Cogent Social Sciences

ISSN: 2331-1886 (Online) Journal homepage: www.tandfonline.com/journals/oass20

Exploring the experiences and wellbeing of competitive women, transgender, and gender diverse gamers

Cecilie Lolansen, Tyrone L. Burleigh, Liam Cahill & Eden Morley

To cite this article: Cecilie Lolansen, Tyrone L. Burleigh, Liam Cahill & Eden Morley (2026) Exploring the experiences and wellbeing of competitive women, transgender, and gender diverse gamers, Cogent Social Sciences, 12:1, 2635762, DOI: 10.1080/23311886.2026.2635762

To link to this article: https://doi.org/10.1080/23311886.2026.2635762

Published online: 02 Mar 2026.

COGENT SOCIAL SCIENCES
2026, VOL. 12, NO. 1, 2635762
https://doi.org/10.1080/23311886.2026.2635762

SPORT AND DISCRIMINATION | RESEARCH ARTICLE

OPEN ACCESS Check for updates

Exploring the experiences and wellbeing of competitive women, transgender, and gender diverse gamers

Cecilie Lolansen[a], Tyrone L. Burleigh[b], Liam Cahill[b] and Eden Morley[a]

[a]School of Psychology, University of Nottingham, Nottingham, United Kingdom; [b]Department of Psychology, Nottingham Trent University, Nottingham, United Kingdom

ABSTRACT

Video gaming offers various benefits, such as social connections and improved wellbeing. However, as competitive video gaming continues to grow, gender-related harassment of women, transgender, and gender diverse (TGD) gamers in competitive environments persists. This study explored the experiences of gamers in gaming communities, their mental health, and gaming imposter syndrome across genders. The study also explored women and TGD gamers' experiences of gender-related harassment. Findings showed that ~87% of women and TGD gamers reported gender-related harassment and employed a range of avoidance action to minimize harassment. They also reported greater worries about engaging in gaming communities, greater gaming imposter syndrome, and poorer mental health. The findings highlight the pervasiveness of gender-related harassment in competitive video gaming and the reliance of short-term coping strategies among women and TGD gamers. While identity-specific communities may offer support, structural and cultural changes are needed to foster inclusive competitive gaming spaces.

ARTICLE HISTORY
Received 26 October 2025
Revised 20 December 2025
Accepted 18 February 2026

KEYWORDS
Female gamers; harassment; transgender gamers; esports; mental health

SUBJECTS
Gender Studies - Soc Sci; Psychological Science; Social Psychology; Sport Psychology; Mental Health; Feminist Psychology; Gaming

1. Introduction

Over the past several decades, video games have evolved into a dominant form of mainstream entertainment, with approximately 65% of Americans playing them and an estimated $56.6 billion spent on the medium in 2023 (Entertainment Software Association, 2023). Video games have also become considerably more accessible, with options for video gaming involving devices such as consoles, personal computers (PCs), smartphones, and mobile consoles. They also feature options for playing by oneself (single-player) or playing with other people (multi-player). In line with this broadening of the video gaming landscape, the stereotype of video gaming as a white, male, solitary hobby is evolving as gaming is being embraced by different ages, ethnicities, and gender groups (Engelstätter & Ward, 2022; Entertainment Software Association, 2023). Competitive video gaming (esports) has also emerged as a result of increased participation and investment in video games (Pedraza-Ramirez et al., 2020).

1.1. Impact of video games on cognition and mental health

As video games become more integrated into modern entertainment, research on the potential effects of video games on cognition and mental health has grown. Research suggests that playing video games can benefit spatial abilities (Ferguson, 2007; Uttal et al., 2013) and multisensory processing (Donohue et al., 2010). Research has also reported improved motor skills in children with atypical development (Page et al., 2017) and improved physical health outcomes (Bowman et al., 2022). The benefits also extend into mental health, with studies showing that video gaming can reduce stress, improve mood, and enhance wellbeing (Halbrook et al., 2019; Pallavicini et al., 2021; Pine et al., 2020; Russoniello et al., 2009). It also has the potential to alleviate symptoms of psychiatric conditions, such as anxiety and depression (Ruiz

CONTACT Cecilie Lolansen cecilie.lolansen@nottingham.ac.uk School of Psychology, University Park Campus, East Dr, University of Nottingham, Nottingham NG7 2RD, United Kingdom.

et al., 2022), and support wellbeing during difficult times by offering an escape, alongside positive factors such as social connection, something to look forward to, and an avenue for processing their personal difficulties (Iacovides & Mekler, 2019).

1.2. Social benefits of video gaming

Multiplayer video games provides a platform for gamers to interact with each other and form communities not restricted by traditional barriers such as geography (Steinkuehler & Williams, 2006) and can foster deep and meaningful bonds between those who play together (Cole & Griffiths, 2007). Indeed, for individuals who may struggle socially, such as those with emotional sensitivity (Kowert et al., 2014) and autism spectrum disorder (Finke et al., 2018), video games and video game communities can be a safe and accessible space for social interaction and connection. Moreover, cooperative and multiplayer gaming has been shown to encourage empathy and prosocial behaviours (Jin & Li, 2017). These social benefits can also extend to children and adolescents; for example, playing prosocial video games has been associated with more positive peer relationship and prosocial behaviours in younger populations (Harrington & O'Connell, 2016).

The connections fostered through playing video games together were a source of resilience and protected mental health for many gamers during the COVID-19 pandemic (Barr & Copeland-Stewart, 2022; Partala, 2022; Wiederhold, 2021). In one study, participants described how playing video games with other people helped build connections and combat feelings of loneliness and isolation (Barr & Copeland-Stewart, 2022), which highlights the social benefits of video gaming. These benefits are not only present in casual games. People who engage in competitive video games similarly report a range of social benefits, such as social interactions, teamwork, and building connections with others (Delello et al., 2021). Gamers attending in-person gaming events, known as Local Area Network (LANs) events, also describe being motivated to attend for both competitive and social reasons (Jansz & Martens, 2005).

1.3. Challenges in gaming: toxicity and gendered harassment

While video gaming offers numerous benefits as outlined above, it is also associated with challenges, particularly in online competitive environments. Toxic behaviours describe behaviours such as aggression or negative communications in text or voice chats, cheating, and sabotaging, are prevalent in online competitive video games, and can negatively impact player experience and mental health (Kou, 2020).

A common explanation for this normalization is online disinhibition, the tendency of individuals to show less restrained behaviour online (Lapidot-Lefler & Barak, 2012). A phenomenon, which is linked to increased toxic behaviour in online contexts (Kordyaka et al., 2020). Liu and Agur (2023), argue that anonymity plays a key role in fostering toxicity, with the frequency being mediated by perceived consequences and the prevailing social norms of gaming spaces. Moreover, the perception that toxic behaviours are someone else's responsibility contributes to a self-perpetuating environment where such conduct becomes ingrained (Beres et al., 2021). One particularly concerning aspect of toxic behaviour in gaming environments is the prevalence of gendered harassment, which disproportionately affects women and trans and gender diverse (TGD) gamers (i.e. those whose gender identity differs from their sex assigned at birth, including identities such as non-binary, transgender, agender, and genderfluid) (Jones et al., 2019) players and reflects the broader issues of inequality within gaming culture.

1.4. The role of gender in video gaming harassment

Men have largely dominated video gaming since its inception. However, women have increasingly taken up the hobby and entered video game spaces, with 46% of gamers identifying as women in 2023 (Entertainment Software Association, 2023). Despite this, women often experience being singled out in negative ways. Gaming spaces, both in online games themselves and in gaming communities, can be hostile spaces for women (Darvin et al., 2020; Vergel et al., 2024), who often feel targeted because of their gender (Tang & Fox, 2016) and frequently report experiencing toxicity and sexual harassment in online games (Crothers et al., 2024; McLean & Griffiths, 2019; Ruvalcaba et al., 2018), which can negatively impact their mental health (Wong & Ratan, 2024).

