

Barriers to Participation in Organized Physical Activity Among LGBTQ+ Youth: Differences by Sexual, Gender, and Racial Identities

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Background: LGBTQ+ youth engage in organized physical activity to a lesser degree than their cisgender and heterosexual counterparts. Existing literature on this organized physical activity disparity is limited, particularly with LGBTQ+ youth samples. The current analysis examined individual and systemic barriers to organized physical activity for LGBTQ+ youth across sexual, gender, and racial identities. **Methods:** A subsample of LGBTQ+ students (N = 4566) from the 2021 Dane County Youth Assessment completed items that measured barriers to organized physical activity and systemic factors (ie, family money problems and bias-based bullying) associated with access to organized physical activity. Latent class analysis discerned patterns of individual and systemic barriers to organized physical activity. Latent class regression modeling tested gender, sexual, and racial identities as correlates of latent class membership. **Results:** More than half of the sample did not participate in organized physical activity. Four profiles of LGBTQ+ youth were discerned based on self-reported barriers: high barrier (8%), bullied (16%), low interest or perceived skills (28%), and low barrier (48%). The low-barrier class included a greater proportion of LGBTQ+ youth who identified as White, or cisgender, or heterosexual as well as youth self-reporting higher organized physical activity. The high-barrier and bullied classes comprised more marginalized gender and sexual identities. **Conclusions:** LGBTQ+ youth experience individual and systemic barriers to organized physical activity, including inequitable access and bullying, and barriers are uniquely experienced across sexual, gender, and racial identities. Physical activity promotion among LGBTQ+ youth would be strengthened by policies that address inequitable access to opportunities and bias-based bullying.

Keywords: sports, LGBTQ, adolescents, latent class analysis







Physical activity is important for youth wellness given the many physical, cognitive, social–emotional, and mental health benefits.^{1,2} While there are many methods for engaging in physical activity, one salient means is engagement in sports or organized physical activity, which can support positive youth development, including increased connection with school and peers, improved academic performance, and successful educational and employment outcomes in adulthood.^{3–5} Sports and organized physical activities, however, are not equitably accessible for all youth. In particular, lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ+) youth engage in sports to a lesser degree than their cisgender and heterosexual counterparts.^{4,6–10} Despite interest in participating in sports or organized physical activity,^{8,11} discrepancies between interest and engagement can be attributable to individual and systemic barriers.

LGBTQ+ people face several barriers to participating in physical activity or sports. In a sample of LGBTQ+ college students, general barriers such as fatigue, lethargy, time demands, concerns about feeling or looking out of place in a fitness center, cost, or location have been identified.¹² LGBTQ+-specific barriers were also identified: Physical activity will emphasize secondary

sex characteristics that do not align with gender embodiment, body standards within communities are unattainable, physical activity is not for LGBTQ+ people due to lack of representation, and social comparison within same-gender relationships.¹² Studies on youth, some of which explicitly include LGBTQ+ youth, have identified intrapersonal (eg, lack of interest, lack of time, lack of skill, lack of motivation, cost, interest in other activities, fatigue, or having medical conditions); interpersonal (eg, not having activity partners, family obligations, having other higher priority social needs, lack of peer or parental support, or social intimidation); institutional (eg, teachers discouraging sports, demanding school workloads, unavailability of facilities, or competing interests); and environmental (eg, lack of public transportation, lack of local opportunities, neighborhood safety, or weather) barriers.¹³

For LGBTQ+ youth specifically, systemic barriers impede participation in organized physical activity. A sense of safety is frequently lacking in athletic spaces (eg, physical education classes, locker rooms, and sport fields), which are often built on the gender binary and hegemonic masculinity.^{4,14} These athletic spaces are also environments where many LGBTQ+ youth experience bias-based bullying, victimization and violence, scrutiny, harassment, and social rejection.^{4,6,8,9,15,16} Relatedly, athletic self-esteem, or the belief that one is physically and athletically competent, is low among sexually diverse youth, which is likely a function of stigma and victimization.¹⁷

Concerns in athletic spaces differ for youth based on intersecting marginalized identities, with LGBTQ+ youth of color endorsing particular safety concerns.¹⁰ LGBTQ+ youth of color experience disproportionate rates of school discipline and bias-based bullying, which can contribute to feeling unsafe in schools.^{18,19} Transgender

