiction stemming from *observing* leading to *play*, rather than simply form play itself. This two-step process is one of the highly distinct things about this phenomenon, and its discussion in these articles seem to reflect a widely shared anxiety that watching charismatic and witty and compelling influences or content creators making gambling content has the potential, at least in public perception, to be an entry point into gambling more broadly.

This is therefore the first evidence-based research confirmation that the possibility of addiction and disordered gambling have gained a presence in public and popular discussion around gambling streams, and hence that these – like the above points – are seen as potentially serious issues which need addressing (this is again true when coupled with the other findings of this study, e.g. concern around young people, and concern around addiction, are not entirely independent, even while they are sometimes discussed independently). This study has shed some light on elements of this – such as the assertion by many of our gambling respondents

that they deemed themselves more likely to gamble as a result of watching these broadcasts – and this news finding confirms the potential impact that responsible gambling studies, and interventions, in this area might be able to demonstrate. Further research in this area will have clear public impact outside of its scholarly value, and will help to address this growing body of concerns articulated in the media and press.

Fourthly, we noted in this data the presence of regular discussion of the backlash against gambling live streams (and to a lesser extent, gambling live streamers) from other streamers, both on Twitch and elsewhere. These stories often included discussion of the strong response that had grown on Twitch, and also through people discussing Twitch gambling streams on other non-Twitch platforms, to the growth of slots-related streams in the past few years. This was the controversy that led directly to Twitch’s still quite recent “clampdown” on these sorts of broadcasts, and the subsequent shift that many of these streamers made over to Kick instead. Many of the news stories we examined covered this, and also noted more generally that gambling live streams have become simultaneously highly popular – amongst their viewers and followers – and unpopular – amongst the wider streaming public, and the wider demographic of Twitch users – to an extent that very few other forms of live streaming contingent would be able to match. This shows that not just our gambling live streams in general considered noteworthy enough to draw public attention, but that indeed controversies and changes within this space are also getting interest.

Of note is also the fact that the framings of the news stories mentioning this aspect varied, with some discussing these in the context of live streaming, but others in the context of gaming, or the context of gambling, or the context of internet and online celebrity. The many ways of presenting this same data reinforces the complex multidisciplinary nature of this field of research, and the value of bringing to bear diverse methodologies and sources of understanding. Whilst this project has addressed itself to the topic of gambling live streams from a primarily sociological and media studies lens, future study should include a psychological and health dimension in order to tackle these aspects of gambling live streams (or gambling videos more generally) – whilst not losing sight of the distinctive gaming and media elements here which mark the phenomenon out from other (online) gambling practices. This is an area of study that demands attention from multiple different angles, and which intersects with such a range of other issues that singular approaches are unlikely to be sufficient (hence, in part, the range of methodologies pursued in this study).

These news stories and our textual analysis of their content therefore constitute the first important data set collected here. As researchers we of course entered the project with some opinions on what might be “important” in this domain and what might not, but finding out what news and commentary media – and to some extent, by extension, the wider public – think is important when it comes to gambling live streaming, is also important. Throughout the project the goal has been not just to secure entirely new intellectual and scholarly understandings of a phenomenon that has not yet seen any research, but also to highlight the potential for public and policy impact for studying these broadcasts. The volume of news stories collected, the diverse issues they highlight and framings they deploy, and the severity with which comes of the concerns in these news stories are articulated to the reader, all demonstrate that gambling live streams – and online gambling videos more broadly – represent an important new domain for gambling research to address. Doing so does (and will) not just address cutting-edge intellectual and scholarly questions in a multidisciplinary area, but also will offer foundational

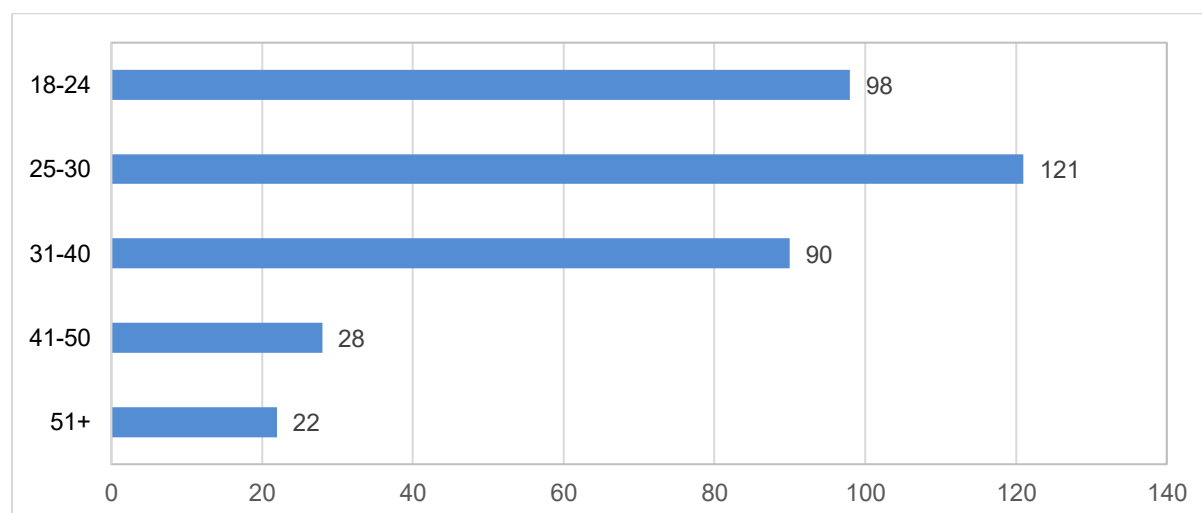
and increasingly detailed knowledge for addressing these concerns, informing the public and policymakers, and potentially driving novel ways to address and legislate these channels, as well as supporting those affected negatively by them. It also informed key subsequent parts of our study, such as the survey question exploring whether gambling streams made people more likely to gamble themselves, and cross-methodology investigations into the relationships between the gaming and gambling sites of Twitch, such as the visuals analysed in the observational part of the project, several questions in the survey, and insights gleaned by comparing the chats in these channels to their gaming counterparts.

Survey Responses

The second body of data secured in this project is that from our survey, which – despite some challenges, detailed previously – was able ultimately to secure 359 total responses. These responses were partly organically secured via contacting gambling live streamers and asking them to distribute the survey to their viewers, and partly through survey site Prolific, after an initial survey that queried respondents about a large number of different streaming genres – but did not make it clear which of them interested us (i.e. gambling streams), so as not to bias the sample. In headline, some of the survey findings confirm existing beliefs and hypotheses regarding gambling live streaming, and live streaming in general; some of them are highly novel and strongly point the way towards future research directions; while others did not yield results that tell us much new about gambling live streaming, but will nevertheless serve as important foundations for understanding this previously entirely unstudied phenomenon. In this section we reflect on many of the questions asked in the survey and discuss the results from each, situating the results within relevant understandings from gambling studies, live streaming research, or both, and both analysing the core findings and pointing towards future study. All figures show the options that could be selected and how many respondents selected each.

First, our survey asked respondents what age groups they were in, and yielded the following results:

Figure 1: What age group are you in?

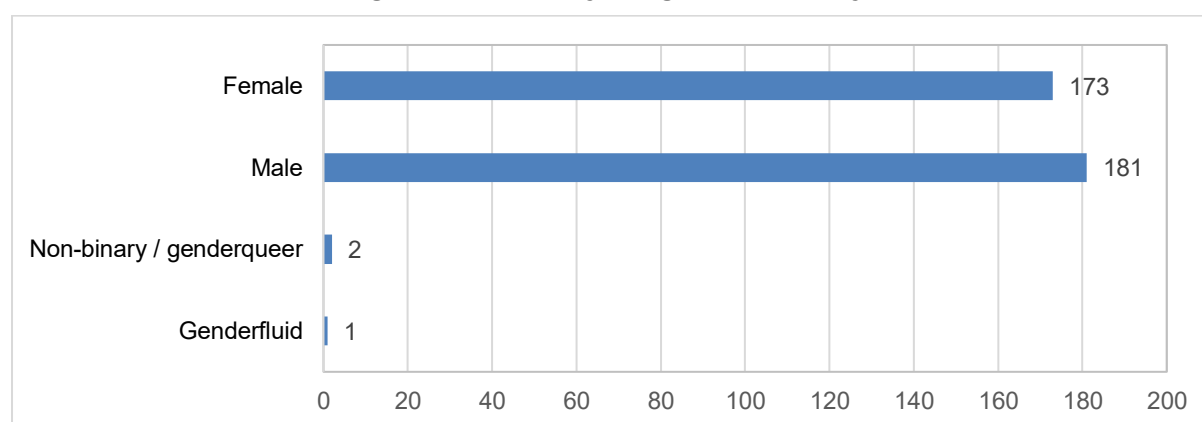


This set of results is broadly in line with what we would expect from Twitch or Kick viewers – although given that we only allowed people over the age of 18 to complete the survey, the younger Twitch or Kick viewers who might be watching live stream gambling content are not

visible here (see elsewhere in this report for more discussion of the lax age-gating on these sites, and the implications of that for our understanding of gambling live stream viewers). Most users of these sites, both streamers and viewers, are in the 18-30 age group, although it is notable how many respondents here reported being in the 31-40 age group, before trailing off sharply into higher age demographics. Gambling live stream viewers do not, therefore, appear to be unusual in their age demographics compared to other live stream viewers, such as gamers and others. Age and gambling are complex topics (Mok & Hraba, 1991; Welte et al., 2011; Rahman et al., 2012; Subramaniam et al., 2015; etc) but as a key headline which interrogates the most important part of this aspect of the survey findings, it is unsurprising that few respondents here identified as being over fifty, even while many participants in other forms of gambling are within that age group. This does mark gambling live stream viewers out as being somewhat distinct in this regard from many other gambling demographics – trending younger – and having an “upper age” cap lower than many other forms. At the same time, as these users age, it remains to be seen whether these demographics will climb, or remain primarily in the under-40 territory. The overwhelmingly young or middle-aged nature of these viewers also has significant implications for potential responsible gambling interventions in terms of how viewers might be reached, and what sorts of approaches will be most successful. This data also confirms that it is live streaming’s default age demographics, rather than gambling’s age demographics, taking priority here – potentially reflecting, especially when coupled with other data, that we are seeing here Twitch and Kick users coming to gambling streams, rather than gamblers coming to Twitch and Kick.

Our survey also asked respondents about their gender identity:

Figure 2: What is your gender identity?

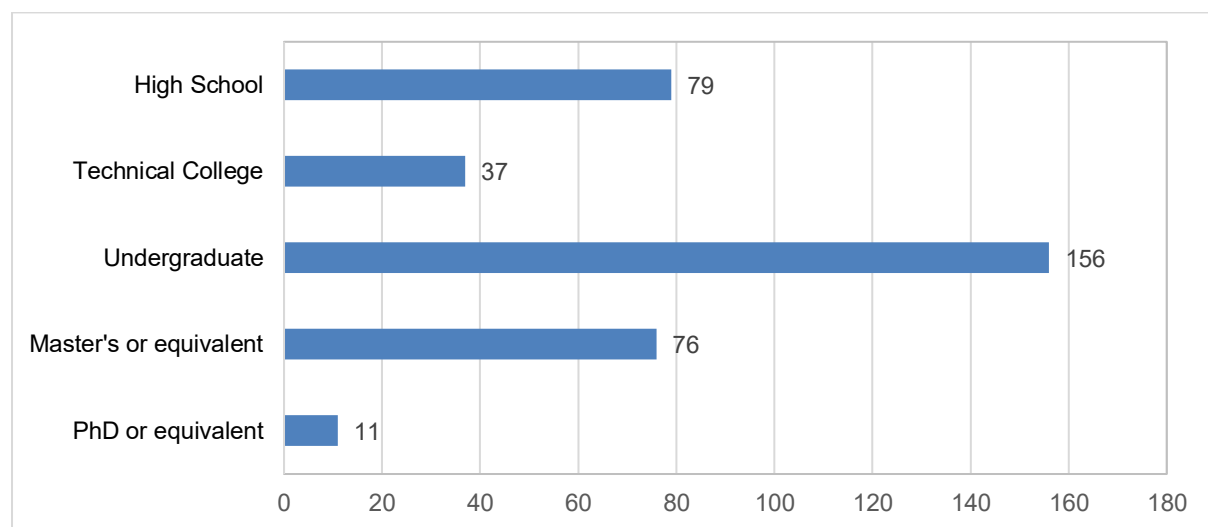


This yielded an almost perfect 50-50 split between women and men responding to the survey, with very small numbers of respondents identifying as non-binary, genderqueer, or genderfluid. This is a valuable finding because it again demonstrates something of a conflict or tension between generally accepted gambling demographics, and those we find on live streaming sites. The relationship between gambling and gender is complex and at best provides only a “semi-predictive heuristic” for gambling patterns (LaPlante et al., 2006), but studies have found overall that men gamble substantially more than women, but games of pure chance such as slots seem to appeal to women gamblers more (VRGF, 2014). It is therefore interesting to see here some combination of Twitch’s gender demographics – around two thirds men – running up against gambling demographics – primarily men – and slots demographics (the primary form of gambling stream) – mostly women – and come out at an almost exact gender balance.

This piece of our survey data demonstrates that the demographics watching gambling live streams are both more complex than general live stream viewer demographics, and gambling demographics, and slot player demographics – we instead see an amalgam of all three. This content appears to be appealing to women and men equally, with fewer men than women on Twitch being attracted to the content (given the site in general has more men), but potentially more men being attracted to this content than to actual slots play, if studies suggesting a greater female demographic towards that kind of gambling hold true. As with many of the foundational observations in this study, the precise gender dynamics here therefore merit further study.

Another survey question asked respondents about the highest level of formal education they have completed, which yielded these results:

Figure 3: What is the highest level of formal education you have completed?



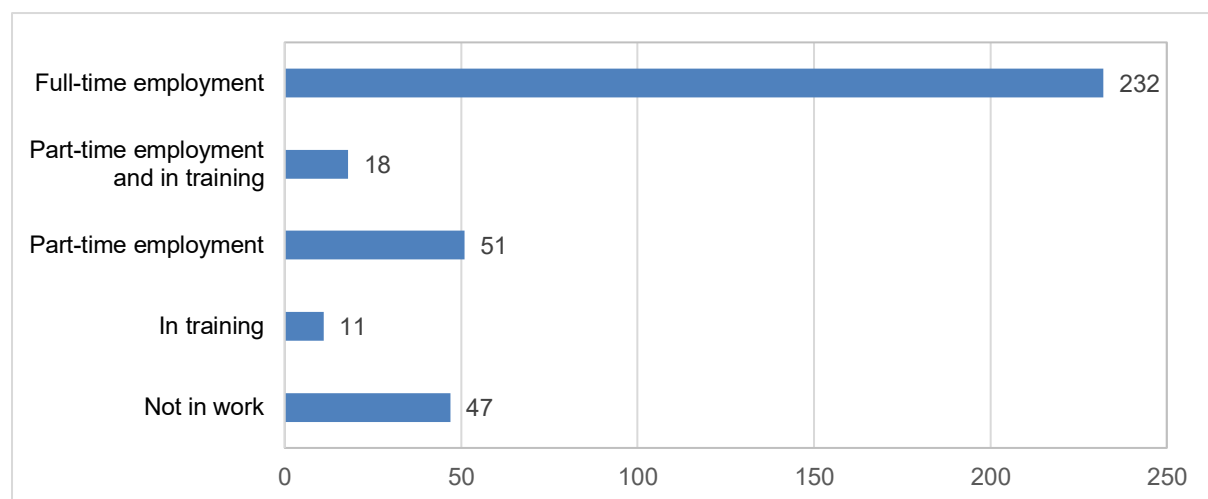
We see here a varied distribution of highest educational levels, with roughly the same number reporting high school completion as those who report having a Master's degree, and the majority having completed an undergraduate.. This is an interesting finding because although precise figures on the educational attainment of live stream *broadcasters* (rather than viewers) does not currently exist, initial research in this area suggests that many streamers have not been to university, and often transition into live streaming from a diverse range of pre-existing careers (Johnson & Woodcock, 2017). Data on the educational level of live stream *viewers* has not yet been gathered however, and so it is difficult to say whether these respondents are more or less formally educated than the live stream average, but the demographic reported here from the survey does appear to possess a higher level of formal education than the average live streamer, at the very least. As with so much of live streaming, despite extensive research in the past decade a great deal still remains unknown, but when we compare to the educational levels of problem gamblers, we generally find research agreeing that less educated individuals are more likely to experience disordered gambling practices (Calado & Griffiths, 2016).

With many such studies identifying especially individuals who have not been to any kind of higher education as being at particularly high risk, it is therefore noteworthy noting here that

most respondents here reported having an undergraduate degree, and a significant number of postgraduate degrees as well. This - especially when coupled with the data we show later about many irrational comments and observations being made in these streams - is perhaps surprising. There are many potential explanations for this, but further research - especially by interviewing gambling live stream viewers, for example - would be required to shed light on the tensions between some of these findings. Nevertheless, these findings will have implications both for our understanding of the extent to which viewers are being placed in danger of developing problem or disordered gambling as a result of these streams, and will also demand different sorts of interventions in the future – further complicated by the distinctive platform and gaming cultures of Twitch and Kick, and the anonymity of these sites making it challenging to reach out to individual viewers.

We also asked respondents about their current employment status, yielding the following findings:

Figure 4: What is your employment status?

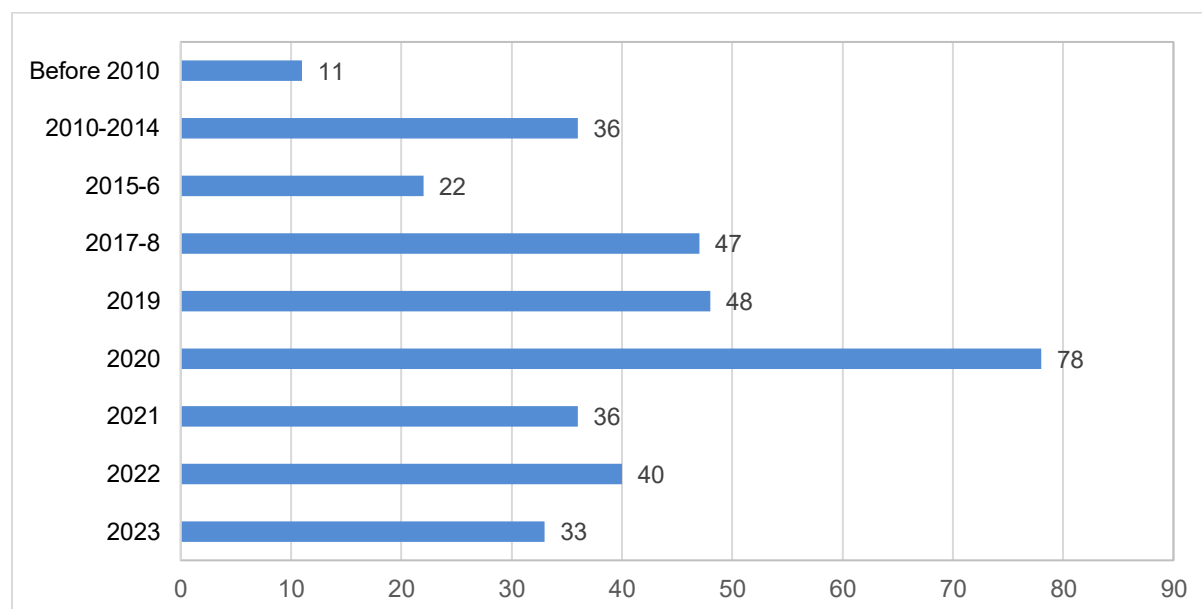


This is an interesting set of results in a number of ways. Firstly and most obviously, it appears that most viewers of gambling live stream content on Twitch and Kick, and beyond, are in full-time employment. As with the above survey result, it is difficult at present to say whether this is unusually high or low for live streaming, but when we compare against employment demographics of problem or disordered gamblers, more complete insights emerge. Research tends to show that being unemployed or in unstable or precarious employment is a strong indicator of the risk of developing disordered gambling (Hahmann et al., 2021), although as with gender dynamics, this is far from universal. Just as the age demographics of gambling live stream viewers trend younger than disordered gamblers as a whole, a similar observation can be made here, with the demographics of employment trending much more strongly towards full-time employment than would be the case in many other gambling-related demographics. This again demonstrates the importance of collecting this foundational data on gambling live stream viewers, and identifying contexts where this demographic differ significantly from other problem gambler groups. Future research in this area would do well to examine more fully the employment dynamics of Twitch and Kick viewers more broadly to offer a comparison point against these gambling live stream viewers, and to examine how these

demographics intersect with those who spend significant time on social media platforms, and those who engage with digital gaming.

We also asked respondents when they had first watched a gambling live stream, and this yielded the following:

Figure 5: When did you first watch a gambling live stream on a platform like Twitch or Kick?



