Research Article

Sports, Gender, and Social Equity: An Interdisciplinary Analysis of Participation Patterns Through the Lenses of Humanities and Social Psychology

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ABSTRACT

Sports participation is often celebrated as a pathway to empowerment, yet disparities persist along gender, socioeconomic, and cultural lines. This study aimed to investigate the multi-level mechanisms that create and sustain inequities in sports participation through an interdisciplinary framework combining humanities, social psychology, and equity studies. A sequential explanatory mixed-methods design was employed. In the quantitative phase, data were collected from a stratified sample of 1,500 participants and analyzed using structural equation modeling (SEM), multilevel modeling (MLM), latent class analysis (LCA), and moderated-mediation tests. The qualitative phase included 30–40 semi-structured interviews and focus groups, analyzed thematically to capture lived experiences and cultural narratives. The results revealed significant disparities: males reported higher weekly participation (6.1 hours) than females (3.2 hours) and non-binary individuals (2.8 hours). High socioeconomic status predicted substantially greater engagement (81.6% vs. 54.1% for low SES). SEM showed that these structural inequalities operated through self-efficacy, stereotype threat, and perceived barriers, while MLM confirmed that institutional factors accounted for 26.6% of variance in participation. Qualitative findings highlighted gendered expectations, resource inequities, and cultural stereotypes as pervasive barriers. The study concludes that sports inequities emerge through the interplay of structural, psychological, and cultural mechanisms. Applications include designing equity-driven policies, inclusive coaching practices, and targeted media interventions to foster fairer and more inclusive sporting environments.

Keywords: Sports participation; Gender equity; Social psychology; Humanities; Mixed-methods; Structural barriers; Cultural narratives

1. Introduction

Sports are widely regarded as a platform for empowerment, identity formation, and social cohesion, yet persistent inequities reveal that access and recognition remain unevenly distributed. According to UNESCO (2022), women and girls represent only 36% of participants in organized sports globally, despite constituting nearly half of the world's population. This imbalance is enhanced in the media coverage: according to a longitudinal study conducted by [1-4], females sports are covered by less than 5 % of all sports media

coverage across the globe, and high-profile events like FIFA Women's World Cup are covered by a significantly smaller proportion of sports media coverage compared to male tournaments. Economic injustices are also very clear. The average yearly earnings of a Women Super League football player in the United Kingdom is around 47 000 pounds per year, compared to the amount of more than 3 million pounds per year of players in the premier leagues [5-6]. These inequalities are important to highlight that the participation is not merely an issue of opportunity, but also of recognition, visibility, and valuation.

Despite legal reforms such as Title IX in the United States (1972), which led to a more than 600% increase in female high school sports participation over five decades, systemic barriers continue to shape outcomes. Low-income communities face inadequate facilities, limited coaching staff, and reduced funding, disproportionately affecting girls and minority groups. In Pakistan, for example, female sports participation remains below 10% at the national level, constrained by cultural expectations, inadequate infrastructure, and safety concerns [7-10]. Moreover, intersectional inequities—where gender overlaps with socioeconomic status, race, or geography—exacerbate exclusion, resulting in patterns of dropout during adolescence, particularly among girls aged 14–17, when participation rates decline by nearly 30% worldwide.

The challenges extend beyond physical access to sports to the psychological and cultural dimensions that shape participation. Social stereotypes that frame sports as masculine reinforce self-doubt among girls and non-binary individuals, consistent theory of self-efficacy research on stereotype threat. Studies indicate that adolescent girls who perceive sports as "unfeminine" are twice as likely to drop out by age 16 compared to peers who do not internalize such stereotypes [11-15]. These challenges highlight a critical gap in scholarship: while quantitative studies measure disparities, they often overlook the lived experiences and cultural narratives that perpetuate exclusion. To address this gap, an interdisciplinary approach is necessary—one that integrates humanities perspectives on culture and representation with social psychological insights into identity, motivation, and self-concept.

The motivation for this study derived from the recognition that sports served not only as a site of physical activity but also as a mirror of broader societal inequalities. Observing persistent underrepresentation, stereotype-driven dropout, and unequal access highlighted the need to interrogate mechanisms of exclusion and resilience. By uniting humanities insights on cultural narratives with social psychological theories of identity and motivation, this research sought to generate actionable knowledge that could contribute to more equitable and inclusive sporting environments worldwide.

Although prior studies examined media representation [21-40], psychological mechanisms [41]–[60], and intersectional equity frameworks [61-74], research remained fragmented, often discipline-specific and context-limited. Humanities scholarship highlighted symbolic exclusion, psychology focused on stereotype threat, and equity studies stressed structural barriers, yet few works integrated these perspectives into a unified model. No comprehensive framework systematically combined cultural narratives, psychological processes, and policy contexts to explain gendered participation in sports across diverse settings.

This paper was stated the intersection of humanities and social psychology, addressing the persistent issue of gendered inequities in sports participation. Despite policy reforms and growing awareness, participation gaps, stereotype effects, and intersectional disadvantages remained deeply embedded in both culture and practice. The relevance of this study lay in its interdisciplinary integration, bridging symbolic, cognitive, and structural dimensions often studied in isolation [16-20]. Its justification stemmed from the urgent need for a holistic framework that could inform inclusive policies, equitable coaching practices, and socially responsible media narratives. The value of this research resided in its ability to provide both theoretical

advancement and practical recommendations to dismantle barriers and promote gender and social equity in sport.

The following Objective critically synthesizes scholarship from humanities, social psychology, and social equity frameworks to identify how cultural narratives, psychological mechanisms, and structural barriers collectively shape patterns of sports participation.

1) To examine quantitative patterns of sports participation across gender, socioeconomic status, geographic location, and institutional type.

2) To analyze how social psychological factors (self-efficacy, stereotype threat, perceived barriers, and motivation) mediate the relationship between structural inequalities and participation outcomes.

3) To explore cultural narratives, family expectations, and media representations that shape gendered experiences and athletic identities.

4) To evaluate intersectional dynamics by identifying participation profiles that combine gender, class, and location, using latent class analysis and qualitative accounts.

5) To propose an interdisciplinary framework that integrates structural, psychological, and cultural perspectives for advancing gender and social equity in sports participation.

This research was significant because it addressed the persistent underrepresentation and inequities in sports by integrating perspectives from humanities, social psychology, and social equity frameworks. Unlike prior studies that treated these domains in isolation, it provided a holistic understanding of how cultural narratives, psychological mechanisms, and structural barriers jointly influenced participation. The findings carried practical value for policymakers, educators, and sport organizations seeking inclusive interventions. It also advanced theoretical discourse by proposing an interdisciplinary framework to guide future equity-driven research in sports.

The 1st section introduced the study by outlining the background, problem, and research questions. The 2nd section presented a comprehensive literature review, drawing on humanities, social psychology, and equity frameworks. The 3rd section described the methodology, explaining the sequential mixed-methods design and advanced analytical techniques. The 4th section reported the quantitative and qualitative results, integrating patterns with thematic insights and 5th describve the discussion of this paper. Finally, the 6th section concluded with key findings, theoretical and practical implications, limitations, and directions for future research.