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and gender-diverse athletes of color face exclusionary policies for sports participation.²⁰ The intersection of marginalized sexual or gender identity and bullying based on size, weight, or appearance is also a barrier to participating in physical activity among LGBTQ+ youth, particularly because multiple forms of bias-based bullying tend to coalesce among LGBTQ+ youth.^{21,22}

Beyond compromised safety and victimization, systemic barriers disproportionately negatively impact marginalized communities, such as high fees associated with privatized sports or fitness facilities and the systematic placement of organized physical activity opportunities in higher socioeconomic geographic locations.^{23,24} As such, familial financial strain, opportunity deserts, and inadequate transportation can be notable barriers for LGBTQ+ youth participating in organized physical activity.^{13,25}

The literature on physical activity barriers among LGBTQ+ youth is limited and takes a variable-centered approach,²⁶ often comparing physical activity patterns and barriers with cisgender and heterosexual counterparts. This approach lacks the ability to detect heterogeneity within LGBTQ+ populations and does not consider the ways that barriers to physical activity extend beyond the individual and can impact youth differently depending on the intersection of their social positions. The current study aimed to expand the knowledge base with an intersectional, person-centered analysis that incorporated structural barriers to organized physical activity. Specifically, the first aim was to identify profiles of LGBTQ+ youth based on barriers to organized physical activity, including individual and systemic factors. The second aim was to determine whether gender, sexual, and racial identities and participation in organized physical activity were associated with profiles of youth.

Methods

Data Source and Study Design

Data were from the 2021 Dane County Youth Assessment, a triennial survey of 7th–12th grade youth in an urban county in Wisconsin.²⁷ The survey was administered online between January and April 2021. Participation was voluntary, and passive parental consent was used. The total sample included 17,794 students, of which 13,228 were excluded from this analysis because they identified as both cisgender and heterosexual. The final analytical sample included 4566 LGBTQ+ students. The [university] Institutional Review Board determined this secondary analysis of existing deidentified data was not human subject research.

Measures

Barriers to Organized Physical Activity

Youth were asked, “What things stop or limit you from exercising, either in sports, organized exercise programs or on your own?” Response options included (choose all that apply): “nothing stops or limits me,” “COVID–19,” “don’t have time (because of school work, job, or chores),” “don’t like it or don’t think it’s important,” “physical or other health problems,” “skills aren’t good enough,” “not enough programs or places to exercise,” “don’t know what is offered or how to sign up,” “it costs too much (fees or equipment),” “transportation is a problem,” and “other reasons.” Each response option was dichotomized (endorsed or not).

To assess potential systemic and structural barriers to organized physical activity, familial financial situation and bias-based

bullying were included in the analysis. Youth were asked, “How would you describe your family’s current financial situation?” Response options were (1) “money is not a problem for my family right now,” (2) “things are tight but we are doing fine,” (3) “we’re struggling with not having enough money,” and (4) “I’m really not aware of my family’s financial situation.” Family money problems was dichotomized as money is not a problem versus money is a problem (ie, response option 2 and 3) due to skewness in the distribution. To assess past-year bias-based bullying victimization, youth were asked, “In the past 12 months, how often have you been bullied, threatened, or harassed” based on (1) “others thinking you’re gay, lesbian, bisexual, or transgender” (LGBTQ-based bullying); (2) “your race or ethnic background” (race-based bullying); and (3) “how you look” (looks-based bullying). Response options (never, rarely, sometimes, and often) were dichotomized as any versus never, consistent with previous research that has shown that even infrequent bullying can impact youths’ mental well-being.²⁸

Gender, Sexual, and Racial Identities

Gender identity was categorized as: cis girl, cis boy, trans girl, trans boy, nonbinary, genderfluid, and other. Cis girls included those who reported their assigned sex as “female,” that they were not transgender, and their gender identity to be “female”; the same pattern of responses was followed for cis boys. Trans girls included those who reported “yes” or “not sure” (grouped together due to low N for “not sure”) regarding transgender identity and their gender identity to be “female”; assigned sex was not used to define this group following gender-affirming practices.²⁹ The same pattern was followed for trans boys.