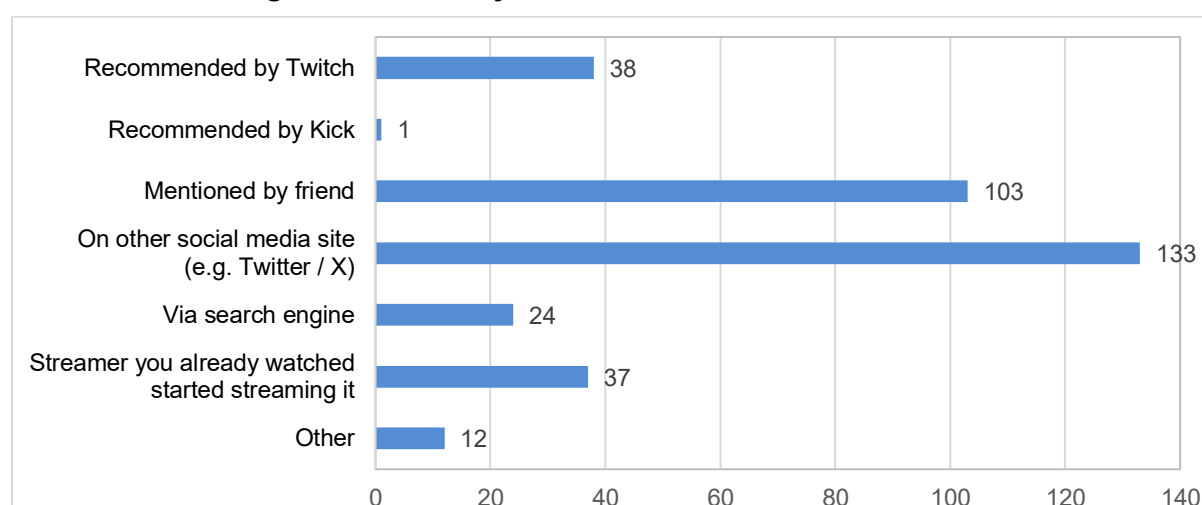
This finding demonstrates for the first time a peak of first discovering gambling live streams in 2020 – during the first initial and most deadly wave of the Covid-19 pandemic. It has been widely noted and observed that Twitch, and indeed other live streaming and internet sites, all saw a significant influx of viewers during that period (Leith & Gheen, 2022; Youngblood, 2022; Johnson, 2024), and this influx was in no way limited to those interested in gambling-related live streaming content. What this does show, however, is that gambling was not in the least immune to this influx of new viewers – potentially notable when we consider how many workers in this period, and the following years, found themselves out of work or with their working hours significantly reduced due to the challenges of the pandemic (see previous discussion of employment dynamics – this being data collected in early 2024, but without knowledge of whether viewers were employed when they first became viewers of gambling live streams). The number of people finding gambling streams anew appears to have now returned to roughly pre-pandemic levels, however, while still demonstrating a pretty consistent influx of new viewers with each year.

From this data we can reasonably suggest that the number of people finding gambling live streams for the first time each year does not seem to be growing, though nor does it seem to be trailing off – even after Twitch stepped in to reduce and regulate and limit the gambling live streaming content on its platform. This highlights two key points. Firstly, that the number of people who are currently watching gambling live streams, or at least have watched them at some point in the past, is continuing to rise as a total number, and hence this is indeed an area that deserves our attention. It also demonstrates that some of our respondents,

completing this survey in 2024, have been potentially watching gambling live streams for a full decade – demonstrating the importance of future longitudinal study to more closely examine and track this population, and their engagement with both gambling live streams and other gambling practices. It is also in line with extensive scholarship showing how dedicated and committed viewers can become to live streaming channels they enjoy (e.g. Wohn & Freeman, 2020; Jodén & Strandell, 2020; Lamerichs, 2021), and such long term enjoyment is not unusual elsewhere on Twitch or Kick.

The next question moved on from asking when viewers first engaged with gambling live stream content, to instead ask how they became aware of this content, and this result again yielded interesting findings:

Figure 6: How did you first come across this content?



There are several dynamics at play here that merit discussion. The first is the low number of people who said that streams had been recommended by live streaming sites like Twitch and Kick (especially Kick). Relatively few recommendations via Twitch itself is surprising, both given how popular and visible gambling live streams were on the site until recently, and how assiduously the site recommends (and indeed other streamers also recommend) to viewers other content that might be relevant. Even more surprising is the single respondent who said that Kick had recommended it, given how fully Kick is associated with gambling live streams, and the fact that such a large number of our survey respondents reported having watched gambling live streams on Kick. Indeed, this is such a minuscule proportion that it suggests a number of possible interpretations – possibly all those currently watching on Kick became familiar with gambling live streams via Twitch, which seems not unlikely, or that they were not aware of gambling live streams before Kick’s launch, but became aware of it through other means. This shows the importance of treating different platform ecosystems as indeed being distinct, and hence being able to pin down and identify different paths towards gambling content which both should be studied, and could be potential sites of intervention.

Both these pieces of data do also suggest that gambling content is comparatively rarely being recommended to people – even on the site strongly associated with it – and that potential viewers are becoming aware of it through other processes. Although not as effective as age gating, this does tell us that the live streaming sites are generally not actively promoting the

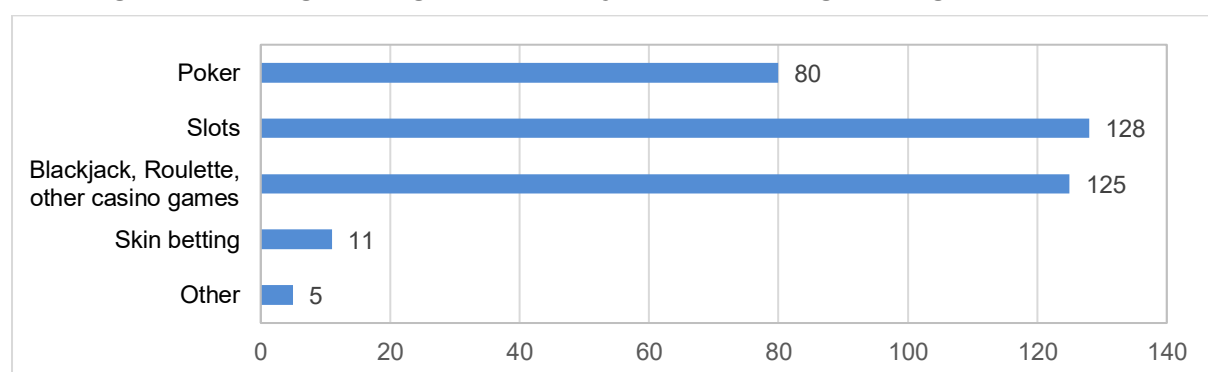
content, even while they take a hands-off approach to its control and moderation. It is also worth noting that some respondents stated they became aware of gambling streams when a streamer they already watched transitioned into broadcasting gambling live streams instead of, or perhaps as well as, their other content (probably gaming). This was a contentious point in recent years on Twitch and demonstrates that gambling streams can come to viewers unexpectedly – when a beloved streamer starts broadcasting them – rather than the other way around.

What is most intriguing from this result, however, are the other two findings – that many are discovering gambling streams through recommendations from friends, while the largest number are discovering gambling streams through *other* sites, i.e. not Twitch or Kick themselves. In the first case, this demonstrates a fundamental role being played by word-of-mouth in gambling live streams, which would deserve closer study in future research. We do not yet know whether this word-of-mouth is coming from offline friends, online friends, a mix of both, and/or the extent to which those friends are engaged with gambling live streams themselves, or simply aware of the phenomenon and recommending it to someone else. These friends also could be gamers, gamblers, or both, and this exact information will be important for understanding the spread of knowledge both about the mere fact gambling streams exist, and presumably the presence of recommendations that these streams are something a new viewer might enjoy. We need to examine and identify these informal flows of information about gambling live streams, as these will be important and relevant to any potential future interventions.

In turn, the role of other sites beyond Twitch and Kick becomes important here, as it has elsewhere in this study. It is clear that while the live streaming of gambling might be primarily associated with these sites, it is being discussed, shared, and highlighted on other platforms, even those with no dedicated live streaming facility, such as Twitter. As with the above point, this highlights the importance for future research to expand its scope beyond Twitch and Kick to instead address far more major internet platforms, with the goal of pinning down the flow of ideas and recommendations that cut across single sites, especially in an era where so many “content creators” and influencers – such as live streaming – ply their trade in cross-platform ways.

Our next question asked what kind of gambling content viewers first saw when they became aware of gambling live streams:

Figure 7: What gambling content did you first see in gambling live streams?

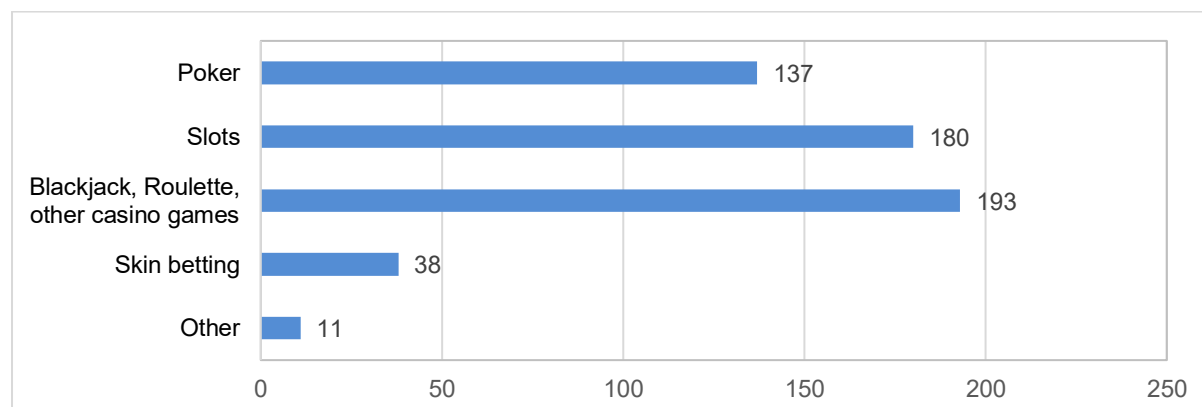


These findings are important for several reasons. Firstly, we noted in our examination of the news stories gathered for this project that most of the public discourse, coverage, and discussion around gambling live streams is focused on slots streams. These sorts of streams are also by far the most common type of gambling live stream, and although securing exact figures on this is difficult, there were only a little over a dozen blackjack, roulette, or other casino game streams in the streams long-listed for consideration as part of our observational sample, as opposed to most of the broadcasts being slot streams, or to a lesser extent, poker streams. This therefore tells us that although slots streams dominate the discourse and discussion, streams showing casino games, as well as poker, are vital parts of the gambling live stream ecosystem - and indeed between them might represent potentially more interest than there is in slot streams specifically. They therefore must not be overlooked, and this finding exists in tension with the new stories finding which highlighted the overwhelming focus on slot streams rather than other kinds of gambling - further awareness raising and public engagement is therefore required here.

This also suggests that closer attention to these sorts of streams should be paid in future research, and we acknowledge that a slots focus did exist in our preparation for this project. It is possible that these other sorts of gambling stream are for some reason moving “beneath the radar” despite potentially being significant in number; or that a small number of highly successful streamers are pursuing these games, whilst a larger number of less successful or visible streamers are pursuing slots and poker; or that these games are very popular on other sites but less so on Twitch and Kick, given that a large portion of our sample reported viewing gambling live stream broadcasts from beyond these two platforms. With the currently available data we cannot assert which of these hypotheses – if any – is correct, but it draws attention to the need to study this kind of gambling live stream, and not to focus solely on slots broadcasters. Poker, of course, due to the skill element, complicates all of our data, and it seems not unreasonable that different viewers might be watching it compared to the other gambling games – but again, more information will be required to confirm this possibility.

The next question moved on from asking what sort of content respondents had first seen in gambling live streams, to instead asking what sort of content they *now* watched. This yielded the following results:

Figure 8: What gambling content do you now typically watch in gambling live streams? (Multiple choice)

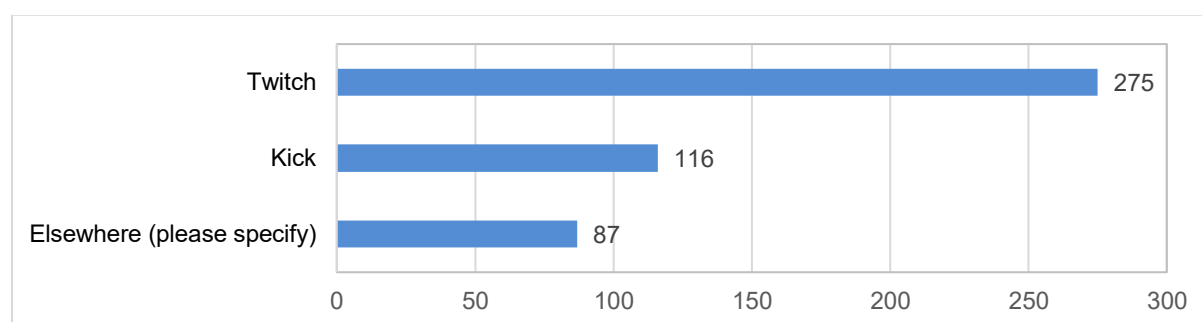


This chart is overall similar to the previous one, although we actually here see blackjack, roulette and other casino games pulling a little ahead – although not to a significant degree – and skin betting also having a larger presence, although again, not to any significant degree. Without an even larger sample it is difficult to confirm whether we are indeed here seeing an actual shift in gambling content watched over time away from slots and poker broadcasts and towards casino games and skin betting, or whether this is a statistical quirk of the data collected. Nevertheless, this chart is sufficiently close to the previous one to show that if some gambling live stream viewers *do* indeed experience or pursue such a transition in the content being watched, it is not many, suggesting that most gambling live stream viewers are likely sticking to what they first watch – slots, poker, roulette, or whatever else it might be.

Outside of the gambling context, live streaming research including my own has consistently demonstrated that viewers of live streams on Twitch and elsewhere can often exhibit and demonstrate striking degrees of loyalty to their broadcasters (Speed et al., 2023; Johnson, 2024), and tend to stick to forms of content with which they feel comfortable and familiar. Yet, other research (Jackson, 2023) shows that a live streamer who has become popular for one specific thing will often lose views, sometimes quite sharply, when they transition into something else. This data suggests that streamers who pursue a certain kind of gambling content are likely not transitioning into other kinds of gambling content very often. Again, further study of gambling live streams to identify whether particular broadcasters shift between multiple forms, or – as our data implies – stick with one form, is required, as this will have implications for our understanding of the phenomenon and addressing any relationships here to problem gambling in the future.

Next, our survey asked what sites respondents watch gambling live streams on, and respondents answered as followed:

Figure 9: Where do you watch / have you watched gambling live streams? (Multiple choice)



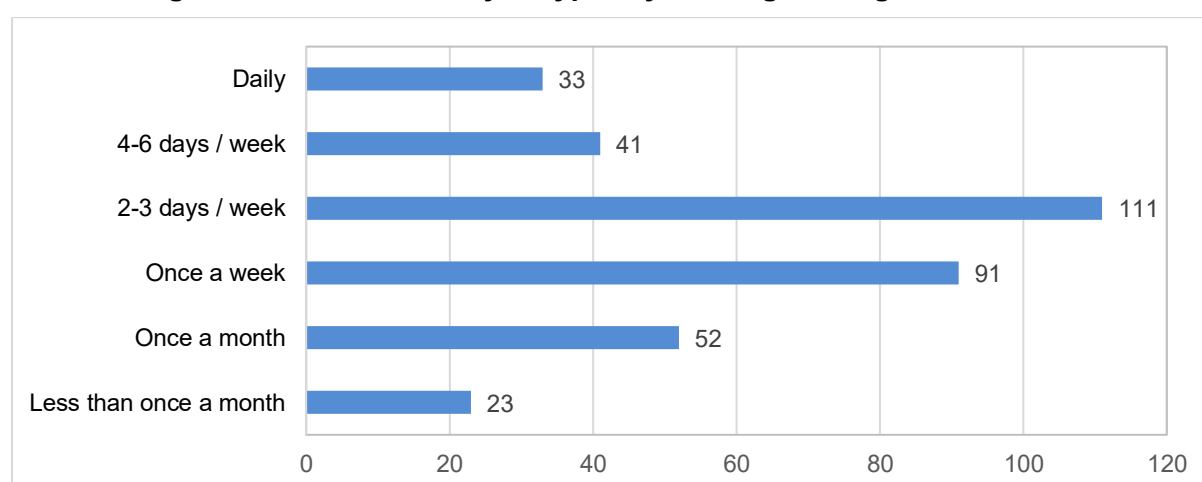
This was a surprising response, because although the research was not entered into with specific hypotheses presented, given the newness and novelty of the domain, we anticipated the overwhelming majority answering Twitch or Kick, and only a handful at most reporting other sites. Instead, around a fifth of respondents said that they watched gambling live streams on sites other than Twitch and Kick – and this is an important finding. Gambling live streams are predominantly associated with Twitch, and during the progression of the research project, became particularly associated with Kick as well (this is demonstrated also in our news analysis). As noted elsewhere in this report, many gambling live streamers on Twitch

specifically transitioned into broadcasting their content on Kick because Twitch cracked down on gambling live streams and imposed a number of restrictions and rules which had to be followed if the content was to continue being broadcast there.

Both in researcher awareness, and in the public eye, little data has emerged suggesting large communities of gambling live stream watchers outside of Twitch and Kick, and yet this data demonstrates that, in fact, a lot of this content *is* being broadcast and watch outside these sites. In the comments that respondents left to note which sites they were viewing this content on, respondents listed YouTube and TikTok as the most common other sites where gambling live stream content was being consumed. This is an important finding because it brings to the fore, for the first time, entire platform and communities forming around gambling live streams which have not really been identified by researchers, let alone been studied, to date. This again highlights the importance of a greater number of platforms to be studied in future research on gambling live streaming, and the growth of online gambling video content more broadly.

Next, we asked how often respondents watched gambling live streams, with the goal of getting a sense of how regular this form of digital media consumption was in their lives. The data was as follows:

Figure 10: How often do you typically watch gambling live streams?



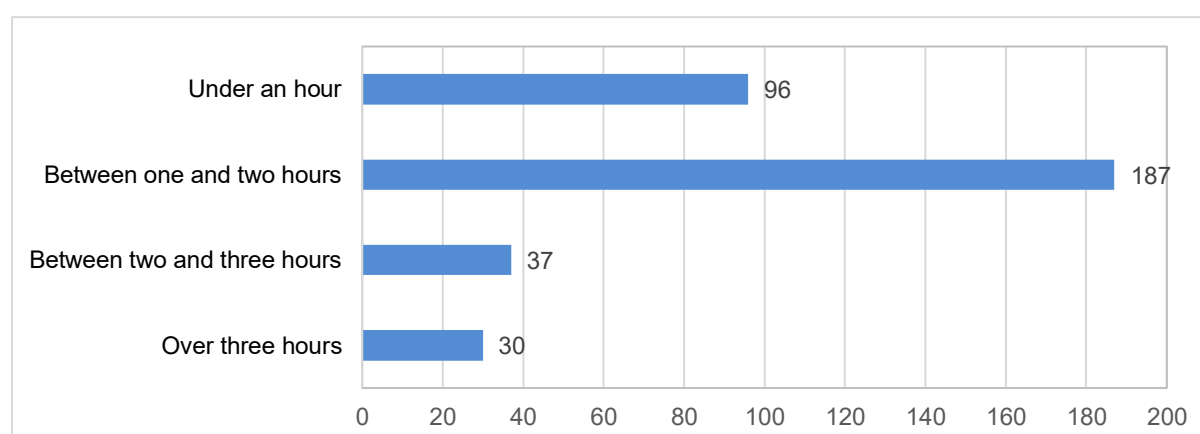
The most commonly reported regularity of gambling live stream viewing was thus between two and three days a week. As with so many other findings, the relative paucity of existing live streaming research in general makes it more difficult to draw comparisons, but this is a fairly routine amount of time for someone to watch live streams in a given week. As noted previously, the degree of engagement or focus that viewers have with particular streamers or channels can vary significantly, and much of this is contingent on the broadcasting schedules of the streamer or streamers who they watch – some streamers broadcast every day, but this is rare, and most streamers broadcast a few days a week. Given that Twitch and Kick viewers often form strong emotional and affective bonds with their streamers (Taylor, 2018; Woodcock & Johnson, 2019; Ruberg & Lark, 2021; Chae & Lee, 2022; Jodén & Strandell, 2022; Johnson, 2024), a two or three days a week viewing pattern is not unsurprising.

Daily viewing, however, would seem to suggest multiple gambling live streamers are being watched, since it is unlikely that a single broadcaster will actually be streaming every day – although we cannot confirm this, and it is possible that gambling live streamers *do* broadcast more often than their average gaming counterparts. By contrast, the “once a week” and “once a month” results point us towards viewers who are not watching every broadcast even of their favourite streamer or streamers, but rather tune into gambling broadcasts on a far less basis. Again, this is key foundational information about the variability in gambling live stream engagement, and points towards numerous future research paths.

Nevertheless, given that most respondents said they watched gambling live streams at least once a week, we can see that gambling live streams have emerged as an important part of these users’ online media consumption patterns. This has significant implications for demonstrating the importance of understanding gambling livestreams – and gambling video content on the web more generally – because these are consequently not, for most who are viewing them, niche or unusual activities. Foremost it appears from this data that gambling live streams have become well integrated into many viewers’ standard daily, weekly, and monthly online routines. This degree of normalisation might be something to be concerned about, with the everydayness of these streams potentially lending a familiarity and comfort to the idea of real-money gambling, and potentially for significant stakes. Further research in this area should address the relationship between gambling live stream content and other sorts of online content consumed by viewers each week, as well as to generate comparisons between the normalisation of gambling live streams, and the normalisation that problem and disordered gamblers experience vis-à-vis the act of gambling itself. While the data here does not inherently support a “slippery slope” type hypothesis, this nevertheless remains a possibility, and with how often gambling live stream viewers are watching this content, such questions deserve attention.

