

Supporting Physical Activity for Transgender and Gender-Diverse Individuals

Policy Date: October 29, 2024

Policy Number: 20241

Note: Line numbers are included along the left to help quickly identify specific text within the policy brief.

Abstract

While physical inactivity is a growing problem among all populations in the United States, transgender and gender-diverse (TGD) individuals experience stigma, discrimination, and other additional barriers to being physically active. Recent literature suggests that TGD individuals engage in much less physical activity than cisgendered individuals, with transgender women reporting the lowest levels of physical activity among all genders. This policy statement recommends several interventions to support TGD individuals' engagement in physical activity. It calls on existing organizations that implement physical activity programs to create TGD-inclusive policies. Researchers need to develop and implement evidence-based TGD-specific interventions, especially for TGD adults. In addition, federal agencies that promote physical activity must create TGD-specific materials as they have for other populations experiencing limited engagement in physical activity.

Key word: physical activity, transgender, gender-diverse

Relationship to Existing APHA Policy Statements

- APHA Policy Statement 20211: Supporting Physical Education in Schools for All Youth
- APHA Policy Statement 20172: Supporting the Updated National Physical Activity Plan



- 25 • APHA Policy Statement 20079: Building a Public Health Infrastructure for Physical
26 Activity Promotion
- 27 • APHA Policy Statement 9709: Promoting Public Health Through Physical Activity
- 28 • APHA Policy Statement 20058: Supporting the WHO Global Strategy on Diet, Physical
29 Activity and Health
- 30 • APHA Policy Statement 200619: Urgent Call for a Nationwide Public Health
31 Infrastructure and Action to Reverse the Obesity Epidemic
- 32 • APHA Policy Statement 201514: Building Environments and a Public Health Workforce
33 to Support Physical Activity Among Older Adults
- 34 • APHA Policy Statement 20121: Supporting the National Physical Activity Plan
- 35 • APHA Policy Statement 201415: Support for Social Determinants of Behavioral Health
36 and Pathways for Integrated and Better Public Health
- 37 • APHA Policy Statement 20142: Reduction of Bullying to Address Health Disparities
38 Among LGBT Youth
- 39 • APHA Policy Statement 202111: Sexual and Gender Minority Demographic Data:
40 Inclusion in Medical Records, National Surveys, and Public Health Research
- 41 • APHA Policy Statement 20169: Promoting Transgender and Gender Minority Health
42 through Inclusive Policies and Practices
- 43 • APHA Policy Statement 20189: Achieving Health Equity in the United States
- 44 • APHA Policy Statement 9933: The Need for Acknowledging Transgendered Individuals
45 within Research and Clinical Practice
- 46 • APHA Policy Statement 9819: The Need for Public Health Research On Gender Identity
47 And Sexual Orientation

48

49 **Problem Statement**

50 Physical activity is a fundamental aspect of health and well-being, with numerous physical,
51 mental, and social benefits.[1] Research has shown that engaging in insufficient physical activity



52 is the fourth leading risk factor for noncommunicable diseases.[2] Transgender and gender-
53 diverse (TGD) individuals are those whose gender identity differs from the sex assigned at birth,
54 and as a result they may experience stigma, discrimination, and barriers to accessing health care
55 and other services.[3] However, TGD individuals face unique challenges that may affect their
56 ability or motivation to engage in physical activity, which can contribute to health disparities and
57 poorer health outcomes.[4] These challenges may also affect their likelihood of engaging in
58 physical activity, including sports, fitness, and recreational activities.[3] In addition, TGD
59 individuals are at a much greater risk of experiencing homelessness, which worsens mental and
60 physical health and decreases access to community-based sports and healthy physical
61 activity.[5,6]