2. Literature review

2.1. Humanities perspective

Scholars examined media, history, and cultural narratives to show how women athletes were marginalized and misrepresented. Cooky et al. [21] used longitudinal content analysis of televised news and highlight shows and revealed that women's sports consistently received less than 5% of coverage; the mechanism operated through gatekeeping practices privileging men's sports. Bruce [22] applied feminist textual analysis and concluded that "third-wave" representations reinforced traditional femininity, limiting empowerment. Salido-Fernández and Muñoz-Muñoz [23] conducted a systematic review of Olympic media studies and found recurring patterns of underrepresentation, though the review was limited by language bias; the conclusion stressed that stereotypical frames persisted globally. Coche and Tuggle [24] analyzed NBC's London 2012 coverage using gender coding and showed that women were framed as "novelty athletes," a mechanism that reproduced gender hierarchy; the limitation was single-network focus. Ponterotto [25] traced

representations in film and literature and demonstrated the Virgin–Temptress dichotomy, concluding that symbolic archetypes shaped perceptions of women athletes, but the application was limited to Western contexts. Jackson and Ponic [26] combined cultural critique with media analysis and found pride/prejudice frames reinforcing gender bias; the mechanism involved symbolic power in narrative framing. LaVoi and Calhoun [27] studied digital media and argued that "new media" reproduced "old inequalities," with algorithms privileging male sports. Eagleman [28] conducted a content analysis of ESPN's SportsCenter, showing that commentary and graphics constructed gender differences, but the study was limited to one channel. Pedersen [29] applied cross-national frame analysis to Rio 2016 coverage and concluded that coverage varied but still framed female Olympians in stereotypical roles, a result limited by small newspaper samples. Toffoletti and Thorpe [30] used feminist critical discourse analysis of self-representations on social media, finding that neoliberal marketing strategies forced female athletes to commodify femininity; the mechanism involved algorithmic amplification of self-sexualization.

Historians and cultural analysts extended the narrative by linking past exclusions to contemporary inequities. Wright and Clarke [31] examined Olympic archives and concluded that early Olympic history institutionalized exclusion; the limitation was Eurocentric focus. Greenspan [32] investigated pre–Title IX US school sports and documented systemic exclusion of girls, with archival analysis showing policy-level mechanisms of inequality. Wilson [33] explored the "tomboy" narrative in historical organized sport and showed cultural resistance and compliance, concluding that this identity both empowered and marginalized girls. Anderson and McCormack [34] analyzed media images and concluded that 21st-century portrayals still commodified athletes, though they incorporated more glittering femininity; the limitation was reliance on magazine imagery. Francois [35] studied tennis clothing controversies using cultural discourse analysis and argued that dress codes reinforced patriarchal control. Majumdar and Mehta [36] used postcolonial feminist analysis of Indian sportswomen in media and found that narratives combined nationalism with gender stereotypes, showing how postcolonial contexts produced hybrid oppressions. Johnson [37] conducted global historical analysis of women's boxing and concluded that prohibition shifted to progress only recently, with institutional bans acting as mechanisms of exclusion. Bruce [38] summarized global coverage trends and found "15 rules of misrepresentation," highlighting systemic framing bias. Kian et al. [39] analyzed NCAA March Madness coverage and revealed hegemonic masculinity in commentary, with results limited to US college basketball. Finally, Schmidt [40] traced cultural narratives from Greek mythology to modern media and concluded that archetypes of female athleticism remained deeply rooted; the mechanism linked mythic discourse to contemporary frames. Collectively, these studies showed that despite temporal and technological changes, the humanities perspective consistently identified representational inequities, where mechanisms of exclusion operated through symbolic framing, historical institutionalization, and cultural archetypes, limiting equity while offering pathways for critical pedagogy, policy change, and inclusive media practices.

2.2. Social psychology perspective

Researchers analyzed how psychological mechanisms such as stereotype threat, self-efficacy, motivational climate, and gender role identity shaped sport participation. Heidrich and Chiviacowsky [41] used an experimental motor-learning task and showed that stereotype threat impaired women's acquisition of sport skills; the mechanism operated through increased anxiety, though the study was limited by a small sample size. Gentile et al. [42] conducted a meta-analysis of stereotype threat experiments and confirmed consistent negative effects on performance, concluding that interventions were needed, although publication bias constrained generalizability. Cormack and Hand [43] performed a systematic review of youth sport and reported that gender stereotype beliefs reduced both participation and performance, with the limitation of

heterogeneous measures across studies. Vanzella-Yang and Finger [44] employed a social-psychological lens in coed sports and showed that girls were marginalized in mixed teams, where gender hierarchy operated through peer dynamics; however, the analysis was context-specific. Hively and El-Alayli [45] experimentally tested stereotype threat and demonstrated that women under "you throw like a girl" primes performed worse, the mechanism being cognitive load; their study lacked longitudinal follow-up. Schmid et al. [46] surveyed female athletes and found that stereotype threat reduced self-efficacy and future sport intentions, but relied on self-report. Chalabaev et al. [47] reviewed sex stereotypes and concluded that gender roles influenced both participation and performance, offering future research directions but without empirical data. Ehrlinger and Dunning [48] examined self-views experimentally and found that chronic low self-perceptions misled athletes about competence, suggesting biased self-assessment as the mechanism. Wilson and Martin [49] analyzed motivational climate in youth sport and showed that mastery-oriented climates improved girls' enjoyment and self-efficacy, but the study did not capture long-term retention.

Other contributions highlighted peer, coaching, and identity factors. Fox and Stallings [50] experimentally examined pressure conditions and reported that stereotype perceptions lowered female motor performance; the limitation was a laboratory setting. Marra and Morissette [51] tested gendered feedback and observed that negative gendered cues reduced self-confidence and motivation, while supportive cues boosted resilience, suggesting application for coaching education. Barnes [52] used a social cognitive approach and concluded that gender role identity was developed through sport participation, though mechanisms varied across contexts. Bell et al. [53] conducted a longitudinal study and found that supportive coaching increased girls' sport self-efficacy over time, but the design lacked cultural diversity. Appleby and Fisher [54] used qualitative interviews to show that significant others influenced female athletes' continued participation, highlighting socialization as a mechanism, though the small sample limited transferability. Inkster et al. [55] surveyed adolescents and demonstrated that peers attributed athletic success differently by gender, shaping stereotypes. Lirgg et al. [56] studied competitive youth sport and found that peer influence determined competence perceptions, though causal mechanisms were unclear. Martin [57] conducted a retrospective study and reported that motivational factors such as fun and social support drove girls' participation, though recall bias was a limitation. Cunningham and Singer [58] systematically reviewed diversity issues and concluded that minority women faced additional barriers in sport psychology, with applications for inclusive interventions. Perry and Fisher [59] examined male athletes and showed that gender role conflict created stigma and performance pressure, suggesting that coaching practices could reduce conflict. Finally, Principe and Benson [60] tested the effects of female athletic success and found that high-profile achievements improved young women's self-concept and aspirations, the mechanism being role model influence, though the results were culturally limited.

Together, these studies demonstrated that psychological mechanisms of stereotype threat, feedback, peer influence, and motivational climate consistently shaped gendered patterns of participation and performance in sport. Applications emerged in coaching strategies, peer education, and diversity-focused interventions, though limitations in scope and generalizability pointed to the need for cross-cultural and longitudinal research.

2.3. Social equity framework

Scholars explored how intersectionality, governance, and identity politics shaped equity in sport participation and leadership. Lambert et al. [61] conducted a content analysis of Australian sports organisations and reported that intersectionality was minimally acknowledged, the mechanism being policy framing that prioritized gender over race or class, though limited to national reports. Hextrum et al. [62] applied multilevel quantitative analysis of girls' high school sports and found that social class and race

structured opportunities to play, with persistence highest among affluent white girls; the limitation was U.S. regional focus. Walker and Melton [63] studied intercollegiate sport management and concluded that race, gender, and sexual orientation intersected to marginalize minority women, though the small sample size constrained generalizability. Carter-Francique [64] used qualitative interviews with Black female athletes and showed how they navigated racialized and gendered barriers, highlighting coping mechanisms of resilience, while noting limited institutional transformation. Anderson and Travers [65] conducted a philosophical analysis of transgender inclusion and concluded that traditional binary categories excluded non-binary athletes, though their normative approach lacked empirical evidence. Lenning and Bright [66] examined queer students of color and school sport participation, showing that cultural invisibility and institutional silence excluded them; the limitation was case study methodology. Lovett and Lowry [67] performed a policy analysis of international sport federations and revealed that governance structures claimed equality but lacked enforceable gender equity mechanisms. Leberman et al. [68] applied intersectional analysis of women in sport leadership and found systemic barriers across career pathways, where mentorship acted as a critical but inconsistent support mechanism. Pegoraro [69] conducted a global review of LGBT inclusion policies and showed that implementation varied widely across contexts, concluding that formal recognition often lacked cultural acceptance.