Next, we asked how long a single viewing session of such a broadcast would normally last for a viewer:

Figure 11: When you watch a gambling live stream, how long do you normally watch for?

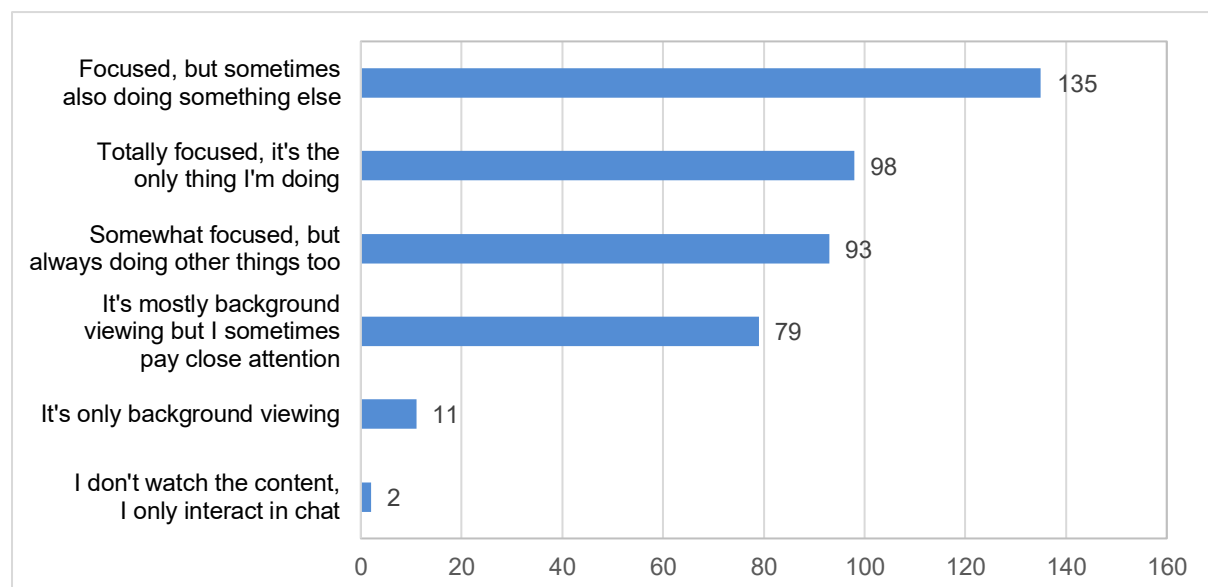


Between one and two hours emerged here as the clearly dominant length of time that respondents are spending watching gambling live streams, with a smaller number of

respondents watching for around or under an hour on average, and smaller numbers watching for two to three hours, and few watching over three hours. This is an interesting finding as many live streamers broadcast for much longer blocks of time than these in one go, often five or six hours, and our data on the initially-tracked channels showed that these gambling stream broadcasters were live for an average of around four hours in each broadcast. This means that unlike many other live streamers – who can count on many viewers being present for an entire stream – it appears, from this data, that a given viewer watching all of a gambling live stream might be a comparatively rare occurrence. This might suggest a number of possible insights – for example, perhaps viewers’ degree of affective and emotional connections here are lower than in other kinds of live streamers? Or perhaps viewers belong to demographics with less free time than other live stream viewers? This data cannot resolve these inquiries, but can point us towards key questions that should concern us in the future as further study of gambling live streams is undertaken. The survey data, as well as our other findings, all highlight complex mixes of confirmations of – and challenges to – the research orthodoxies regarding live streaming, and thus further study is required to fully unravel the phenomenon.

Next, we asked respondents how much they focused on the streams they watched, and got the following responses, which are of note in their own right but also further contextualise the findings described above:

Figure 12: When you watch, how focused are you on the stream? (Multiple choice)



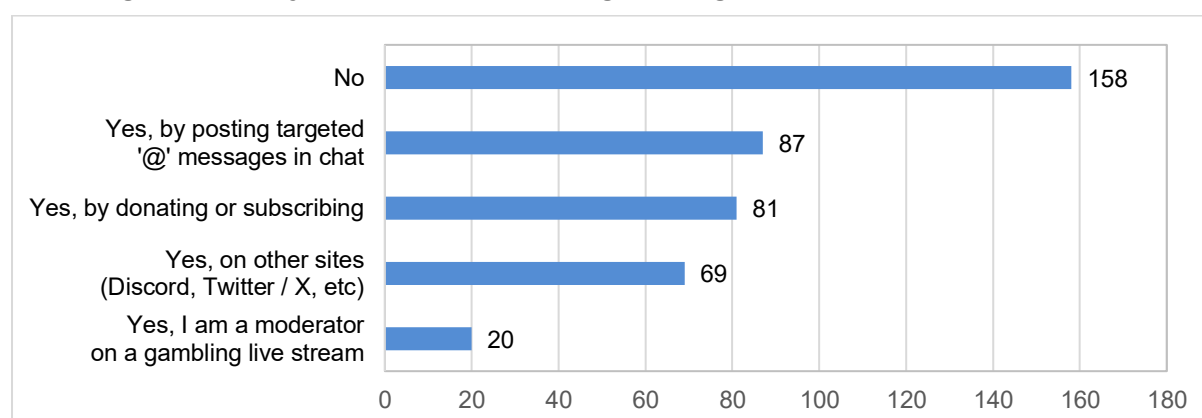
This question was informed by a substantial amount of scholarship on live streaming, including my own, which has demonstrated a wide range of different engagement levels that viewers have with live streams (Hamilton et al., 2014; Recktenwald, 2017; Ford et al., 2017; Woodcock & Johnson, 2019; Nematzadeh et al., 2019; Flores-Saviaga et al., 2019; Carter & Egliston, 2021; Orme, 2022; Johnson, 2024; etc). At the “upper” end of attention are viewers who are as focused on a live stream broadcast as they might be on watching a gripping television drama or a film in the cinema – they might be eating at the same time or occasionally chat to someone in the same room, but aside from that their sole focus is on the content being broadcast. They are not checking social media or doing work with the stream broadcasting in the background, as ambient noise. At the “lower” end of attention – although I of course imply

no hierarchy here, as all forms of engagement with live stream are equally valid – are people who have a live stream on only as background noise, similar to having the television on all day to provide the same function, and are only really paying complete attention – if ever – when something noteworthy, unusual, or especially exciting or compelling takes place. This was a very important question to ask and to understand when addressing ourselves to gambling live streams, as it is not unreasonable to suggest that the level of engagement with gambling live stream content might have some correlative relationship to levels of engagement with real-money gambling on the parts of the viewers – although what specifically that relationship might be will require further study.

As such, in response to this question we found a wide range of responses across all “levels” of viewing focus, although the fact it is only background viewing for a very small number is notable. Precise statistics and figures on this background-only viewing demographic are not readily available, but in scholarship this is generally presented as a quite substantial number of Twitch viewers, who are often defined as “lurkers” who also rarely participate in the “Twitch chat”. This suggests that in gambling live streamers we might be seeing a higher-than-average level of attention being paid to the stream compared to other forms of broadcast, and this could be an important finding if confirmed in future enquiries. It has already been established that close attention paid to game live streams can have a significant influence and impact on the purchasing patterns of viewers, for example (Johnson & Woodcock, 2019b) and given the other survey results asserting that many viewers consider themselves now more likely to gamble having watched these broadcasts, the degree of close attention being paid might be important to consider. However, given the nature of sites like Twitch and Kick, it is also possible that this close attention only translates into stream engagement, rather than starting to gamble oneself.

It is in this vein that we asked our next question about how viewers interact with streamers, if at all, during gambling live streams:

Figure 13: Do you ever interact with gambling streamers? (Multiple choice)



This data has a clear result – although “No” was the largest response, the sum total of all the “Yes” responses exceeds it, suggesting around two fifths of gambling live stream viewers are not interacting with streams, while around three fifths are interacting actively with the broadcast content they watch. We also note that the three main forms of interaction with live streams – giving the streamer money, talking directly to the streamer via the chat window, and

interacting with streamers on other social media and networking websites - were all around even, with none of these interactive forms dominating over others.

Each of these tells us something about gambling live stream viewers. The fact that around eighty of our respondents report giving money to gambling live streaming is extremely noteworthy, given the stakes that many of these individuals are playing at, and existing scholarship that demonstrates the financial cost of being a gambling *player* (cf. Vandall, 2008; Parke & Parke, 2013; Koomson et al., 2022) – here we see for the first time the financial cost of simply being a fan of *other* gamblers – and the fact that live streaming research shows the ability for financial connection to foster affective and emotional connection, and hence connect viewers more fully to the streamers they watch (Siutla, 2018; Wohn et al., 2018; Johnson & Woodcock, 2019a; Wohn et al., 2019). Although much of this research has focused on viewers – especially given the difficulties in securing interview data, as described elsewhere in this report – it is interesting to consider what effect this has on *streamers* who find their gambling being financially supported by viewers who enjoy watching their gambling play. It is again very important to try to find ways to interview and explore the lives and thoughts of the streamers themselves, and to combine these findings with our growing understandings of viewers. This monetary exchange is highly unusual in gambling contexts, and needs to be more fully understood.

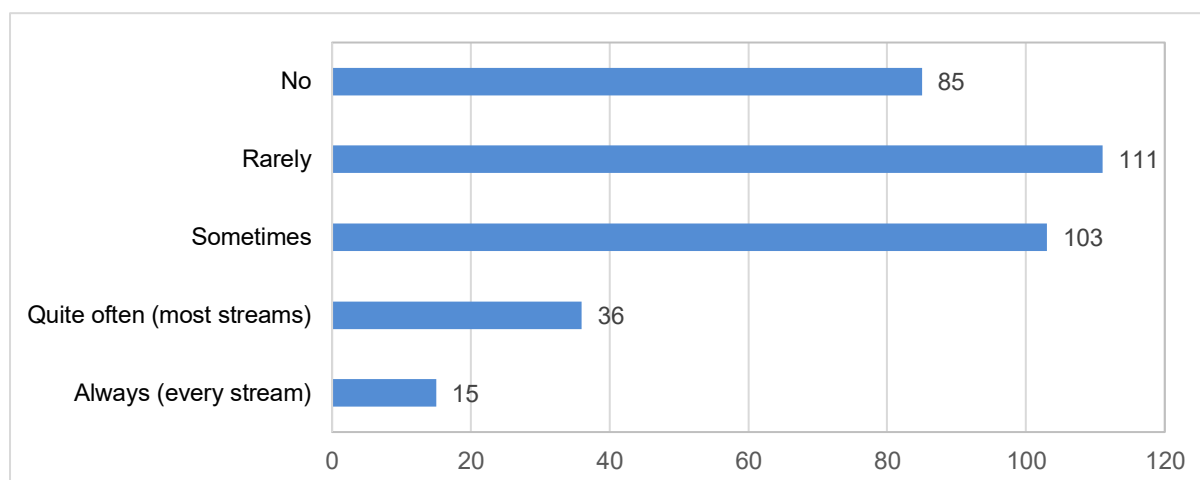
Equally, the other two main “Yes” responses are worthy of attention. With again around eighty respondents saying that they would actively communicate with a gambling live streamer by targeting messages towards them in the Twitch chat functionality, we see the influencer and affective dimensions of live streaming (e.g. Woodcock & Johnson, 2021; Alvarado & Arbaiza, 2022; Sixto-García & Losada-Fernández, 2023; Johnson, 2024) also manifesting strongly in the gambling live stream context. Live streams can be comfortably enjoyed without any direct interaction, but here we see around a full quarter of our respondents stating that they use Twitch’s chat functionality to interact with streamers. As I have argued in a recent work (Johnson, 2024) one of the powers of live streaming is its ability to compress the online “celebrity” and the online “friend” into one and the same person, and the direct interaction is an important component of this.

What these conversations consist of, and what impact this might have on viewers’ interests in gambling, are therefore key topics for further study. As the chat analysis section of this report shows, there are numerous novel dynamics manifesting here which are *not* otherwise present in non-gambling live streams. In turn, the discussion between gambling live stream viewers and broadcasters on sites other than the actual live streaming sites in question is interesting to consider, and a theme which emerges at several points in this data set. It is increasingly clear that although the live streams may well be the central hub of attention, a full addressing of the wider social media ecosystem in which these streamers and viewers move is vital for understanding what effects these streams – and their streamers, and the communities which coalesce around them – have on viewers, and their inclination to gamble or interest in gambling more broadly. The reach of gambling live streams extends far beyond live streaming sites themselves, and this needs to be addressed and understood.

Our next question moved on these questions about viewing of streams and the extent to which this gambling content is in the foreground of background of viewers’ minds and attentions, and whether or not gambling live stream viewers are using chat to interact with streamers, to asking

the logical next question about their chat engagement. This question yielded the following results:

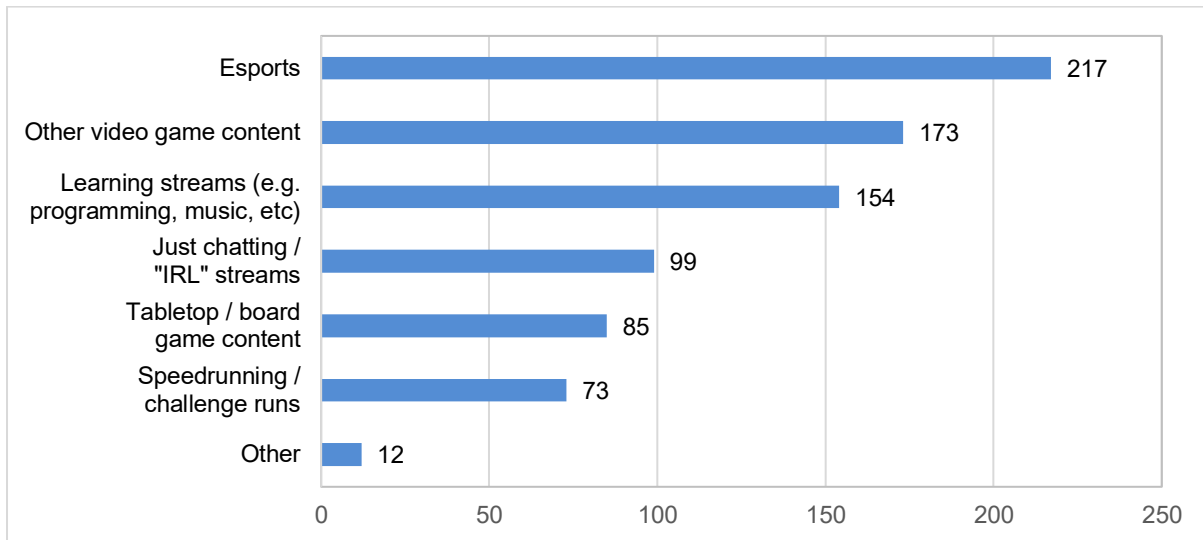
Figure 14: Do you ever chat in gambling live streams?



We see here a relatively even distribution of the first three answers, with a far smaller number of people reporting that they are always and often using the chat function in gambling live streams. As a reminder, the chat function is generally primarily used – especially in larger channels – for viewers to talk to other *viewers*, rather than to the streamer, who is often too focused on the stream content and too inundated with messages to respond to everything (Recktenwald, 2017; Nematzadeh et al., 2019; Johnson, 2024). With only around a quarter of our respondents reporting in the previous question that they use the chat function to talk to the streamer, the majority of respondents here will be discussing its use to speak with other viewers, or simply to cheer or pass transient comments on the goings-on in a channel, in a manner that is notably akin to a sports stadium or other major crowd-based event (Bulygin et al., 2019; Flores-Saviaga et al., 2019). This distribution of responses is largely in keeping with what we would likely expect from a larger and more general non-gambling-specific demographic of live stream viewers. Many viewers lurk and keep their interests in the stream private; there are a small number of very active chatters who regularly and routinely engage with the live streamer and the rest of their chat window; and many others are somewhere in the middle between these two extremes. In this regard the statistics here are largely what we would expect for non-gambling live streams, again demonstrating that while many aspects of these survey findings are distinctive and surprising, others demonstrate how well-integrated into broader live streaming practices gambling live streaming has become.

Next we asked respondents what other sorts of live stream channels they watch on live streaming sites:

Figure 15: What other, if any, live streams do you watch? (Multiple choice)

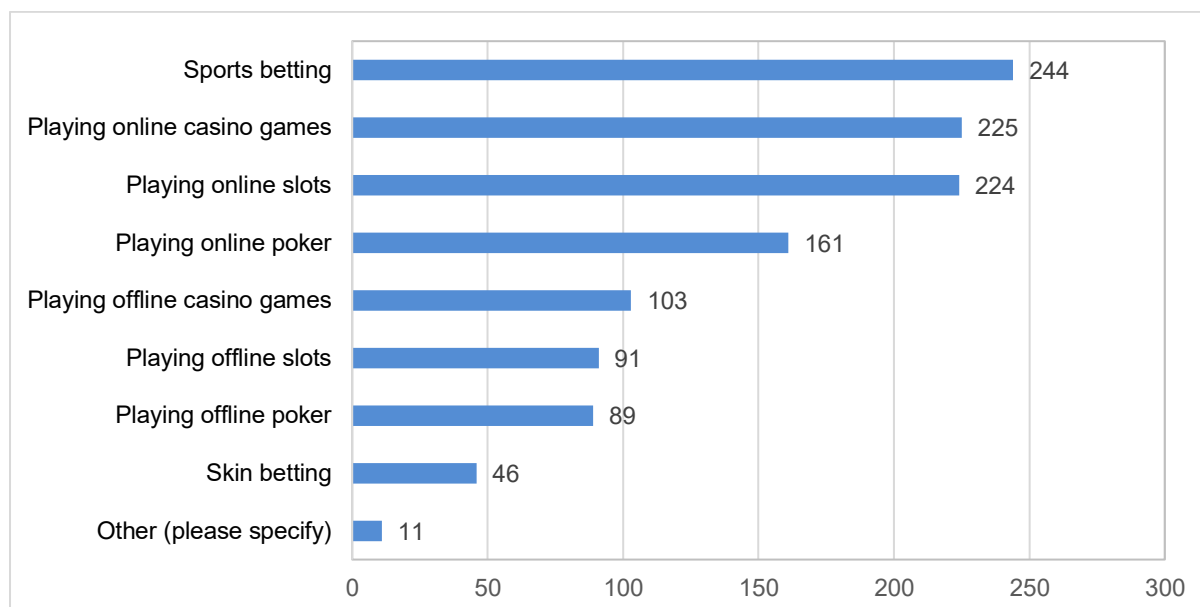


This survey result demonstrates a broad range of different responses, with “esports” – the competitive and often professionalised play of digital games (Taylor, 2012; Jenny et al., 2017; Cranmer et al., 2021) – standing out as being more commonly watched than the others. This is noteworthy given that viewers who specifically said they watched skin betting streams were few in number, even though skin betting actually represents the closest and most obvious connection between esports and gambling. This is an unexpected pair of findings and one that deserves closer attention, but other responses here are also important to consider. A surprisingly large number of respondents said they watched “speedrunning” (completing a game as quickly as possible) and “challenge run” (beating a game made harder than it is intended to be) live stream content, but this is perhaps surprising as these are both comparatively niche, and highly *skilled*, forms of digital gameplay – as opposed to the pure luck elements of casino games and (virtual) slot machines. The overall demographic of people who spend time on Twitch will not be watching speedruns and challenge runs to such a high degree, given what a small portion of Twitch’s (and Kick’s) overall content these forms of play represent. Tabletop games and board games also register here in this question at a level of interest likely higher than a Twitch average.

What also comes through strongly here – perhaps unusually so – is the presence of “learning streams”. Again, these are a well-known part of the overall Twitch and Kick (and elsewhere) live streaming ecosystem(s), with almost half of our respondents asserting that they watched such channels. This is, again, an unusually high number, and is worth considering alongside other survey data where respondents asserted an interest in *learning about gambling* from watching gambling related channels. Extensive research has, of course, demonstrated the often inaccurate thought processes of disordered gamblers in terms of identifying luck and skill (Walker, 1992; Delfabbro & Winefeld, 2000; Joukhador et al., 2003; Armstrong et al., 2020), and so in further research it will be vital to understand the psychological orientations of these gambling live stream viewers vis-à-vis knowledge and learning more broadly.

