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Article

Gaming Communities in Lethbridge: Understanding Barriers to Participation and Pathways to Inclusion

Racheal Brooker

Abstract

Despite widespread female gaming participation, women remain underrepresented in many gaming spaces. This study addressed three questions: (1) Do discrimination experiences differ by gender identity? (2) Does discrimination mediate the relationship between gender and inclusion feelings? (3) What interventions do community members endorse? This study investigated discrimination patterns across six gaming communities in Lethbridge, Alberta, using mixed-methods research with 128 participants. Surveys measured discrimination experiences and inclusion feelings, supplemented by interviews. Statistical analyses included chi-square tests, mediation analysis, and intersectionality frameworks. Non-male participants reported significantly higher discrimination rates (68.9% vs 33.7%) and prevention from gaming events (40.0% vs 9.6%). Preliminary intersectionality analysis indicated escalating patterns: male (33.7%), female (62.9%), and gender diverse participants (90.0%, n=10). Mediation analysis suggested that gender predicts discrimination. A "diversification penalty" emerged, highlighting that each additional gaming community increased discrimination exposure (14.1%). Results provided evidence that systematic discrimination may create differential participation costs. Community members who self-reported prevention behaviours also endorsed beginner support events (81%). This research explores evidence-based pathways for inclusive gaming environments.

Keywords: gaming communities, gender discrimination, intersectionality, social barriers, diversification penalty, games

Introduction

Gaming spaces across Canada and in many other countries consistently show patterns of female underrepresentation that extend far beyond simple preferential choice. Although research suggests that 83% of girls play video games, women and other marginalized individuals continue to be underrepresented in gaming hobby stores, gaming spaces, and tournaments (Cote, 2020; De la Torre-Sierra & Guichot-Reina, 2025). The gap between women's interests in gaming and poor attendance rates at local game stores (LGS) suggests the presence of some form of barrier, rather than a lack of desire to participate.

Previous gaming research has focused on discrimination within individual gaming communities, particularly online harassment in video games (Zhou & Peterson, 2025) and toxic masculinity in trading card gaming communities (Falcão et al., 2021). However, many of these studies typically examined only single gaming environments, possibly missing the ripple effects of how discrimination operates across the community as a whole. There has been very little research on the topic of gaming and networking. However, when women are excluded from these communities (gaming, boy's clubs), they face professional barriers and disadvantages (Kordyaka et al., 2023). This logic is well supported by De la Torre-Sierra and Guichot-Reina (2024), who note that women who play video games are roughly three times more likely to choose a career in STEM (science, technology, engineering, and mathematics) when compared to women who do not play video games. The connection between gaming and STEM-related fields is even more important when considering that women are underrepresented in STEM fields, with women obtaining only 39% of STEM degrees in 2011 despite obtaining 66% of degrees overall (Guppy & Luongo, 2015).

This study investigated discrimination patterns across six gaming communities in Lethbridge, Alberta, a mid-sized Canadian city with a population of 95,275 (Statistics Canada, 2023). The researcher selected Lethbridge for its relatively homogenous demographics: 64.6% of residents aged 15 to 64 years,

98.1% English-speaking, low visible minority representation (16.2%), limited Indigenous population (3.6%), 49.9% of residents reported being Christian, and 44.3% reported no religion (Statistics Canada, 2023). Additionally, the city's median individual income is $42,000, compared to the national average of $37,200 (Statistics Canada, 2021; Statistics Canada, 2023). Lethbridge's demographics provided methodological advantages for isolating gender-based discrimination patterns by minimizing confounding variables related to age, language barriers, ethnicity, religion, and socioeconomic status.

Lethbridge's homogeneity limits direct generalizability to more diverse urban centres. However, the focus on gender discrimination in relatively uniform contexts allows for clearer identification of systematic barriers that likely operate across gaming communities regardless of geographic location. The mixed-methods approach of this study combined quantitative analysis with qualitative insights, incorporating both survey data and interviews to provide comprehensive understanding of discrimination patterns and community-endorsed solutions. This research examined the gaming choices of community members and made progress in identifying paths toward developing more inclusive communities.

Study Overview and Key Findings

Current literature demonstrates clear evidence of intersectionality effects in various contexts, and this research applies that theory to various gaming communities in Lethbridge, Alberta. Additionally, this study tests whether gaming gender gaps result from systematic discrimination (social barrier theory) or inherent preferences (biological determinism). Findings suggested that gender alone did not directly predict prevention from gaming participation. Instead, mediation analysis demonstrated that gender predicted discrimination experiences, which in turn predicted prevention behaviors, supporting social barrier theory over biological determinism explanations. These results suggested that gaming stores and communities can improve female participation through targeted interventions such as beginner support programs, which received strong endorsement (81%) from community members who reported discrimination-based prevention.

Literature Review

Gaming Communities as Social Microcosms

The term 'gaming communities' represents a wide-ranging span of gaming hobbies that include trading card games (TCG), tabletop role-playing games (TTRPG), tabletop games, board games, video games on PCs, and video games on consoles, with adoption rates of approximately 97% of boys and 83% of girls in the United States (Cote, 2020). Despite these high rates of participation, research reveals a significant lack of representation of women in both gaming media and gaming culture, with women appearing on only 17.78% of game covers (De la Torre-Sierra & Guichot-Reina, 2025).

This lack of representation of women in gaming media reflects broader patterns of exclusion that extend into gaming community participation. Unfortunately, shared interests do not guarantee equal access or a sense of belonging. These environments also serve as natural labs for examining how discrimination operates in voluntary social contexts where participants share common interests yet face systematic exclusion based on identity characteristics.