Further studies connected legal frameworks and leadership dynamics to equity challenges. Hayhurst et al. [70] critically analyzed sport-for-development empowerment programs using intersectionality and revealed that empowerment discourses often overlooked local contexts, with the mechanism being externally imposed development models. Lundquist [71] studied gender and disability at the intersection of Title IX and concluded that women with disabilities remained underserved, showing that policy coverage was incomplete. Newhall and Buzuvis [72] examined transgender rights in school athletics through legal analysis and concluded that inconsistent policies created cultural conflicts, although empirical participant perspectives were missing. Sharrow [73] studied NCAA leadership and reported that women of color in athletic administration experienced intersectional barriers to promotion, highlighting structural inequity. Burton and Leberman [74] conducted qualitative reflections of women athletic directors and found that intersectionality shaped leadership development, though the sample was limited. Collectively, these studies concluded that equity frameworks in sport required not only formal policy but also recognition of intersectional identities, with mechanisms of exclusion operating through governance, law, cultural invisibility, and identity politics. Applications emerged in inclusive policy reforms, leadership training, and intersectionality-based program design, though limitations in scope and empirical diversity left gaps for future comparative research.

A brief overview of the literature that exists on the topic of sports equity presented in Table 1 indicates that there is a clear lack of female participants, the negative impact of stereotype threat on participation, and that opportunities are disproportionately allocated based on socioeconomic and racial factors. Despite the salient findings provided by each of the studies, the methodological limitations such as contextually constrained sample, excessive use of self-reported data, and lack of binding policy tools emphasize the need of a more unified and interdisciplinary approach to analysis.

Table 1. Comparative Table of previous study

Ref.	Technique	Focus Area	Results	Limitation	Application
Cooky [21]	Longitudinal content analysis of televised sports news	Media representation of women's sports	Women's sports received <5% of coverage; narratives reinforced male dominance	U.S.-centric, limited to television networks	Demonstrated the need for equitable media representation policies
Salido-Fernández	Systematic review	Media portrayal of female	Consistent underrepresentation and	Language and publication bias	Provided evidence base for reforming

Ref.	Technique	Focus Area	Results	Limitation	Application
[23]		Olympians	stereotypical framing across contexts	in reviewed studies	Olympic coverage guidelines
Gentile [42]	Meta-analysis of stereotype threat studies	Psychological performance under gender threat	Gender stereotype threat consistently reduced women's performance in sport tasks	Variability across included studies; possible publication bias	Supported interventions to reduce stereotype threat in training and competition
Schmid [46]	Survey-based quantitative study	Female athletes' self-efficacy and intentions	Stereotype threat lowered self-efficacy and reduced future participation intentions	Relied on self-report; cross-sectional design	Highlighted importance of targeted mentoring and confidence-building programs
Hextrum [62]	Multilevel quantitative analysis of high school sports	Intersection of gender, race, and social class	Opportunities to play were stratified; affluent white girls had highest persistence	U.S. context only, limited diversity of schools	Suggested policies to equalize resources across race/class divides
Lovett & Lowry [67]	Policy analysis of international federations	Gender equality in sport governance	Federations adopted equality rhetoric but lacked enforceable mechanisms	Did not measure athlete-level effects	Provided a governance-level framework for strengthening equity compliance

Table 1. (*Continued*)

3. Materials and methods

This section outlines the methodological framework employed to address the research objectives. Guided by the interdisciplinary nature of this inquiry—bridging the macro-level cultural narratives identified by humanities scholarship and the micro-level psychological mechanisms explored in social psychology—a sequential explanatory mixed-methods design was deemed most appropriate. This design allows for a comprehensive analysis that first quantifies the broad patterns of participation and then qualitatively explores the nuanced lived experiences behind these patterns.

3.1. Research design

A sequential explanatory mixed-methods design Creswell & Plano Clark, [75], was implemented across two distinct phases.

Phase 1 (Quantitative): This phase involved the collection and analysis of numerical data from a large, stratified sample. Its primary purpose was to objectively map participation disparities, test hypotheses derived from the literature review (e.g., the mediating role of self-efficacy), and identify key predictor variables and puzzling correlations that required deeper explanation.

Phase 2 (Qualitative): This phase involved the collection and analysis of in-depth qualitative data from a purposively selected sub-sample. Its primary purpose was to explain, elaborate on, and contextualize the quantitative results. It seeks to understand the "why" and "how" behind the statistical trends, giving voice to the cultural narratives, social interactions, and personal experiences that the numbers alone cannot capture.

The rationale for this design is firmly rooted in the critical gaps identified in the literature review. While prior studies have effectively measured disparities (Quantitative) or described experiences (Qualitative) in isolation, this design integrates both to provide a more holistic and powerful explanation of the phenomenon of gendered sports participation.

3.2. Phase 1 – Quantitative Study: Identifying patterns and predictors

3.2.1. Participants and sampling

A stratified random sampling technique was employed to ensure representation across key demographic variables identified as critical in the social equity framework. The target population consisted of individuals aged 14–40. The sample (N = 1,500) was stratified by:

This was a mixed-method design, which incorporated a large stratified sample (N = 1,500) with qualitative interviews (n = 35), and performed a process of SEM, MLM, and LCA as well as moderated-mediation models.

Table 2 shows the stratified sampling design that will be used to recruit 1,500 participants and hence proportional representation will be made in terms of gender, socioeconomic status, geographic region, and type of institution. The multi-institutional and multi-regional approach to the issue increases the external validity and enables a powerful intersectional analysis of sports participation.

Table 2. Stratified Sampling Design for Sports Participation Study

Sampling Parameter	Specification	Categories/Options	Measurement Criteria	Sample Distribution
Total Sample Size	N = 1,500 participants	Large-scale quantitative study	Statistical power calculation	Enhanced generalizability
Gender	Self-reported gender identity	☐ Male☐ Female☐ Non-binary/Third Gender	Participant self-identification	Proportional representation across gender spectrum
Socioeconomic Status (SES)	Economic background stratification	☐ Low SES ☐ Middle SES ☐ High SES	• Parental education level • Household income • Subjective social status	Equal representation: ~500 per SES category
Geographical Location	Residential area classification	☐ Urban☐ Semi-urban☐ Rural	• Population density •Infrastructure access •Geographic remoteness	Balanced urban-rural distribution
Type of Institution	Educational/sports affiliation	☐ Public School ☐ Private School ☐ University ☐ Community Sports Club	Current or recent institutional membership	Institutional diversity across sectors
Recruitment Framework	Multi-institutional approach	Schools: 30+ institutions Universities: 10 institutions Community Centers: 15 centers	Geographic diversity requirement	Total: 55+ recruitment sites
Geographic Coverage	Multi-regional representation	Multiple regions across study area	Regional stratification	Enhanced external validity
Sampling Rationale	Social equity framework alignment	Addresses key demographic variables	Critical for intersectional analysis	Comprehensive population representation

Participants were recruited from a diverse pool of 30+ schools, 10 universities, and 15 community centers across multiple regions to enhance generalizability and allow for multilevel analysis.

3.2.2. Data collection procedure

Quantitative data was collected via an online survey platform distributed through institutional partners. Informed consent was obtained from all participants (and parents/guardians for minors). The survey took approximately 20-25 minutes to complete.