Next, we asked what experiences respondents had with gambling, and got the following results:

**Figure 16: What experiences, if any, have you had of gambling with your own money?
(Multiple choice)**

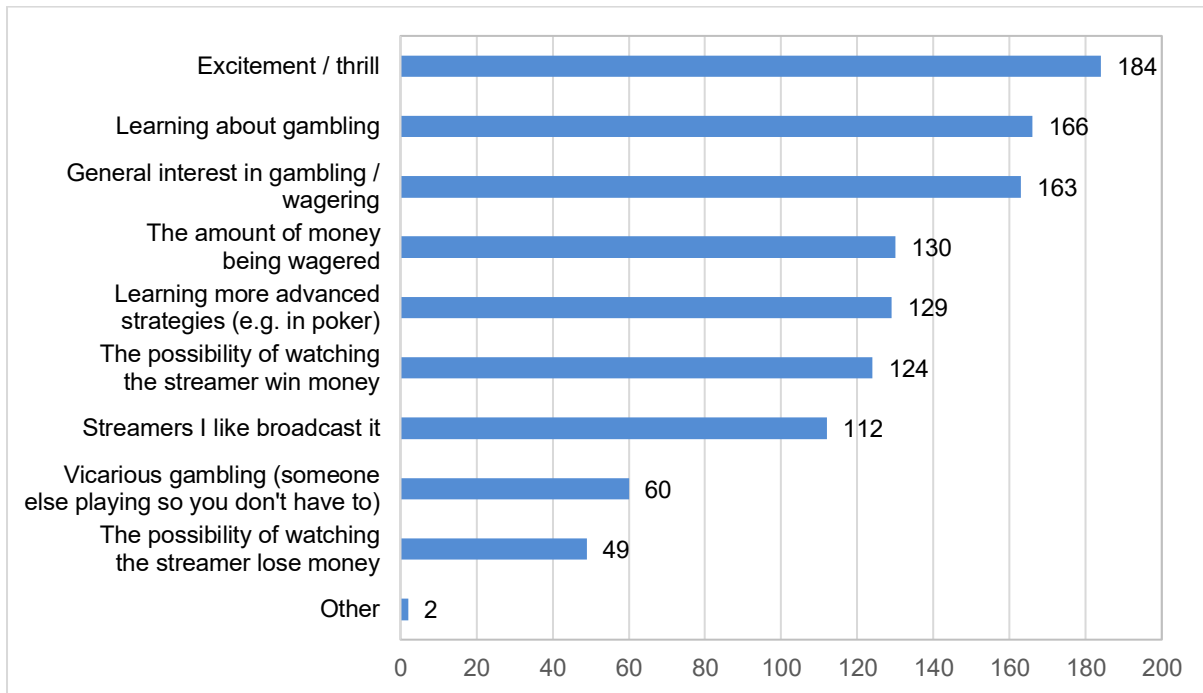


This is an important question that will lay the foundation for future work in this area. Here we see a diverse range of responses (and most respondents ticking at least one), demonstrating that gambling live stream viewers are not only engaging in their own lives with single forms of gambling, but that multiple different types are present. Many respondents said that they had experienced playing of online poker, as well as online slots, online casino games other than slots, and skin betting as well – although this was a smaller number. Once again we note how uncommon skin betting is here, despite the strong response about watching esports streams – this is a surprising result and a clear direction for future study. Sports betting was the most common response here, which is interesting given that there are no gambling streams, as far as I am aware, which are focused on sports betting, while fewer responses were giving for gambling forms which *are* mirrored in gambling streams, such as poker, slots, casino games, and skin betting. The directional relationship here, however – are people moving to these gambling forms after watching related streams, or becoming intrigued by related streams due to their play of these gambling forms – requires further study.

Equally, it is worth noting that around a quarter of respondents said each that they had played offline poker, offline slots, and offline casino games. This is one of the most telling findings which indicates – although further research will be required to confirm – that there might be multiple overlapping demographics at play here, as other research (Abarbanel & Johnson, 2019) has often that many gamers – Twitch’s and Kick’s main demographics – often know relatively little about offline gambling.

Next, we asked for viewer motivations:

Figure 17: Why do you watch gambling streams? (Multiple choice)



This is a rich vein of data which tells us much about the appeal and the interest of viewing gambling live streams. None of the hypotheses we presented to the respondents in this survey question were entirely rejected, with even the least compelling – “the possibility of watching the streamer lose money” – still bringing in almost fifty responses from viewers. That finding is interesting in itself, given how much viewers are normally emotionally engaged with and committed to Twitch streamers and presumably, in most cases, would *not* want them to suffer, but it is the others which yield the most important data. What we see here is that gambling live streams are, in fact, gratifying a large range of different viewing motivations. Many respondents said that streamers they liked were viewing gambling streams – it is known that many successful streamers who had previously broadcast other content shifted into gambling live stream content in recent years (Johnson, 2024) while others have emerged from nothing to stream only gambling content, and the strength of this survey response confirms, once again, the importance of that affective and emotional connection dimension to streamer-viewer interactions.

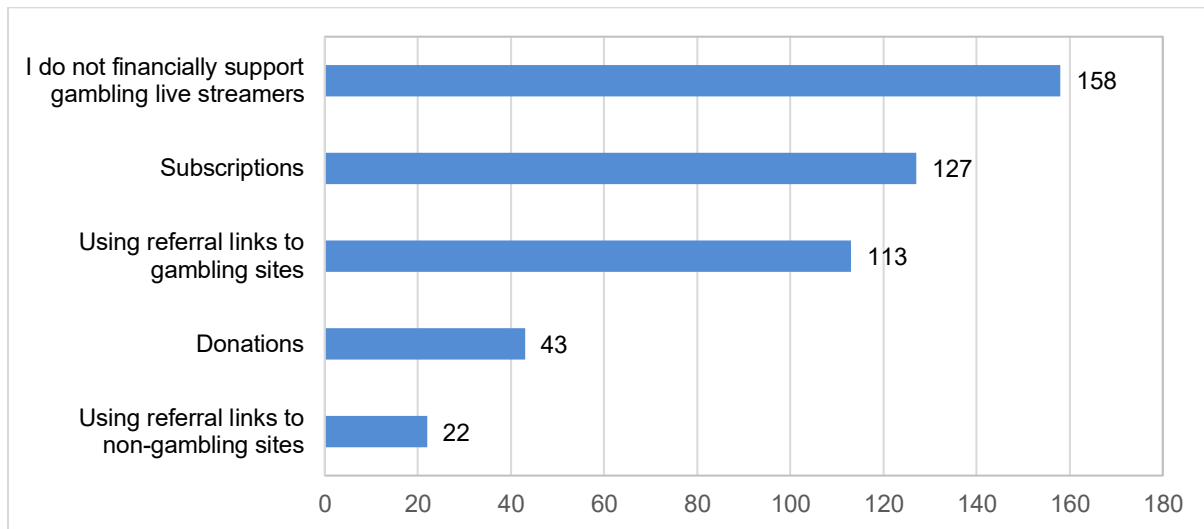
“Learning about gambling” also performs strongly (as noted above) and this is a key finding – almost half of our respondents said that they were watching gambling live streams to learn about gambling. This might mean one of three things, however, given the diversity of gambling broadcasts. If watching poker, respondents might here be talking about viewing skilled strategic play, and hence improving their own (this possibility overlaps with the next response, which in hindsight should have been differentiated more clearly); if watching skin betting, viewers might be learning about the technical side of how to engage in that form of real-money play; and if watching slots, viewers might be learning about specific sites or platforms, or *perceive* themselves to be learning *strategies* for slots play. As is always the case with foundational research, there is much here to be further unpicked in future study.

The other responses to this question are also illuminating. Over a third of our respondents reported that the amount of money being wagered was of importance in their viewing. While many gambling live streamers wager only single digits or double-digit amounts of US dollars or the equivalent in other currencies, some stream for vastly larger sums of money. Some of the most successful poker streamers can sometimes be watched broadcasting play for thousands, or even tens of thousands of dollars – and in extremely rare cases, hundreds of thousands of dollars – while some of the top slots players also appear to be wagering five- or six-digit total amounts on their virtual slots play. Connecting this to existing live streaming scholarship, we might reasonably propose that live stream viewers are ultimately highly attracted by the *intensity* of what is being broadcast on Twitch, Kick, or elsewhere. This might be the prize money and glory of an esports competition, the cutting humour and wit of a top “Just Chatting” streamer, the skills displayed by a speedrunner or the informed opinions displayed by a streamer who broadcasts many games – or the amount of money at stake in a gambling live stream.

When coupled with the celebrity and affective dimensions of live streaming (Johnson et al., 2019; Johnson, 2024), it is not hard to see why high-stakes gambling streams would be more compelling viewing than lower-stakes gambling streams, especially when viewers develop a sense of connection and interest in the streamer and their financial ups and downs. This is especially the case when so many online slots sites are specifically designed to boost this sense of excitement through animations, visual design, sound design, and so on (e.g. Dixon et al., 2014; Bramley & Gainsbury, 2015; Graydon et al., 2018; Spetch et al., 2020). Related to this are the survey findings here about the excitement of watching the streamer win or lose money – more viewers were excited by the prospect of the streamer winning money, which is unsurprising, but the respondents who acknowledged the excitement of monetary loss remain an intriguing point for future study, and the precise dynamics of vicarious pleasure taking place here. Indeed, some respondents did note a vicarious pleasure in watching play, which also merits further study – does this perhaps reduce the interest in playing themselves for *those* players, even while it boosts interest for most players? – and a general interest in gambling was also reported strongly.

Next, we asked whether these viewers chose to financially support the gambling live streamers they watched:

**Figure 18: Do you financially support gambling live streamers, and if so, how?
(Multiple choice)**



The first important thing to note here is that although the largest number of respondents said they did not financially support gambling live streamers, given that this was a multiple-choice question, more viewers said they did support through one or more means than the total number who did not. Nevertheless, this was close, with around forty percent of respondents saying they did not support gambling live streamers financially, and around sixty percent saying that they did. The methods of financial support varied. The largest numbers of responses for supporting gambling live streamers said they subscribed to these streamers – these are monthly payments in exchange for having a more prestigious position in that streamer’s community and chat window, and having access to special custom “emotes”, small graphical images with significant cultural value in Twitch (and Kick) streams (Recktenwald, 2017; Jackson, 2022; Johnson, 2024). It is unsurprising that this is also a significant driver for financial support of gambling live streamers, but it is important to have it confirmed – the fact that *money* is so much more deeply interwoven into gambling streams, even compared to other live broadcasts on sites where money plays a prominent role, makes all financial elements here especially important to interrogate. It is also unsurprising that many of the financial supporters give donations, but of very high importance here is the finding that around a third of respondents said they were following referral links to gambling sites.

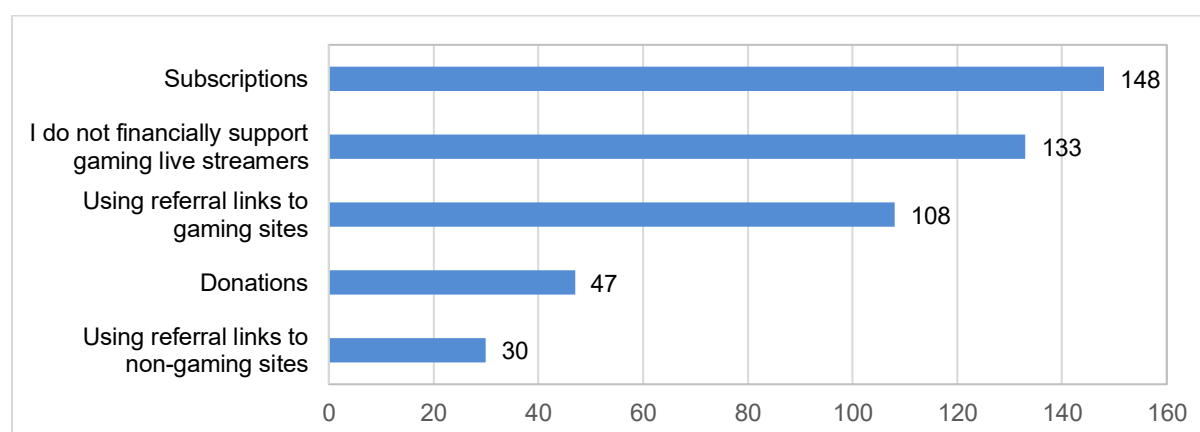
An important element of making money on Twitch is the use of “referral links”. These are hyperlinks or images in a streamer’s channel description which will take a viewer, when clicked on, to a shopping website or platform such as Amazon or Steam or Etsy. The viewer who has clicked on the link is then free to go about their shopping in the normal manner they otherwise would, but the streamer gets a very small amount of money in exchange for the viewer having gone to the site via their link, rather than simply going to it how one normally would. The idea from a platform’s point of view is that clicking on a referral link simply gets a viewer onto their site again - thereby upping the chance of other purchases being made that might not otherwise have happened - while the viewer gets to support the streamer, and the streamer gets a small amount of money back from the platform. These are not as ubiquitous and regular as donations and subscriptions in the broadcasts of most streamers, but do feature in the profiles of many channels on Twitch, certainly to the point where they are likewise seen as a familiar

and ordinary part of the platform. As noted earlier customization is essential to understanding Twitch and Kick channels, and these are another aspect of that ability to deploy such a range of features in one's channel.

The presence of *gambling* referral links is thus a key discovery of the survey data (and the stream observational and stream chat data discussed later), and more generally a key finding of this research project as a whole. These gambling-related referral links have recently been explicitly banned by Twitch, and indeed their presence was one of the main sources of recent controversy surrounding gambling live streams, which eventually prompted Twitch to take action and regulate the space a little more. Sponsorship of live streams and hyperlinks to sponsors are not unusual. Many gaming live streams are sponsored by particular companies or game development studios who pay the live streamer in exchange for them broadcasting their game, often something in-development or newly released (Johnson & Woodcock, 2019b, Parker & Perks, 2021). In other cases streamers can be sponsored by companies which sell products, and by clicking on a link in a streamer's profile, viewers are taken to another site on which they can either buy products at a discount (with the streamer getting a cut of the profits), or simply buy products at normal price, but the streamer gets a kick-back in exchange for hosting the link. These practices are generally accepted, although have not been without controversy in terms of the importance of disclosing these financial arrangements, but became far more problematic when we consider them within the gambling context. This finding shows that gambling live streams are indeed a conduit between viewers and gambling sites – and even if the motivation is supporting a live streamer one enjoys, viewers are nevertheless finding their way directly to gambling sites through such referral links.

Next, we compared these findings against this same set of respondents in terms of their financial support for gaming live streamers as opposed to gambling live streamers, finding the following:

Figure 19: Do you financially support gaming live streamers, and if so, how? (Multiple choice)

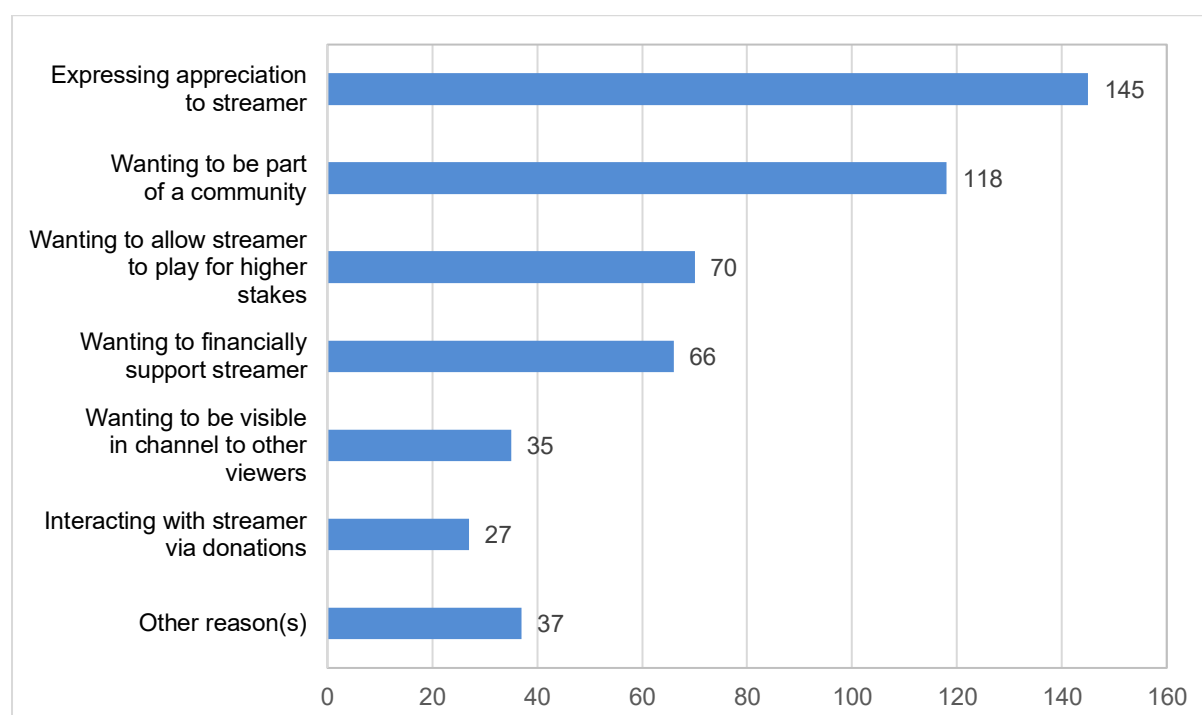


It is interesting that these findings are extremely similar to the above set. Several of the bars are slightly different, but they are in the same order of size and in roughly equal numbers. Fewer respondents said they did not support gaming live streamers compared to gambling live streamers, while more respondents said they were willing to subscribe to gaming live streamers than gambling live streamers – but only by a small margin. There were also slightly

fewer people reporting using sponsorship or referral links to gaming sites than gambling sites, but as most sponsorships for gaming live streamers are sponsorships to play a given game, rather than sponsorships to a gaming-related site where one can have money off a product or buy something to support the streamer, this is unsurprising. What we therefore see is that overall the dynamics of financial support on Twitch and Kick are highly consistent and regular across different sorts of streaming content, but that we must acknowledge a difference between financially supporting a non-gambling live streamer and financially supporting someone else to, essentially, continue gambling; and we must acknowledge a marked difference between the *nature* of these referral links across these different kinds of stream, even if the *regularity* with which they are clicked remains consistent.

Next, we asked why viewers financially supported gambling live streams:

Figure 20: If you do financially support gaming live streamers, what would you say are your main motivations?



This is also a key set of findings, with multiple aspects to address. Firstly, we see that the most common reason for giving financial support to gambling live streamers is the desire to express one's appreciation to the streamer. As with many of the other findings in this survey data, this is a common justification for giving money to live streamers in general (Scully-Blaker et al., 2017; Johnson & Woodcock, 2019b; Yoganathan et al., 2021; Johnson, 2024). The Twitch and Kick culture is such that although kind comments and positive feedback in the chat window is always appreciated by streamers – assuming that they are looking at chat often enough to see this feedback, and that the stream is not so large that they miss this feedback due to the volume of comments – the main way to say thanks to a live streamer for producing and broadcasting their content is to offer financial support.

This data once again shows that even if the implications of common live stream practices are different between gambling and non-gambling streamers, many of the core social and

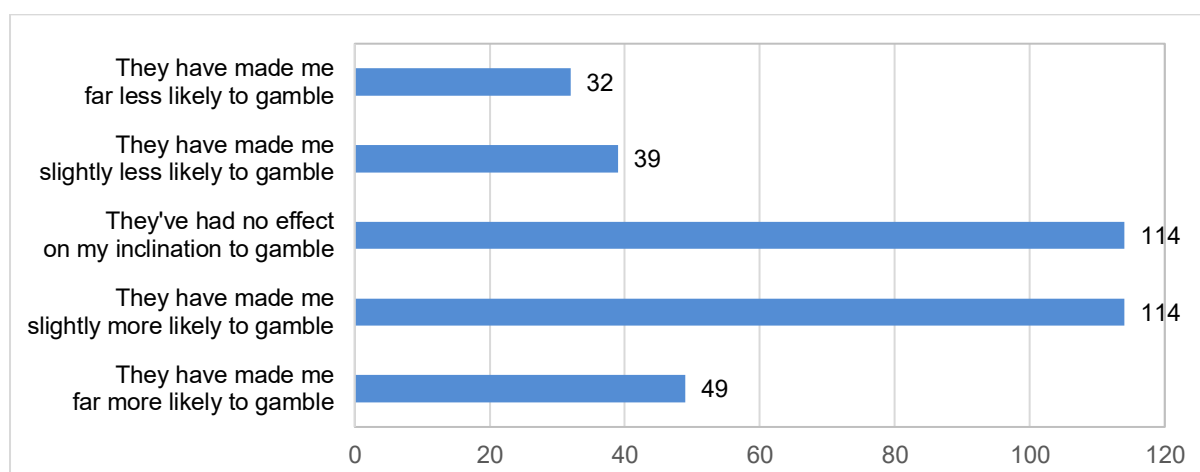
economic dynamics of the practise are fairly consistent. The second most common response was the desire to be part of a community. This is very common in life streams in general, but takes on a new consequence when we look at it in the gambling context. Different kinds of gambling are associated with different degrees of community engagement and community activity. Poker, for example, by virtue of both being a multiplayer game instead of solitary pursuit and having a long term cultural presence, is generally seen as quite a social and communal form of gambling play (Siler, 2010; Bjerg, 2010). By contrast, as scholars examining the “zone” of slots play (Schüll, 2005; 2012) have shown consistently, slots play is a highly individual and private form of gambling. Given that most gambling live streamers broadcast slots play, it is very interesting to note this strong desire for community engagement around a gambling form generally *not* known for it. Again this foundational research has identified key themes in a first understanding of gambling live streams, while also pointing towards many areas – including this one – with rich and valuable opportunities for closer future study.

The remaining responses to this question yielded fewer confirmations from respondents, but are still important to consider. For example, we noted the very close relationship in the number of respondents who said that they wanted to financially support a live streamer, and those who said that they wanted these streamers to be able to play gambling games for higher stakes. Once again we see complexities added here to ordinary parts of live streaming practices, now changed in the gambling context. Ordinarily financially supporting an aspirational or full-time live streamer means that one knows one’s money is going towards, in essence, paying their bills. Here however, the *nature of their content* involves spending money, which is highly distinct from what we see on most live streams – this then yields a potentially interesting-to-study relationship between wanting to support the streamer’s job, and wanting to give them money so that they can do that job at higher stakes, even if that money is then not going towards paying their bills.