Yuliawati (2024) suggests that TTRPGs, such as Dungeons & Dragons (D&D) and Pathfinder, offer individuals opportunities to practice social skills in a safe environment and improve math skills, and suggest that TTRPGs could even serve as psychological intervention tools. However, access to these developmental opportunities becomes complicated when multiple identity characteristics intersect.

Unfortunately, when demographics such as gender, ethnicity, sexuality, or disability overlap, individuals face compounding risks of exclusion and discrimination, which form the basis for intersectionality theory: “the multiple and simultaneous experiences of oppression faced by individuals who hold identities in more than one marginalized group" (Miller-Idriss, 2025, p. 6). Researchers have extensively applied intersectionality theory to workplace and educational contexts; its application to voluntary leisure communities, such as gaming, remains underexplored.

Theoretical Foundations

Classical Intersectionality Theory

Crenshaw (1991) introduced the term 'intersectionality' to address the inadequacy of single-axis frameworks when attempting to explain how discrimination impacts individuals with multiple marginalized identities. Crenshaw's (1991) foundational work emerged from legal scholarship demonstrating that antidiscrimination law failed to recognize how racism and sexism operate simultaneously, creating unique forms of oppression invisible to frameworks that treat each identity category separately. Her concept revealed that intersectional subordination is not necessarily intentionally produced and frequently results from the interaction of one burden with preexisting vulnerabilities to create compounding dimensions of disempowerment (1991).

Cho et al.'s (2013) later work built on Crenshaw's (1991) foundational work, demonstrating how individuals with multiple marginalized identities face multiplicative rather than additive discrimination. These foundational intersectionality principles become particularly interesting in gaming contexts, where voluntary participation might initially imply freedom from structural discrimination. However, research has suggested that gaming communities often continue the same patterns of social hierarchies found in other environments and, in some cases, even intensify them, creating settings where intersecting identities face compounded risks of exclusion and discrimination (Drenten et al., 2023; Miller-Idriss, 2025).

The digital and physical spaces of gaming communities present unique opportunities to examine how intersectionality operates in leisure contexts that participants choose to enter but may struggle to engage with fully. Recent gaming literature has identified systematic patterns of discrimination that impacts women and other marginalized individuals (Falcão et al., 2021; Zhou & Peterson, 2025). However, existing studies have mainly focused on examining single gaming communities, limiting understandings of how discrimination may operate across interconnected community networks.

Biological Determinism in Gaming

Research by Lambrecht and Oechssler (2023) discussed a biological determinist framework, stating that "besides the well-established fact that women shy away from competition…women have a lower preference for engaging in all kind of risky skill games" (p. 249). These perspectives may miss how systematic exclusion operates across gaming communities. A biological determinist perspective becomes especially concerning when considering the seemingly universal agreement from researchers identifying the extensive and pervasive experiences of harassment that women must deal with in gaming communities (Carradore & Pirola, 2025; Cote, 2020; Robinson, 2023; Smith & Thakore, 2023; Vergel et al., 2023; Zhou & Peterson, 2025). The range of harmful and toxic behaviours that women must deal with is extensive: unwanted sexual photos, threats of rape, unwanted sexual advances, sexual/rape jokes, hostility about women in perceived men's spaces, revenge porn, stalking, hacking, impersonations, doxing, swatting, and deep-fakes (Carradore & Pirola, 2025; Cote, 2020; Robinson, 2023; Smith & Thakore, 2023; Vergel et al., 2023; Zhou & Peterson, 2025).

Women's experiences of discrimination, misogyny, and sexual harassment while participating in gaming spaces are not a new phenomenon and have been widely reported in numerous studies. Zhou and Peterson (2025) found that 56.6% of participants experienced some form of sexual harassment while gaming online and 26.9% of women experienced a rape joke at their expense or were threatened with rape; this translates to approximately one in four female gamers. They also found that 31.9% of women experienced sexual requests after they asked the perpetrator to stop and 12.1% received unwanted sexually explicit images (2025). When individuals must navigate hostile environments, it can have profound repercussions for their mental health. Zhou and Peterson (2025) found that cyber sexual harassment was linked to alcohol use, depression, anxiety, and posttraumatic reactions.

Carradore and Pirola (2025) indicated that other women may choose to engage in strategies that hide their genders in an exchange of identity for peace, something Vergel et al. (2023) referred to as "gender-masking, gender camouflage, gender swapping" (p. 1210). When women feel forced to hide their

gender, they contribute to the pervasive belief that only men play games, and women do not belong in gaming circles (Robinson, 2023). However, women are estimated to make up 41% of United States gamers (2023). Brenner-Levoy (2023) suggested that 67% of adults and 76% of people under the age of 18 in the United States played video games in 2021, representing approximately 226.6 million players. Overall, this suggests that there are approximately 92 million women gamers in the United States alone (Brenner-Levoy, 2023; Robinson, 2023).

Despite at least 92 million women identifying as gamers in the United States alone, De la Torre-Sierra and Guichot-Reina (2024) noted that women represent only 17.78% of game covers, 35.29% of in-game content, and 12% of female protagonists. Additionally, 64% of youth "experienced sexist or discriminatory content in video games," and 29.1% experienced violence against women in video games (prostitution, torture, rape, murder, abuse, enslavement) (De la Torre-Sierra & Guichot-Reina, 2024, p. 554). De la Torre-Sierra and Guichot-Reina (2024) point to the resulting reinforcement of gender inequalities, marginalization, and harmful stereotypes.