Even in professional contexts, women are disproportionately subjected to cyberbullying and harassment compared to men (Trudgett-Klose & McLinton, 2024), which may negatively impact the professional talent pipeline and development. For example, recent numbers suggest that while 8.8% of 16- to 18-year-old boys actively participate in esports, the number is only 0.7% for girls (Overå et al., 2024). Unlike traditional sports, which often organize participation by age and gender, video games typically include mixed-gender and mixed-age participants across both in-game competitive matchmaking services and organized competitive play, which can create interactional dynamics distinct from those found in many offline competitive sporting contexts. Research highlights how mixed-gender participantion in competitive settings can encourage respect and skill recognition between different groups (Channon, 2014) and encourage moving away traditional gender norms (Priyadharshini & Pressland, 2018). However, in competitive gaming spaces, these dynamics interact with a digital space, which often lack comparable cultural and structural safeguards. This can impact competitive outcomes and experiences, as research on first-time esports competitors found that women had poorer outcomes when participating in mixed-gender tournaments than in women-only tournaments (Nolla et al., 2023), further highlighting the gendered dimension of competitive gaming experiences.

Various explanations have been proposed to explain the pervasiveness of gender-related toxicity in gaming spaces. Fox and Tang (2014) propose that sexist beliefs, particularly those aligned with traditional societal masculine norms such as men establishing dominance over women, heteronormativity, and performing to gender expectations, are closely linked to negative attitudes toward women in gaming. These findings also align with research suggesting that hostile sexism significantly predicts both general and sexual harassment within video gaming (Tang & Fox, 2016). It is possible that the combination of a competitive environment deeply embedded in cybersexism (Vergel et al., 2024) and the normalization of toxicity within competitive gaming spaces (Türkay et al., 2020) both foster and intensify sexist beliefs and behaviours.

In response to this pervasive harassment, many women adopt avoidance behaviours to reduce the risk of being targeted (McLean & Griffiths, 2019). This includes avoiding playing with strangers (Cote, 2017), reduce or avoid communication with teammates (Crothers et al., 2024), or take actions to hide their gender such as using gender-neutral usernames or use voice changes when communicating (Cote, 2017; Crothers et al., 2024; Madden et al., 2021), a combination of these, or even withdrawing from gaming (Fox & Tang, 2017). Interestingly, despite these challenges, many women also report forming supportive communities and expressing solidarity in response to shared experiences of gender-based toxicity (Crothers et al., 2024). Notably, most of the research exploring the experience of woman gamers is often qualitative, highlighting the need to quantitatively explore these experiences and the pervasiveness of such experiences across larger and more diverse samples.

In addition to the gender-based harassment experienced by women, LGBTQIA+ gamers are also frequently subjected to discrimination, harassment, and exclusion in gaming spaces (Close, 2024; Gillin & Signorella, 2024) as well as microaggressions (Di Cesare et al., 2024). These negative interactions often mirror those directed at women but can be compounded by intersecting experiences of gender identity and sexual orientation. In competitive gaming and esports contexts, LGBTQIA+ individuals report facing systemic barriers, such as underrepresentation, stereotyping, and concerns around disclosure and safety (Cote et al., 2023; Friman et al., 2024). Sexism and discrimination toward LGBTQ+ individuals are often interlinked, driven by rigid expectations regarding traditional gender norms where any deviation from hegemonic masculinity or femininity is targeted as a violation of the established social order of the gaming community (Connell & Messerschmidt, 2005). Indeed, research highlights how while TGD gamers can find gaming spaces freeing, they can also be subject to identity-harassment (Kosciesza, 2025). It is perhaps then unsurprising that the competitive gaming communities are hostile environment for both cisgender women and LGBTQIA+ individuals.

The impact these experiences can have is manyfold. The minority stress model (Meyer, 2003) suggests that marginalized individuals are exposed to chronic stresses such as discrimination, rejection, and internal stigma that negatively impact mental health. Within the context of competitive gaming, where skills, confidence, and performance are often scrutinized, these stresses can be exacerbated (Darvin et al., 2021). The pressure to perform and conform to hegemonic norms within gaming spaces (Close, 2024; Voorhees & Orlando, 2018) can lead women and TGD players internalizing doubts about their confidence and belonging reinforcing feelings associated with imposter syndrome, and negative stereotypes about

these groups in gaming can even impact in-game performance (Kaye & Pennington, 2016). On the other hand, recent work has also begun to conceptualize games not only as sites of harassment, but also as potential spaces for identity and supportive community-building for TGD individuals. For instance, digital game-based learning has been explored as a tool for raising transgender identity awareness within socio-educational contexts (Manzano-León et al., 2024). Despite this, such behaviours are often normalized within gaming communities and perceived as an expected part of competitive play (Beres et al., 2021; Pauketat, 2022; Türkay et al., 2020).

The specific experiences of TGD gamers remain significantly underexplored in the academic literature, particularly in relation to competitive gaming environments. While research in traditional sports clearly highlights how TGD individuals face barriers, harassment, and have poor experiences in traditional sports (Bailey et al., 2024; Jones et al., 2017), it is important to explore the possible similarities or differences in competitive gaming settings which are, as previously discussed, not formally separated by gender in the manner seen in traditional sports. Given that both women and TGD gamers face heightened vulnerability to gender-based toxicity, the present paper seeks to explore their experiences in greater depth to better understand how marginalized gender identities intersect with the social dynamics of online gaming spaces, and whether there are distinct experiences and impacts of harassment on these groups in competitive gaming.

1.5. Research aims

This study aims to provide insight into current gaming engagement behaviours, including with gaming communities, and mental health for competitive gamers. Additionally, based on the findings suggesting that women and TGD gamers face unique gender-related challenges in-game and in video gaming communities, this study will also explore women and TGD gamers' experiences of harassment and effects on mental health, avoidance actions, and perceptions of women and TGD gaming communities. Based on the previous literature, the present study has the following hypotheses:

1. Women and TGD gamers will report more worries about engaging in online and offline gaming communities than men.
2. TGD gamers will report more worries about engaging in online and offline gaming communities than cisgender gamers.
3. Women and TGD gamers will report more feelings of gaming imposter syndrome than men.
4. Women and TGD gamers will report poorer mental health (higher levels of depression, anxiety, and stress) than men.
5. Most women and TGD gamers will report having experienced harassment and engaging in avoidance actions, such as hiding their gender.

2. Methods

2.1. Design and participants

The study used an online cross-sectional design hosted through Qualtrics. The University of Nottingham Ethics Committee approved the study (F1471R). A total of 777 responses were collected. Of these, 121 were removed due to incomplete data (i.e. when two or more full sections were missing, excluding sections shown only to specific groups, such as the gendered harassment questions), and 6 were excluded due the participants being under 18 years of age. This left 650 valid responses. From this sample, only participants who reported playing competitive games were retained for analysis, resulting in a final sample of 490 participants. For this study, competitive play was defined as playing using in-game ranked matchmaking systems or organized competitive play, such as tournaments. While participants' self-reported experience levels varied, all participants included in analysis reported engaging with competitive aspects of the game(s) they played.

Participants were aged 18–63 (M_{age} = 25.02, SD = 6.92): 240 men, 182 women, 54 non-binary, 11 agender/genderfluid, and 3 other-identifying. Within this sample, 75 participants identified as transgender and 415 as cisgender. For analysis, participants who identified as non-binary, agender/genderfluid, or in another way were grouped as 'non-binary and other'. To examine the gendered patterns, we also

Table 1. Breakdown of gender in the sample used for analysis.

	Man	Woman	Non-binary and other	Total
Cisgender	224	163	28	415
Transgender	16	19	40	75
Total	240	182	68	490

created a binary variable distinguishing between participants who identified as women and/or TGD ($N = 266$) and those who did not ($N = 224$). A full breakdown of gender identity by trans/cis status is presented in Table 1.

Participants were recruited using a combination of volunteer and paid methods between November 2023 and July 2024. A total of 273 participants were recruited globally *via* the online platform Prolific (https://prolific.com/) and were paid £3 for their participation. An additional 132 participants were recruited through student participant pools at the University of Nottingham ($N = 104$) and Nottingham Trent University ($N = 28$), receiving course credit in return for participation. The remaining 85 participants were recruited through opportunity sampling *via* posters on campus and social media advertisements and were offered entry into a draw to win one of ten £25 Amazon vouchers. All participants provided informed consent before beginning the survey.

2.3. Materials

Demographic information was gathered using a mixture of open text entry boxes and categorical options.