Sexual identity was measured with response options of “straight/heterosexual,” “gay or lesbian,” “bisexual,” “pansexual,” “asexual,” “questioning my sexual orientation,” and “other.” The “other” category was removed because no participant in the analytic sample selected this option. Participants were only able to select 1 response option.

Racial identity was self-identified with response options of “American Indian or Alaskan Native,” “Asian (not Hmong),” “Black or African American (not Hispanic),” “Hispanic or Latino,” “Asian (Hmong),” “Middle Eastern or North African,” “Native Hawaiian or Pacific Islander,” “White (not Hispanic),” and “Biracial or multiracial (more than one race).” The “Asian (not Hmong)” and “Asian (Hmong)” categories were collapsed because they coalesced in analyses.

Participation in Organized Physical Activity

Youth were asked how often per week they participated in “sports (school or club) and group exercise, including practice, competition, or private lessons.” Response options (“not available due to COVID–19,” “never,” “less than 1 day per week,” “1–2 days,” “3–4 days,” “5 or more days”) were dichotomized as never or some physical activity, and responses of “not available due to COVID–19” were coded as missing.

Statistical Analysis

All analyses were performed in SAS (version 9.4; SAS Institute).³⁰ Latent class analysis is a person-centered statistical technique that identifies latent (unmeasured) classes based on responses to categorical items. A person-centered approach observes patterns in variables across individuals rather than assuming that relations

between variables hold for all individuals.^{26,31} Latent class and item-response probabilities place each participant into a mutually exclusive and exhaustive class, taking into account all categorical indicators.³² The first aim was tested by identifying a baseline model that parsimoniously organized the data based on 10 indicators. The initial exploratory model included all response options for barriers to organized physical activity. Response options that did not promote latent class separation were removed. The 6 indicators retained included no time, do not like it or unimportant, inadequate skills, limited program or places, costs too much, and limited transportation. The 4 other indicators included family money problems, LGBTQ-based bullying, race-based bullying, and looks-based bullying.

To determine the most parsimonious and optimal model, well-substantiated models (ie, maximum likelihood solution >60%) were first considered.³¹ Subsequently, each model was evaluated by its goodness-of-fit statistics, including the G-squared fit statistic,

Akaike information criterion, Bayesian information criterion, and entropy, to determine the final number of classes.³¹ The second aim was tested with latent class regression modeling, with gender, sexual, and racial identities and participation in organized physical activity as correlates of latent class membership.³¹ Given the exploratory nature of the analysis, 95% confidence intervals were used to interpret significance. Grade was not included as a correlate because participation in organized physical activity did not differ by grade ($\chi^2_{5,3183} = 6.0, P = .31$).

Results

Descriptive Statistics

Approximately 60% of youth were in high school. Among those who responded to each question, the majority of the youth identified as cisgender (74%), bisexual (40%) or questioning (26%), and

Table 1 Sociodemographic Characteristics of the Sample

Characteristics	N	%	Some ^a participation in organized physical activity, % (overall sample: 43.2%)
Grade (N = 4453)			
7th	856	19.4	45.5
8th	871	19.6	41.6
9th	745	16.7	45.6
10th	779	17.5	43.9
11th	648	14.6	39.9
12th	547	12.3	41.4
Gender identity (N = 4346)			
Cisgender girls	2485	57.2	49.9
Cisgender boys	737	16.9	35.0
Nonbinary	356	8.2	30.4
Transgender boys	224	5.2	34.2
Another gender	219	5.0	34.8
Genderfluid	216	5.0	29.7
Transgender girls	109	2.5	46.3
Sexual identity (N = 3937)			
Bisexual	1570	39.9	43.0
Questioning	1031	26.2	50.6
Gay or lesbian	495	12.6	35.0
Pansexual	462	11.7	32.8
Asexual	213	5.4	39.8
Straight/heterosexual	166	4.2	56.5
Racial identity (N = 4405)			
White	3186	72.3	45.2
Biracial or multiracial	435	9.9	40.8
Hispanic or Latinx	277	6.3	34.8
Asian	222	5.0	33.3
Black or African American	198	4.5	28.0
American Indian or Alaska Native	63	1.4	39.0
Middle Eastern or North African	16	0.4	46.2
Native Hawaiian or Pacific Islander	8	0.2	33.3

Note: Percentages are based on total N who responded to each question.