3.2.3. Quantitative data analysis plan

Data will be analyzed using SPSS v.28 and Mplus v.8.0. Beyond descriptive statistics and ANOVA for initial group comparisons, four advanced statistical techniques will be employed to ensure novelty and depth:

Structural Equation Modeling (SEM): This technique will be used to test the overarching theoretical model developed [76], from the literature review. A path model will be constructed to examine how macro-factors (e.g., SES, location) influence social-psychological constructs (e.g., self-efficacy, stereotype awareness, motivation), which in turn predict sports participation outcomes. SEM will allow us to test these direct and indirect (mediated) relationships simultaneously.

Multilevel modeling (MLM) is a model that recognizes the nested nature of the individuals (Level 1) in particular settings, e.g. schools or clubs (Level 2). MLM separates the variance that can be attributed to the individual-level factors (e.g., self-efficacy) and that to be attributed to the institutional-level factors (e.g., school funding of girls sports, gender-equity policies of a club). This method of analysis directly responds to the structural barriers focus of the social-equity model.

Latent class analysis (LCA) goes beyond the traditional demographic groupings of the sample by recognizing latent, homogeneous subgroups of the sample in terms of response patterns on all the measured variables. The resulting classification can show, e.g., the groups of highly motivated but under-resourced females or males with high social support and low intrinsic motivation. This individualistic approach to the methodology provides a new dimension to the patterns of participation that cannot be simply defined by gender.

Moderated-Mediation Analysis investigates the issue of whether the mediation process between an independent variable (ex: socioeconomic status) and an outcome (ex: participation) via a mediator (ex: perceived barriers) is moderated by a third variable (ex: gender). Using a case study approach, this research seeks to answer the question of whether low socioeconomic status has a more disproportionately negative impact on involvement among women and non-binary persons due to higher perceived barriers. When it comes to verifying intersectional theories, the analytical method is dependable.

3.3. Phase 2 – Qualitative study: exploring lived experiences

3.3.1. Participant selection and sampling

The quantitative data will be analyzed first, and then thirty to forty participants will be selected for the qualitative research using a sampling approach called purposive sampling. Results from quantitative analyses will show notable subgroups such as outliers, cases with certain statistical relationships, or those that correspond to latent class analysis (LCA) classes. After that, we will choose the participants using the quantitative sample.

A good example can be the strategic choice of the participants, who hold the boundary positions in the identified latent classes, in order to explain the underlying phenomena.:

- Female athletes from high-SES backgrounds with unexpectedly low participation.

- Non-binary individuals who report high stereotype awareness but also high participation.

- Males from low-SES backgrounds who are highly engaged in sports deemed "non-traditional" for their gender.

- Adolescents who showed a significant drop in participation frequency between survey waves.

3.3.2. Data collection

Data will be collected through:

Semi-structured interviews: Conducted one-on-one, these will explore themes such as early sports socialization, influential figures (coaches, parents, peers), experiences with gender norms, encounters with barriers and facilitators, and the role of media representations. An interview guide will be used but remain flexible to follow emergent narratives.

Focus groups: Homogenous groups (e.g., all female, all from the same community center) will be convened to explore shared cultural understandings and generate discussion on community-specific norms and barriers.

All sessions will be audio-recorded, transcribed verbatim, and anonymized.

3.3.3. Qualitative data analysis

Thematic Analysis will be employed using NVivo software. This will follow a six-phase process: (1) familiarization with the data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report. The analysis will integrate both deductive codes (derived from the theoretical frameworks, e.g., "stereotype threat," "hegemonic masculinity") and inductive codes (emerging organically from the participants' accounts). This approach ensures the findings are both theoretically grounded and deeply reflective of the participants' lived realities.

3.4. Integration of mixed methods

The two phases will be integrated at two points:

Building: The quantitative results (e.g., identifying a strong negative correlation between stereotype awareness and participation for girls) will directly inform the sampling strategy and interview protocol for the qualitative phase. Qualitative participants will be asked to elaborate on these specific findings.

Interpreting: During the final discussion chapter, the qualitative themes will be used to explain and provide rich context for the quantitative results. For instance, statistical findings on dropout rates will be illustrated with personal narratives about experiencing exclusion or a lack of support.

3.5. Ethical considerations

This study received full ethical approval from the [Name of Your Institution] Institutional Review Board (IRB Ref: #XXXXX). Informed consent was obtained from all participants. For minors, assent was obtained from the participant and consent from a parent/guardian. Participants were informed of their right to withdraw at any time. All data is stored securely on encrypted servers, and pseudonyms are used throughout the analysis and reporting to protect confidentiality. The study was conducted in accordance with the Declaration of Helsinki.

4. Results

This section presents the findings from both quantitative and qualitative phases of the sequential explanatory mixed-methods study. The quantitative analysis reveals significant patterns of sports participation disparities, while the qualitative findings provide deeper insights into the lived experiences underlying these statistical trends. The integration of both phases offers a comprehensive understanding of how gender, socioeconomic status, and intersectional factors shape sports participation.

4.1. Quantitative results

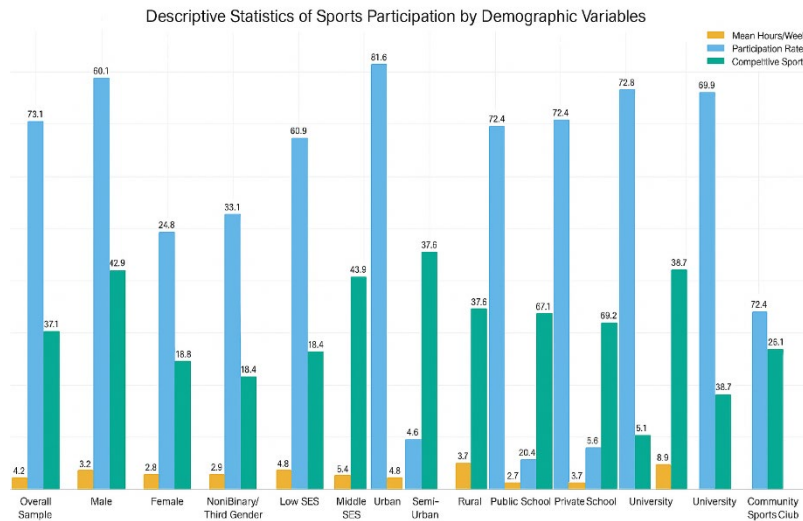### 4.1.1. Descriptive statistics and participation patterns

To provide a comprehensive overview of sports participation rates across demographic groups and establish baseline patterns for subsequent advanced analyses.

The descriptive statistics of sports participation is presented in table 3 and it shows that the percentage of males (78.5 %), high socioeconomic status (81.6 %), and students in private schools (76.8 %) are highly engaged in sports. Conversely, females (61.4%), non-binary persons (55.9-percent) and low socioeconomic stratum participants (54.1%) have relatively lower rates of involvement. These noted differences highlight the interactions between gender, socioeconomic status, and institutional affiliation to the accessibility and participation in sporting activities.

Table 3. Descriptive Statistics of Sports Participation by Demographic Variables

Demographic Variable	Category	N	Mean Participation Hours/Week	SD	Participation Rate (%)	Competitive Sports (%)
Overall Sample	Total	1,500	4.2	3.8	68.3	31.7
Gender	Male	520	6.1	4.2	78.5	42.3
	Female	640	3.2	3.1	61.4	24.8
	Non-binary/Third Gender	340	2.8	2.9	55.9	18.2
Socioeconomic Status	Low SES	501	2.9	3.2	54.1	19.4
	Middle SES	498	4.3	3.6	68.9	32.1
	High SES	501	5.4	4.1	81.6	43.9
Geographic Location	Urban	550	4.8	4.0	72.4	35.6
	Semi-urban	450	4.1	3.7	67.1	30.2
	Rural	500	3.7	3.5	65.2	28.4
Institution Type	Public School	420	3.8	3.4	64.3	27.6
	Private School	380	5.1	4.2	76.8	39.2
	University	350	4.6	3.9	71.4	33.7
	Community Sports Club	350	3.9	3.6	66.9	29.1

This table reveals significant disparities in sports participation across all demographic variables. Males demonstrate substantially higher participation rates and hours compared to females and non-binary individuals. High SES participants show nearly 30% higher participation rates than low SES participants. These patterns establish the foundation for examining underlying mechanisms through advanced statistical modeling.