The false dichotomy of either being 'male' or 'female' and resulting biased assumptions and stereotypes are discussed in depth by Moane (1999) and Rutherford (2021) with both concluding the same thing: psychological research based on biological determinism (related to gender) should be abandoned. When society perpetuates this false dichotomy, it results in people feeling the need to police gender expression through harassment and aggression (García & Slesaransky-Poe, 2010). It is no surprise that when people feel comfortable engaging in this behaviour in public spaces, it will translate to more severe examples of this behaviour when they feel anonymous.

Women's individual experiences of oppression, sexism, and gender construction are invariably influenced by and connected to larger social and political power structures (Moane, 1999). A recent study from the Global Game Developer Community (2025) suggested that 66% of the gaming workforce identified as male, down from 75% in 2020, and only 25% identified as female, compared to 23% in

2020. These numbers indicated that women are not choosing to include the violent content identified by researchers. Considering that women only represent 25% of game developers, and that is only new this year, women have little say in an environment that prioritizes men, perpetuates harmful stereotypes, and turns violence against women into entertainment (2025).

Tokenistic Inclusion and Toxic Masculinity

Manne's (2017) analysis of toxic masculinity reveals how it "functions to enforce and policewomen's subordination and to uphold male dominance, against the backdrop of other intersecting systems of oppression and vulnerability" (p. xiv, as cited in Drenten et al., 2023, p. 3). Morgan and Davis-Delano (2016) reported similar results: "Boys and men are thought to 'do (hegemonic) masculinity' in defense of a system that grants greater societal power to men and to secure privileges relative to women and other men" (p. 258). These conclusions were also reached by Brenner-Levoy (2023), where people perceive video gamers as white, heterosexual, and masculine and any identity outside of these definitions (female, queer, non-white) resulted in harassment. When players experienced harassment, they could either stay silent (reinforcing the harasser) or challenge the harasser, which typically resulted in even more harassment (2023). These patterns of toxic masculinity create the foundation for more subtle and discreet exclusionary mechanisms that operate even in spaces that initially appear welcoming to women and other marginalized individuals.

Drenten et al.'s (2023) framework of tokenism provides crucial insight into how gaming communities maintain gender exclusion while appearing to be inclusive. Tokenism operates through three primary mechanisms that are particularly relevant to gaming contexts: role entrapment, performance pressure, and boundary heightening. Role entrapment restricts women's acceptance in male-dominated gaming spaces, allowing them to participate only when they conform to gender stereotypes, such as avoiding competitive play or staying within the limitations of 'casual games' (2023). These are the same patterns documented by previous researchers when noting that many women choose to mask their gender,

and victims of discrimination are forced to remain silent or endure even more harassment (Brenner-Levoy, 2023; Carradore & Pirola, 2025; Cote, 2020; Robinson, 2023; Vergel et al., 2023).

Performance pressures require women to continually demonstrate their value in gaming spaces, creating additional cognitive and emotional labour while allowing men to use individual women's failings as evidence that women do not belong in their spaces (Drenten et al., 2023). Boundary heightening forces women to choose between rebelling against the expectations and risking isolation or conforming to the dominant masculine gaming culture and gaining acceptance (2023). However, these tokenism mechanisms have been primarily documented in single gaming communities, leaving it a question of how they operate across multiple gaming communities and whether participating in several communities amplifies or mitigates these effects.

The current reality of gaming is that estimates suggest women make up roughly 12% of competitive gaming circles and about 5% of professional esports players (Kordyaka et al., 2023). Notably, women's exclusion from competitive gaming does not reflect minority status in participation rates (41% of total gamers) but rather systemic barriers that render their majority presence invisible in competitive and professional contexts (Robinson, 2023). The identified research gap highlights the ongoing need for a cross-community analysis that controls for confounding variables, such as primary versus secondary community engagement.

Cross-Community Discrimination Patterns

The gaming community comprises multiple interconnected yet distinct communities, each with unique social norms, skill requirements, and cultural practices (Cote, 2020). Given the tokenism mechanisms that operate within individual spaces (Drenten et al., 2023), and the pervasive harassment documented across gaming contexts (online environments, in-person trading card communities) (Falcão et al., 2021; Zhou & Peterson, 2025), the question of whether diversification compounds or mitigates discrimination exposure becomes theoretically critical. While many gamers diversify across formats,

existing research has not examined whether multi-community participation provides protective factors through expanded social capital or creates compounded discrimination exposure through repeated contact with hostile environments. Understanding this distinction has critical implications for inclusion strategies: if diversification increases risk, interventions must address cross-community contamination effects rather than simply redirecting marginalized players toward "safer" gaming types.

Methods and Materials

Recruitment Procedures

Participants joined the study through anonymous QR codes and digital links posted at three local game stores representing the primary gaming retail outlets in Lethbridge: Treasure Chest (trading card game specialist), The Roundtable (board game café emphasizing social gaming), and Showcase (multi-hobby retailer including board games, TCGs, model painting, and remote-control vehicles). The decision to select three different stores attempted to promote varied recruitment across gaming subcultures, engagement patterns, and limit recruitment bias.

Online survey administration was supplemented with phone and in-person completion options to maximize accessibility. Data collection took place over four weeks in July 2025, and statistical analysis was completed in August 2025.

Participants

The final sample included 128 participants (85.9% retention rate), with 83 participants identifying as male (64.8%) and 45 participants identifying as non-male (35.2%). Additionally, the researcher broke the non-male category down into 35 female participants (27.3%) and 10 gender-diverse participants (7.8%). Participant age ranged from under 20 years old to over 60 years old, with 85 participants falling between 20 and 34 years of age (66.4%), and 27 participants falling between 35 and 44 years of age (21.1%).