2.3.1. Gaming engagement and behaviour

Participants were asked to describe what type of gamer they were (novice, casual, enthusiast, hardcore, professional), how many years they had been playing video games, hours per week spent playing, which types of platforms used for gaming, whether they play casual or competitive games (or both), and what genres of games they played.

2.3.2. Gaming community worries

Participants were asked to describe their experiences in online (online groups, virtual communities, online teams) and offline (societies, local gaming cafes, university/college teams) gaming communities using two questions. Participants were asked their agreement with five statements for each type of community with responses using a five-point Likert scale from 'Strongly disagree' (1) to 'Strongly agree' (5). Scores on these statements were added up to a total sum score (with items 1 and 4 being reverse scored) with a higher score indicating greater worries about engaging in gaming communities. The five statements were:

1. 'I feel welcome in (online/offline) gaming communities'.
2. 'I worry about joining (online/offline) gaming communities because of my gender/identity'.
3. 'I worry about joining (online/offline) gaming communities because of my appearance/presentation'.
4. 'I feel supported by the other members in my (online/offline) gaming communities'.
5. 'I feel easily "singled out" in (online/offline) gaming communities'.

Cronbach's α on these scales were 0.77 and 0.79 for the online and offline questions respectively, suggesting reasonable reliability.

2.3.3. Harassment experiences

Options for harassment type and avoidance actions were generated based on the literature and informal discussions with women and TGD gamers regarding their experiences of harassment.

2.3.3.1. Frequency. Frequency of worrying about and experiencing gender-related harassment was measured using a 5-point Likert scale from 'Never' (1), 'Sometimes' (2), 'About half the time' (3), 'Most of the time' (4), to 'Always' (5).

2.3.3.2. Harassment type. Participants indicated if they had experienced any of the following types of harassment while playing video games or interacting in gaming communities: negative comments regarding their identity, abusive language, simping (i.e. excessive positive comments), unwanted advances, sexual comments, threats, or targeted interference. Participants could describe other types of harassment using a free-form text box.

2.3.3.3. Avoidance actions. Participants indicated if they had taken any of the following types of avoidance actions when playing video games or interacting in gaming communities to avoid the gender-related harassment: use a gender-neutral user name, not revealing their identity, avoiding using voice chat unless with friends, avoid using voice chat at all, avoid playing with strangers, be more aggressive in response to negative comments, avoid interacting with online communities, avoid social activities, or avoid competitive activities. Participants could describe other types of actions using a free-form text box.

2.3.4. Perception of women and LGBTQIA+ gaming communities

Perceptions of gaming communities specifically created for women and LGBTQIA+ gamers were measured using the five questions. Participants were asked their agreement with five statements for each type of community using a five-point Likert scale from 'Strongly disagree' (1) to 'Strongly agree' (5). The five statements were:

1. 'I think these communities are a good thing'.
2. 'I feel/would feel more welcome in these communities'.
3. 'I am less/would feel less worried about negative comments and harassment in these communities'.
4. 'I feel/would feel more willing to engage in social activities in these communities'.
5. 'I feel/would feel more willing to engage in competitive activities in these communities'.

The scores for each question were summed to create a total score for marginalized community perception with a higher score indicating a more positive perception. Cronbach's α for this scale was 0.92, suggesting good reliability.

2.3.5. Gaming imposter syndrome scale (GISS)

An adapted version of Clance Imposter Phenomenon Scale (1986) was used to measure the experiences of imposter syndrome in gaming contexts (see this project's OSF page for the adapted version: https://osf.io/4abkr/). The scale was adapted with permission by amending the instructions to specify the participants to reflect on gaming abilities and the wording of individual items to be gaming specific, such as adapting the statement '*When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success*' to '*When I've succeeded at something and received recognition for my in-game accomplishments, I have doubts that I can keep repeating that success*'. The 20-item scale was measured using a five-point Likert scale from 1 ('Not at all true') to 5 ('Very true'). Cronbach's α for this scale was 0.94, suggesting that the adaptation resulted in a reliable measure.

2.3.6. Depression, anxiety, and stress

Depression, anxiety, and stress were measured using the short form of the Depression, Anxiety, and Stress-21 (DASS-21) scale by Lovibond and Lovibond (1995). The 21-item scale was measured using a four-point Likert scale from 'Did not apply to me at all' (0) to 'Applied to me very much or most of the time' (4). Scores were summed across each subscale and doubled to provide individual measures of depression, anxiety, and stress, respectively. Cronbach's α for the subscale were 0.93 for depression, 0.86 for anxiety, and 0.89 for stress, suggesting good reliability.

2.4. Procedure

Participants who accessed the survey were presented with an information sheet, after which they could provide informed consent and proceed to the survey. Participants provided demographics information. After this, they were asked whether they identify as a gamer. Participants who answered yes proceeded to the remaining parts of the survey. Participants then provided information about their gaming habits

followed by questions about their gaming community experiences. If the participant identified as women or TGD (non-binary, agender/genderfluid, other, transgender), they were then presented with questions about gendered harassment experiences and perceptions of women and LGBTQIA+ gaming communities. Participants who identified as men and cisgender did not see these questions. This was followed by gaming imposter syndrome questions and the DASS-21, which all participants were shown. After this, participants were shown debrief information. For participants who were not recruited *via* Prolific or the University of Nottingham's research participation scheme, they had the option of choosing to enter the prize draw. Participants who were interested in participating in the prize draw were linked to another survey, in which they provided their email address.

3. Results

3.1. Gaming engagement

Participants in this study had on average played video games for 14.48 years ($SD = 7.62$) and spent 10.34 hours ($SD = 10.38$) hours playing video games per week. Breakdown of gamer type (novice, casual, enthusiast, hardcore, professional) can be seen below in Table 2. A one-way ANOVA revealed no significant differences in hours played per week between each gender identity ($F(2, 486) = 1.38$, $p = 0.252$, $\eta p^2 = 0.006$).

The most popular competitive game genre was FPS games, with a full breakdown of genres of competitive games played listed below in Table 3.

3.2. Gaming community worries

3.2.1. Online communities

A one-way ANOVA explored differences between gender and online gaming community worries. The analysis identified a significant effect of gender ($F(2, 486) = 56.25$, $p < 0.001$, $\eta p^2 = 0.188$), which post-hoc tests using Holm-Bonferroni corrections revealed was driven by both women ($p < 0.001$, $d = 0.80$) and GD individuals ($p < 0.001$, $d = 1.23$) reporting significantly more worries than men, with other-identifying gamers also reporting more worries than women ($p = 0.003$, $d = 0.43$). Transgender participants also reported more online gaming community worries ($M = 14.99$, $SD = 4.69$) than cisgender participants ($M = 12.10$, $SD = 4.49$), $t(487) = 5.09$, $p < 0.001$.

3.2.2. Offline communities

As with online gaming community worries, a significant main effect of gender was found for offline gaming community worries ($F(2, 486) = 35.85$, $p < 0.001$, $\eta p^2 = 0.129$), and that this effect was driven by

Table 2. Distribution of different types of self-identifying gamer type and mean hours played per week by gender.

	Man	Woman	Non-binary and other
Novice	1 (0.42%)	9 (5.00%)	1 (1.47%)
Casual	57 (23.85%)	94 (52.22%)	16 (23.53%)
Enthusiast	144 (60.25%)	61 (33.89%)	38 (55.88%)
Hardcore	36 (15.06%)	16 (8.89%)	13 (19.12%)
Professional	1 (0.42%)	0 (0.00%)	0 (0.00%)
Hours played per week	11.11	9.42	10.10

Table 3. Distribution of different competitive game genres played by gender.

	Man	Woman	Non-binary and other	Total
FPS	180	118	47	345
MOBA	105	39	21	165
Fighting	57	40	16	113
Racing	43	47	13	103
RTS	23	17	8	48
Sports	82	52	8	142
Third person shooter	92	35	21	148
Card games	38	31	17	86
Other	20	14	9	43

both women ($p < 0.001$, $d = 0.55$) and non-binary and other individuals ($p < 0.001$, $d = 1.07$) reporting significantly more worries than men, with other-identifying gamers also reporting more worries than women ($p < 0.001$, $d = 0.52$). Again, transgender participants reported more offline gaming community worries ($M = 15.32$, $SD = 4.74$) than cisgender participants ($M = 11.60$, $SD = 4.15$), $t(487) = 6.98$, $p < 0.001$.