As above, this tension is not really present in other live streams where the costs of doing business – broadcasting one’s content – are lower. Viewers are aware that streamers will sometimes spend the money they give them on buying you audiovisual equipment, new computer hardware, or paying artists to design animations and graphics for their channel, and things of this sort (Johnson & Baguley, Forthcoming). However, such investments in a stream are seen as valid things for a live streamer to use a viewers donation money on. Here, however, given that most gambling games being played are guaranteed long-term losers, we see new dynamics emerging. Wanting to be visible to other viewers, and wanting to be visible to the streamer, are also both very common motivations and interests for donations on Twitch and Kick.

Next, we asked a few question – whether respondents felt that watching gambling live streams had increased, or perhaps even decreased, their inclination to engage in gambling themselves. The findings were as follows:

Figure 21: Do you think watching gambling live streamers has changed your own inclination to gamble?



This is perhaps the most important set of results we got from the survey data. Until this point it has been unclear – due to a complete lack of information on the phenomenon and its viewers – whether gambling live streaming might be making viewers more or less likely to gamble. The obvious hypothesis suggested yes, it would indeed have that effect, and there were a number of reasons one might easily suggest – the ability to have the excitement of gambling without financial loss might encourage viewers to partake themselves, the influencer and online celebrity dimensions of live streaming making the practice look glamorous and enticing, and simply a broadened appeal of gambling to demographics, such as online gamers, who are not ordinarily exposed to gambling-related content or advertising - although this is gradually being changed as a result of shifting norms in esports advertising, for example, and the growing gambification of digital game design through loot boxes, microtransactions, skin gambling, and so on (Johnson & Brock, 2020; Zendle et al., 2020; Brock & Johnson, 2021; Joseph, 2021; Xiao, 2022; Macey & Hamari, 2024). However, a secondary hypothesis would suggest that there might be a possibility for viewers to enjoy the thrill and interest and excitement that many associate with gambling, but to do so *vicariously* – and hence without spending their own money, and all of the risks that came with that.

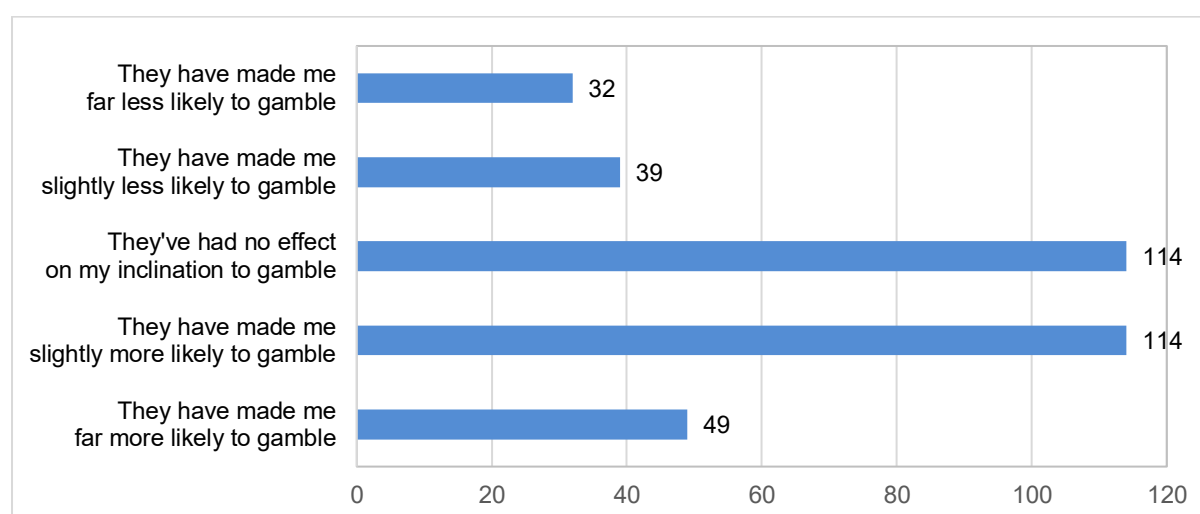
This is the first data set which confirms, although not wholly and for all users, the first hypothesis – while also leaving room, in fact, for the second to apply to other users as well. For more viewers than not it appears that watching gambling live streams does, indeed, increase their inclination to gamble (according to this self-reported data). Although a claim that the inclination to gamble was neither increased nor decreased was the joint most common answer, the two “more likely” answers clearly outweigh the two “less likely” answers. Most respondents in this category however said they felt gambling live streams were only a little likely to encourage them towards gambling, but as research into self-awareness of (problem or disordered) gamblers about the nature of their own play shows (cf. Volberg et al., 2001; Hodgins & Makarchuk, 2003; Braverman & Shaffer, 2014), self-reporting is not necessarily an entirely accurate metric of how much one is actually spending, how much time one spends gambling – or, in this case, how much a live stream is encouraging one to gamble.

Nevertheless, this data demonstrates that even if there might be uncertainty over the *degree* of encouragement, gambling live stream viewers are fully aware that, on average, their interest

in gambling is being increased because of watching these broadcasts. The implications of this finding will be discussed more fully in the discussion section of this report, and in the forthcoming scholarly articles on the basis of this data, but now it suffices to say that this finding in particular establishes the clear importance of studying gambling live streams – and gambling videos in general, another almost wholly unstudied domain of gambling – in the coming years and decades, and the age of ubiquitous social media, and social media influencers.

Lastly, we asked whether respondents believed gambling live streams should be regulated or limited, and if so, how and why. The responses were as follows:

Figure 22: Do you think watching gambling live streams should be regulated or limited at all?



This is also a valuable set of data, with all responses having some interest from viewers – though no widespread agreement, and a substantial number of respondents disagreeing with the need for any regulation. The largest number agreed that gambling live streams should be regulated to prevent children and young people for viewing, although it is telling that a full third of respondents did not believe this was at all important or desirable. As noted previously, age-gating in digital games has generally been lax throughout the medium's history, and given the games focus of both Twitch and Kick, this might have had some cultural impact. Yet far more telling are the other ideological associations which we are seeing emerging around online gambling and gambling live streams, on both websites. This larger suite of ideological associations – interest in cryptocurrency, the “alt right”, libertarianism, start-up “culture”, what is increasingly becoming known as “free speech absolutism”, and gambling-style mechanics in games – are all to a greater or lesser extent predicated on fewer restrictions on activities or behaviours, and a particular interpretation of “freedom”. I do not believe from this data we can argue that a third of our respondents think this is important or valuable content for young people to be seeing, but rather that they are simply *unconcerned* by these possibilities, and potentially ideologically opposed to what they might see as “censorship” or a limitation on their concept of “free speech”. Further analysis of these ideologies and their manifestations both in live streaming in general, and in gambling live streaming specifically, are very important to consider.

The other findings from this question are also interesting. A little under half of the respondents said it would be important to try to protect viewers suffering from disordered gambling – it will be highly valuable to learn in future research how many gambling live stream viewers register highly on the Problem Gambling Severity Index (PGSI). A substantial number also said it was important to make clear any relationships between gambling streamers and gambling sites, although it is perhaps surprising this is not higher. Much controversy has existed around the importance of disclosing sponsorships in the gaming context, so it was unexpected that his response would register so low. It suggests new and counter sets of associations being developed here in how viewers think about the relationships between themselves, the streamers, and streamers' sponsors, and this again merits attention.

Finally, a few people said that the time spent on gambling streams should be limited, and around a fifth of the respondents said that nothing should be done to restrict these streams. Again, the above discussion of the ideological associations with these streams and these streamers and their emerging culture, especially on Kick although also on Twitch, helps to explain some of this perspective. However, this perspective might also reasonably emerge from a place of ignorance about the dangers of gambling – as noted previously gambling is still relatively “new” to the digital gaming space, and it is very possible – as naïve as such a view might seem – that many gambling live stream viewers simply don't think these could be problematic broadcasts, or could lead some viewers down potentially highly deleterious life paths that should be avoided at all costs.

Stream Observation

Having now explored our news data and our survey data, I turn to our observations of gambling live streams, and what was learned from this part of the research. Specifically, our examination of the in-stream content recorded yielded significant findings in three main areas – the visual and graphical presentation of these streams, hints towards the possible psychologies and thought processes displayed by gambling live streamers as they commentate over their own play and interact with their viewers, and the strong connections found between gambling live streams and *other* sites and platforms, including gambling sites. Each of these is a valuable contribution to our fundamental understanding of gambling live streams, and intersects in intriguing and novel ways with existing live streaming research literature – sometimes challenging, sometimes supporting, and sometimes adding in complicating factors or new facets which might not be visible in live streams outside of the specifically gambling context. This is indeed one of the most prominent themes of this findings chapter, but in this section we will relate the core discoveries in these three areas which were identified through the close observation, and subsequent analysis, of the actual broadcasts of gambling live streams.

Firstly, much of the valuable data from the stream observational part of the study involved the visual styles and components of gambling live stream channels. It has long been noted how live streamers, especially those with a more “aspirational” or entrepreneurial bent (Johnson & Woodcock, 2017; Johnson et al., 2019), will often take to creating custom graphics and visuals for their channels (Brown & Moberly, 2020; Jackson, 2020; Johnson & Baguley, Forthcoming). For gaming channels the components of a stream's overall aesthetics might involve characters or artistic styles from the games they play, and can also include interstitial scenes such as a “Be Right Back” design they can use to inform their viewers that they will shortly be returning to a live streamer, temporarily on hiatus. Such visual elements also include the creation of

custom “emotes”, small graphical icons with an outsized cultural role on Twitch and beyond (Recktenwald, 2017; Kim et al., 2022).

Our first observational finding related to the visual and graphic elements of these channels: the 25 streams observed showed a tremendous amount of gambling-related visuals, colours, shapes, symbols, and logos, throughout their broadcasts. These were aside from the actual gambling taking place, and instead manifested through emotes, introductory screens, and so forth. Such visual elements included spinning roulette wheels, casino symbols and iconography, numbers and other figures intended to quickly and visually indicate the stakes the streamers are playing for. Here we therefore found that the Twitch and Kick norms of generating such aesthetics have indeed extended into gambling live streams, and consequently that we are witnessing a repurposing and reusing of gambling visual elements (card suits, red and black colours, slot wheels, and so forth) into the sorts of visuals people are used to seeing in live streams – and are hence familiar with. These serve to signal content to viewers, but also – like gaming equivalents – to signal immediate belonging, and familiarity, to those familiar with the symbolism. This finding demonstrates strong integration for gambling live streams into live streaming norms, and this normalization and familiarity of what they do, versus what other live streamers do, may be an important element in understanding how so many on Twitch and Kick have become interested in these broadcasts.

Secondly, we collected data from what was said by gambling live streamers about the psychologies of these individuals. The comments of gambling live streamers are extremely illustrative of some key dynamics. The most central amongst these are possible hints towards the thought processes of gambling live streamers which can be drawn from this data, specifically from the sorts of things which gambling live streamers are saying during their broadcasts. Prominent in this collected data, for example, were comments which suggest irrational thinking of a sort very familiar from hundreds of other studies of the thought processes of disordered or problem gamblers (e.g. Walker, 1992; Delfabbro & Winefeld, 2000; Joukhador et al., 2003; Armstrong et al., 2020; etc). Gambling live streamers regularly commented to their viewers about which games were “good” and which were not; about “strategies” intended to maximise their ability to profit, or minimize their ability to lose, on certain games of pure chance; and about “strategies” for deciding how long one should play for, when to continue playing, when to cash out, and so forth.

Also very common were verbal articulations that assigned agency to random or irrelevant occurrences, which are again very common and reflect often “supernatural”-type thinking in disordered gamblers (Joukhador et al., 2004; Petry, 2009; Williams et al., 2022). We also noted many cases of gambling live streamers clearly articulating ideas of *control* – that they were in control of their gambling, that they only gambled as much as they wanted, and also that these ideas of control extended into other domains, such as health, fitness, and their personal lives. These were far more common than in other live streams, where indeed after a decade of research the author cannot think of a single example of hearing such statements – yet they were common here. All of these demonstrate commonality and familiarity with thought processes identified with problem gambling, and although these were not universal amongst these streamers, they were extremely common. This shows us that much existing research will help us to understand gambling live streamers, but how such ideas being articulated to *viewers* affects those viewers remains to be seen – but is likely essential.

Thirdly, we found a very high number of hyperlinks and sponsorship links that would take viewers out of Twitch or Kick, and onto other websites – including gambling sites. This is a key finding, especially when coupled with the survey responses which demonstrated a substantial number of viewers who believed that they had become more likely to gamble their own money as a result of watching gambling live streams, and who reported the use of referral links. Sponsorships, and referral links to gambling sites, are and were one of the chiefly controversial elements that led to these broadcasts becoming somewhat restricted on Twitch, but they remain very prominent on both Twitch and on Kick as well, although often framed in ways that might elicit slightly less controversy. We found that the majority of gambling live streams featured links to off-site services, some of which were the more “normal” kinds of community-centric platforms live streamers often encourage their viewers to – Discord, Twitter, Instagram, and so on – but many of which were explicitly gambling-related sites. This sheds light on a potentially very significant path by which gambling live streams might be channelling viewers towards online gambling sites. We cannot speak to the regularity with which streamers are clicking or using these links, but if the uptake of equivalent links for gaming streamers is anything to go by, they will certainly not go entirely unused by viewers.

The presence of these links thus demonstrates a close connection between gambling websites and gambling live streamers, with the former recognising the latter as a potential valuable sponsorship opportunity that might bring new users to their sites, and the latter recognising the former as another way to make income on Twitch and Kick – sponsorships are very important for aspirational live streamers, particularly those wanting to make income or even a living from their practice. The presence of such links should inform any future legislative or regulatory addressing of these channels, and further research will help us to understand the extent to which they are used.

Stream Chat Content

Our fourth method - the examination of the chat windows in these live streams - identified five major themes. These are potential irrational and disordered thinking evidenced by the comments of gambling live stream viewers (much like the comments of streamers described above), extensive discussion of gambling activities both related to and unrelated to the live-streamed content, the regular integration of “chat games” into these chat windows involving gambling fake money on slots-like games within the chat functionality, a seemingly higher incidence of foul language and even slurs than normally found in live streams, and finally the presence of many non-gambling live streaming norms, jokes, and forms of behaviour. Between them these tell us much about what is going on in these channels, about the sorts of communities and interpersonal relationships being forged here, and something about the people watching these streams, their interests and perspectives, and what brings them to gambling channels in the first place.

In the first case, much as our study of what gambling live streamers were saying identified very common and regularly repeated ideas that suggest potentially disordered or irrational thinking around gambling, the same was true in the live stream chat windows. Sometimes this simply involved mirroring what the live streamer had said, so a live streamer expressing the supposed or believed unfairness of a certain game would sometimes elicit viewers to chime in and make similar or compatible comments about how unfair that game was, how the streamer deserved better, how they couldn't believe how often the streamer had lost in that

game, how the game seemed to respond or to change its behaviour according to entirely unconnected factors, and so on. Continuing study of this data will focus particularly on these reactions and studying the extent to which the streamers and the viewers feed off each other, or reinforce each other, with these beliefs, but in essentially all of these channels the repetition and deployment of irrational ideas about gambling by both streamers and by viewers was extremely common. We also recorded many cases where, when viewers were recounting their own gambling experiences, they would express frustration in similar terms of unfairness, a sense of having being owed wins that were instead denied, and so on.

We have previously noted in this report how difficult it appears gambling live streamers are to access and talk to, and whilst the same may or may not be true for gambling live stream viewers, this data shows that this demographic are just as important to reach, and to interview and learn more about, as the live streamers themselves. Our key finding here, therefore, is that these streams appear to have emerged as spaces where comments that imply disordered and irrational thought processes are, at the least, accepted, and in stronger cases, are actively promoted and reinforced by what viewers have to say to the streamer, as well as the interactions between viewers and streamers. Comments implying such perspectives are not challenged, and there are rarely “level heads” in chat suggesting other, more empirical, ways of seeing things. These dynamics again mark gambling livestreams – and online gambling videos more generally – out as essential sites for the understanding of contemporary online gamblers, their behaviours and potential thought processes, the reinforcement of inaccurate perspectives about chance and probability, and the growing social, community, and celebrity dimension to these practices. As with the other research sites in this project, the gambling live stream chats substantially more study.

In the second case, we noted the regularity with which viewers and chatters in these channels were talking actively and often openly about their own gambling activities. In non-gambling live stream channels, it is common for viewers to pass comments or reflections about their own gaming activities, especially if it involves the game or style of game currently being played by the streamer. In extreme cases this is seen by live streamers as being something very negative (Jackson, 2023; Johnson, 2024), but in most cases this is understood to be one of the chief communal, social, and interactive, aspects of watching a live stream. People are able to interact with a streamer and with other viewers who share their interests, and will have a deeper understanding of their comments on those interests than the average person might.

Here, however, the discussion was of course almost universally focused around gambling, although other topics such as gaming and real life issues also arose from time to time. We observed many chatters in these channels relating their own gambling activities, often noting when they had won substantial amounts of money, although also noting when the reverse was true, and generally expressing significant frustration about these less successful gambling endeavours. These comments from viewers were not limited to the particular game or games being played by the streamer, although chatters did often share their own experiences with particular online slots games, or particular poker sites, but these comments instead ran the full range of both online and offline gambling activities, and a wide range of games and gambling types, including those which one essentially cannot find in live streams – such as sports betting, as one example. This finding shows us that viewers are not merely watching gambling live streams, but as some of our other data in this report also shows, many of them appear to be active participants in real money gambling as well. This is a key discovery,

confirming many of the concerns articulated in the news story portion of this study, and demonstrating the need to begin reaching out to, and further understanding, this demographic of players, and both how they interact with celebrity gamblers, and what relationships are forged here between these interactions and their own real money gambling play, both online and offline.

In the third case, we noted the regular presence of what are generally called “chat games” in the chat windows of these gambling live stream broadcasts. Although the chat window on sites like Twitch, Kick, and others is essentially a text only chat function, it is possible for streamers to programme in certain commands into their chat windows which, when activated by a viewer, will yield some effect (Seering et al., 2018; Sjöblom et al., 2019; Coema, 2022). Often streamers will code in commands which a viewer can type in order to, for example, tell them about the game currently being played, or what the streamers social media links are, or what the streamers rules are, and things of this sort. Other channels, however, have innovated on this flexibility and these possibilities of the live streaming chat window to create small games that viewers can play using the chat functionality. An increasingly common one involves viewers – even in non gambling streams – “wagering” fake money, most often known as Channel Points or something similar, on what takes place in the streamer’s broadcast. The first author’s previous research (Abarbanel & Johnson, 2020) explored these games (cf. Siutla, 2018), and whilst a “slippery slope” argument is not presently defended or justified by the available research data, it is interesting to note that this represents a another pathway by which gambling style ideas, mechanics, and systems, are increasingly spreading into digital gaming and digital game culture, alongside things like loot boxes, battle passes, and so on.

In these channels, however, we unsurprisingly found that these gambling-focused chat games are unusually common, with many of the channels having functionality for viewers to play in chat slots for fake money, to “gamble” their Channel Points in a variety of ways, and take part in a number of other similar activities. This finding shows us that even if not all viewers are themselves gambling with real money, or using referral and sponsorship links over to gambling sites, even for the viewer who takes no part in real money gambling, there is still the opportunity in these broadcasts to have some gambling-like experiences – albeit, in principle, shorn of any risk or potential issues. Again, current data does not support a slippery slope hypothesis here, but we would be remiss to overlook or ignore the presence of these games in these channels. Further research will be crucial to assess, for example, the degree of uptake of these games by gambling live stream channel viewers, and what relationship – if any – there might be between these fake money gambling games, and real money gambling games.

In the fourth case, we observed a small but significant difference in the level of hostile chat which was accepted here by live streamers, although this needs more research to confirm. Extensive scholarship has shown that live streamers are often accosted or harassed (Kim et al., 2022; Mihailova, 2022; Han et al., 2023; etc) by what are normally called toxic chatters, and that most live streamers consequently implement comparatively strict rules in their live streams, such as restricting certain words, certain phrases, certain implications, and often empowering the moderators to actively time-out and ban chatters who do not follow the instructions they have set. Some streamers even ban foul language altogether, whilst Twitch universally bans a large number of sexist, racist, and homophobic slurs. There is of course significant variety across live streamers in terms of what kind of language they accept in their chat, and what overall tone of discourse they are aiming to generate in their channel, but we

found here a higher than expected degree of swearing, and also occasional slurs, which are very rare in general in live streaming – although far more common on Kick, where tracking and policing of these issues is far reduced. Often this swearing was in relation to what was taking place on stream, with chatting viewers expressing strong pleasure or strong distaste when the streamer won or lost substantial amounts of money. Some of this swearing also correlated with discussions mentioned in the previous point, about other experiences – often those which had caused frustration. Swearing was also connected to expressions suggestive of disordered or irrational thinking around gambling, with many chatters expressing seemingly sincere exasperation that certain games, or certain gambling activities more generally, had not or did not go the way they wanted them to.

In turn, we also observed several sexist and homophobic slurs in the chat windows of these channels, and these were not in general policed or addressed by the live streamers in question. Both their presence, and their tacit acceptance by streamers, are unusual, and run counter to many of the main findings of existing live streaming research which has addressed these questions. Although we did find many cultural and behavioural commonalities with other Twitch and Kick channels – as described in the next paragraph – this was a clear point of *disjuncture*, and one with potential implications for what sorts of communities and cultures are being encouraged here, and what sorts of viewers are finding a home within these channels.