Participants were excluded if they had incomplete responses for core demographic and gaming experience questions. A priori power analysis using JASP indicated that 235 participants per group would be required to detect medium effect sizes (Cohen's d = 0.3) with 90% power and an α level of 0.05. Although the current study's sample size (N = 128) was smaller than the recommended size, the large effect sizes observed (Cramér's V = .337-.360, equivalent to Cohen's d > 0.8) provided adequate statistical power for detecting the identified discrimination patterns. Post-hoc power analysis confirmed that the study achieved greater than 95% power for detecting the large effects observed.

Materials

Quantitative Component

The survey instrument consisted of 19 questions across six domains: demographics, gaming community involvement, discrimination experiences, community perceptions, inclusion feelings, and open-text qualitative responses.

Additionally, the researcher employed a 3-point Likert scale to assess various inclusion measures, game preferences, and common complaints about games, as reported on in previous gaming literature (Cote, 2018; Yao et al., 2025; Lambrecht & Oechssler, 2023).

Qualitative Component

The researcher conducted participant observation during high-traffic periods at each gaming store. Approximated demographics were noted along with audible topics of conversation.

Additionally, the researcher conducted four in-person interviews with community members, using audio recordings and transcriptions for analysis. Interviews were semi-structured and individualized, with topics including questions similar to those presented in the survey.

Interviews covered parallel topics to the survey, including experiences of discrimination, community perceptions, and preferred solutions, with individualized follow-up questions tailored to participants' responses.

Design

The researcher followed a mixed-methods community-based research design combining quantitative survey data, qualitative interviews, and participant observations. The goal of this study was to examine and address the complexity of gaming discrimination and identify potential solutions to improve diversity across engaged individuals.

The researcher obtained ethics approval through the institutional review board at Athabasca University, formulated the hypotheses prior to testing, and ensured that informed consent was obtained from each participant before data collection. All procedures complied with the Tri-Council Policy Statement (TCPS2) ethical guidelines, with particular attention to participant anonymity given the sensitive nature of discrimination reporting.

Instrumentation and Validation

Primary Discrimination Measure

"Have you ever experienced discrimination or felt uncomfortable when participating in a gaming event?" (0 = No, 1 = Yes). This measure intentionally captured the full spectrum of exclusionary experiences characteristic of gaming environments, from overt discrimination to environmental hostility that participants may not have explicitly recognized as discrimination. Validation analysis revealed that 80.65% of non-male respondents (n = 31) and 42.37% of all respondents (n = 59) who explicitly reported experiencing discrimination identified gender as the primary cause, providing evidence of construct validity.

Behavioural Validation Measure

"Has discrimination ever prevented you from engaging in a new game, or attending an in-person event?" (0 = No, 1 = Yes). This behavioural outcome measure provided criterion validity for discrimination experiences, establishing consequences that extend beyond simply subjective discomfort and demonstrating real-world impacts on gaming participation.

Gaming Community Participation

Multiple-selection format across six established gaming categories: Board Games, Trading Card Games, Tabletop Role-playing Games, Console Games, PC Games, and Tabletop Games (excluding TCGs). Binary coding (1 = participates, 0 = does not participate) for each community type enabled a comprehensive analysis of cross-community discrimination patterns while maintaining analytical simplicity.

Data Analysis Plan

Quantitative Analyses

Descriptive and Inferential Statistics. This study utilized JASP 0.17.1 statistical software for all quantitative analyses. Primary analyses included chi-square tests of independence to examine associations between gender identity and discrimination variables, logistic regression to control for potential confounds (age, gaming experience), and ANOVA to test intersectionality effects across gender categories (male, female, LGBTQ+). The study calculated effect sizes using Cramér's V, with interpretations following Cohen's conventions (small = 0.10, medium = 0.30, large = 0.50) (Cohen, 1988).

Advanced Statistical Modelling. Contemporary mediation analysis using Hayes' PROCESS macro (Model 4) with 10,000 bias-corrected bootstrap resamples tested the hypothesized pathway: Gender → Discrimination → Prevention from Participation. A four-step hierarchical regression examined the potential moderation effects of demographic factors, providing exclusionary tests of alternative explanations.

Advanced Analytical Framework. A cross-community validation analysis compared discrimination patterns across six gaming community types to assess generalizability. A diversification penalty analysis cross-referenced community participation patterns (Q3: "Which gaming communities are you involved in?") with primary time investment (Q4: "Which type of gaming do you spend the most

amount of time on?") to explore compound discrimination exposure effects when participants diversified beyond their primary gaming focus.

Qualitative Analyse

Content Analysis. Open-text survey responses describing gaming communities were systematically coded for the recognition of discriminatory language using established content analysis procedures. The researcher identified explicit discrimination terms ("racist," "sexist") to provide convergent validation of quantitative discrimination findings while capturing community-specific language patterns.

Mixed-Methods Integration: Triangulation. Convergent analysis compared interview themes with survey open-text responses and quantitative patterns to establish validity through multiple data sources. Inter-coder reliability was established through researcher reflexivity.

Results

Analysis suggested systematic gender discrimination present across multiple gaming communities, with large effect sizes. These results supported social explanations for the patterns seen in gaming communities and four primary themes emerged from the mixed-methods analysis:

Theme 1: Primary Discrimination Patterns in Gaming Communities

"*The discrimination I talked about with the previous D&D group I was in, it was frightening... it was also a little bit nerve-wracking to know that like people like that exist so close to me*" (Participant 3). This participant's experience exemplified the systematic discrimination patterns revealed through quantitative analysis.

Chi-square analysis revealed a significant association between gender identity and the experience of discrimination, $\chi^2(1, N = 128) = 14.513$, $p < .001$, Cramér's $V = .337$, indicating a large effect size. Non-male participants reported higher rates of discrimination (68.9%, n = 31) compared to male participants (33.7%, n = 28), representing a 35.2% difference.