3.3. Gaming imposter syndrome

A one-way ANOVA found a significant effect of gender on gaming imposter syndrome ($F(2, 487) = 6.66$, $p = 0.001$, $\eta p^2 = 0.027$), with women ($p = 0.003$ $d = 0.33$) and non-binary individuals ($p = 0.017$, $d = 0.33$) reporting significantly more gaming imposter syndrome than men. Transgender participants reported significantly more gaming imposter syndrome ($M = 58.01$, $SD = 17.77$) than cisgender participants ($M = 53.58$, $SD = 16.20$), $t(488) = 2.15$, $p = 0.032$.

3.4. Depression, anxiety, and stress

Three two-way between-subjects ANOVAs were conducted to investigate differences between genders (men, women, non-binary and other), transgender identity (cisgender, transgender), and depression, anxiety, and stress scores, respectively. Descriptives for these can be found below in Table 4.

3.4.1. Depression

As normality assumptions were violated for depression scores (Box's M, Levene's), a Kruskal-Wallis H test was conducted to explore effects of gender on depression, and a Mann–Whitney U test to explore differences between transgender and cisgender participants. The analysis identified a significant main effect of gender on depression scores ($\chi^2(2, N = 490) = 31.71$, $p < 0.001$), with post-hoc test using Holm-Bonferroni corrections showing that this was driven by GD gamers reporting more depression than men ($p < 0.001$) and women ($p < 0.001$), with no significant difference between women and men ($p = 0.053$). The Mann–Whitney U test revealed that transgender participants reported more depression than cisgender participants ($U = 21068.00$, $p < 0.001$).

3.4.2. Anxiety

As normality assumptions were also violated for anxiety scores (Box's M, Levene's), nonparametric tests were again used. As with depression, there was a significant effect of gender on anxiety scores ($\chi^2(2, N = 490) = 25.97$, $p < 0.001$), driven by women ($p < 0.001$) and GD gamers ($p < 0.001$) reporting more anxiety than men. Transgender participants reported greater anxiety than cisgender participants ($U = 18969.50$, $p = 0.002$).

3.4.3. Stress

As with depression and anxiety, nonparametric tests were used to explore effects of gender and transgender identity on stress scores. The analysis demonstrated a significant main effect of gender ($\chi^2(2, N = 490) = 32.52$, $p < 0.001$), driven by women ($p < 0.001$) and GD ($p < 0.001$) reporting more stress than men, and GD individuals reporting more stress than women ($p = 0.031$). As with the other mental health measures, transgender participants reported more stress than cisgender participants ($U = 18823.00$, $p = 0.004$).

Table 4. Means and standard deviations for depression, anxiety, and stress scores separated by gender.

	Man		Woman		Non-binary and other	
	M	*SD*	*M*	*SD*	*M*	*SD*
Cisgender						
Depression	10.38	11.24	11.50	10.61	21.00	14.07
Anxiety	6.76	7.70	10.82	9.80	13.64	10.18
Stress	8.91	7.79	12.85	9.10	17.50	10.34
Transgender						
Depression	17.38	13.95	18.11	9.46	19.75	12.41
Anxiety	13.63	9.13	10.53	6.73	12.05	10.67
Stress	15.50	7.79	12.00	8.22	15.40	10.19

3.5. Harassment

Harassment-related questions were only presented to transgender, women, and GD individuals ($N = 266$). Out of these, only 34 participants reported having experienced no harassment with the remaining 231 reported having experienced harassment, and one non-response. A breakdown of the types of harassment experiences is provided below in Table 5, showing that negative comments about the gamer's gender, abusive language, and sexual comments were the most frequently experienced forms of harassment.

Two chi-squared analyses were conducted to investigate if gender (women, non-binary, and other identifying) or transgender identity (transgender, cisgender) had an effect of the likelihood of experiencing harassment. No significant differences were found ($p > 0.05$).

The type of actions taken to avoid harassment were also explored and a breakdown of these can be found below in Table 6, showing that the most common avoidance actions were only using voice chat with friends, hide one's gender from other players, and using a gender-neutral username.

Following this, five independent *t*-tests were conducted to explore whether experienced of previous harassment affected gaming communities worries or mental health. The analyses showed that women and TGD gamers who had previously experienced harassment reported significantly more worries about engaging in both online ($t(262) = 5.27$, $p < 0.001$) and offline ($t(262) = 4.43$, $p < 0.001$) communities ($M = 15.00$, $SD = 4.52$ and $M = 14.14$, $SD = 4.48$, respectively) than those who had not experienced harassment ($M = 10.68$, $SD = 4.05$ and $M = 10.53$, $SD = 4.09$, respectively).

Similarly, women and TGD gamers who had experienced harassment reported significantly more anxiety ($t(263) = 2.33$, $p = 0.021$), stress ($t(263) = 2.88$, $p = 0.004$), and gaming imposter syndrome ($t(263) = 6.21$, $p < 0.001$) than those who had not experienced harassment.

Finally, as normality assumptions were violated for depression scores, a Mann–Whitney U test was conducted, which again showed that participants who had experienced harassment reported significantly more depression than participants who had not experienced harassment ($U = 2672.00$, $p = 0.003$).

3.6. Women and TGD gaming communities

Women and TGD gamers reported positive perceptions of women- and LGBTQIA+ specific gaming communities ($M = 20.75$, $SD = 4.22$). To explore whether gender or transgender identity affected perceptions

Table 5. Table showing the forms of harassment experienced by women and TGD participants.

Form of harassment	Frequency
Abusive language	176
Negative comments about gender	166
Sexual comments	126
Targeted interfering (griefing or trolling)	109
Unwanted romantic or sexual advances	103
Excessive complimenting (simping)	69
Threats	59
None	34
Other	21

Table 6. Table showing the frequency of avoidance actions employed by women and TGD gamers.

Avoidance action	Frequency
Only use voice chat with friends	166
Hide gender from other players	157
Non-gendered username	137
Avoid online communities	122
Avoid playing with strangers	99
Avoid using voice chat at all	77
Avoid social activities	68
Avoid competitive activities	68
Retaliatory aggression	52
Other	8

of these communities, measured in the total score, a two-way ANOVA was conducted. No significant effects of gender ($F(2, 260) = 2.22$, $p = 0.111$,), transgender identity ($F(1, 260) = 0.63$, $p = 0.427$), or interaction between factors ($F(1, 260) = 0.05$, $p = 0.826$) were found, suggesting that women and TGD games all had positive perceptions of such gaming communities.

4. Discussion

4.1. Overview of key findings

The study demonstrated that in line with Hypotheses 1 and 2, men gamers were significantly less worried about engaging in both online and offline gaming communities than women, non-binary, and other-identifying gamers, with transgender gamers reporting more worries than their cisgender counterparts. In support of Hypotheses 3 and 4, women and gender-diverse gamers reported significantly more imposter syndrome, stress, and anxiety scores than men, with TGD gamers also reporting significantly higher depression scores than cisgender men and women. Transgender gamers, specifically, reported higher depression, anxiety, stress, and imposter syndrome scores than cisgender participants.

Supporting Hypothesis 5, most women and TGD gamers reported experiencing harassment. These experiences were associated with more worries about participating in both online and offline gaming communities, as well as more anxiety, depression, stress, and gaming imposter syndrome. Women reported more gaming imposter syndrome than other genders, and transgender gamers reported more gaming imposter syndrome than cisgender gamers. Many women and TGD gamers engaged in avoidance behaviours and expressed positive perceptions of communities for women and LGBTQIA+ gamers, highlighting the perceived value of such spaces.

4.2. Harassment in gaming, gaming imposter syndrome, and mental health

Most women and TGD participants reported having experienced harassment, with the most common types being negative comments about gender, abusive language, and sexual comments. Notably, the prevalence of harassment did not differ between gender identities in this group, which highlights its pervasiveness. This aligns with the previous literature, most qualitative in nature, depicting persistent, widespread harassment of women and TGD gamers (Crothers et al., 2024; Darvin et al., 2020; McLean & Griffiths, 2019; Ruvalcaba et al., 2018; Tang & Fox, 2016; Trudgett-Klose & McLinton, 2024; Vergel et al., 2024).