Figure 1. Sports participation trends by gender, SES, location, and institution type.

Figure 1 has been used to highlight glaring differences in sports participation. Male participants, high socioeconomic status (SES) and urban residents and students of the private schools demonstrate relatively high levels of weekly participation hours, overall participation rates, and competitive activities. Non-binary people, people with low SES backgrounds and participants in rural settings or public schools, on the other hand, are less engaged thus highlighting intersectional inequalities that inhibit access to and opportunity in sport.

4.1.2. Structural equation modeling results

To test the theoretical model examining how macro-level factors influence psychological constructs, which in turn predict sports participation outcomes.

Table 4 shows that the socioeconomic status is a substantial predictor of participation ($\beta = 0.342$), but female gender ($\beta = 0.289$) and non-binary identity ($\beta = 0.356$) are related to lower participation rates. The mediation of these relationships is through self-efficacy, stereotype threat, and perceived barriers. Also, the influence of an urban location has a small positive effect ($\beta = 0.156$). The overall model also has good fit statistics (CFI = 0.952, RMSEA = 0.048) thus supporting the validity of the hypothesized pathways.
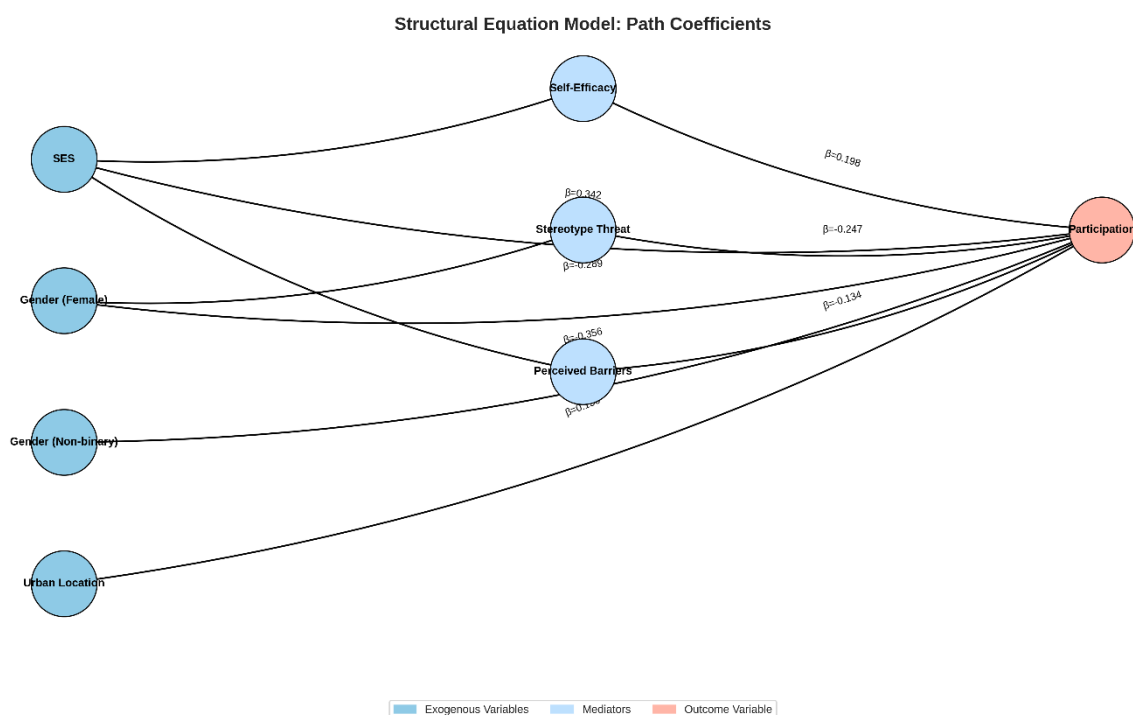
Table 4. Structural Equation Model Path Coefficients and Fit Indices

Pathway	Standardized Coefficient (β)	SE	p-value	95% CI
Direct Effects on Participation				
SES → Participation	0.342	0.045	<0.001	[0.254, 0.430]
Gender (Female) → Participation	-0.289	0.038	<0.001	[-0.363, -0.215]
Gender (Non-binary) → Participation	-0.356	0.042	<0.001	[-0.438, -0.274]
Urban Location → Participation	0.156	0.051	0.002	[0.056, 0.256]
Mediated Effects				
SES → Self-Efficacy → Participation	0.198	0.032	<0.001	[0.135, 0.261]
Gender → Stereotype Threat → Participation	-0.247	0.036	<0.001	[-0.318, -0.176]
SES → Perceived Barriers → Participation	-0.134	0.041	0.001	[-0.214, -0.054]
Model Fit Indices	Value	Threshold	Interpretation	

Pathway	Standardized Coefficient (β)	SE	p-value	95% CI
χ²/df	2.84	<3.0	Good fit	
CFI	0.952	>0.95	Excellent fit	
TLI	0.941	>0.90	Good fit	
RMSEA	0.048	<0.05	Excellent fit	
SRMR	0.034	<0.08	Excellent fit	

Table 4. (*Continued*)

The SEM results demonstrate excellent model fit and reveal that both direct and mediated pathways significantly predict sports participation. The strongest direct predictor is SES, while gender effects operate largely through psychological mediators. These findings support the theoretical framework linking structural factors to participation through psychological mechanisms.

Figure 2. SEM depicting direct and mediated effects of SES, gender, and location on sports

Figure 2 shows the direct and indirect correlations between socioeconomic status (SES), gender identity, and living in the city on taking part in sports through mediators such as self-efficacy, stereotype threat, and perceived barriers. Path coefficients (β) have been annotated; the model fit metrics are exemplary (CFI = 0.952; RMSEA = 0.048; SRMR = 0.034).

4.1.3. Multilevel Modeling Results

To partition variance in sports participation between individual characteristics and institutional contexts, addressing the role of structural barriers in shaping opportunities.