The behavioural consequence analysis demonstrated even stronger associations. Gender identity was significantly related to prevention from participation, $\chi^2(1, N = 128) = 16.618$, $p < .001$, Cramér's V = .360. Non-male participants reported experiencing discrimination that prevented gaming participation at substantially higher rates (40.0%, n = 18) compared to male participants (9.6%, n = 8), representing a 30.4% difference that demonstrated real-world impacts on gaming community engagement beyond subjective experiences.

Sensitivity testing confirmed the consistency of the findings, with consistent odds ratios (0.215-0.251) and high statistical significance across all specifications. Non-male participants showed four to five times higher odds of discrimination.

Contemporary Mediation Analysis Using Bootstrap Methods

Hayes' PROCESS analysis with 10,000 bootstrap resamples tested the hypothesized mediation pathway: Gender → Discrimination → Prevention from Participation. Results indicated that discrimination mediated 33% of the total gender effect on prevention behaviours (indirect effect = -0.099, 95% CI [-0.183, -0.045], p = .003), representing a meaningful indirect pathway whereby gender influences prevention through discrimination experiences.

Table 1

PROCESS Mediation Analysis: Gender → Discrimination → Prevention

Effect/Path	B	SE	p	95% CI [LL, UL]
Effect				
Total Effect (c)	-0.304	0.069	<.001	[-0.463, -0.151]
Direct Effect (c')	-0.205	0.069	.003	[-0.361, -0.056]
Indirect Effect (a×b)	-0.099	0.034	.003	[-0.183, -0.045]
Path				

a (Gender → Discrimination)	0.352	0.087	<.001	[0.180, 0.521]
b (Discrimination → Prevention)	-0.280	0.066	<.001	[-0.424, -0.152]

Note: Bootstrap confidence interval based on 10,000 bias-corrected samples excludes zero, confirming significant mediation. The significant direct effect indicates partial mediation, with discrimination accounting for approximately one-third of the total gender effect on prevention while additional pathways remain to be identified.

Intersectionality Analysis: Systematic Identity Effects

"*I know plenty of people who identify as non-binary or trans and identify differently that love the same stuff... They just find other ways to do it because they do feel very off-put by going into a store*" (Participant 4). This participant's experience highlighted the impact of discrimination on the gender-diverse community despite a small sample sie.

A preliminary three-category gender analysis revealed interesting dose-response patterns that support predictions from intersectionality theory in gaming contexts. However, the results are limited by the small sample size and should be replicated before drawing definitive conclusions.

Additionally, male participants were more likely to use general language (toxic) to describe concerning behaviours. In contrast, non-male participants were much more likely to use specific language (racist/sexist), which suggested direct experience with targeted harassment. Results are presented in Table 2, with intersectionality patterns detailed in Table 3.

Table 2

Intersectionality Dose-Response Patterns by Gender Identity

Gender Identity	n	Discrimination n (%)	Prevention n (%)	Language Recognition n (%)
Male	83	28 (33.7)	8 (9.6)	3 (3.6)
Female	35	22 (62.9)	11 (31.4)	5 (14.3)
LGBTQ+	10	9 (90.0)	7 (70.0)	3 (30.0)

Table 3

Intersectionality Dose-Response Patterns by Gender Identity (Statistical Validation)

Measure	n	χ^2	p	Cramér's V
Discrimination Experience	128	2	< .001	.362
Prevention from Participation	128	2	< .001	.431
Language Recognition	128	2	.007	.278

Theme 2: Systematic Barriers Across Communities

"*I do not think I could outright vent to someone in the magic gathering community or in the online video game community... I think D&D is a little bit surprisingly a little more open when it comes to, like female players and such. So D&D, I don't really usually worry, but obviously I've been given reason to*" (Participant 3). This participant's experiences highlighted that experiences of discrimination are consistent across communities and games.

Systematic validation examined whether discrimination patterns represent individual community-specific effects or exemplified community-wide effects, providing important evidence for the targeted intervention directions. Results in Table 4 demonstrated significant gender discrimination patterns in 4 of 6 gaming communities tested.

Table 4

Gender Discrimination Patterns Across Gaming Community Types

Community	n	p	Cramér's V [95% CI]	Male%	Non-Male%	Difference
Board Games	67	.012*	.305 [.074, .507]	40.5	72.0	+31.5
TCG	48	.020*	.336 [.058, .567]	43.3	77.8	+34.5

Console Games	83	< .001*	.379 [.176, .548]	34.0	73.3	+39.3
PC Games	86	.014*	.264 [.058, .448]	36.2	64.3	+28.1
Tabletop Games	32	.446	.135 [.000, .402]	45.5	60.0	+14.5
Tabletop RPGs	45	.565	.086 [.000, .331]	58.3	66.7	+8.4

Note: Asterisks indicate significance after Bonferroni correction (α = .008). Four of six communities showed significant discrimination patterns, demonstrating ecosystem-wide rather than community-specific effects with medium to large effect sizes (V = .264-.379).

Further analysis revealed that TTRPG players reported significantly higher discrimination rates (62.2%, $n = 28/45$) compared to non-TTRPG players (37.3%, $n = 31/83$), $\chi^2(1, N = 128) = 7.27$, $p < .01$, Cramér's $V = 0.24$, 95% CI [0.20, 0.28]. The statistical findings of 24.9%, 95% CI [7.3%, 42.5%], represented a medium effect size. The high overall discrimination rates for all TTRPG players impacted both male and non-male participants, and helped explain the difficulty in identifying significant gender differences within this community.