The pervasiveness of harassment could suggest that online space enables uninhibited expression of discriminatory attitudes (Kordyaka et al., 2020; Lapidot-Lefler & Barak, 2012; Liu & Agur, 2023). However, the specific targeting using abusive language and sexual comments reflects deeper mechanisms of stereotype threat beyond 'general' toxicity, which can impact confidence and belonging (Fox & Tang, 2014; 2016). The intersection of anonymity and culturally mediated gender stereotypes creates conditions where harassment becomes easily perpetuated. In turn, this environment becomes both a reflection and reinforcement of hegemonic masculine norms prevalent in gaming spaces (Rogstad, 2022), which can further alienate women and TGD gamers. This inevitably shapes how marginalized players navigate and engage with competitive gaming.

Notably, many TGD gamers reported avoiding communities as well as social and competitive activities in response to harassment. For example, many participants reported avoiding playing with strangers to avoid harassment, which could impact the competitive development due to the nature of online matchmaking systems, with potential long-term impact on the talent pipeline. The psychological impact of this harassment and exclusion is significant. Individuals reporting impacts that go beyond immediate emotional responses such as stopping playing competitively or playing altogether.

4.3. Imposter syndrome and mental health

The elevated levels of Impostor Syndrome, stress, anxiety, and depression scores among women and TGD gamers reflect not just individual vulnerabilities but cumulative impact of systematic exclusion from competitive gaming culture. Viewing this through the minority stress model (Meyer, 2003), this persistent exposure to stigma, discrimination, and the need for identity concealment can lead to psychological

distress and force women and TGD gamers into the patterns of hyper-vigilance and self-monitoring (Cote, 2017). This strain on emotional resources not only undermines self-confidence but contributes to chronic anxiety and depressive symptoms, a feedback loop further impacted by imposter syndrome (Cote, 2017; McLean & Griffiths, 2019).

This internalized doubt is further compounded by the small proportion of professional women and TGD gamers in esports and, with research suggesting that the presence of successful same-gender role models in professional sports is crucial (Midgley et al., 2021), the resulting gender disparity in young esports athletes is not surprising (Overå et al., 2024). With few role models available, this can reinforce beliefs of inferiority, as seen in the elevated feelings of imposter syndrome in this study, which can exacerbate isolation, inadequacy, and low mood (McLean & Griffiths, 2019). These psychological effects can intensify when external validation is scarce, and skill and legitimacy are constantly questioned due to one's gender (Darvin et al., 2020). The added pressure of being seen as representative of an entire group, rather than as an individual player, may amplify both imposter syndrome and emotional distress (Looy et al., 2017; Vella et al., 2020). Taken together, these findings suggest impostor syndrome and poor mental health among women and TGD gamers are deeply entangled with social context, cultural norms, and systematic exclusion in competitive gaming.

4.4. Coping mechanisms and avoidance strategies

In response to these negative experiences, many women and TGD gamers use avoidance strategies. The most common strategies involved restricting in-game voice chat to friends only and deliberately hiding their gender while playing. These coping behaviours echo that of previous literature (Cote, 2017; Crothers et al., 2024; Madden et al., 2021; McLean & Griffiths, 2019).

However, these avoidance strategies are compensatory and reflect an adaptive response to a hostile environment without tackling the root cause. While these coping strategies are common across women and TGD gamers, transgender gamers often face a distinct sort of challenges that warrant deeper consideration. Future research could explore the impact of various avoidance strategies and their long-term effects on competitive development, which may offer insights into gender disparity in professional esports.

4.5. Transgender-specific experiences in competitive gaming

Transgender gamers face even more pronounced challenges. While both women and TGD gamers reported greater worries about participating in gaming communities than cisgender men, transgender gamers reported the most worries. They also reported more depression, anxiety, stress, and gaming imposter syndrome scores than cisgender participants. This pattern is consistent with literature showing TGD individuals face higher risk for poor mental health due to identity related stresses (e.g. discrimination, harassment, social stigma; Valentine & Shipherd, 2018).

Research specifically on transgender gamers is scarce, but studies suggest that LGBTQIA+ gamers are often targets of toxicity and harassment (Close, 2024; Cote et al., 2023; Gillin & Signorella, 2024), which aligns with the present study's findings. Previous research has also established a link between sexist beliefs and transphobia (Nagoshi et al., 2008; Scandurra et al., 2017), making it unsurprising that an environment dominated by sexism (such as competitive gaming) is also hostile toward transgender gamers. These observations emphasize the need for developing more inclusive spaces specifically for transgender gamers.

Future research could explore the role of TGD-inclusive communities and competitive environments, or how assistive technology (e.g. virtual avatars, voice changers) influence TGD gamers' participation in competitive gaming.

4.6. The role of identity-specific communities

The present paper investigated women and TGD gamers' perceptions of communities specifically for these groups. Participants generally viewed these communities positively, indicating they would feel more comfortable engaging both socially and competitively within them. These findings were consistent

across cisgender women and TGD gamers, highlighting how identity-specific communities can have a protective role (Kaye Pennington, 2016) and offer emotional support, validation, and community which may otherwise be lacking. Encouragingly, participation in these communities may mitigate the psychological effects of harassment and exclusion (Zhang et al., 2023). This also situates competitive gaming spaces as places of connection, and both raising awareness for TGD gamers and affirm their identities (Manzano-León et al., 2024) within an inclusive environment.

These communities could also foster a sense of belonging that can counteract imposter syndrome. In identity-specific spaces, members are more likely to receive recognition and affirmation for their gaming skills, share coping strategies, and challenge internal doubts (Zhang et al., 2023). This collective identity and validation may rebuild confidence and promote continued engagement (Vella et al., 2020) and support participation until wider gaming culture becomes more inclusive (Sachan et al., 2025). Game developers and community managers could thus potentially benefit from focusing on developing these communities to improve engagement from women and TGD gamers.

4.7. Developer and industry perspective

While findings from this study highlight the prevalence of harassment, it is important to place these experiences in a wider industrial perspective. Current moderation often focuses on retroactive reporting rather than proactive prevention, with punishments including things such as warnings, temporary bans, or permanent bans, and is in many cases both inefficient and ineffective (Kocielnik et al., 2024) or used incorrectly by players (Kou & Gui, 2021). Furthermore, the lack of standardized tools and enforcement means that women and TGD gamers are often left to navigate hostile gaming environments with minimal structural protection or support beyond in-game options such as muting or reporting a harasser (Reid et al., 2022). Even after reporting a case using, victims often feel disconnected from the process, where often they are not informed of the outcome of their report, particularly as the reporting process does nothing to help victims heal from the emotional impact of experiencing toxicity and harassment (Xiao et al., 2023).

As reported by Fox and Tang (2016), high levels of experienced and observed sexual harassment are linked to viewing gaming companies more negatively in terms of investigating reports of sexual harassment and punishing harassers. This suggests that the impact of failing to facilitate environments free of harassment also negatively impacts how the gaming companies are perceived by their player base.

While some are considering AI moderation in multiplayer games to combat toxic behaviours, these solutions come with their own limitations and pitfalls (Sparrow et al., 2024). To make a meaningful impact of reducing gendered toxicity in competitive gaming spaces, developers and the esports industry must work together to address the issue.

4.8. Strengths and limitations of the study

Participants were recruited primarily *via* online platforms and were advertised in online gaming communities, including communities specifically for competitive women and TGD gamers. While this may have introduced sampling bias, this may also have provided more authentic insight into these specific populations' competitive experiences.

The study identified clear links between experiences of harassment and poorer mental health. It is possible that these findings are influenced by pre-existing mental health difficulties in the sample. Similarly, as TGD individuals are more likely to experience mental health difficulties (Valentine & Shipherd, 2018), results may reflect general population trends rather than effects unique to competitive gaming. Nonetheless, the study's capacity to capture these patterns within the context of gaming highlights its contribution to understanding how marginalized identities intersect with gaming.