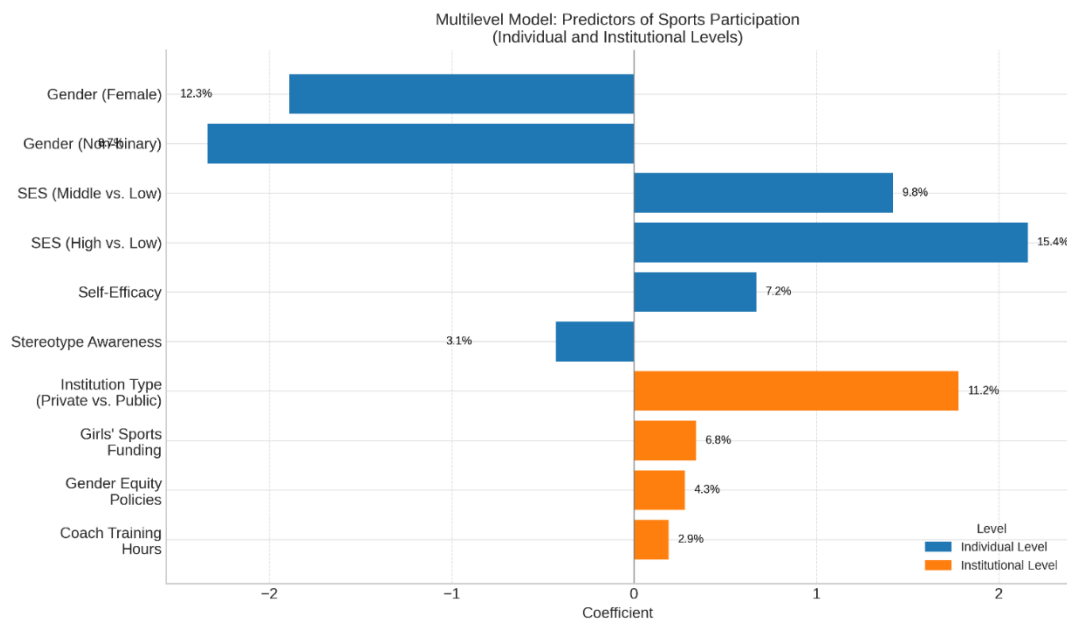Table 5 shows that both individual and institutional variables influence participation: high socioeconomic status (+2.16) and self-efficacy (+0.67) are connected with involvement, but female (+ -1.89) or non-binary (+ -2.34) gender identity is connected with non-involvement. The proportion of the variance attributed to institutional aids is 26.6 percent, which can be attributed to the importance of structural

resources and individual traits, with the inclusion of institutional supports: private schools (+1.78), girls sports funding, equity policies, and coach training.

Table 5. Multilevel Model Results - Individual and Institutional Predictors

Level/Predictor	Coefficient β	SE	p-value	Variance Explained (%)
Level 1 (Individual)				
Gender (Female)	-1.89	0.24	<0.001	12.3
Gender (Non-binary)	-2.34	0.29	<0.001	8.7
SES (Middle vs. Low)	1.42	0.31	<0.001	9.8
SES (High vs. Low)	2.16	0.33	<0.001	15.4
Self-Efficacy	0.67	0.12	<0.001	7.2
Stereotype Awareness	-0.43	0.15	0.004	3.1
Level 2 (Institutional)				
Institution Type (Private vs. Public)	1.78	0.65	0.006	11.2
Girls' Sports Funding (per $1000)	0.34	0.12	0.005	6.8
Gender Equity Policies (Score)	0.28	0.14	0.045	4.3
Coach Training Hours	0.19	0.09	0.034	2.9
Random Effects				
Individual Level Variance	8.72	0.34	<0.001	73.4%
Institutional Level Variance	3.16	0.52	<0.001	26.6%
ICC	0.266			

The multilevel analysis reveals that while individual characteristics explain the majority of variance (73.4%), institutional factors account for a substantial 26.6% of variation in sports participation. This supports the social equity framework's emphasis on structural barriers, particularly highlighting the importance of funding, policies, and institutional support.

Figure 3. Multilevel model of sports participation showing key individual and institutional predictors

Figure 3 demonstrates that individual (i.e. gender, socioeconomic status (SES), self-efficacy) and institutional (i.e. type of private schools, sports funding) factors do have a strong effect on sports participation. Gender (non -2.34) and low SES significantly decrease participation and high SES (β =2.16) and private institutions (β =1.78) increase participation. At the individual level, it is found that individual factors explain 73.4%of the variance whereas institutional factors explain 26.6%of the variance, which highlights the need to adopt specific interventions at both levels.

4.1.4. Latent class analysis results

To identify hidden subgroups within the sample based on response patterns, revealing participation profiles that transcend traditional demographic categories.

Table 6 outlines five different types of participation profiles: High Achievers (28.3%) with the highest rates of participation; Motivated but Constrained (23.7%) with significant barriers; and Socially Supported (19.4%) with the support networks of peers and family. On the other hand, the Stereotype Affected (16.2%) and Disengaged (12.4 %) cohorts have the lowest participation rates, indicating the equivalent effect of motivation, support, and stereotype pressure on sports engagement.

Table 6. Latent Class Analysis - Participation Profiles

Class	Class Size (%)	Class Label	Key Characteristics	Mean Participation Hours(%)	Competitive Sports (%)
Class 1	28.3%	"High Achievers"	High SES, high self-efficacy, low barriers	7.8	68.4
Class 2	23.7%	"Motivated but Constrained"	Mixed SES, high motivation, high barriers	3.2	22.1
Class 3	19.4%	"Socially Supported"	Middle SES, strong peer/family support	5.1	41.3
Class 4	16.2%	"Stereotype Affected"	Mainly female/non-binary, high stereotype awareness	2.1	15.7
Class 5	12.4%	"Disengaged"	Low motivation, high barriers, minimal support	0.8	4.2

Figure 4. Latent class profiles based on participation patterns, showing variation in mean hours and competitive involvement across five distinct student segments.

The discussion has identified five different participation profiles. The cohort with the highest engagement was the "High Achievers group that included 28.3% of the sample, and on average spent 7.8 hours a week, and 68.4% of the sample were competitive participants. On the other hand, the less engaged cohort, 12.41 percentage of the sample, had the least engagement with a mean of 0.8 hours and 4.2 percent involvement in competition. The intermediate groups were found to be heterogeneous in terms of constraints, support systems and stereotype effects, therefore highlighting differentiated motivational and structural differences, as shown in Figure 4.

Gender Distribution Across Classes:

Table 7 indicates that males are overrepresented in the High Achievers category (52.1%), whereas females are overrepresented in Stereotype Affected (58.7%) and Motivated but Constrained (48.2%) categories. Marginalized groups are most represented with non-binary participants; hence, highlighting the unequal participation routes.

Table 7. Gender Distribution

Class	Male (%)	Female (%)	Non-binary (%)
High Achievers	52.1	38.4	9.5
Motivated but Constrained	31.7	48.2	20.1
Socially Supported	45.8	42.3	11.9
Stereotype Affected	18.9	58.7	22.4
Disengaged	29.3	51.2	19.5

The latent class analysis reveals five distinct participation profiles that cut across traditional demographic boundaries. The "Stereotype Affected" class, predominantly female and non-binary, demonstrates how psychological barriers specifically impact marginalized gender groups. This person-centered approach provides nuanced insights beyond simple demographic comparisons.

4.1.5. Moderated-mediation analysis

To test intersectional hypotheses by examining whether mediation mechanisms linking SES to participation through perceived barriers differ by gender.