^aSome organized physical activity was defined as any frequency greater than never.

White (72%). More than half of the youth (57%) reported they did not engage in any organized physical activity (relative to 31% of cisgender and heterosexual youth). See Table 1 for detailed socio-demographic characteristics.

Four-Class Model

Based on established fit criteria (ie, G-squared fit statistics, Akaike information criterion, and Bayesian information criterion), latent class separation, and model interpretability, a 4-class model balanced parsimony with interpretability.³¹ Table 2 displays the fit statistics for each of the 5 baseline models. Table 3 shows the indicators for the optimal 4-class model and the proportion of the sample that endorsed each indicator along with the corresponding item-response probabilities for each class. Item-response probabilities represent the conditional probability of reporting each barrier—given membership in each latent class—wherein probabilities closer to 0.00 suggest a low likelihood of members in that class endorsing that specific barrier, and probabilities closer to 1.00 suggest a high likelihood.³¹

Class 1: High-Barrier

Youth in latent class 1 (8.0% of the sample) were characterized by a high probability of cost and time barriers, having family money problems, and experiencing looks-based bullying. They were characterized by a low probability of race-based bullying and not liking physical activity. Due to the number of barriers endorsed, this class was labeled “High-Barrier.”

Class 2: Low Interest or Perceived Skills

Youth in latent class 2 (15.7% of the sample) were characterized by a low probability of cost, transportation, and limited programming barriers as well as all forms of bias-based bullying. There were no high-probability indicators, but youth in this class were characterized by a moderate probability of not having time, not liking organized physical activity, or not having the skills for organized physical activity. As such, this class was labeled “Low Interest or Perceived Skills.”

Class 3: Bullied

Youth in latent class 3 (27.8% of the sample) were characterized by a high probability of looks-based and LGBTQ-based bullying. They were characterized by a low probability of cost, transportation, and limited programming barriers as well as not liking or not having the skills for organized physical activity. Due to the high probabilities of bullying, this class was labeled “Bullied.”

Class 4: Low-Barrier

Youth in latent class 4 (48.5% of the sample) were characterized by a low probability of experiencing any barrier to organized physical activity and labeled “Low-Barrier.”

Correlates of Class Memberships

Odds ratios for each correlate’s relation to latent class membership are in Table 4. Cisgender youth were more likely (1–2×) to belong to the Low-Barrier, Low Interest or Perceived Skills, and High-Barrier classes than the Bullied class. In general, youth who identified as nonbinary, genderfluid, or another gender were more likely (1–4×) to belong to the high-barrier, bullied, and low interest or perceived skills classes than the low-barrier class. Trans boys were more likely (2×) to belong to the high-barrier class than the low interest or perceived skills class.

Heterosexual youth were more likely (3–6×) to belong to the low-barrier class than the high-barrier and bullied classes. In general, bisexual, gay or lesbian, and pansexual youth were more likely (1–4×) to belong to the high-barrier, bullied, and low interest or perceived skills classes than the low-barrier class. Questioning youth were more likely (1–3×) to belong to the low-barrier or low interest or perceived skills classes than the high-barrier and bullied classes. Asexual youth were more likely (nearly 2×) to belong to the low-barrier class than the bullied class.

White youth were more likely (2–3×) to belong to the low interest or perceived skills class than the high-barrier, bullied, and low-barrier classes as well as more likely (1.5×) to belong to the low-barrier class than the high-barrier class. Bi/multiracial youth were more likely (1.5×) to belong to the bullied class than the low-barrier class. Hispanic/Latinx youth were more likely (nearly 2×) to belong to the high-barrier class than the low-barrier class. Black youth were more likely (2–4×) to belong to the high-barrier and bullied classes than the low interest or perceived skills class. Youth who were engaged in any organized physical activity were more likely (1–5×) to belong to the low-barrier class than the high-barrier, bullied, and low interest or perceived skills classes.

Discussion

Consistent with previous literature, more than half of the LGBTQ+ youth in the sample were not participating in organized physical activity.^{4,6,8–10} Given the various health and well-being benefits associated with social physical activity, this is concerning.^{3–5,33,34} Using a person-centered analysis, 4 distinct profiles of LGBTQ+ youth emerged, depending on experienced barriers: experiencing many barriers, being uninterested or perceiving low skills, being bullied, and experiencing few barriers.