In the fifth case, we found – once again – that there is a strong degree of association and overlap between gambling live streams and other sorts of live stream broadcast. Although this project was undertaken deliberately free of specific hypotheses to allow the data to entirely speak for itself, it was suspected that a significant degree of *difference* may well be present here, especially given how controversial and contentious gambling live streams have been amongst many streamers and viewers on Twitch. However, here and in other findings related in this report, what is clear is that in fact the reverse is true – there is instead a significant amount of commonality and similarity between many aspects of gambling live streams and other sorts of live streams. In the case of stream chat content, this took many forms. One of the most obvious was the extensive use of “emotes” to express emotions and observations and pass commentary on what was taking place in the channel, and this was done in a manner, a style, and with a regularity by chatters who regularly posted, that did not appear at all different from what we would normally expect in live streams. There were also many other commonalities in these chat windows, such as regular postings of links to social media or other sites – including gambling sites, which is an important and key finding – and these, again, are very regular in many other live stream channels (but directing to non-gambling sites). We also noted a high degree of association with what the streamer was doing, by which we mean viewers celebrating and being pleased when things go well for the live streamer, and being disappointed or sudden or sympathetic when things do not go well.

All of these facets are relatively harmless in a non-gambling live stream, but when real money is involved, these behaviours and phenomena inevitably become much more complicated. It is one thing to experience a strong emotional association to a live streamer playing a computer game, for example, and inevitably a another to experience one with a live streamer gambling with their own money – yet this remains barely studied. The full implications of this are yet to be understood, but this finding again shows that many of those who watch non-gambling streams are likely finding their way onto gambling streams, and the reverse is also likely taking

place. Even if many viewers object to these broadcasts, such streams appear to nevertheless be well integrated with the rest of these platforms – and that may well be cause for concern.

Discussion

Our collected data has been able to shed significant light on all three of our core research questions – who watches these broadcasts, why they watch them, and what potential effects they might be having. In Table 1 (below) we summarise the main findings from each of our methods, after which we discuss how our data offers answers to our key research questions, and some of the primary insights and analyses to be drawn from the study.

Table 1: Summary of Main Findings

Method	Lead findings	Limitations / issues
News story analysis	News stories and popular / public discussion seem to be emphasising four elements – the risks of gambling live streams for young people, the absence of and need for regulation and legislation, the risks of addiction, and the recent / ongoing backlash against gambling live streams. These demonstrate a range of important areas for this project, and following research, to engage with beyond the academy.	Further information about public <i>interest</i> in these stories and issues, as well as journalistic / critic interest in these issues, will help to assess the wider scope of popular concern and awareness regarding gambling live streams, and how these are pressuring (or not) these websites into changing policy.
Surveys	There are too many findings from the survey to list, but some of the most important ones are: 1) most respondents think gambling live streams make them more rather than less likely to gamble with their own money; 2) many sites are being used to watch gambling live streams such as YouTube and TikTok, as well as Twitch and Kick; 3) many gambling live stream viewers are donating money to these streamers; 4) many viewers also have keen interests in viewing digital gaming on live streaming sites like Twitch and Kick. These represent some of the key findings from this first body of data on gambling live streams, and demonstrate a number of ways that this demographic are important to study, and to explore in the context of healthy gambling interventions.	Due to the challenges in securing survey respondents we were unable to secure a specifically Australian sample, and this needs closer study; we also need to gain more demographic information, and find a way to compare these gambling live streaming viewer respondents against other metrics, such as PGSI status, and any prior engagement with problem gambling interventions.

Stream observation	We identified three main areas for attention here – the integration of gambling visuals, colours, and ideas into these live stream aesthetics; the possible psychology exhibited by gambling live streamers, who often made statements suggesting potentially disordered thinking about gambling wins / losses; and the deep integration of other sites into these live streaming channels, including gambling sites specifically.	Few limitations here, although more hours of observation will deepen the findings and understandings already presented here.
Stream chat	Many gambling live stream viewers make non-rational comments about gambling (re: odds, fortune, etc) in their chat messages; viewers actively share their own gambling experiences; many streams have integrated gambling games (not for real currency) into their chat windows; the tone and language of these chat windows is often a little more aggressive than in many other streams, up to and including the presence of slurs; and many elements of non-gambling live streaming culture are regularly present in these chat windows. These key findings demonstrate a high level of relevance to understanding gambling live stream viewers, as well as suggesting that these viewers – as well as streamers – may well benefit significantly from targeted interventions.	The data collected is rich and detailed, although more ability to secure chat information from multiple websites will be highly valuable going forward, as well as longitudinal observation examining how norms and social relationships are formed in these gambling channels. However, the sample is a convenience sample rather than a representative one, whether in the Australian or global context.
Interviews	Gambling live streamers appear extremely private, and uninterested in talking to researchers – far more so than any other live streaming group the author has researched, or knows that others have researched. Future research needs to explore other methods to reach, and to learn about, these online gambling	No interviews were secured despite extensive efforts, and thus understanding of gambling live streamer motivations and interests remains elusive. General motivations and interests of live streamers – especially those with an aspirational or entrepreneurial framing, seeking to monetize their broadcasts – are well

	influencers / online gambling content creators.	understood, however (Johnson & Woodcock, 2017; Taylor, 2018; Johnson et al., 2019; Bingham, 2020; Johnson, 2024).
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Our first research question asked “who is watching these broadcasts?”. Our research shows that there are multiple ways this can be answered – for example, these viewers are predominantly although not exclusively young and show an almost perfect gender balance. Twitch overall has more male viewers than female, and Kick shows the same trend but far more strongly, highlighting an importance difference here in demographics and one which is perhaps influenced by the overall association of slot players as being predominantly, although certainly not exclusively, women. These respondents also exhibited a higher level of educational attainment than is average in the overall population, and potentially higher than the average amongst viewers of live streams more generally – although prior data on this is incomplete. They are also mostly in full-time employment. Some of these demographics thus largely match existing studies on live streaming viewers (Sjöblom & Hamari, 2017), but others do not, highlighting that we are potentially dealing here with a distinctive category of viewers.

Another way to answer this question is in terms of viewers’ integration with Twitch and other related cultural elements – many watch gaming-related content on Twitch and Kick as well as gambling material, highlighting the integration of the two at the individual or personal level, and at the demographic level across many viewers. This is a key finding as it demonstrates a further example of the ongoing blurring and blending between gaming and gambling practices, and highlights that many might be finding gambling streams through following gaming streams on these sites. Many in Twitch or Kick chat windows, meanwhile, were observed making irrational comments about the roles of luck and skill in gambling, and more broadly talking about many other forms of both online and offline gambling, suggesting that many viewers are prior gamblers. This shows us that while many viewers might indeed be finding these channels via gaming, others have existing relationships with gambling or gambling culture, highlighting the range of people – and perhaps the range of entry points into – watching gambling live streams.

Our second research question asked “why are people watching gambling live streams?”. We found a variety of answers to this question as well, with the most prominent appearing to be a sense of community with other gamblers and the individual live streamer – which echoes many of the motivations for non-gambling live streams more generally (Johnson, 2024) – and the interactions that viewers have with these broadcasters. In our survey in particular we found respondents identifying a range of other motivations, such as an appreciation for particular streamers who were hosting gambling content, a sense of thrill from watching others wagering (or seeming to wager) real-world money, the possibility of learning about gambling both in a skilled context (poker) and a pure luck context (slots, etc), as well as the amount being wagered being reported as an important appeal, and a general interest in gambling practices and gambling culture.

We therefore see that the appeal of these streams *cannot* be reduced to a single motivation, but rather that there is a complex web of motivations being served by these broadcasts. Additionally, the possibility of a gambling stream as a “safe space” in which irrational

comments and analyses of gambling play and gambling outcomes appears to be one of the core things that viewers find in these channels. This is an important finding as it helps us to fully understand the appeal of these spaces – one will not be criticized for one’s gambling and one might find support for irrational perspectives about luck and skill in gambling, and these are things hard to find – except in the company of other gamblers. This is unlikely to be something that brings viewers to a channel in the first place, as one cannot know the nature of a channel’s chat until time has been spent there, but does seem to be a key appeal that may well keeps viewers around. This echoes findings in other live streaming research that the game or activity of the channel is what brings people *in*, but the value of the community is what *keeps* people tuning in night after night.

Our third research question asked “what effects is it having?”. As mentioned above, the presence of a safe setting for sharing irrational or disordered comments about gambling is one of the key appeals we discovered in this project, and thus also suggests potentially important effects. Although future research will be needed to confirm this, it is not unreasonable to suggest these streams might function as places where these thought processes are being reinforced and strengthened, rather than being challenged and being shown to be false (as they might in a responsible gambling intervention, for example). Another key effect here is the ongoing integration between gaming and gambling – live streams of these two activities share sites, streamers, and viewers, and there is no sharp division here as there might be between other kinds of live streams and other “adult” activities, such as pornographic live stream content, which is explicitly banned on all the major live streaming websites. This is a more subtle integration than loot boxes or battle passes in digital games, but reflects the normalising of gambling ideas and practices in the lives of web users.

Beyond these key research questions, our data sheds light on several other topics. The first of these is how the vicarious pleasures of gambling are becoming more readily attainable through the advent of gambling live streams. Even though few survey respondents actually marked down vicarious gambling as one of their motivations, all the other responses nevertheless displayed clear vicarious elements – showing a difference in how these viewers understand their watching, rather than an absence of these factors. Through gambling live streams we see that existing gamblers, or those with potentially an interest in the area, are now able to enjoy many of the elements of gambling without having to wager their own money. They can watch significant wins, weather the pain of significant losses – without actually losing money themselves – as well as learning about gambling and gambling sites, and having the thrill of uncertainty and the surprise of unexpected windfalls. Respondents in our survey and the viewers we observed in stream chat windows both showed that there was a significant degree of excitement to be gained from watching these broadcasts – perhaps not as intense as gambling with one’s own money, but certainly a great deal safer.

Despite this, however, most respondents to our survey said that watching gambling live streams had made them more, rather than less, likely to gamble with their own money. We therefore suggest that gambling live streams are offering a “safe” entry to gambling for those who don’t currently take part – when a viewer is getting some of the excitement without any of the risk, it is easy to see how this might leave a false image of what “actual” gambling (with one’s own money) looks and feels like. Yet other respondents said watching these channels made them less likely to gamble themselves, and although more said the former, it was not a small group of respondents saying the reverse. It is possible, therefore – in keeping with our

survey question about whether gambling live streams made viewers more or less likely to wager their own money – that gambling live streams have *both* positive and negative effects on whether or not a viewer will gamble themselves – *but it depends on the viewer*. Some appear to be turned off by the more negative or dispiriting elements of these broadcasts, or are simply content to watch others play, while different viewers follow referral links and gambling advice given in these streams. Vicarious gambling thus emerges as a complex space with different effects on different viewers, even while we can nevertheless also pin down broader, higher-level effects, potentially taking place in these communities more broadly.

The second additional topic worth exploring relates to the complexities opened up through the donation of money to the streamer, which is then being used to gamble with. Several studies have reported that people experiencing gambling problems will sometimes ask or even “beg” others for money with which to gamble (Mathews & Volberg, 2013; Heiskanen, 2017), whether this be friends, family members, complete strangers, or staff at casinos. These studies note how socially unacceptable and often interpersonally destructive such behaviours are, with respondents in those studies sometimes noting their shame and self-loathing that comes from this behaviour. In live streaming, meanwhile, encouraging viewers to donate money is considered far more readily normalized. Few live streamers explicitly ask for it bluntly and obviously, although some will joke about how much they value the money their viewers give them, how they depend on it, and so forth. Most instead deploy a suite of techniques designed to encourage donations and subscriptions, emphasizing that these donations allow them to continue their broadcasts, expressing strong gratitude to those who do indeed give money, and framing elements of the channel around offering visibility to viewers who demonstrate financial support.

Gambling live streaming, therefore, emerges here as a novel confluence between these two phenomena – the social opprobrium attached to gamblers who ask for financial support to support their gambling, and the striking extent to which “asking” (explicitly or implicitly) for money is utterly normalized in the context of live streaming. How, then, do these come together in gambling live streams? The answer is that our research found the social norms of live streaming when it comes to money take clear and almost exclusive precedence over the other social norms of not asking others for money with which to gamble. In none of the channels we observed did the streamer appear uncomfortable with getting financial support from their viewers, nor did viewers seem uncomfortable with giving money to the streamer, even while of course knowing it would be part of the broader pool of money that, in most cases, the streamer was using as part of their gambling play. This is a finding with multiple potential repercussions. For one, problem gamblers might find themselves able to key into income via live streaming which would not be available through family and friends. It also complicates the relationship between the money giver and the money taker, as these are not close friends or family members, but rather viewers and producers of an online media product. It is not hard to see how this later point would give a greater sense of distance between the two, and perhaps therefore a reduced sense of moral culpability or involvement. This research therefore shows that gambling live streams host substantial flows of money and potentially financial dependency which have not yet been explored in the lives of online gamblers, and which merit attention.

Overall, therefore, this project has opened up a number of new doors into our understanding of online gamblers, and our understandings of live streamers, and of course specifically how

these two demographics interact and intersect. We have learned much about who watches these broadcasts, and what the appeals of these podcasts are, in both cases finding a diverse range of people enjoying a diverse range of perceived benefits from these channels, but also clear macro-scale and demographic commonalities which tell much about what is going on in these broadcasts, and what sorts of people tuning in. In turn we see several distinct and novel characteristics and social interactions coming into existence in these broadcasts, such as the emergence of a “safe space” to share irrational comments about luck and skill in gambling, and these are particularly important for our understanding of gambling live streaming, and gambling online video content more broadly, going forward. What is undeniable here is that gambling live streams and gambling video content cannot be overlooked if we are to understand both the practices of online gambling and the lives of online gamblers in the 2020s and beyond. This is also the case for understanding how some are first turned on to the possibility of gambling - yet also, how others might be turned away from it. This is a complex and rapidly changing space that poses significant challenges both to study and analysis, and to effective policy in response.

Limitations of evidence base

This project is the first to address this precise topic – that makes the evidence base highly valuable as a foundation, but given the nature of the project and the paucity of other evidence, this is ultimately an initial study that was designed to get a broad appraisal of the field. This means that the evidence presented in this project should give a comprehensive overview of the most important elements of the phenomenon at present (while acknowledging the lack of interview data so far), but also means that the particular methods deployed here could each be taken further in future research which might focus entirely on a given method. In this section I will therefore address the limitations present in each of the methodologies pursued here and the data that we acquired, as well as noting other less apparent limitations which are also relevant.

The most obvious limitation is the lack of interview data. This was a surprising result, given that – as noted earlier in this report – live streamers are often not just willing but actively excited to discuss their work with interested researchers. This is for a number of reasons: many successful live streamers have not been to higher education or have little experience with it, and can be excited by the prospect of being part of a research project; others are flattered that their live streaming activity “merits” being studied and looked into closely; many are just keen and eager to discuss their lives and their careers; while some take a bigger-picture perspective and want to generate new understandings and new knowledge about live streaming, because live streaming is their career and more information is seen as being inherently valuable. Nevertheless, although all the author’s previous research projects interviewing live streamers have met with success – over 120 interviews to date, which is by far the largest body of live streamer interviews thus far collected – not a single interview was secured for this project.

The successful methods, however, have fewer clear limitations, although all can be deepened with further study. In terms of the news data collected, there are few limitations here – we were able to collect a quite comprehensive picture of the journalistic discussion of gambling live streams and their surrounding issues in recent years, and to do so from a highly representative sample of both Australian and global news and commentary outlets. One obvious limitation,

however, is that this is a rapidly-changing setting and phenomenon, as already in the process of writing up this report, and there will be new news articles and commentaries being written and released about gambling live streaming. This does not in the least invalidate the data collected, but does make it somewhat temporally bound. Nevertheless, at present this is the only body of news story data ever collected on gambling live streams, and this seems likely to remain the case for some time. In years to come further research will be required to keep this database updated and to reflect any potential changes which might come in gambling live streaming, and thus be reflected in journalistic commentary on the subject. As was the objective in reviewing news and commentary as part of this project, this data both helped to inform and guide the study by directing us to key questions and concerns, but also provided its own insights into how gambling live streaming is being discussed and conceptualised as a wider audience – this is important in a context such as gambling, or any other controversial activity, where public opinion is a significant actor.

Next, the survey was overall one of the more challenging methods, but in the end did yield significant results. Trying to acquire survey respondents through posting on the forums, websites, and social media platforms, as well as directly contacting streamers who might be interested in distributing it, proved to be a very ineffective method. Much like the interview project described above, this is an unusual finding. In other studies the author has been able to secure almost 1000 survey responses without too much difficulty, while this study, which was more extensively funded and supported than some others, was only able to secure under a hundred responses via this method. We posit that securing interviews for the study was again usually challenging due to the contentious, controversial, and therefore potentially politically and personally sensitive nature, of the topic in question – i.e. gambling. We believe that the nature of the study similarly meant that relatively few viewers were keen to engage with it, and this led to a significant reduction in the number of surveys which could be secured through that method. However, after shifting to Prolific we were able to very rapidly secure a large number of survey respondents, after having filtered for respondents who specifically watched gambling-related live streams.

This survey data, as described in the findings and discussion sections, has yielded significant and important insights. However, we still have little on this demographic from the specifically Australian context, and this would therefore be a direction for future studies to explore. The survey's sample is one of convenience, and thus future research would need to pursue an Australian sample, or a globally representative one. One option would be to reach out to existing databases of respondents who are already known to some gambling affiliation or interest in gambling- or gaming-related activities, this would tell us a lot about how those already involved in gambling to some extent address and think about and watch gambling live streams, but it would not tell us the extent to which gambling live streams are a popular or unpopular aspect of live streaming more broadly, and also whether or not these serve as an entry point into gambling more broadly. The survey data shows that more respondents said gambling live streams would make them more likely rather than less likely to gamble, and this is one of the most important findings from this study – but it can be further contextualised and framed by engaging more fully with nationally-specific, such as Australian, insights.

The stream observation was also successful, yielding a large volume of data about what these broadcasters are broadcasting, the aesthetics and visuals of their channels, their connections to gambling sites, and the sorts of things they say and interactions they pursue with their

viewers. The sample size could always be expanded in subsequent study – and more precisely focused on a single sort of gambling streamer, e.g. slots streamers, rather than the slightly wider range of gambling-focused streamers that we addressed in this study – and these would deepen the insights found in this project, but would be very unlikely to discover some entirely new trends or phenomena in these streamers that might have been, by statistical fluke, not represented in our sample here. One of the challenges of this work, however, is the regular turn-over we discovered of gambling streamers – during the project we found gambling streamers regularly closing their channels, and new gambling channels regularly opening up, at a pace that far outstrips most other live streamers. This means that a subsequent study could be quite unlikely to encounter the same gambling streamers we observed – a comment that doesn't really apply to other kinds of live streamers studied by the author, or by other researchers – and this might affect a later sample. Equally, the “snapshot” of gambling live streamers observed here might turn out to be specific to 2024, if legal or terms and conditions issues around gambling streaming change significantly in the coming years. Nevertheless, this is again novel data, and with a sample size and variety enough for us to make confident assertions about the content of gambling live stream broadcasts.

The chat data has few limitations, although a couple of relevant points can be made. First and foremost, some difficulty was found in trying to record chat logs from multiple different platforms that might not share a common ground of format, especially for downloading them straight from the platform. Although such tools do exist, they do not always work perfectly or as expected, and thus a more video-based approach was settled on for some of these observations. This did slow down some of the processes of transcribing and coding, and further work would benefit from a more complete investigation of what existing tools and software could be used to acquire this data in a more universal and consistent manner. Additionally, this project took place after the “peak” of Twitch gambling live streaming content – even if, as noted, the practice does not appear to be shrinking, and indeed appears to be spreading to a broader range of platforms than was the case even a couple of years ago – and this meant that we had perhaps slightly fewer opportunities than expected to observe and study some of the largest gambling streams. Larger live stream chats, and the behaviours of live streamers hosting these channels, tend to be quite different from “smaller” channels – we were able to observe plenty of these, but they nevertheless represented a slightly different live streaming ecosystem from what which existed only recently.

Other limitations of this project are not related to specific methods, but have more to do with the process of studying gambling live streams in general, as well as the nature of the research topic. Firstly it is important to note that gambling live streaming - like live streaming in general, and indeed games and game-related communities on the web, with which gambling live streams are somewhat associated - are very rapidly changing and always shifting. Indeed, in just a decade or so since their inception, we've seen several different kinds of gambling live stream come into being, as well as gambling live streams as a whole rise and fade and now, arguably, start to rise again. Associated with these we have seen a significant degree of public outcry, as well as growing resentment and frustration amongst other Twitch (less so Kick) streamers about the place they feel gambling live streams should – or rather, should not – have on each platform. All this makes gambling live streams an unusually rapidly moving form of gambling-related activity to study. This is not a problem, and indeed the fact it is changing so rapidly actually highlights how important it is to make initial observations so that we have data which usefully addresses, and analyses and interprets, this phenomenon. It does,

however, mean that continued research engagement with this topic will be required to generate and maintain data which is up-to-the-minute in a rapidly changing and complex domain, which cuts across concerns and questions of internet video, platforms, online culture, the relationship between and gambling, and online web anonymity.

Equally, as this data in fact shows, much of the future of gambling live streaming is highly uncertain. Gambling live streams are now significantly restricted on Twitch, but because of this - and as a result of some of the broader political and ideological associations that some, although not all, Kick streamers seem to exhibit - much of the gambling live stream content currently available has moved to Kick, which is far laxer in its rules and regulation than Twitch. This makes Kick an increasingly important site to study. At the same time, as the survey data demonstrated, many people are in fact watching gambling live streams on other sites such as YouTube and TikTok, and so full appraisal this wider platform ecosystem and its relationship to the emerging genre of gambling live streams will be increasingly important going into the future. The market demographics of different platforms are different – we note in particular that TikTok skews much younger than the others – and thus might also be attracting a wider range of people than just those who watch live streams in general on sites like Twitch and Kick. All of this means that the present study has laid vital foundations for understanding this wholly unstudied area, but also that future research on gambling live streams will need to expand its breadth across other platforms as well – or target single, specific sites, for closer study.