Furthermore, the present study did not capture the experiences of sexual minority gamers, who face unique challenges relating to their identity (Brenner-Levoy, 2023; Close, 2024; Friman et al., 2024; Gillin & Signorella, 2024). This may be particularly relevant as gamers may experience harassment due to perceived sexual orientation (e.g. being identified as having a 'gay voice') (Brenner-Levoy, 2023). Finally, while the current study was broadly advertised, as information about participants' country of residence, nationality, or ethnicity was not reported in this study, the findings may not be universally applicable across cultures.

4.9. Conclusion

The present article has provided novel, quantitative insights into the experiences of women and TGD gamers within competitive gaming spaces. The findings highlight the persistence of gender-related harassment and its negative impacts on mental health across multiple dimensions. The present article also used the first adaptation of an existing imposter phenomenon scale to measure gaming imposter syndrome, with results demonstrating the reliability of the adapted scale. Notably, despite no significant differences in hours played per week between genders, women and TGD gamers reported greater feelings of gaming imposter syndrome than cisgender men. The findings also underscore the vulnerability of transgender gamers, who reported poorer mental health compared to their cisgender counterparts.

The pervasiveness of harassment and avoidance behaviours highlight the need for changes within competitive gaming spaces. While women and TGD gamers reported using adaptive strategies to mitigate harassment, these are not long-term solutions. The challenge in overcoming the gender-related harassment, particularly as there is no traditional separation based on gender or age in matchmaking, requires improving the experiences and retention of women and TGD gamers. The positive perceptions of women- and LGBTQIA+ specific gaming communities reported in this study suggest that such spaces may serve as crucial support networks while broader cultural shifts take place. Future research should explore targeted interventions, inclusive community-building initiatives, and structural changes within esports, to ensure that gaming spaces become environments where all players, regardless of gender identity, can thrive and participate without fear of harassment.

Acknowledgements

The authors would like to acknowledge the student volunteer researchers who assisted with the early literature search on this topic, Emma Carr and Jessica Jackson.

Author contributions

CRediT: **Cecilie Lolansen**: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing; **Tyrone L. Burleigh**: Data curation, Investigation, Methodology, Writing – review & editing; **Liam Cahill**: Investigation, Methodology, Writing – review & editing; **Eden Morley**: Funding acquisition, Investigation, Methodology, Resources, Writing – review & editing.

Ethical considerations

This study received ethical approval by the School of Psychology Ethics Committee at the University of Nottingham. To mitigate potential power dynamics, particularly for students or staff, recruitment was conducted independently of teaching. Data collection was entirely anonymised, and the consent form explicitly stated that participation was voluntary, that participants could withdraw at any time without consequences. Participants were also provided with mechanisms for removing their data following participation without consequences.

Consent to participate

All participants provided informed consent to participate as part of the research procedure. Participants provided their informed consent digitally as part of the online survey.

Consent for publication

All participants provided informed consent to participate as part of the research procedure. As part of the data handling, all identifying information was removed and as such, no results reported in this work or in the online repository linked below can be traced to any specific individual. Participants provided this permission as part for their informed consent digitally as part of the online survey.

Disclosure statement

The author(s) declare no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Funding

The authors received internal funding from the University of Nottingham to support this research.

About the authors

Cecilie Lolansen (she/her) is a Teaching Associate at the School of Psychology at the University of Nottingham. Her research interests include minority wellbeing across cultural, ethnic, and LGBTQIA+ groups and subcultures with a particular focus on digital spaces and gaming.

Tyrone L. Burleigh (he/him) is a researcher who has worked at several institutions, including Nottingham Trent University, the University of Gibraltar, and RMIT University. He has widely published in cyberpsychology and the psychology of gaming disorders. His work centres on areas such as user-avatar bonds and disordered gaming behaviour. His recent work includes machine learning and network analyses approaches.

Liam Cahill (he/him) is a Senior Lecturer in LGBTQ+ Psychology at Nottingham Trent University. His research primarily explores body image within the LGBTQ+ community, particularly among sexual and gender minoritised men. His recent work focuses on body image for trans men, and cisgender bisexual men. He focuses on understanding the health and well-being of these communities.

Eden Morley (she/her) is an Assistant Professor at the School of Psychology at the University of Nottingham. Her research explores neurodiversity and mental health in higher education and clinical settings. Her most recent research has explored imposter syndrome in neurotypical and neurodivergent undergraduate students.

ORCID

Cecilie Lolansen http://orcid.org/0009-0007-6904-983X
Tyrone L. Burleigh http://orcid.org/0000-0002-3405-140X
Liam Cahill http://orcid.org/0000-0002-7897-0862
Eden Morley http://orcid.org/0000-0001-8340-8084

Data availability statement

The data from this study are available on the Open Science Framework (OSF) at https://osf.io/4abkr/.

References

Bailey, S., Trevitt, B., Zwickl, S., Newell, B., Staples, E., Storr, R., & Cheung, A. S. (2024). Participation, barriers, facilitators and bullying experiences of trans people in sport and fitness: Findings from a national community survey of trans people in Australia. *British Journal of Sports Medicine*, *58*(23), 1434–1440. https://doi.org/10.1136/bjsports-2023-107852

Barr, M., & Copeland-Stewart, A. (2022). Playing video games during the COVID-19 pandemic and effects on players' well-being. *Games and Culture*, *17*(1), 122–139. https://doi.org/10.1177/15554120211017036

Beres, N. A., Frommel, J., Reid, E., Mandryk, R. L., & Klarkowski, M. (2021). *Don't you know that you're toxic: Normalization of toxicity in online gaming* [Paper presentation]. Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, (pp. 1–15). https://doi.org/10.1145/3411764.3445157

Bowman, N. D., Rieger, D., & Lin, J. H. T. (2022). Social video gaming and well-being. *Current Opinion in Psychology*, *45*, 101316. https://doi.org/10.1016/j.copsyc.2022.101316

Brenner-Levoy, J. (2023). Virtually masculine: Queer men's experiences with harassment in online video games. *Sociology of Sport Journal*, *40*(4), 385–398. https://doi.org/10.1123/ssj.2022-0170

Channon, A. (2014). Towards the "undoing" of gender in mixed-sex martial arts and combat sports. *Societies*, *4*(4), 587–605. https://doi.org/10.3390/soc4040587

Clance Imposter Phenomenon Scale. (1986). *The impostor phenomenon: When success makes you feel like a fake*. Bantam Books.

Close, S. (2024). Esports cannot defeat homophobia with capitalism. *Games and Culture*, *19*(7), 916–932. https://doi.org/10.1177/15554120231181462

Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, *10*(4), 575–583. https://doi.org/10.1016/j.chb.2014.05.004

Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society*, *19*(6), 829–859. https://doi.org/10.1177/0891243205278639

Cote, A. C. (2017). "I can defend myself" women's strategies for coping with harassment while gaming online. *Games and Culture*, *12*(2), 136–155. https://doi.org/10.1177/1555412015587603

Cote, A. C., Wilson, A., Hansen, J., Harris, B. C., Rahman, M. W. U., Can, O., Fickle, T., & Foxman, M. (2023). Taking care of toxicity: Challenges and strategies for inclusion in US collegiate esports programs. *Journal of Electronic Gaming and Esports*, *1*(1). https://doi.org/10.1123/jege.2022-0031

Crothers, H., Scott-Brown, K. C., & Cunningham, S. J. (2024). 'It's Just Not Safe': Gender-based harassment and toxicity experiences of women in esports. *Games and Culture*, *15554120241273358*. https://doi.org/10.1177/15554120241273358

Darvin, L., Vooris, R., & Mahoney, T. (2020). The playing experiences of esport participants: An analysis of treatment discrimination and hostility in esport environments. *Journal of Athlete Development and Experience*, *2*(1), 3. https://doi.org/10.25035/jade.02.01.03

Darvin, L., Holden, J., Wells, J., & Baker, T. (2021). Breaking the glass monitor: Examining the underrepresentation of women in esports environments. *Sport Management Review*, *24*(3), 475–499. https://doi.org/10.1080/14413523.2021.1891746

Delello, J. A., McWhorter, R. R., Roberts, P., Dockery, H. S., De Giuseppe, T., & Corona, F. (2021). The rise of esports: Insights into the perceived benefits and risks for college students. *International Journal of eSports Research*, *1*(1), 1–19. https://doi.org/10.4018/IJER.20210101.oa5

Di Cesare, D. M., Craig, S. L., Brooks, A. S., & Doll, K. (2024). Setting the game agenda: Reviewing the emerging literature on video gaming and psychological well-being of sexual and gender diverse youth. *Games and Culture*, *19*(7), 933–953. https://doi.org/10.1177/15554120231178883

Donohue, S. E., Woldorff, M. G., & Mitroff, S. R. (2010). Video game players show more precise multisensory temporal processing abilities. *Attention, Perception & Psychophysics*, *72*(4), 1120–1129. https://doi.org/10.3758/APP.72.4.1120

Engelstätter, B., & Ward, M. R. (2022). Video games become more mainstream. *Entertainment Computing*, *42*, 100494. https://doi.org/10.1016/j.entcom.2022.100494

Entertainment Software Association. (2023). https://www.theesa.com/wp-content/uploads/2023/07/ESA_2023_Essential_Facts_FINAL_07092023.pdf (23rd April 2024).