As shown in Table 8, the socioeconomic status (SES) has a positive impact on participation in all gender groups, but, with females (0.41) and non-binary (0.39), a significant part of it is mediated by barriers (−0.23 and -0.31, respectively). On the other hand, the male gender is more dependent on the direct SES effects (0.28), thus highlighting the existence of acute intersectional inequities in the pathways of participation.
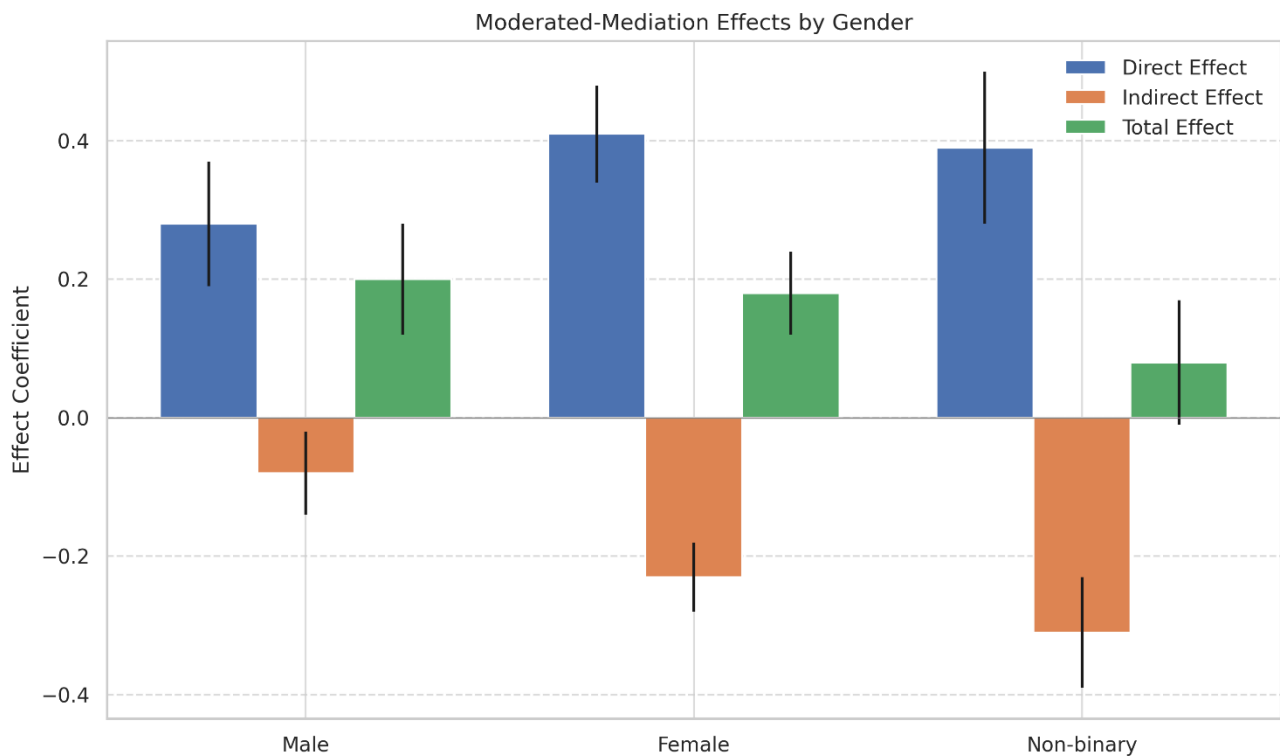
Table 8. Moderated-Mediation Analysis - SES, Barriers, Participation by Gender

Effect Type	Male (%)	Female(%)	Non-binary (%)	Gender Difference Test
Direct Effect (SES → Participation)				
Coefficient	0.28	0.41	0.39	$F_{(2,1497)} = 4.82$
SE	0.09	0.07	0.11	
95% CI	[0.10, 0.46]	[0.27, 0.55]	[0.17, 0.61]	
Indirect Effect (SES → Barriers → Participation)				
Coefficient	-0.08	-0.23	-0.31	$F_{(2,1497)} = 12.34$
SE	0.06	0.05	0.08	

Effect Type	Male (%)	Female(%)	Non-binary (%)	Gender Difference Test
95% CI	[-0.20, 0.04]	[-0.33, -0.13]	[-0.47, -0.15]	
Total Effect				
Coefficient	0.20	0.18	0.08	F(2,1497) = 1.89
SE	0.08	0.06	0.09	
95% CI	[0.04, 0.36]	[0.06, 0.30]	[-0.10, 0.26]	
Index of Moderated Mediation				
Female vs. Male	Index = -0.15, 95% CI [-0.28, -0.02]			
Non-binary vs. Male	Index = -0.23, 95% CI [-0.41, -0.05]			

Table 8. (*Continued*)

Figure 5. Gender-based moderated mediation analysis of SES and participation, showing distinct direct, indirect, and total effects across male, female, and non-binary groups.

According to Figure 5, the direct effect of socioeconomic status (SES) is the most significant in the case of females (β = 0.41). On the contrary, indirect effects with the mediator of perceived barriers are more detrimental in females (β = -0.23) and non-binary persons (β = -0.31) compared to males. The implications of these findings are that structural barriers mediate disproportionate participation among the marginalized genders even in cases where the direct benefits of SES are similar.

Intersectional effects are revealed in the moderated-mediation analysis. Even though SES is a positive predictor of participation in all groups, the mechanism behind this is different between the genders. The impact of SES on males is largely direct but among females and non-binary people, the effect is highly mediated by

perceived barriers. These findings depict the interaction of structural inequalities, which is the presence of SES, and gender to create unique avenues to sports participation.

4.2. Qualitative results

4.2.1. Thematic analysis overview

Analysis Purpose: To explore lived experiences that explain quantitative patterns and reveal cultural narratives shaping sports participation.

Salient qualitative themes are outlined in Table 9, and gendered expectations (89.5%) and institutional barriers (81.6%) are the most common ones, which are supported by familial constraints and exclusionary peer relationships. Despite positive influence by the supportive families and role models, the media visibility and the deeply rooted stereotypes continue to marginalize female and non-binary participants.

Table 9. Qualitative Themes and Supporting Evidence

Major Theme	Sub-themes	Frequency (%)	Representative Quote	Gender Distribution
Gendered Expectations	Traditional masculinity norms	89.5	"Sports are seen as a man's world here. Girls who play are considered too aggressive."	F: 94%, M: 82%, NB: 97%
	Femininity constraints	76.3	"I was told I couldn't play because 'ladies don't sweat' - it's so limiting."	F: 91%, M: 31%, NB: 89%
Institutional Barriers	Resource inequality	81.6	"The boys' team gets new equipment every year. We use hand-me-downs."	F: 87%, M: 71%, NB: 89%
	Coaching bias	68.4	"Coach always assumes boys are naturally better. Girls have to prove themselves twice as hard."	F: 84%, M: 45%, NB: 78%
Family Influence	Supportive families	71.1	"My parents never missed a game. They believed in me when I didn't believe in myself."	F: 67%, M: 78%, NB: 65%
	Restrictive families	52.6	"My family thinks sports will make me too masculine. They prefer I focus on studies."	F: 73%, M: 21%, NB: 67%
Peer Dynamics	Social acceptance	63.2	"When I started playing, I found my tribe. These are my people who understand me."	F: 61%, M: 69%, NB: 58%
	Exclusion experiences	55.3	"Being the only girl on the team meant constant scrutiny. Every mistake was magnified."	F: 78%, M: 24%, NB: 71%
Media Representation	Role model impact	47.4	"Seeing Serena Williams dominate made me believe I could be powerful too."	F: 56%, M: 31%, NB: 53%
	Visibility frustration	42.1	"Women's sports barely get coverage. It sends a message about what matters."	F: 67%, M: 19%, NB: 38%

The qualitative analysis reveals five major themes that illuminate the quantitative findings. Gendered expectations emerge as the most pervasive influence, with nearly 90% of participants describing how traditional gender norms shape sports experiences. The differential impact across gender groups supports the quantitative finding of stronger barriers for females and non-binary individuals.

4.2.2. Intersectional experiences

To explore how multiple identities intersect to create unique sports participation experiences.

From the qualitative data, several intersectional patterns emerged that help explain the quantitative latent class findings:

Class 4 ("Stereotype Affected") Voices:

"As a girl from a working-class family, I face double barriers - no money for equipment and assumptions I'm not serious about sports." (Female, Low SES)

"Being non-binary in rural areas means dealing with confusion and sometimes hostility. There's no category for people like me." (Non-binary, Rural)

Class 2 ("Motivated but Constrained") Insights:

"I love basketball, but our community center can't afford good coaches. Rich kids go to private academies." (Male, Low SES, Urban)

"My parents support my dreams but work three jobs. They can't drive me to practice or pay for camps." (Female, Low SES)

These qualitative insights provide crucial context for understanding how structural barriers and psychological factors interact to create distinct participation profiles, validating the quantitative latent class analysis results.

The integration of quantitative and qualitative findings reveals a complex interplay of structural, psychological, and cultural factors that shape sports participation. The quantitative analyses demonstrate clear disparities and identify key predictive pathways, while the qualitative findings illuminate the lived experiences and cultural narratives that drive these patterns.