One last limitation in the evidence base reflects the difficulty of assessing other gambling activities, or PGSI status, within the samples examined. In observing Twitch and Kick chat windows there is of course no way to judge these – unless a viewer mentioned it, which would be extremely unlikely and did not occur anywhere in our chat observational sample – and the same is also true of the survey data collected. This (as discussed in the next section) is a key future research direction, and one of the key limitations of the data collected – yet it also speaks in a more subtle manner to the demographics being assessed here. Specifically, it is not yet clear how much of a relationship gambling streamers or gambling stream viewers have to other forms of gambling (although the survey data sheds some light on this), nor whether these might be individuals who had had any kind of gambling-related intervention, medical or psychological contact or support, and so forth. The anonymity of watching a gambling live stream is far greater than someone using a poker or other online gambling site, where personal ID and bank details are generally required, and in turn gambling live streams are not restricted by country or territory in the same way that real-money gambling sites are. Exploring these directions would be addressed by conducting the research in reverse, so to speak – rather than finding live stream viewers and asking them about gambling, to instead find gamblers and ask them about live streams. That will yield a very different set of data, but one that will complement the data acquired in this project very well.

Lastly, the data is also limited in terms of its geographical focus vis-à-vis the Australian context. We can be quite confident in the core findings of this research project, but precise demographic information and detail for Australian gambling live stream viewers or streamers remains to be acquired. However, as noted throughout this report, gambling streamers and viewers have proven to be challenging samples to acquire information on. As above, it would therefore be prudent for subsequent research to address this from the other way around – i.e. begin with an Australian sample and inquire about gambling live streaming, to secure data that would sit alongside the data acquired in this project.

Future research directions

There are many key research directions here – gambling live streaming, and indeed gambling video online, are essentially unresearched areas, yet becoming increasingly important in the contemporary context of influencers, “content creators”, online celebrities, and digital platform ecosystems. Many future research directions have been noted in this report and we will not repeat them all here, but rather focus on the major themes for future research.

Perhaps the most important and obvious future research direction for our understanding of gambling live streamers and gambling live stream viewers will come with regards to problem gambling, pathological gambling, and other forms of disordered gambling - and the extent to which we can understand how gambling live streams fit into the wider (online) gambling ecosystem. We have noted this throughout the report, and acquiring this information could be pursued from a variety of means. One of the most obvious will be to engage with known demographics and populations of disordered gamblers, or just those who engage with gambling more broadly, and to ask them about gambling live streams and their experiences with the medium. This is the “reverse” of the study presented here, to some extent, and will generate a very different sort of data – but also a very valuable complement. Alternative studies could also try to find other ways to interact with gambling live stream viewers; one possibility would be finding these communities on platforms other than live streaming sites, such as heavily-used community site “Discord” which many live streamers build communities on, and to contact large numbers of potential respondents there instead. Other methods would also be possible, but fully comparing the “gambling live stream” viewer demographic against the “disordered gambling” demographic will be a key direction in subsequent study.

Another key future research direction will come from the diversity of websites and online platforms which are now gambling content, in this case gambling live streams. As noted, Twitch and Kick are primarily associated with the broadcasting and the consumption of gambling live stream content, but our data has shown that other sites like TikTok and YouTube are of interest. These sites already host very large numbers of other sorts of gambling videos – again, essentially unstudied – which range from people filming themselves playing slots, to professionally produced television podcasts of poker tournaments, to gambling guides or advice videos and many other types of gambling-related videos. This distinguishes YouTube and TikTok on the one hand, and Twitch and Kick on the other, because those sites are focused solely on live streaming and thus do not that sort of wider video media ecosystem the other sites have. It also, of course, encourages us to pay particular attention to the *liveness* of the live stream, and what this does for engagement and interest from viewers that pre-recorded videos cannot easily duplicate (Spilker et al., 2020; Foxman et al., 2024; Johnson, 2024). As such, although our study here of Twitch and Kick has laid the foundations for understanding gambling live streams, and indeed gambling video content more generally – the work by Hoebanx & French (2023) being essentially the only other study in this area – it is clear that *many* platforms require our attention.

YouTube and TikTok are also distinct from Twitch and Kick because unlike those sites, they are not primarily associated with digital gaming content. Although Twitch has expanded in recent years to host a large amount of content with nothing specifically to do with digital gaming, that is still the main kind of content broadcast on the site, as well as the type of content with which Twitch is most closely associated in the public eye. Kick, like Twitch, hosts a range of live stream content, but similarly has a primarily gaming focus – even while gambling live

streams are arguably more visible and more central to the overall sense of Kick compared to what is seen on Twitch. YouTube, however, does have a very large number of gaming videos, and they are indeed one of the largest categories of video content found on YouTube, but YouTube is not primarily associated with gaming *specifically*. Large categories of videos on YouTube are also, for example, focused on music, or fashion, or product reviews, or influencers uploading videos more generally of their lives and their activities. This means the context and setting of Twitch and Kick, and of YouTube (or TikTok), are very different when we come to address this rapid expansion of gambling live stream content. As above, non-live content on YouTube has also, like live content on Twitch and Kick, seen almost no study to date.

TikTok is also a distinct and important site for future study in this area. Whereas Twitch and Kick are primarily associated with live streaming, and YouTube is primarily associated with videos of any length (with a minor and secondary live streaming functionality), TikTok is primarily associated with extremely short-form videos, generally under a minute in length. The case of TikTok, as well as the other sites discussed here, all highlight the importance of age-gating when it comes to gambling live stream content. Naturally most offline gambling settings have very strict age-gating – normally requiring a passport, driver’s license, ID card, or the like – while online gambling venues are also generally very strict about this. These techniques are not perfect, of course, but do a lot to ensure that underage players are not able to gamble, while also serving a secondary role of tracking and keeping some degree of records on who is gambling on their site, or on their premises.

Gambling live streams – as with all live streams, and indeed online videos – are different, as there is little to no age-gating. Streamers which are presented with a stream considered to be 18+ in nature generally only face a pop-up or a prompt that asks the viewer to confirm they are old enough to watch the content, but any viewer who does so is then immediately taken to the content in question. Age-gating has always been challenging for digital gaming but generally enforced strictly for digital gambling – yet here we see that on sites primarily associated with digital gaming, lax age-gating has transitioned also into the gambling context. TikTok is primarily associated with young people (Shutsko, 2020; Montag et al., 2021; Klug et al., 2022; McCashin & Murphy, 2023) and this makes the lack of age-gating over gambling content particularly important to consider. Again, future research needs to expand beyond Twitch and Kick to take in a fuller ecosystem of platforms, users, and influencers.

Lastly, we would also want to generate more data on the relationship between gambling and gaming through the gambling live stream (and more broadly, gambling video) context. As noted in this report, gambling and some elements of digital gaming have been increasingly converging in recent years. One of the most prominent examples of this has been the rise of the “loot box”, a digital container housing unknown in-game items, for which one pays real-world money and subsequently “gambles” on what the loot box might contain. Although digital games have long since used various sorts of luck, chance, and randomness mechanics with entirely justifiable design rationales, it is here in loot boxes and related phenomena that *real-world money*, as opposed to purely fictional currencies that many games feature, have become involved for the first time. Other practices, such as “battle passes” and “microtransactions”, as well as the “skin betting” practices sometimes associated with competitive or esports games, have also exhibited similar characteristics.

While work exploring this growing fusion between digital gaming and digital gambling have focused on these phenomena (Johnson & Brock, 2020; Zendle et al., 2020; Brock & Johnson, 2021; Joseph, 2021; Xiao, 2022; Macey & Hamari, 2024) it is also on platforms like Twitch and Kick – mostly associated with *gaming*, but also hosting and sometimes even promoting *gambling* content – where more subtle, but also important, relationships between these two domains are being forged. As such, future research needs to interrogate more fully how this gambling content co-exists with gaming content, how users circulate between these kinds of content, and what gambling live streams and gambling video mean for our understanding of contemporary gamers and their consumption, and spending, patterns.

Conclusion

Hundreds of thousands of people around the world are watching, or have watched, live streams of real-money gambling. There is little age-gating in place to control who can watch these broadcasts, while such mass spectatorship of (potentially very high stakes) real-money gambling marks a fundamentally new watershed moment in the development and spread of gambling media and practices. This project has been an opportunity to make a rapid and incisive intervention into a highly contemporary, quickly-expanding, and extremely relevant area of gambling consumption – both in Australia and globally – and to generate a large data set of diverse data and – hopefully – influential publications that should inform practitioners and scholars alike. It has offered a research program that has allowed us to comprehensively get to grips with the many dynamics of this emerging space, and represents the globally first study of gambling live streams.

From this study we have discovered the particular elements of the phenomenon which are attracting the most public, popular, and journalistic interest. Concerns about youth gambling interest, and the possibility of promoting gambling harm through these broadcasts, are paramount. This strengthens and enforces the degree to which this research project, and this field of study in general, have significant scope for public impact as well as the advancement of knowledge. There is demonstrably a degree of public concern over these gambling live streams and what goes on in them, and in turn understanding these news stories enabled us to focus our subsequent inquiries on particular areas of interest. Yet this is important data not just for helping to lay the groundwork for this present study – as these are both areas we've addressed in this project – but also because public opinion is an important actor in its own right when it comes to live streaming, and influencer culture or online “content creation” more generally. The reduction in gambling live streams on Twitch appears to have primarily been a result of public backlash amongst other streamers and viewers against the practise (Johnson, 2024), demonstrating that this is a context in which popular opinion matters a great deal. Such news stories and commentary thus do not merely report, but actively shape the discussion, and need to be understood in that context.

We have also learned a great deal about the viewers of gambling live streams, including their demographics, interests, levels of engagement with broadcasts, and extent to which they feel encouraged towards gambling as a result of these broadcasts. We have learned that these viewers are closely integrated with other aspects of Twitch and Kick, particularly gaming live streams, and that these viewers are predominantly young, but often a little older than many viewers in other live streaming channels commonly are. We've seen a clear gender balance here - which is distinct from these live streaming sites in general, which tend to have roughly twice as many men as women watching - and we've learned much about their motivations and their interests, which are primarily focused around gambling, but also take a number of other forms as well. On the gambling front this might include learning about a game, enjoying watching someone else play, seeing striking wins or losses, and so on. Yet many of the other motivations come down to broader interests that are reflected in live streaming in general, such as feelings of community and connection, and a desire to watch a particular streamer who is seen as witty, entertaining, or otherwise compelling. Future research will need to pin down the specifically Australian elements to gambling live streams and more broadly gambling video consumption and production, but here we have identified key information about these

viewer demographics which will inform future research, and potentially future policy interventions as well. This research has opened the door to closer examination of these viewers and closer interrogation of potential relationships between these individuals and disordered or problematic gambling practices.

We have also studied what actually goes on in these channels, the apparent thought processes and potential psychologies gambling live streamers display, and how these broadcasts both integrate with existing live stream culture while also being distinctive and unusual in other ways. We found that many of the things present in live streams in general are present here, such as engaging streamers interacting with their chat, commentating over gameplay, and so on. This is an important finding for understanding how gambling live streams have become integrated into the wider lives of these platforms, and hence why it seems comfortable for many viewers to transition into these from other sorts of broadcast. We also found many elements of gambling visuals present in these broadcasts and integrated into normal live streaming standards, which will be boosting the familiarity of viewers with gambling imagery and iconography in a way that other live streams do not. Key here was also the discovery of large numbers of referral links to gambling sites, potentially highlighting a core way that people might be moving from watching the streams into gambling themselves. At a moment when gambling advertising on social media is at its peak, this is an important new path by which these processes take place.

Lastly, we have examined what the viewers of these channels say in the chat windows of these channels, unpacking the different kinds of discussion which take place, viewer engagement with live streaming norms, humour and memes, and the almost ubiquitous presence of links to other sites – including gambling platforms. As with the behaviours of streamers, there are many commonalities here between gambling live streams and other sorts of streams, but also distinct aspects as well. Of particular note here was this discovery that these streams are serving as places where both streamers and viewers sharing irrational or illogical comments about the gambling practices. One cannot comment from solely this data on the psychologies underlying these comments, but we can note that the comments themselves are often very irrational in their content, ascribing meaning and agency and consequence to elements cannot possibly affect the outcomes of games, such as switching games at certain times, various rationales about how much or how little one should play on a certain game, implying importance or significance in runs of good fortune or ill fortune, and so forth. Streamers sometimes promote these views, but in all cases do not actively resist them when mentioned by their viewers, and it is mostly the viewers who share these. This is a key finding in the complex of gambling live streams, but also draws our attention to how social media platforms - as has been well-studied outside of the gambling context - can offer filter bubbles where opinions are reproduced and rarely challenged. In the case of gambling, this trend is one worth close attention.

We believe this project and its findings offer much in our understanding of gambling live streams, and more broadly insights into gambling video content and the rise of “gambling influencers” as important aspects to understand when it comes to online gambling, and online gamblers, in the 2020s and beyond. Yet this is only the first project to examine gambling live streams, and there remains a tremendous amount of knowledge to be gained, leading in particular towards recommendations for policy and legislation, problem gambling interventions, and an increased public awareness of these streams and their risks. Gambling

“content” and gambling “content creators” look unlikely to decline in popularity and visibility in the coming years, and deserve continued study. What is clear, however, is that online videos of gambling are becoming more and more popular with each passing year, and can no longer be overlooked when we want a full understanding of the cultures and communities, as well as the practices and pathologies, of contemporary online gambling.

Glossary

“Chat”: A text-based chatting functionality which sits alongside live streams on Twitch, Kick, and other sites with comparable design.

Emote: A small graphical design, like an emoji, used extensively on Twitch and elsewhere, by viewers posting in a channel’s chat window, to convey amusement, confusion, and other emotions.

Kick: The newest major live streaming site, explicitly framing itself in opposition to Twitch both financially (in terms of how much income goes to streamers instead of the platform) and ideologically (being far more closely connected to neoliberal, libertarian, and “alt-right” perspectives).

Live streaming: The act of broadcasting oneself and one’s activities live over the internet to viewers. Primarily associated with digital gaming, though this is not the only thing broadcast. In most countries it is associated strongly with Twitch, and to a lesser extent with Kick, and the “live” functionalities of YouTube, TikTok, etc.

Loot boxes: Digital containers that house unknown items and are purchased for real-world money. Used in very few games, but those where loot boxes are present are often major blockbuster releases, and mobile games. A highly controversial design element.

TikTok: Short-form video website, primarily associated with children, teenagers, and young people.

Twitch: The leading live streaming platform in most countries outside of China, which also has a function for watching previously-broadcast videos.

YouTube: The leading recorded video sharing website in most countries outside of China, which also has a live streaming function.

References

- Abarbanel, B., & Johnson, M. R. (2019). Esports consumer perspectives on match-fixing: implications for gambling awareness and game integrity. *International Gambling Studies*, 19(2), 296-311.
- Abarbanel, B., & Johnson, M. R. (2020). Gambling engagement mechanisms in Twitch live streaming. *International Gambling Studies*, 20(3), 393-413.
- Abell, J., & Myers, G. (2008). Analyzing research interviews. *Qualitative discourse analysis in the social sciences*, 145, 161.
- Albarrán-Torres, C. (2018). *Digital gambling: theorizing gamble-play media*. Routledge.
- Alvarado, C., & Arbaiza, F. (2022, June). League of Legends community's perception of influencer marketing from streamers on Twitch. In *2022 17th Iberian Conference on Information Systems and Technologies (CISTI)* (pp. 1-5). IEEE.
- Anderson, R., Taylor, S., Taylor, T., & Virues-Ortega, J. (2022). Thematic and textual analysis methods for developing social validity questionnaires in applied behavior analysis. *Behavioral Interventions*, 37(3), 732-753.
- Anderson, S. L. (2017). Watching people is not a game: Interactive online corporeality, Twitch. tv and videogame streams. *Game Studies*, 17(1), 1-16.
- Armstrong, T., Rockloff, M., & Browne, M. (2020). Gamble with your head and not your heart: A conceptual model for how thinking-style promotes irrational gambling beliefs. *Journal of Gambling Studies*, 36(1), 183-206.
- Ask, K., Spilker, H. S., & Hansen, M. (2019). The politics of user-platform relationships: Co-scripting live-streaming on Twitch. tv. *First Monday*.
- Binde, P. (2009). *Gambling motivation and involvement: A review of social science research*. Swedish National Institute of Public Health.
- Bingham, C. M. (2020). Talking about Twitch: Dropped Frames and a normative theory of new media production. *Convergence*, 26(2), 269-286.
- Bjerg, O. (2010). Problem gambling in poker: Money, rationality and control in a skill-based social game. *International Gambling Studies*, 10(3), 239-254.
- Bramley, S., & Gainsbury, S. M. (2015). The role of auditory features within slot-themed social casino games and online slot machine games. *Journal of Gambling Studies*, 31, 1735-1751.
- Braverman, J., Tom, M. A., & Shaffer, H. J. (2014). Accuracy of self-reported versus actual online gambling wins and losses. *Psychological assessment*, 26(3), 865.
- Brock, T., & Johnson, M. (2021). The gamblification of digital games. *Journal of Consumer Culture*, 21(1), 3-13.
- Brown, A. M., & Moberly, L. (2020). Twitch and participatory cultures. In *The Video Game Debate 2* (pp. 53-65). Routledge.

- Bründl, S., Matt, C., Hess, T., & Engert, S. (2022). How Synchronous Participation Affects the Willingness to Subscribe to Social Live Streaming Services: The Role of Co-Interactive Behavior on Twitch. *European journal of information systems*, 1-18.
- Bulygin, D., Musabirov, I., Suvorova, A., Konstantinova, K., & Okopnyi, P. (2018). Between an arena and a sports bar: Online chats of esports spectators. *arXiv preprint arXiv:1801.02862*.
- Burroughs, B., & Rama, P. (2015). The eSports Trojan horse: Twitch and streaming futures. *Journal For Virtual Worlds Research*, 8(2).
- Cain, P., Donaghue, N., & Ditchburn, G. (2017). Concerns, culprits, counsel, and conflict: A thematic analysis of “obesity” and fat discourse in digital news media. *Fat Studies*, 6(2), 170-188.
- Calado, F., & Griffiths, M. D. (2016). Problem gambling worldwide: An update and systematic review of empirical research (2000–2015). *Journal of behavioral addictions*, 5(4), 592-613.
- Carter, M., & Egliston, B. (2021). The work of watching Twitch: Audience labour in livestreaming and esports. *Journal of Gaming & Virtual Worlds*, 13(1), 3-20.
- Chae, S. W., & Lee, S. H. (2022). Sharing emotion while spectating video game play: Exploring Twitch users' emotional change after the outbreak of the COVID-19 pandemic. *Computers in human behavior*, 131, 107211.
- Cheung, G., & Huang, J. (2011, May). Starcraft from the stands: understanding the game spectator. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 763-772).
- Coema, D. (2022). What the spectator expects in the game of watching: Twitch. tv, materiality, and game consumption through and beyond spectatorship. In *Proceedings of DiGRA 2022 Conference: Bringing Worlds Together*.
- Cotte, J. (1997). Chances, trances, and lots of slots: Gambling motives and consumption experiences. *Journal of Leisure Research*, 29(4), 380-406.
- Cranmer, E. E., Han, D. I. D., van Gisbergen, M., & Jung, T. (2021). Esports matrix: Structuring the esports research agenda. *Computers in Human Behavior*, 117, 106671.
- De Wit, J., Van der Kraan, A., & Theeuwes, J. (2020). Live streams on twitch help viewers cope with difficult periods in life. *Frontiers in Psychology*, 11, 586975.
- Dearing, V. A. (2022). *Manual of textual analysis*. Univ of California Press.
- Delfabbro, P. H., & Winefeld, A. H. (2000). Predictors of irrational thinking in regular slot machine gamblers. *The Journal of psychology*, 134(2), 117-128.
- Delfabbro, P. H. (2013). Behavioral risk factors in disordered gambling and treatment implications. *The Wiley Blackwell Handbook of Disordered Gambling*, 71-97.
- Delfabbro, P., & King, D. L. (2020). Gaming-gambling convergence: Evaluating evidence for the ‘gateway’ hypothesis. *International Gambling Studies*, 20(3), 380-392.
- Dixon, M. J., Harrigan, K. A., Santesso, D. L., Graydon, C., Fugelsang, J. A., & Collins, K.

(2014). The impact of sound in modern multiline video slot machine play. *Journal of Gambling Studies*, 30, 913-929.

Escobar-Lamanna, J. C. (2024). "You've Got to Put in the Time": Neoliberal-Ableism and Disabled Streamers on Twitch. *Societies*, 14(6), 75.

Faas, T., Dombrowski, L., Young, A., & Miller, A. D. (2018). Watch me code: Programming mentorship communities on twitch. tv. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), 1-18.

Flores-Saviaga, C., Hammer, J., Flores, J. P., Seering, J., Reeves, S., & Savage, S. (2019, September). Audience and streamer participation at scale on twitch. In *Proceedings of the 30th ACM Conference on Hypertext and Social Media* (pp. 277-278).