Ferguson, C. J. (2007). The good, the bad and the ugly: A meta-analytic review of positive and negative effects of violent video games. *The Psychiatric Quarterly*, *78*(4), 309–316. https://doi.org/10.1007/s11126-007-9056-9

Finke, E. H., Hickerson, B. D., & Kremkow, J. M. (2018). "To be quite honest, if it wasn't for videogames I wouldn't have a social life at all": Motivations of young adults with autism spectrum disorder for playing videogames as leisure. *American Journal of Speech-Language Pathology*, *27*(2), 672–689. https://doi.org/10.1044/2017_AJSLP-17-0073

Fox, J., & Tang, W. Y. (2014). Sexism in online video games: The role of conformity to masculine norms and social dominance orientation. *Computers in Human Behavior*, *33*, 314–320. https://doi.org/10.1016/j.chb.2013.07.014

Fox, J., & Tang, W. Y. (2017). Women's experiences with general and sexual harassment in online video games: Rumination, organizational responsiveness, withdrawal, and coping strategies. *New Media & Society*, *19*(8), 1290–1307. https://doi.org/10.1177/1461444816635778

Friman, U., Ruotsalainen, M., & Ståhl, M. (2024). Diversity, equity, and inclusion in esports. In *Routledge Handbook of Esports* (pp. 540–550). Routledge.

Gillin, L. E., & Signorella, M. L. (2024). Attitudes toward sexual orientation and gender identity in online multiplayer gaming spaces. *Psychological Reports*, *127*(6), 3066–3088. https://doi.org/10.1177/00332941231153798

Halbrook, Y. J., O'Donnell, A. T., & Msetfi, R. M. (2019). When and how video games can be good: A review of the positive effects of video games on well-being. *Perspectives on Psychological Science: a Journal of the Association for Psychological Science*, *14*(6), 1096–1104. https://doi.org/10.1177/1745691619863807

Harrington, B., & O'Connell, M. (2016). Video games as virtual teachers: Prosocial video game use by children and adolescents from different socioeconomic groups is associated with increased empathy and prosocial behaviour. *Computers in Human Behavior*, *63*, 650–658. https://doi.org/10.1016/j.chb.2016.05.062

Iacovides, I., & Mekler, E. D. (2019, May). *The role of gaming during difficult life experiences* [Paper presentation]. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, (pp. 1–12). https://doi.org/10.1145/3290605.3300453

Jansz, J., & Martens, L. (2005). Gaming at a LAN event: The social context of playing video games. *New Media & Society*, *7*(3), 333–355. https://doi.org/10.1177/1461444805052280

Jin, Y., & Li, J. (2017). When newbies and veterans play together: The effect of video game content, context and experience on cooperation. *Computers in Human Behavior*, *68*, 556–563. https://doi.org/10.1016/j.chb.2016.11.059

Jones, B. A., Arcelus, J., Bouman, W. P., & Haycraft, E. (2017). Sport and transgender people: A systematic review of the literature relating to sport participation and competitive sport policies. *Sports Medicine (Auckland, N.Z.)*, *47*(4), 701–716. https://doi.org/10.1007/s40279-016-0621-y

Jones, B. A., Bouman, W. P., Haycraft, E., & Arcelus, J. (2019). The Gender Congruence and Life Satisfaction Scale (GCLS): Development and validation of a scale to measure outcomes from transgender health services. *The International Journal of Transgenderism*, *20*(1), 63–80. https://doi.org/10.1080/15532739.2018.1453425

Kaye, L. K., & Pennington, C. R. (2016). "Girls can't play": The effects of stereotype threat on females' gaming performance. *Computers in Human Behavior*, *59*, 202–209. https://doi.org/10.1016/j.chb.2016.02.020

Kocielnik, R., Li, Z., Kann, C., Sambrano, D., Morrier, J., Linegar, M., Taylor, C., Kim, M., Naqvie, N., Soltani, F., Dehpanah, A., Cahill, G., Anandkumar, A., & Alvarez, R. M. (2024). Challenges in moderating disruptive player behavior in online competitive action games. *Frontiers in Computer Science*, *6*, 1283735. https://doi.org/10.3389/fcomp.2024.1283735

Kordyaka, B., Jahn, K., & Niehaves, B. (2020). Towards a unified theory of toxic behavior in video games. *Internet Research*, *30*(4), 1081–1102. https://doi.org/10.1108/INTR-08-2019-0343

Kosciesza, A. J. (2025). Doing gender in game spaces: Transgender and non-binary players' gender signaling strategies in online games. *New Media & Society*, *27*(1), 5–23. https://doi.org/10.1177/14614448231168107

Kou, Y. (2020). *Toxic behaviors in team-based competitive gaming: The case of league of legends. In Proceedings of the* [Paper presentation].Annual Symposium on Computer-Human Interaction in Play (pp. 81–92). https://doi.org/10.1145/3410404.3414243

Kou, Y., & Gui, X. (2021). *Flag and flaggability in automated moderation: The case of reporting toxic behavior in an online game community* [Paper presentation]. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1–12). https://doi.org/10.1145/3411764.3445279

Kowert, R., Domahidi, E., & Quandt, T. (2014). The relationship between online video game involvement and gaming-related friendships among emotionally sensitive individuals. *Cyberpsychology, Behavior and Social Networking*, *17*(7), 447–453. https://doi.org/10.1089/cyber.2013.0656

Lapidot-Lefler, N., & Barak, A. (2012). Effects of anonymity, invisibility, and lack of eye-contact on toxic online disinhibition. *Computers in Human Behavior*, *28*(2), 434–443. https://doi.org/10.1016/j.chb.2011.10.014

Liu, Y., & Agur, C. (2023). "After All, They Don't Know Me" Exploring the psychological mechanisms of toxic behavior in online games. *Games and Culture*, *18*(5), 598–621. https://doi.org/10.1177/15554120221115397

Lovibond, S. H., & Lovibond, P. F. (1995). *Depression anxiety stress scales*. Psychological Assessment.

Looy, J., Vermeulen, L., & Bauwel, S. (2017). Tracing female gamer identity. An empirical study into gender and stereotype threat perceptions. *Computers in Human Behavior*, *71*, 90–98. https://doi.org/10.1016/j.chb.2017.01.054

Madden, D., Liu, Y., Yu, H., Sonbudak, M. F., Troiano, G. M., & Harteveld, C. (2021). *"Why are you playing games? You are a girl!": Exploring gender biases in Esports* [Paper presentation]. Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1–15). https://doi.org/10.1145/3411764.3445248

Manzano-León, A., Rodríguez-Rivera, P., Raposo-Rivas, M., & Rodríguez-Ferrer, J. M. (2024). Digital game-based learning for transgender identity awareness: A qualitative study in Spanish social education degree. *Current Psychology*, *43*(20), 18065–18073. https://doi.org/10.1007/s12144-023-05556-3

McLean, L., & Griffiths, M. D. (2019). Female gamers' experience of online harassment and social support in online gaming: A qualitative study. *International Journal of Mental Health and Addiction*, *17*(4), 970–994. https://doi.org/10.1007/s11469-018-9962-0

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

Midgley, C., DeBues-Stafford, G., Lockwood, P., & Thai, S. (2021). She needs to see it to be it: The importance of same-gender athletic role models. *Sex Roles*, *85*(3-4), 142–160. https://doi.org/10.1007/s11199-020-01209-y

Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender differences in correlates of homophobia and transphobia. *Sex Roles*, *59*(7-8), 521–531. https://doi.org/10.1007/s11199-008-9458-7

Nolla, K., Beeman, M., Reber, P., & Eagly, A. (2023). Novice women players have better outcomes in women-only versus mixed-gender esports tournaments. *Journal of Electronic Gaming and Esports*, *1*(1), 2022–10032. https://doi.org/10.1123/jege.2022-0032

Overå, S., Bakken, A., & Hyggen, C. (2024). Prevalence and characteristics of female and male esports players among Norwegian youth: A general population study. *International Journal of Environmental Research and Public Health*, *21*(9), 1136. https://doi.org/10.3390/ijerph21091136

Page, Z. E., Barrington, S., Edwards, J., & Barnett, L. M. (2017). Do active video games benefit the motor skill development of non-typically developing children and adolescents: A systematic review. *Journal of Science and Medicine in Sport*, *20*(12), 1087–1100. https://doi.org/10.1016/j.jsams.2017.05.001

Pallavicini, F., Pepe, A., & Mantovani, F. (2021). Commercial off-the-shelf video games for reducing stress and anxiety: Systematic review. *JMIR Mental Health*, *8*(8), e28150. https://doi.org/10.2196/28150

Partala, T. (2022 *Digital Gaming During the Early COVID-19 Pandemic: Healthy Escapism and Social Connectedness* [Paper presentation]. Proceedings of DiGRA 2022 Conference: Bringing Worlds Together. https://doi.org/10.26503/dl.v2022i1.1416

Pauketat, R. (2022). Confronting Toxicity in Esports and Building Inclusive Environments: Challenging "It's Just Part of The Game" Culture. In *Understanding Collegiate Esports* (pp. 33–49). Routledge.

Pedraza-Ramirez, I., Musculus, L., Raab, M., & Laborde, S. (2020). Setting the scientific stage for esports psychology: A systematic review. *International Review of Sport and Exercise Psychology*, *13*(1), 319–352. https://doi.org/10.1080/1750984X.2020.1723122

Pine, R., Fleming, T., McCallum, S., & Sutcliffe, K. (2020). The effects of casual videogames on anxiety, depression, stress, and low mood: A systematic review. *Games for Health Journal*, *9*(4), 255–264. https://doi.org/10.1089/g4h.2019.0132

Priyadharshini, E., & Pressland, A. (2018). Doing femininities and masculinities in a 'feminized' sporting arena: the case of mixed-sex cheerleading. In *Sex Integration in Sport and Physical Culture* (pp. 124–138). Routledge.

Reid, E., Mandryk, R. L., Beres, N. A., Klarkowski, M., & Frommel, J. (2022). Feeling good and in control: In-game tools to support targets of toxicity. *Proceedings of the ACM on Human-Computer Interaction*, *6*(CHI PLAY), 1–27. https://doi.org/10.1145/3549498

Rogstad, E. T. (2022). Gender in eSports research: A literature review. *European Journal for Sport and Society*, *19*(3), 195–213. https://doi.org/10.1080/16138171.2021.1930941

Ruiz, M., Moreno, M., Girela-Serrano, B., Díaz-Oliván, I., Muñoz, L. J., González-Garrido, C., & Porras-Segovia, A. (2022). Winning the game against depression: A systematic review of video games for the treatment of depressive disorders. *Current Psychiatry Reports*, *24*(1), 23–35. https://doi.org/10.1007/s11920-022-01314-7

Russoniello, C. V., O'Brien, K., & Parks, J. M. (2009). The effectiveness of casual video games in improving mood and decreasing stress. *Journal of CyberTherapy & Rehabilitation*, *2*(1), 53–66.

Ruvalcaba, O., Shulze, J., Kim, A., Berzenski, S. R., & Otten, M. P. (2018). Women's experiences in eSports: Gendered differences in peer and spectator feedback during competitive video game play. *Journal of Sport and Social Issues*, *42*(4), 295–311. https://doi.org/10.1177/0193723518773287

Sachan, T., Chhabra, D., & Abraham, B. (2025). Social Capital in Online Gaming Communities: A systematic review examining the role of virtual identities. *Cyberpsychology, Behavior and Social Networking*, *28*(3), 147–161. https://doi.org/10.1089/cyber.2024.0375

Scandurra, C., Picariello, S., Valerio, P., & Amodeo, A. L. (2017). Sexism, homophobia and transphobia in a sample of Italian pre-service teachers: The role of socio-demographic features. *Journal of Education for Teaching*, *43*(2), 245–261. https://doi.org/10.1080/02607476.2017.1286794

Sparrow, L. A., Galwey, R., Jovic, D., Hardwick, T., & Butt, M. A. (2024). Towards ethical AI moderation in multiplayer games. Proceedings of the ACM on Human-Computer Interaction. 8(CHIPLAY), 1–30. https://doi.org/10.1145/3677109

Steinkuehler, C. A., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as "third places". *Journal of Computer-Mediated Communication*, *11*(4), 885–909. https://doi.org/10.1111/j.1083-6101.2006.00300.x

Tang, W. Y., & Fox, J. (2016). Men's harassment behavior in online video games: Personality traits and game factors. *Aggressive Behavior*, *42*(6), 513–521. https://doi.org/10.1002/ab.21646

Trudgett-Klose, L. H., & McLinton, S. S. (2024). "Pro Gamers" & Cyberbullying: Workplace bullying & sexual harassment in professional video gaming. *Entertainment Computing*, *50*, 100702. https://doi.org/10.1016/j.entcom.2024.100702

Türkay, S., Formosa, J., Adinolf, S., Cuthbert, R., & Altizer, R. (2020, April). *See no evil, hear no evil, speak no evil: How collegiate players define, experience and cope with toxicity* [Paper presentation]. Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, In (pp. 1–13). https://doi.org/10.1145/3313831.3376191

Uttal, D. H., Meadow, N. G., Tipton, E., Hand, L. L., Alden, A. R., Warren, C., & Newcombe, N. S. (2013). The malleability of spatial skills: A meta-analysis of training studies. *Psychological Bulletin*, *139*(2), 352–402. https://doi.org/10.1037/a0028446

Valentine, S. E., & Shipherd, J. C. (2018). A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clinical Psychology Review*, *66*, 24–38. https://doi.org/10.1016/j.cpr.2018.03.003

Vella, K., Klarkowski, M., Turkay, S., & Johnson, D. (2020). Making friends in online games: Gender differences and designing for greater social connectedness. *Behaviour & Information Technology*, *39*(8), 917–934. https://doi.org/10.1080/0144929X.2019.1625442

Vergel, P., La Parra-Casado, D., & Vives-Cases, C. (2024). Examining cybersexism in online gaming communities: A scoping review. *Trauma, Violence & Abuse*, *25*(2), 1201–1218. https://doi.org/10.1177/15248380231176059

Voorhees, G., & Orlando, A. (2018). Performing Neoliberal Masculinity: Reconfiguring Hegemonic Masculinity in Professional Gaming. In: Taylor, N., Voorhees, G. (eds) Masculinities in Play. Palgrave Games in Context. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-90581-5_12

Wiederhold, B. K. (2021). Kids will find a way: The benefits of social video games. *Cyberpsychology, Behavior and Social Networking*, *24*(4), 213–214. https://doi.org/10.1089/cyber.2021.29211.editorial

Wong, S., & Ratan, R. (2024). How does exposure to general and sexual harassment relate to female gamers' coping strategies and mental health? *Games and Culture*, *19*(5), 670–689. https://doi.org/10.1177/15554120231177600

Xiao, S., Jhaver, S., & Salehi, N. (2023). Addressing interpersonal harm in online gaming communities: The opportunities and challenges for a restorative justice approach. *ACM Transactions on Computer-Human Interaction*, *30*(6), 1–36. https://doi.org/10.1145/3603625

Zhang, Z., Mu, H., & Huang, S. (2023). Playing to save sisters: How female gaming communities foster social support within different cultural contexts. *Journal of Broadcasting & Electronic Media*, *67*(5), 693–713. https://doi.org/10.1080/08838151.2023.2254432