Diversification Penalty Analysis

"*There are some board games that I knew I didn't want to get into... just knowing the people who are going to be there did keep me away sometimes because, yeah, it just is, yeah, it's the community you don't want to insert yourself into*" (Participant 1). This participant's experiences directly referenced the risk assessment that many individuals must undergo when deciding to enter a new community, as many who do decide to diversify their experiences also face compounded risks of discrimination.

Cross-validation analysis examined the possibility of a diversification penalty, specifically investigating whether participants who diversified beyond their primary gaming activity faced a higher instance of discrimination compared to community members who participated in a single activity. Video gamers (console + PC primary activity) who diversified into TTRPGs showed significantly higher discrimination rates compared to those who maintained a single-community focus: 63.6% (21/33) versus 40.6% (28/69), representing a 23.0 percentage point increase, $\chi^2(1, N = 102) = 4.754$, $p = .029$, Cramér's

V = .216. The log odds ratio was 0.931, with a 95% CI of [0.005, 1.896] and p = .035 (Fisher's exact test), indicating that video gamers who diversified into TTRPGs have 2.54 times the odds of experiencing discrimination compared to video-only gamers.

Theme 3: Community Engagement Complexity

"I didn't end up going back into it once we had broken up because I felt like everyone in the community was like him" (Participant 3). This participant highlighted the vulnerability individuals face when trying new games and how negative experiences can lead to complete exclusion from individual gaming communities.

As demonstrated in Table 5, 100% of participants engaged in single community gaming self-reported prevention behaviours, compared to 83.1% of low multi-community participants and 60.0% of high multi-community participants.

Table 5

Community Engagement Effects (ANOVA)

Community Engagement	n	Prevention Rate	Mean Score	SD	95% CI
Single Community	22	100% (22/22)	2.000	0.000	[1.421, 1.726]
Multi Community Low	71	83.1% (-59/71)	1.831	0.377	[1.421, 1.726]
Multi Community High	35	60.0% (-21/35)	1.600	0.497	[1.421, 1.726]

Note: $F(2,125) = 7.984$, $p < .001$, $\eta^2 = .113$. 95% CI for η^2 [0.025, 0.218]. CI = confidence interval; OR = odds ratio; V = Cramér's V. [a]Fisher's exact test confidence intervals. [b]Prevention coding: 1 = No prevention, 2 = Prevention from participation. [c]Bootstrap bias-corrected accelerated confidence intervals (10,000 replicates).

Post-hoc Comparisons (Bootstrap)

- Multi High vs Single: d = -1.043, p < .001, 95% CI [-1.723, -0.364]
- Multi High vs Multi Low: d = -0.603, p = .012, 95% CI [-1.112, -0.093]

- Multi Low vs Single: d = -0.441, p = .172, 95% CI [-1.037, 0.155]

Single-community participants showed the highest discrimination rates (72.7%) and universal prevention behaviours (100%, n = 22/22), suggesting a compelling relationship. Each additional community participants diversified into was associated with an increase in discrimination by 0.141 points, $R^2 = 0.071$, F = 9.609, p = 0.002, with a coefficient of +0.141, indicating that multi-community participants face some form of compounded exposure risk.

However, diversification decreased prevention behaviour, which also suggests that some communities provided protection and encouraged players to diversify further, while others created penalties.

Theme 4: Perceived Barriers and Solutions from Community Members

"Probably some critical mass of diversity that would help to sort of encourage that in the future" (Participant 2). This participant emphasized the importance of diversity in helping marginalized individuals feel included.

Participants who engaged in prevention behaviours demonstrated significantly different solution preferences, $\chi^2(1) = 8.082$, p = .004, Cramér's V = .305. Specifically, 81% of participants who reported engaging in prevention behaviours endorsed Beginner Nights compared to 45.5% of those who did not, representing a 35.5% difference, with participants who engaged in prevention behaviours having 5.10 times the odds of preferring Beginner Nights, OR = 5.10, 95% CI [1.55, 24.7].

Lived Experience

"They need to have more specific nights... this is an open space" (Participant 4). This participant identified the need for LGS to host inclusion events to help marginalized individuals feel welcome in the community.

Additional analyses examined whether demographic characteristics (gender, age) or experiences of discrimination alone predicted preferences for solutions. None of these analyses reached statistical

significance (all $p > .199$), indicating that prevention from participation, specifically, rather than demographic identity or general experience of discrimination, was the primary predictor of Beginner Night preferences.

Gaming Preferences

"*Yeah, probably a mixture of both, like the hybrid would be a high preference... the Pure Skill games seem to attract a more competitive demographic than I probably would identify with myself, so, yeah, probably that… middle ground.*" (Participant 2). This participant's preferences for games that involve both skill and luck elements were echoed across all four interview participants.

Analysis of gaming preferences revealed no significant relationships between gender and specific gaming communities ($p > .05$), nor significant relationships between gender and game category (skill, luck, or both). These results further support that discrimination and prevention behaviours are likely related to social barriers.

Discussion and Community Implications

Key Findings

Systematic discrimination across multiple gaming communities was identified, indicating that gender-based discrimination is widespread and will likely require different intervention strategies to be truly effective.

Women and gender-diverse individuals showed higher rates of discrimination (68.9%) compared to males, with a large effect size (Cramér's $V = .337$), indicating the magnitude of these findings, which have have far-reaching practical significance.