Table 2 Fit Statistics for Competing Baseline Latent Class Models of Physical Activity Barriers (N = 4566)

Number of classes	G ²	df	Log-likelihood	AIC	BIC	Entropy R ²	Solution %
1	4080.70	1013	−20,339.59	4100.70	4164.96	1.00	100
2	1977.30	1002	−19,287.90	2019.30	2154.25	.66	100
3	1233.55	991	−18,916.02	1297.55	1503.19	.74	100
4	995.51	980	−18,797.00	1081.51	1357.85	.68	100
5	840.83	969	−18,719.66	948.83	1295.86	.76	54
6	762.25	958	−18,680.37	892.25	1309.97	.72	28

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criterion; G², likelihood-ratio chi-square statistic. Note: Solution % is the percentage of times solution was selected out of 100 random sets of starting values.

Table 3 Four Profiles Based on Barriers to Physical Activity (N = 4566)

Indicators	Class 1 High-Barrier 8.0%, N = 365			Class 2 Low Interest or Perceived Skills 15.7%, N = 717		Class 3 Bullied 27.8%, N = 1269		Class 4 Low-Barrier 48.5%, N = 2215	
	Class prevalence Proportion in the sample		Item-response probabilities						
No time	0.39	0.71	0.51	0.40	0.29				
Do not like it or unimportant	0.22	0.23	0.48	0.22	0.13				
Inadequate skills	0.16	0.36	0.54	0.15	0.00				
Limited programs or places	0.08	0.42	0.11	0.05	0.03				
Costs too much	0.07	0.66	0.05	0.01	0.00				
Limited transportation	0.06	0.50	0.06	0.02	0.01				
Family money problems	0.37	0.80	0.32	0.47	0.24				
LGBTQ-based bullying	0.32	0.56	0.11	0.74	0.10				
Race-based bullying	0.11	0.28	0.01	0.28	0.03				
Looks-based bullying	0.37	0.67	0.09	0.90	0.10				

Note: Proportions are based on N endorsing each barrier. Item-response probabilities represent the conditional probability of reporting each barrier—given membership in each latent class—wherein probabilities closer to 0.00 suggest a low likelihood of members in that class endorsing that specific barrier, and probabilities closer to 1.00 suggest a high likelihood.

Table 4 Identity and Physical Activity Participation Correlates of 4 Profiles of Physical Activity Barriers