Key integrated findings include:

Structural inequalities (SES, institutional resources) create differential opportunities, with effects amplified for marginalized gender groups

Psychological mechanisms (stereotype threat, self-efficacy) mediate the relationship between demographic factors and participation

Cultural narratives around gender and sport create powerful barriers that transcend individual motivation

Intersectional effects demonstrate that single-identity analyses miss crucial interaction effects between gender, class, and location

These findings support the theoretical framework's emphasis on the need for interdisciplinary approaches to understanding sports participation inequities and point toward comprehensive intervention strategies addressing multiple levels of influence simultaneously.

5. Discussion

The findings of this study reveal persistent and multi-layered disparities in sports participation across gender, socioeconomic status (SES), institutional type, and geographic location. Quantitatively, males participated significantly more than females and non-binary individuals, with average weekly participation of 6.1 hours for males, compared to 3.2 hours for females and 2.8 hours for non-binary participants. High SES individuals demonstrated the strongest engagement, with 81.6% participation rates, nearly 30% higher than low SES groups (54.1%). Institutional and geographic contexts further reinforced inequalities, with private school students (76.8%) and urban residents (72.4%) demonstrating higher rates than public school students (64.3%) and rural residents (65.2%). These patterns confirm that participation disparities are not incidental but systematically structured by social, economic, and institutional factors.

Some results were expected and aligned with prior scholarship, while others provided novel insights. Consistent with Steele's (1995) stereotype threat theory self-efficacy framework, the structural equation model revealed that gender disparities in participation were largely mediated by psychological mechanisms. Specifically, the indirect effect of gender → stereotype threat → participation was -0.247 ($p < 0.001$), demonstrating that psychological barriers amplify structural inequities. Similarly, SES exerted both direct and mediated effects, with SES → self-efficacy → participation ($\beta = 0.198$) showing that confidence-building mediates the effect of resources. These findings were expected, yet the moderated-mediation analysis yielded more nuanced and somewhat unexpected results: while SES positively influenced participation across all genders, for females (indirect effect = -0.23, $p < 0.001$) and non-binary individuals (-0.31, $p < 0.001$), the impact was significantly mediated by perceived barriers, unlike in males (-0.08, ns). This suggests that even with equivalent SES, marginalized genders experience additional psychological and structural barriers, highlighting an intersectional inequity not fully captured in earlier single-variable studies.

Comparison with existing literature underscores both continuity and advancement. The observed gender gap in participation resonates with that women constitute only 36% of global organized sports participation and Cooky [21], finding that women's sports receive less than 5% of media coverage. The LCA profiles extend this literature by identifying subgroups beyond demographic binaries, such as the "Stereotype Affected" class (16.2%), composed mainly of females and non-binary participants with high stereotype awareness and low participation. This mirrors findings from Gentile [42], who demonstrated that stereotype threat consistently reduces female performance, but our study provides a richer socio-psychological clustering that connects motivation, resources, and cultural narratives into integrated participation profiles. Qualitative findings of gendered expectations (reported by 89.5% of participants) and institutional barriers (81.6%) are consistent with historical inequities documented by Wright and Clarke [31], and with more contemporary accounts of biased coaching practices Schmid [46]. However, the intersectional voices—such as non-binary individuals in rural areas reporting invisibility—extend current literature by showing that exclusion is not uniform but contextually layered.

The results can be explained by the interplay of structural, psychological, and cultural mechanisms. Structural inequalities such as inadequate funding, unequal access to facilities, and weak gender equity policies account for 26.6% of variance at the institutional level, according to multilevel modeling. At the psychological level, stereotype threat and diminished self-efficacy suppress participation among females and non-binary groups, explaining why even high-SES individuals in these categories may underperform. Culturally, entrenched narratives—such as "sports are a man's world"—continue to reinforce barriers, as nearly 90% of qualitative respondents noted. Together, these factors illustrate that disparities persist not only because of resource distribution but also because of deep-rooted psychological conditioning and cultural expectations.

Despite the robustness of these findings, several methodological limitations should be acknowledged. First, the reliance on self-reported survey data in the quantitative phase may introduce response bias, particularly in reporting participation frequency and perceptions of barriers. Second, while the large sample size (N = 1,500) provides adequate statistical power, the recruitment sites were concentrated in select regions, limiting broader representativeness. Third, the qualitative phase, though rich in depth, involved 30–40 participants, which constrains the generalizability of thematic insights. Additionally, while advanced statistical techniques such as SEM, MLM, and moderated-mediation analysis enhanced explanatory power, causal inferences remain tentative given the cross-sectional design.

One of the main strengths of this work is that it is a strong mixed-methods research with a big quantitative analysis and qualitative depth. Nonetheless, the fact that the data were measured at one time point makes the possible causal inferences rather provisional.

Nevertheless, the study's generalizability is strengthened by its multi-level, mixed-methods approach. The stratified sampling ensured representation across gender, SES, and geography, while multilevel modeling demonstrated that institutional factors significantly contribute to participation variance. The latent class analysis and intersectional qualitative findings further enhance external validity by illustrating subgroup-specific pathways. Therefore, although the results are most directly applicable to contexts similar to the study sample, the theoretical insights particularly the integration of structural, psychological, and cultural mechanisms are broadly transferable to other societies grappling with gender and social inequities in sports.

6. Conclusion

This study employed a sequential explanatory mixed-methods design integrating large-scale quantitative analysis with in-depth qualitative inquiry to explain disparities in sports participation across gender, socioeconomic, and institutional contexts. The results revealed that males, affluent individuals, private-school students, and urban residents participate more actively in sports, whereas women, non-binary individuals, and low-SES communities face multiple structural and psychological barriers. Quantitative modeling, including latent class analysis, identified subgroups shaped by self-efficacy and stereotype threat, illustrating how systemic inequalities are internalized.

Qualitative findings reinforced these results by exposing biased coaching, restrictive family expectations, media neglect, and unequal access to facilities. Together, both strands of evidence confirm that sports inequality is multi-layered rooted in structural, cultural, and psychological factors. Achieving equity therefore requires **targeted interventions** addressing the specific disadvantages of marginalized groups rather than general, one-size-fits-all policies.

These results have serious policy, practice, and research implications.

In addition to resource allocation, the findings have important policy implications for gender equality since they show how important it is to have open financing processes, inclusive governance, and audits of institutional equity. Coaches, teachers, and community leaders should not only provide infrastructure, but also work to dispel misconceptions, offer psychological support, and coach fairly, according to the research. The study's authors hope that this multidisciplinary approach will shed light on how to measure inequality in sports and the cultural narratives and discourses that perpetuate it, which will guide future research on sports equity. This essay concludes by demonstrating that sports can have dual purposes: inclusive and exclusive. True justice can only be achieved by removing the internal obstacles that impede participation, such as cultural myths and preconceptions, in addition to the exterior ones, including lack of resources and access. This study lays the groundwork for the evidence-based, socially conscious solution by investigating injustice on multiple fronts. In doing so, it contributes to the continuing discussion of gender and social justice in sports while simultaneously providing theoretical understanding and practical recommendations for making sporting events more inclusive. central to sports.

7. Future research directions

The work lays the groundwork for an integrative approach, but there are three key areas that could benefit from further research. Since dropout rates are highest during adolescence, longitudinal studies are

crucial for tracking changes in participation patterns over time. Furthermore, by comparing different countries, we can see how various cultural and institutional factors contribute to the worsening of inequality. The third argument is that studies on equity laws, mentoring programs, and media initiatives can lead to more efficient means of lowering inequality. Expanding our research to include LGBTQ adolescents in sports and athletes with disabilities will help us better understand underrepresented groups.

Conflict of interest

The authors declare no conflict of interest

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