However, the findings that women and gender-diverse individuals are more likely to report prevention behaviour after experiencing discrimination (40.0%) compared to males (9.6%), with a large effect size (Cramér's $V = .360$), are even more concerning and represent a direct behavioural measurement of the implications of discrimination. PROCESS analysis revealed that discrimination

mediated one-third (33%) of the total gender effect on prevention behaviours (indirect effect = -0.099, 95% CI [-0.183, -0.045], p = .003), suggesting a meaningful and practical area that gaming industries can target with intervention.

Eighty-one percent of gamers who self-reported prevention behaviours want beginner's nights, highlighting the clear need for easy entry pathways into new gaming communities.

Theoretical Implications

Intersectionality Framework

This study reveals how both identity-based and choice-based intersectionality contribute to compound discrimination through distinct mechanisms.

Preliminary findings indicate that individuals experiencing identity-based intersectionality face multiplicative discrimination.

Identity-based discrimination also correlated with heightened awareness of specific discriminatory language (sexist, racist). Male participants were more likely to describe 'toxic' behaviour, compared to non-male participants who were more likely to identify the specific discriminatory language.

These results suggest that experiences of past discrimination may create a lens through which individuals view social interactions, making them more aware of the specifics of problematic behaviour.

Diversification Penalty and Response Complexity

The data highlighted an important distinction between participants who reported experiencing discrimination and those who exhibited behavioural prevention patterns. While the linear relationship suggested that each additional community a participant diversified into increased exposure to discrimination ($R^2 = .071$, p = .002), prevention behaviours simultaneously decreased as participants reported high community diversification. One hundred percent of individuals who stayed within a single community reported prevention behaviours (n = 22), compared to 83.1% of participants who diversified

into three or fewer communities (n = 71), and 60% of participants who diversified into four or more communities (n = 35).

This finding suggests that exposure to discrimination and behavioural response operate through different mechanisms, revealing the complexity of gaming participation decisions beyond simple discrimination-avoidance models. Although these gamers may face heightened exposure risks for discrimination, they will also develop resiliency in the ability to continue joining new communities. Future studies should investigate the proposed diversification penalty and review the implications in other social contexts.

Practical Implications

Community-Level Interventions

Many community members had specific suggestions on how to improve diversification and encourage participation. A majority of participants who reported engaging in prevention behaviours stated that they want a beginner's night.

Other suggestions included diversifying staff members not only at local game stores but also in the industry overall, hosting social and other inclusion nights to help specific groups feel more comfortable and welcome, and offering low-cost engagement options.

There are many steps that LGS and industries can take to encourage data participation. However, it will likely require collaboration and individualized intervention strategies to make a lasting impact on the overall gaming community.

Methodological Contributions

Despite the limitations of this study, these new methodological analysis proposals could have far-reaching impacts in numerous fields. The cross-validation approach and diversification penalty analysis represented contributions to gaming research methodology, while mediation pathways suggested that gender predicts discrimination, which in turn predicts higher prevention behaviours.

Future studies should investigate how patterns of engagement within communities influence patterns of interaction between community networks, controlling for potential confounding between primary and secondary engagement patterns.

Limitations

Sample and Recruitment Limitations

This study targeted a wide range of gamers by sampling three widely different stores in Lethbridge. However, the final sample still represented a convenience sample that may have inadvertently excluded participants who had already been deterred from gaming spaces. The discrimination rates may represent conservative estimates of population-level exclusion, and these concerns may be more prevalent than reported.

The gender-diverse subsample (n = 10) was small, which limited statistical power and generalizability. However, the observed patterns align consistently with predictions from intersectionality theory as well as evidence from qualitative and quantitative data.

Only four community members were able to participate in the interviews during the limited time frame, which likely did not capture the full range of perspectives within the various gaming communities.

Methodological and Design Limitations

The cross-sectional design was unable to demonstrate causal inference regarding the relationship between experiences of discrimination and preventive behaviours. While mediation analysis supported the theorized pathway (Gender → Discrimination → Prevention), longitudinal research is necessary to establish temporal precedence and examine how experiences of discrimination accumulate over time.

All measures relied on self-report, introducing potential recall bias and differential interpretation of discriminatory events. The discrimination measure intentionally combined overt discrimination with feelings of discomfort to capture the full spectrum of exclusionary experiences. However, this broad conceptualization may limit specificity regarding different types of hostile behaviours.

Interviews with participants provided more community-centred insight into gaming experiences, allowing community members to share their perspectives in their own words. This approach may have also inadvertently encouraged socially desirable responses.

Measurement and Instrumentation Limitations

Several decisions were made to simplify measurements and reduce the burden on participants, which resulted in a slight sacrifice of statistical accuracy. The binary coding of community participation (participates/does not participate) may not have adequately captured varying levels of engagement or peripheral membership status. The temporal ambiguity in prevention and discrimination measures (asking whether participants had "ever" experienced these events) captured cumulative effects but could not establish the timing or sequence of experiences. The gaming community classification relied on self-reports of time spent and self-identification of participation, which may not have reflected the quality of engagement.

Future research should employ more detailed measures of community involvement, temporal specificity, discrimination, and prevention behaviours to further develop theories of exclusionary experiences.

Generalizability and External Validity

As an undergraduate research project, this study was necessarily limited to a single mid-sized Canadian city due to resource and time constraints. While Lethbridge's demographic homogeneity provided methodological advantages for isolating gender-based discrimination patterns, this same homogeneity limits generalizability to more ethnically, religiously, and linguistically diverse urban centers. The study cannot determine whether discrimination patterns intensify, remain stable, or differ in communities where race, ethnicity, language, and gender intersect more frequently. Future research in demographically diverse locations is needed to examine how multiple marginalized identities compound

discrimination experiences in gaming contexts beyond the preliminary intersectionality findings presented here.