	High-Barrier vs Low-Barrier		Bullied vs Low-Barrier		Low Interest or Perceived Skills vs Low-Barrier		High-Barrier vs Low Interest or Perceived Skills		Bullied vs Low Interest or Perceived Skills		High-Barrier vs Bullied	
	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI
Gender identity												
Cisgender	0.78	(0.58–1.04)	0.57 ^a	(0.47–0.69)	0.92	(0.69–1.22)	0.85	(0.58–1.23)	0.62 ^a	(0.47–0.82)	1.37 ^a	(1.00–1.87)
Nonbinary	2.47 ^a	(1.46–4.17)	2.94 ^a	(1.99–4.35)	2.73 ^a	(1.64–4.57)	0.90	(0.52–1.58)	1.08	(0.73–1.59)	0.84	(0.51–1.37)
Trans boys	1.34	(0.80–2.24)	0.99	(0.68–1.46)	0.61	(0.31–1.19)	2.20 ^a	(1.00–4.82)	1.63	(0.83–3.19)	1.35	(0.76–2.39)
Another gender	1.46	(0.76–2.80)	1.70 ^a	(1.11–2.62)	2.05 ^a	(1.16–3.63)	0.71	(0.35–1.46)	0.83	(0.51–1.35)	0.86	(0.44–1.68)
Genderfluid	2.98 ^a	(1.58–5.62)	3.86 ^a	(2.39–6.22)	2.98 ^a	(1.50–5.90)	1.00	(0.48–2.08)	1.29	(0.76–2.21)	0.77	(0.45–1.32)
Trans girls	0.46	(0.13–1.64)	0.98	(0.58–1.66)	1.01	(0.47–2.19)	0.46	(0.11–1.95)	0.97	(0.45–2.11)	0.47	(0.13–1.78)
Sexual identity												
Bisexual	1.85 ^a	(1.39–2.45)	1.78 ^a	(1.48–2.16)	1.30	(0.99–1.72)	1.42 ^a	(1.01–1.99)	1.37 ^a	(1.07–1.76)	1.03	(0.77–1.38)
Questioning	0.60 ^a	(0.42–0.86)	0.59 ^a	(0.47–0.74)	1.32 ^a	(1.01–1.72)	0.46 ^a	(0.30–0.70)	0.45 ^a	(0.34–0.60)	1.02	(0.68–1.54)
Gay or lesbian	1.21	(0.78–1.89)	1.76 ^a	(1.33–2.34)	1.56 ^a	(1.03–2.35)	0.78	(0.46–1.34)	1.13	(0.79–1.63)	0.69	(0.43–1.10)
Pansexual	3.33 ^a	(2.25–4.92)	2.41 ^a	(1.76–3.30)	1.94 ^a	(1.24–3.04)	1.71 ^a	(1.08–2.72)	1.24	(0.85–1.80)	1.38	(0.94–2.03)
Asexual	0.48	(0.20–1.14)	0.54 ^a	(0.35–0.84)	0.92	(0.53–1.59)	0.52	(0.19–1.44)	0.59	(0.32–1.06)	0.89	(0.33–2.35)
Heterosexual	0.18 ^a	(0.05–0.67)	0.26 ^a	(0.14–0.48)	0.04	(0.00–6.68)	5.21	(0.02, –)	7.33	(0.04, –)	0.71	(0.16–3.19)
Racial identity												
White	0.73 ^a	(0.55–0.95)	0.86	(0.71–1.05)	2.19 ^a	(1.38–3.49)	0.33 ^a	(0.19–0.56)	0.39 ^a	(0.24–0.65)	0.84	(0.61–1.14)
Bi/multiracial	1.37	(0.87–2.15)	1.44 ^a	(1.08–1.92)	1.05	(0.64–1.71)	1.31	(0.72–2.36)	1.37	(0.88–2.14)	0.95	(0.59–1.55)
Hispanic/Latinx	1.89 ^a	(1.20–3.00)	1.25	(0.88–1.77)	0.90	(0.46–1.76)	2.11	(0.99–4.51)	1.39	(0.74–2.63)	1.51	(0.91–2.50)
Asian	1.06	(0.58–1.94)	1.15	(0.77–1.72)	1.31	(0.72–2.38)	0.81	(0.39–1.70)	0.88	(0.51–1.52)	0.93	(0.49–1.76)
Black	1.37	(0.80–2.35)	0.99	(0.66–1.48)	0.42 ^a	(0.18–0.99)	3.24 ^a	(1.26–8.35)	2.34 ^a	(1.00–5.47)	1.39	(0.75–2.56)
Organized physical activity	0.54 ^a	(0.38–0.76)	0.50 ^a	(0.39–0.65)	0.22 ^a	(0.16–0.30)	2.47 ^a	(1.61–3.77)	2.31 ^a	(1.64–3.25)	1.07	(0.74–1.55)

Abbreviation: AOR, adjusted odds ratio. An example interpretation: Pansexual youth were 3.33 times as likely to belong to the High-Barrier group relative to the Low-Barrier group.
^aSignificant based on 95% CI not containing 1.00.

Nearly half of the sample belonged to a class characterized by having minimal barriers to organized physical activity participation. LGBTQ+ youth in the sample who identified as White, or cisgender, or heterosexual were more likely to belong to this class, suggesting that identities conferring social power may face fewer barriers.³⁵ Physically active youth were also more likely to belong to this class, suggesting that when LGBTQ+ youth are not facing pervasive individual and systemic barriers, they may be more likely to participate in organized physical activity.¹³ At the same time, there was a distinct group of LGBTQ+ youth who indicated not having the time, skills, or interest to participate in organized physical activity. This class may represent a subgroup of LGBTQ+ youth who are more interested in other extracurricular activities.³⁶

Approximately a quarter of the sample coalesced based on experiencing bullying for their looks or LGBTQ+ status and not experiencing other barriers or disinterest. While the questions about bullying were not directly asked in the context of participating in organized physical activity, evidence supports the relation between bullying experiences and avoidance of spaces where organized physical activity occurs (eg, locker rooms, fitness centers, and sport fields).^{4,6,8,9,15,16} The co-occurrence of multiple forms of bias-based bullying emphasizes the intersectional nature of the barriers that prevent organized physical activity participation. The bullying may be interpersonal, but if adults (eg, coaches or referees) are silent or tolerant and schools or clubs enforce oppressive policies that mandate participation based on assigned sex, LGBTQ+ youth are disenfranchised and without an advocate at a systemic level.