Ford, C., Gardner, D., Horgan, L. E., Liu, C., Tsaasan, A. M., Nardi, B., & Rickman, J. (2017, May). Chat speed op pogchamp: Practices of coherence in massive twitch chat. In *Proceedings of the 2017 CHI conference extended abstracts on human factors in computing systems* (pp. 858-871).

Foxman, M., Harris, B. C., & Partin, W. C. (2024). Recasting Twitch: Livestreaming, Platforms, and New Frontiers in Digital Journalism. *Digital Journalism*, 1-21.

Fraser, C. A., Kim, J. O., Thornsberry, A., Klemmer, S., & Dontcheva, M. (2019). Sharing the studio: How creative livestreaming can inspire, educate, and engage. In *Proceedings of the 2019 on Creativity and Cognition* (pp. 144-155).

Fursich, E. (2009). In defense of textual analysis. *Journalism studies*, 10(2), 238-252.

Gainsbury, S., King, D., Abarbanel, B., Delfabbro, P., & Hing, N. (2015). Convergence of gambling and gaming in digital media. Melbourne, VIC: *Victorian Responsible Gambling Foundation*.

Gandolfi, E. (2016). To watch or to play, it is in the game: The game culture on Twitch. tv among performers, plays and audiences. *Journal of gaming & virtual worlds*, 8(1), 63-82.

Graydon, C., Stange, M., & Dixon, M. J. (2018). Losses disguised as wins affect game selection on multiline slots. *Journal of Gambling Studies*, 34, 1377-1390.

Gros, D., Wanner, B., Hackenholt, A., Zawadzki, P., & Knautz, K. (2017). World of streaming. Motivation and gratification on Twitch. In *Social Computing and Social Media. Human Behavior: 9th International Conference, SCSM 2017, Held as Part of HCI International 2017, Vancouver, BC, Canada, July 9-14, 2017, Proceedings, Part I 9* (pp. 44-57). Springer International Publishing.

Hahmann, T., Hamilton-Wright, S., Ziegler, C., & Matheson, F. I. (2021). Problem gambling within the context of poverty: A scoping review. *International Gambling Studies*, 21(2), 183-219.

Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on twitch: fostering participatory communities of play within live mixed media. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1315-1324).

- Han, C., Seering, J., Kumar, D., Hancock, J. T., & Durumeric, Z. (2023). Hate raids on twitch: Echoes of the past, new modalities, and implications for platform governance. *Proceedings of the ACM on Human-Computer Interaction*, 7(CSCW1), 1-28.
- Harper, D. (2007). Discourse analysis. In *Choosing methods in mental health research* (pp. 63-83). Routledge.
- Hodgins, D. C., & Makarchuk, K. (2003). Trusting problem gamblers: reliability and validity of self-reported gambling behavior. *Psychology of Addictive Behaviors*, 17(3), 244.
- Hoebanx, P., & French, M. (2023). Interpassive gambling: The case of slot machine vlogs on YouTube. *Critical Gambling Studies*, 4(1), 66-76.
- Huang, Z., & Loo, B. P. (2023). Urban traffic congestion in twelve large metropolitan cities: A thematic analysis of local news contents, 2009–2018. *International Journal of Sustainable Transportation*, 17(6), 592-614.
- Jackson, N. (2023). *Persona Play in Videogame Livestreaming: An Ethnography of Performance on Twitch* (Doctoral dissertation, UNSW Sydney).
- Jackson, N. J. (2020). Understanding memetic media and collective identity through streamer persona on Twitch. tv. *Persona Studies*, 6(2), 69-87.
- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olrich, T. W. (2017). Virtual (ly) athletes: where eSports fit within the definition of “Sport”. *Quest*, 69(1), 1-18.
- Jodén, H., & Strandell, J. (2022). Building viewer engagement through interaction rituals on Twitch. tv. *Information, Communication & Society*, 25(13), 1969-1986.
- Johnson, M. R. (2019). Inclusion and exclusion in the digital economy: Disability and mental health as a live streamer on Twitch. tv. *Information, Communication & Society*, 22(4), 506-520.
- Johnson, M. R. (2021). Behind the streams: The off-camera labour of game live streaming. *Games and Culture*, 16(8), 1001-1020.
- Johnson, M. R. (2022). Humour and comedy in digital game live streaming. *New Media & Society*, 14614448221095160.
- Johnson, M. R. (2024). Twitch. *Polity Press*, Cambridge: UK.
- Johnson, M. R., & Brock, T. (2020). The ‘gambling turn’ in digital game monetization. *Journal of Gaming & Virtual Worlds*, 12(2), 145-163.
- Johnson, M. R., & Jackson, N. J. (2022). Twitch, Fish, Pokémon and Plumbers: Game live streaming by nonhuman actors. *Convergence*, 28(2), 431-450.
- Johnson, M. R., & Woodcock, J. (2017). ‘It’s like the gold rush’: the lives and careers of professional video game streamers on Twitch. tv. *Information, Communication & Society*, 22(3), 336-351.
- Johnson, M. R., & Woodcock, J. (2019a). The impacts of live streaming and Twitch. tv on the video game industry. *Media, Culture & Society*, 41(5), 670-688.

- Johnson, M. R., & Woodcock, J. (2019b). "And today's top donator is": How live streamers on Twitch.tv monetize and gamify their broadcasts. *Social Media + Society*, 5(4), 2056305119881694.
- Johnson, M. R., Carrigan, M., & Brock, T. (2019). The imperative to be seen: The moral economy of celebrity video game streaming on Twitch. tv. *First Monday*, 24(8).
- Joseph, D. (2021). Battle pass capitalism. *Journal of Consumer Culture*, 21(1), 68-83.
- Joukhador, J., Maccallum, F., & Blaszczynski, A. (2003). Differences in cognitive distortions between problem and social gamblers. *Psychological reports*, 92(3), 1203-1214.
- Joukhador, J., Blaszczynski, A., & Maccallum, F. (2004). Superstitious beliefs in gambling among problem and non-problem gamblers: Preliminary data. *Journal of Gambling Studies*, 20, 171-180.
- Kersbergen, I., Buykx, P., Brennan, A., Brown, J., Michie, S., & Holmes, J. (2022). Print and online textual news media coverage of UK low-risk drinking guidelines from 2014 to 2017: A review and thematic analysis. *Drug and Alcohol Review*, 41(5), 1161-1173.
- Kim, J., Wohn, D. Y., & Cha, M. (2022). Understanding and identifying the use of emotes in toxic chat on Twitch. *Online Social Networks and Media*, 27, 100180.
- Kim, M., & Kim, H. M. (2022). What online game spectators want from their twitch streamers: Flow and well-being perspectives. *Journal of Retailing and Consumer Services*, 66, 102951.
- King, D. L., & Delfabbro, P. H. (2020). The convergence of gambling and monetised gaming activities. *Current Opinion in Behavioral Sciences*, 31, 32-36.
- Klug, D., Evans, M., & Kaufman, G. (2022). How TikTok served as a platform for young people to share and cope with lived COVID-19 experiences. *MedieKultur: Journal of media and communication research*, 38(73), 152-170.
- Koomson, I., Churchill, S. A., & Munyanyi, M. E. (2022). Gambling and financial stress. *Social Indicators Research*, 163(1), 473-503.
- Ladouceur, R., Gaboury, A., Dumont, M., & Rochette, P. (1988). Gambling: Relationship between the frequency of wins and irrational thinking. *The Journal of Psychology*, 122(4), 409-414.
- Lalande, D., Emond, M., & Bélanger, E. (2020). Return rates of online slot machines in trial mode influence players' errors of estimation. *Journal of Gambling Issues*, 45, 1-17.
- Lamerichs, N. (2021). Material culture on Twitch. *Paratextualizing Games*, 181-212.
- Lee, H. P., Chae, P. K., Lee, H. S., & Kim, Y. K. (2007). The five-factor gambling motivation model. *Psychiatry research*, 150(1), 21-32.
- Leith, A. P. (2021). Parasocial cues: The ubiquity of parasocial relationships on Twitch. *Communication monographs*, 88(1), 111-129.
- Leith, A. P., & Gheen, E. (2022). Twitch in the time of quarantine: The role of engagement in needs fulfillment. *Psychology of Popular Media*, 11(3), 275.

- 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. (2024). Gambification: A definition. *New Media & Society*, 26(4), 2046-2065.
- McAllister, I. (2014). Public opinion towards gambling and gambling regulation in Australia. *International Gambling Studies*, 14(1), 146-160.
- McCashin, D., & Murphy, C. M. (2023). Using TikTok for public and youth mental health—A systematic review and content analysis. *Clinical Child Psychology and Psychiatry*, 28(1), 279-306.
- McLaughlin, C., & Wohn, D. Y. (2021). Predictors of parasocial interaction and relationships in live streaming. *Convergence*, 27(6), 1714-1734.
- Mihailova, T. (2022). Navigating ambiguous negativity: A case study of Twitch. tv live chats. *New Media & Society*, 24(8), 1830-1851.
- Mok, W. P., & Hraba, J. (1991). Age and gambling behavior: A declining and shifting pattern of participation. *Journal of Gambling Studies*, 7(4), 313-335.
- Monaghan, S., Blaszczynski, A., & Nower, L. (2009). Consequences of winning: The role of gambling outcomes in the development of irrational beliefs. *Behavioural and Cognitive Psychotherapy*, 37(1), 49-59.
- Montag, C., Yang, H., & Elhai, J. D. (2021). On the psychology of TikTok use: A first glimpse from empirical findings. *Frontiers in public health*, 9, 641673.
- Neighbors, C., Lostutter, T. W., Crouce, J. M., & Larimer, M. E. (2002). Exploring college student gambling motivation. *Journal of gambling studies*, 18, 361-370.
- Nematzadeh, A., Ciampaglia, G. L., Ahn, Y. Y., & Flammini, A. (2019). Information overload in group communication: From conversation to cacophony in the twitch chat. *Royal Society open science*, 6(10), 191412.
- Newall, P. W., Moodie, C., Reith, G., Stead, M., Critchlow, N., Morgan, A., & Dobbie, F. (2019). Gambling marketing from 2014 to 2018: A literature review. *Current Addiction Reports*, 6, 49-56.
- Orme, S. (2022). “Just watching”: A qualitative analysis of non-players’ motivations for video game spectatorship. *New Media & Society*, 24(10), 2252-2269.
- Pantolon, M. V., Maciejewski, P. K., Desai, R. A., & Potenza, M. N. (2008). Excitement-seeking gambling in a nationally representative sample of recreational gamblers. *Journal of gambling studies*, 24, 63-78.
- Parke, J., & Parke, A. (2013). Does size really matter? A review of the role of stake and prize levels in relation to gambling-related harm. *The Journal of Gambling Business and Economics*, 7(3), 77-110.
- Parker, F., & Perks, M. E. (2021). Streaming ambivalence: Livestreaming and indie game

development. *Convergence*, 27(6), 1735-1752.

Pellicone, A. (2016, May). Performing play: cultural production on Twitch.tv. In *Proceedings of the 2016 CHI conference extended abstracts on human factors in computing systems* (pp. 244-248).

Percy, C., Tsarvenkov, K., Dragicevic, S., Delfabbro, P. H., & Parke, J. (2021). Volatility under the spotlight: panel regression analysis of online slots player in the UK. *International Gambling Studies*, 21(3), 395-410.

Persaud, C. J., & Perks, M. E. (2022). Beauty From the Waist Up: Twitch Drag, Digital Labor, and Queer Mediated Liveness. *Television & New Media*, 23(5), 475-486.

Petry, N. M. (2009). Disordered gambling and its treatment. *Cognitive and Behavioral Practice*, 16(4), 457-467.

Phelps, A., Consalvo, M. & Bowman, N. (2021). Streaming into the void: An analysis of microstreaming trends and behaviors utilizing a demand framework. In: *Proceedings of the 54th Hawaii International Conference on System Sciences*, pp. 2863–72.

Qian, T. Y., Wang, J. J., Zhang, J. J., & Lu, L. Z. (2020). It is in the game: Dimensions of esports online spectator motivation and development of a scale. *European sport management quarterly*, 20(4), 458-479.

Rahman, A. S., Pilver, C. E., Desai, R. A., Steinberg, M. A., Rugle, L., Krishnan-Sarin, S., & Potenza, M. N. (2012). The relationship between age of gambling onset and adolescent problematic gambling severity. *Journal of psychiatric research*, 46(5), 675-683.

Recktenwald, D. (2017). Toward a transcription and analysis of live streaming on Twitch. *Journal of Pragmatics*, 115, 68-81.

Rogier, G., Caputo, A., Langher, V., Lysaker, P. H., Dimaggio, G., & Velotti, P. (2020). Giving a voice to gambling addiction: Analysis of personal narratives. *Culture, Medicine, and Psychiatry*, 44, 159-174.

Ross, A., & Nieborg, D. (2021). Spinning is winning: Social casino apps and the platformization of gamble-play. *Journal of Consumer Culture*, 21(1), 84-101.

Ruberg, B. (2022). Live play, live sex: The parallel labors of video game live streaming and webcam modeling. *Sexualities*, 25(8), 1021-1039.

Ruberg, B., Cullen, A. L., & Brewster, K. (2019). Nothing but a “titty streamer”: legitimacy, labor, and the debate over women’s breasts in video game live streaming. *Critical Studies in Media Communication*, 36(5), 466-481.

Ruberg, B. B., & Lark, D. (2021). Livestreaming from the bedroom: Performing intimacy through domestic space on Twitch. *Convergence*, 27(3), 679-695.

Schull, N. D. (2005). Digital gambling: The coincidence of desire and design. *The Annals of the American Academy of Political and Social Science*, 597(1), 65-81.

Schüll, N. D. (2012). *Addiction by design: Machine gambling in Las Vegas*. Princeton University Press.

Scully-Blaker, R., Begy, J., Consalvo, M., & Ganzon, S. (2017). Playing along and playing for on Twitch: Livestreaming from tandem play to performance. Paper presented at the 50th Hawaii International Conference on System Sciences, Hilton Waikoloa, Hawaii.

Seering, J., Flores, J. P., Savage, S., & Hammer, J. (2018). The social roles of bots: evaluating impact of bots on discussions in online communities. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW), 1-29.

Shutsko, A. (2020). User-generated short video content in social media. A case study of TikTok. In *Social Computing and Social Media. Participation, User Experience, Consumer Experience, and Applications of Social Computing: 12th International Conference, SCSM 2020, Held as Part of the 22nd HCI International Conference, HCII 2020, Copenhagen, Denmark, July 19–24, 2020, Proceedings, Part II* 22 (pp. 108-125). Springer International Publishing.

Siler, K. (2010). Social and psychological challenges of poker. *Journal of Gambling Studies*, 26, 401-420.

Siuda, P., & Johnson, M. R. (2022). Microtransaction politics in FIFA Ultimate Team: game fans, Twitch streamers, and Electronic Arts. *EA Sports FIFA: Feeling the Game*, 87.

Siutila, M. (2018, May). The gamification of gaming streams. In *GamiFIN* (pp. 131-140).

Sixto-García, J., & Losada-Fernández, D. (2023). Spanish Twitch streamers: Personal influence in a broadcast model akin to television. *Convergence*, 29(3), 713-729.

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.

Speed, A., Burnett, A., & Robinson II, T. (2023). Beyond the Game: Understanding why people enjoy viewing Twitch. *Entertainment Computing*, 45, 100545.

Spetch, M. L., Madan, C. R., Liu, Y. S., & Ludvig, E. A. (2020). Effects of winning cues and relative payout on choice between simulated slot machines. *Addiction*, 115(9), 1719-1727.

Spilker, H. S., Ask, K., & Hansen, M. (2020). The new practices and infrastructures of participation: How the popularity of Twitch. tv challenges old and new ideas about television viewing. *Information, Communication & Society*, 23(4), 605-620.

Subramaniam, M., Abdin, E., Shahwan, S., Vaingankar, J. A., Picco, L., Browning, C. J., ... & Chong, S. A. (2015). Culture and age influences. upon gambling and problem gambling. *Addictive Behaviors Reports*, 1, 57-63

Taylor, T. L. (2012). *Raising the stakes: E-sports and the professionalization of computer gaming*. MIT Press.

Thomas, S. L., Bestman, A., Pitt, H., Cassidy, R., McCarthy, S., Nyemcsok, C., ... & Daube, M. (2018). Young people's awareness of the timing and placement of gambling advertising on traditional and social media platforms: a study of 11–16-year-olds in Australia. *Harm Reduction Journal*, 15, 1-13.

- Thorhauge, A. M., & Nielsen, R. K. (2021). Epic, Steam, and the role of skin-betting in game (platform) economies. *Journal of Consumer Culture*, 21(1), 52-67.
- Torrance, J., John, B., Greville, J., O'Hanrahan, M., Davies, N., & Roderique-Davies, G. (2021). Emergent gambling advertising; a rapid review of marketing content, delivery and structural features. *BMC public health*, 21, 1-13.
- Vandall, F. (2008). Why we are outraged: An economic analysis of Internet gambling. *Rich. J. Global L. & Bus.*, 7, 291.
- Volberg, R. A., Gerstein, D. R., Christiansen, E. M., & Baldridge, J. (2001). Assessing self-reported expenditures on gambling. *Managerial and Decision Economics*, 22(1-3), 77-96.
- VRGF, (2014). Gender gap highlighted in new gambling study. *Victorian Responsible Gambling Foundation*, available at <https://responsiblegambling.vic.gov.au/about-us/news-and-media/gender-gap-highlighted-new-gambling-study/>
- Walker, M. B. (1992). Irrational thinking among slot machine players. *Journal of Gambling studies*, 8(3), 245-261.
- Welte, J. W., Barnes, G. M., Tidwell, M. C. O., & Hoffman, J. H. (2011). Gambling and problem gambling across the lifespan. *Journal of Gambling Studies*, 27, 49-61.
- Whitson, J., & French, M. (2021). Productive play: The shift from responsible consumption to responsible production. *Journal of Consumer Culture*, 21(1), 14-33.
- Wohn, D. Y., & Freeman, G. (2020, June). Audience management practices of live streamers on Twitch. In *ACM International conference on interactive media experiences* (pp. 106-116).
- Wohn, D. Y., Freeman, G., & McLaughlin, C. (2018, April). Explaining viewers' emotional, instrumental, and financial support provision for live streamers. In *Proceedings of the 2018 CHI conference on human factors in computing systems* (pp. 1-13).
- Wohn, D. Y., Jough, P., Eskander, P., Siri, J. S., Shimobayashi, M., & Desai, P. (2019, October). Understanding digital patronage: why do people subscribe to streamers on twitch?. In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play* (pp. 99-110).
- Woodcock, J., & Johnson, M. R. (2019). The affective labor and performance of live streaming on Twitch. tv. *Television & New Media*, 20(8), 813-823.
- Woodcock, J., & Johnson, M. R. (2021). Live streamers on Twitch. tv as social media influencers: Chances and challenges for strategic communication. In *Social media influencers in strategic communication* (pp. 88-102). Routledge.
- Wulf, T., Schneider, F. M., & Queck, J. (2021). Exploring viewers' experiences of parasocial interactions with videogame streamers on twitch. *Cyberpsychology, Behavior, and Social Networking*, 24(10), 648-653.
- Xiao, L. Y. (2022). Blind boxes: opening our eyes to the challenging regulation of gambling-like products and gamblification and unexplained regulatory inaction. *Gaming Law Review*, 26(5), 255-268.

- Yoganathan, V., Osburg, V. S., & Stevens, C. J. (2021). Freedom and giving in game streams: A Foucauldian exploration of tips and donations on Twitch. *Psychology & Marketing*, 38(6), 1001-1013.
- Young, A., & Wiedenfeld, G. (2022). A Motivation Analysis of Video Game Microstreamers: "Finding My People and Myself" on YouTube and Twitch. *Journal of Broadcasting & Electronic Media*, 66(2), 381-399.
- Yu, V., Alvarez, K. P. B., & Chen, V. H. H. (2021). Game streamers' practices on Twitch and management of well-being. *JoCTEC: Journal of Communication Technology*, 4(1), 54-77.
- Youngblood, J. (2022). A labor of (queer) love: Maintaining "cozy wholesomeness" on Twitch during COVID-19 and beyond. *Television & New Media*, 23(5), 531-541.
- Zaucha, T., & Agur, C. (2023). Playbor, gamble-play, and the financialization of digital games. *New Media & Society*, first published online.
- Zaucha, T. (2024). Unpredictability and consequence in play-to-earn crypto gaming. *Information, Communication & Society*, first published online.
- Zanescu, A., French, M., & Lajeunesse, M. (2021). Betting on DOTA 2's Battle Pass: Gamblification and productivity in play. *New Media & Society*, 23(10), 2882-2901.
- Zanescu, A., Lajeunesse, M., & French, M. (2021). Speculating on steam: consumption in the gamblified platform ecosystem. *Journal of Consumer Culture*, 21(1), 34-51.
- Zendle, D., Meyer, R., Cairns, P., Waters, S., & Ballou, N. (2020). The prevalence of loot boxes in mobile and desktop games. *Addiction*, 115(9), 1768-1772.
- Zhao, Q., Chen, C. D., Cheng, H. W., & Wang, J. L. (2018). Determinants of live streamers' continuance broadcasting intentions on Twitch: A self-determination theory perspective. *Telematics and Informatics*, 35(2), 406-420.
- Zhou, Y., & Farzan, R. (2021, June). Designing to stop live streaming cyberbullying: a case study of twitch live streaming platform. In *C&T'21: Proceedings of the 10th International Conference on Communities & Technologies-Wicked Problems in the Age of Tech* (pp. 138-150).