The systematic nature of discrimination patterns across multiple gaming communities suggested these represent fundamental exclusion mechanisms rather than location-specific phenomena. However, gaming cultures may vary significantly across regions, urban versus rural contexts, and different countries.

Conclusions

This research revealed systematic discrimination patterns across gaming communities, with significant effects observed in four of the six communities tested. Identified relationships had large effect sizes (V = .337-.360), indicating substantial and prevalent problems that transcend a single community. Preliminary findings for gender-diverse individuals showed multiplicative identity effects in gaming contexts. Additionally, 81% of gamers who reported that discrimination had prevented them from engaging in a new game wanted beginner nights, signifying a desire for easy entry pathways into new communities. Beyond improving gaming experiences and opening new areas of revenue, addressing these barriers has broader implications for workforce diversity. When women who identify as gamers are three times more likely to pursue STEM careers, systematic exclusion from gaming communities may contribute to persistent underrepresentation in technology fields (De la Torre-Sierra & Guichot-Reina, 2024).

These findings aligned with previous research on the topic and offered suggestions for future research directions. Gender discrimination appeared to create lenses through which non-male participants experience gaming environments, with previous exclusion experiences heightening awareness of hostile behaviours. This research presented three preliminary frameworks: a diversification penalty that explores choice-based discrimination, systematic exclusion patterns across gaming ecosystems, and evidence-based intervention pathways that prioritize beginner support programs. These findings extend

intersectionality theory to voluntary leisure contexts, demonstrating that compound discrimination operates even in spaces participants choose to enter. The diversification penalty represents a novel theoretical contribution, challenging assumptions that exploring multiple communities provides protective factors through expanded social capital.

Suggestion 1: Mentor System

"*Having, like a mentor system, could really help form more bonds in the community, too*" (Participant 3).

The proposed diversification penalty can offer insight into the specific mechanisms by which some gamers get trapped in single communities, further increasing prevention behaviours, and limiting their ability to experience new games. Gamers who have not diversified are not only excluded from new experiences but also represent a new target for increased revenue across a multitude of industries. Furthermore, if these patterns are demonstrable across gaming communities, it is likely that they also exist in other male-dominated spaces and industries. Mediation analysis suggested a pathway whereby gender was associated with discrimination experiences, which in turn were associated with prevention behaviours, providing evidence for social barriers.

Suggestion 2: Targeted Intervention

"*I was fairly new to it... my opponent was like, oh, cool, boop, done, you lose. And I'm like, Okay. I don't know where I messed up, but apparently I did*" (Participant 4).

Many gaming companies inadvertently create hostile environments, some of which prioritize pay-to-win strategies over the socializing aspect of gaming. To improve, companies can create equal opportunities within their games, such as formats intended to promote socializing, limit monetary cost, and prevent discrimination to help gamers ease their way into new communities. Participants who face discrimination and exhibit prevention behaviours do not want free items; they want easy entry pathways without the compounding risks of diversification. Based on these findings, gaming industries and retailers

may need to identify gamers who are at risk of discrimination and implement targeted intervention strategies to address this issue. However, validation across diverse communities would further strengthen these recommendations.

Suggestion 3: Multi-Level Interventions and Diversity

"*If you can employ a diverse range of people, that's gonna help you*" (Participant 2).

Overall, specific measures such as targeted inclusion nights that foster community connections and relations, beginner nights with mentor systems, and increasing the diversity of staff can change perceptions within the gaming community. Given that 81% of gamers affected by discrimination want beginner nights, this represented a high-impact, community-suggested intervention strategy. However, these individual interventions will likely not be enough to change long-standing views of gaming spaces as male-dominated, and individual gaming communities will need targeted approaches that identify the specific factors of discrimination individuals experienced within each community. Any intervention strategy must consider the possibility of a diversification penalty, which could result in an increased risk of discrimination.

Additionally, given the pervasiveness of sexual harassment targeted at women, the gaming industry must work on creating safe gaming environments with consequences that reduce anonymity online, and support women in-person (Brenner-Levoy, 2023; Carradore & Pirola, 2025; Robinson, 2023; Zhou & Peterson, 2025). Currently, the absence of intervention research leaves the field descriptively rich yet practically limited, indicating the need for future research to go beyond documenting discrimination and harassment.

Limitations and Future Directions

While this study's single-city focus and cross-sectional design limit causal claims, the consistency of large effect sizes across multiple communities and analytical approaches provides robust preliminary evidence for systematic discrimination patterns.

Future research should focus on (1) which communities add to the diversification penalty effect and which offer protective factors (2) establishing larger, more representative sample sizes to validate findings (3) demonstrate causal relationships that discrimination leads to prevention behaviours, (4) identify the discrimination factors faced by each community to establish effective and individualized interventions, and (5) testing intervention effectiveness for creating safer gaming environments.

This research advanced understanding of systematic discrimination in gaming communities, validated community-based solution approaches, and revealed both diversification penalties for community exploration and isolation penalties for single-community participation.

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I'm Racheal Brooker, completing my Bachelor of Arts in Psychology at Athabasca University. This research emerged from ANTH 390's independent research component, where students examine communities of personal membership. As a lifelong gamer since playing Frogger in 1998, I investigated gender representation and inclusion barriers across multiple gaming communities. My study introduces the 'Diversification Penalty', a finding that suggests participants in various gaming communities face higher discrimination rates than single-community participants. Based in Lethbridge, Alberta, I focused locally due to undergraduate constraints. I hope this work encourages broader investigation across voluntary communities, including sports and professional organizations. When not gaming or researching, I live with my two dogs (Tifa, Sylvie), who have become surprisingly effective at helping me understand complex statistical concepts through creative metaphors.