Notably, nearly a 10th of the sample endorsed several barriers to organized physical activity, especially systemic barriers, but were not uninterested in physical activity. Youth who self-reported diverse gender identities (especially nonbinary and genderfluid) and sexual identities (especially bisexual and pansexual) were more represented in this class of youth, suggesting that marginalized identities face more barriers that impede access in the context of a desire to participate.¹³ The lower odds of physically active youth in this group facing multiple barriers support the idea that more barriers are associated with less participation.^{10,13}

Public Health Implications

The identification of different profiles of LGBTQ+ youth based on their endorsed barriers to organized physical activity provides a direction for intervention. At an individual level, for youth who are primarily not participating in sports because they are disinterested or would rather spend their time elsewhere, social physical activity opportunities that incorporate other interests, such as music or animals (eg, Zumba or goat yoga), may help bridge the gap. For youth who perceive themselves to have low skills, developing more opportunities for noncompetitive, educational physical activities (eg, rollerblading for beginners) may prove to be more welcoming. However, this may not be helpful for youth who experience systemic barriers (ie, cost, lack of opportunities, and limited transportation). Free or reduced-fee physical activity opportunities sponsored by school districts or public programs are a clear intervention that would reduce access barriers.³⁷ Yet, the location of these opportunities is also important as transportation was a notable barrier for some youth. Advocating for policies to fund transportation access and improve the built environment is a step in working toward increasing equity in access to opportunities.^{38,39}

Regardless of the intervention, this analysis also emphasizes the importance of ensuring that opportunities and programs for

organized physical activity are welcoming and affirming to various sexual, gender, and racial identities. Bullying due to stigmatized social identities and characteristics was a barrier endorsed across different groups of youth and will be reason to not participate in social physical activity. Promoting zero-tolerance policies for bullying, respecting names and pronouns, desegregating physical activity spaces separated by the gender binary, offering single-stall changing rooms or shower stalls, and hiring leadership with diverse identities represent a few strategies to promote an inclusive environment and, in turn, participation among LGBTQ+ youth.

Limitations and Future Directions

The framing of the question about barriers to physical activity is confounded by asking about barriers for sports, organized physical activity, and general physical activity in 1 question as well as having response options that ask about multiple barriers in 1 statement. Although there are likely barriers unique to each of these forms of physical activity, and some of the response options complicate the ability to detect nuance, the question still allowed for identifying robust groups of youth with different patterns in physical activity barriers. In addition, the variables for systemic barriers (eg, family money problems and bias-based bullying) were not directly related to participation in physical activity. As such, it cannot be fully concluded that those in the bullied group chose to not participate in organized physical activity because of experiencing bias-based bullying. Future analyses would benefit from including additional sociostructural factors, such as neighborhood safety or transexclusionary sport policies. Due to small sample sizes, some identities were excluded as correlates in the analysis, and it may also be the case that limited numbers resulted in underdetecting patterns across identities. Future studies will want to oversample LGBTQ+ youth of color.

Conclusions

Over half of LGBTQ+ youth in the sample were not participating in organized physical activity. A person-centered analysis detected 4 profiles of LGBTQ+ youth based on their endorsed barriers: high-barrier youth, bullied youth, youth with low interest or low perceived skills, and low-barrier youth. LGBTQ+ youth who identified as White, or cisgender, or heterosexual were more represented in the low-barrier group. Physically active youth were also more likely to be in this group. Youth with diverse gender and sexual identities were more represented in the high-barrier and bullied groups. The heterogeneity among LGBTQ+ youth suggests that interventions aimed to promote participation in organized physical activity should be tailored to the individual and systemic barriers faced by these youth.

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