62
63 The health disparities experienced by TGD individuals are well documented and include higher
64 rates of mental health problems, cardiovascular disease, and cancer.[7] APHA policy statements
65 supporting physical activity (e.g., Policy Statements 9709 and 20211) highlight its numerous
66 benefits. While the literature on physical activity for TGD individuals is new, the studies
67 published reveal consistently lower levels of lack of physical activity among TGD
68 populations.[8] Data from the Behavioral Risk Factor Surveillance System, the Youth Risk
69 Behavior Survey, the Minnesota Student Survey, the College Student Health Survey, and the
70 National College Health Assessment all show lower levels of physical activity among TGD
71 populations than among their cisgender peers.[8–13] Voss et al. reported that TGD youth are less
72 than half as likely to participate in physical activity.[12] Bishop et al. and Espinoza et al.
73 reported that TGD youth are less likely to participate in structured and unstructured physical
74 activity than cisgender individuals.[8,10] College-aged and adult TGD individuals also engage
75 in less physical activity than their cisgender peers.[9,11,13] Among LGBT+ (lesbian, gay,
76 bisexual, and transgender) individuals, only 24.3% of transwomen report engaging in physical
77 activity, as compared with 35.6% of lesbian women, 36.9% of transmen, 38.3% of gay men, and
78 41.0% of genderqueer or nonbinary individuals.[14]



79

80 Physical inactivity is also a significant contributor to these health disparities, as lower levels of
81 physical activity increase the risk of obesity, diabetes, and other chronic conditions.[1] TGD
82 individuals may face additional barriers related to physical activity due to concerns about their
83 safety, privacy, and access to gender-affirming facilities.[3,4,7] In addition, TGD individuals
84 may face unique challenges related to physical activity including discrimination, harassment,
85 and exclusion from fitness programs.[4] TGD individuals may also face challenges related to
86 body dysphoria, which can affect their ability to feel comfortable and confident in their bodies
87 during physical activity.[15]

88

89 According to the literature, TGD individuals engage in less physical activity than cisgender
90 people.[4,16] As is the case with most populations, physical activity levels vary within this
91 population. Specifically, TGD people who are taking hormone therapy have been found to
92 engage in more physical activity than TGD people who are not.[16] In addition, predictors of
93 physical activity participation among TGD individuals may vary. Specifically, high body
94 satisfaction is the best statistical predictor of physical activity among transgender individuals
95 currently using hormone therapy, whereas high self-esteem is the best statistical predictor of
96 physical activity among transgender people who are not taking hormone therapy.[16] TGD
97 individuals report that gender-binary facilities (male- and female-only locker/changing rooms
98 and gyms) are particularly traumatic and unsafe environments that discourage participation in
99 physical activity.[17–19] Swimming pools are also noted by TGD individuals as unwelcoming
100 environments, even though swimming is reported by TGD individuals as having a positive effect
101 on well-being.[20,21]

102

103 As discussed, disparities in physical activity among TGD individuals exist, which affect their
104 overall health and well-being. Policy, environment, and system changes are needed to reduce
105 TGD stigma in physical activity settings. Legislation is currently being developed and



106 implemented in the United States regarding TGD individuals and their place in physical activity.
107 It is crucial that policy initiatives promote inclusion and equality in fitness programs, including
108 the need for gender-affirming facilities that can meet the specific needs of TGD individuals.

109

110 **Evidence-Based Strategies to Address the Problem**

111 Physical activity is essential in promoting overall health and well-being among individuals,
112 including TGD persons. Engaging in regular physical activity has been associated with
113 numerous positive outcomes. However, the literature on physical activity among TGD
114 individuals is sparse. To date, only 36 articles have been published on the topic.[7] There is a
115 critical need for evidence-based strategies to support TGD individuals in organized physical
116 activity. This policy statement addresses this gap by proposing interventions and strategies that
117 promote physical activity among TGD individuals.

118

119 **Strategy 1**—Support professional development for physical education teachers: Children’s
120 participation in physical activity is crucial for their physical, cognitive, and social development.
121 Physical education (PE) teachers play a vital role in shaping the experiences and opportunities of
122 TGD individuals in physical activity settings. Targeted interventions and strategies are needed to
123 promote physical activity among transgender children. Research conducted by Berg and
124 Kokkonen suggests that incorporating education related to equity and gender awareness into PE
125 teacher training can have a positive impact.[22] To help support PE teachers in creating inclusive
126 environments, comprehensive professional development programs targeting these educators are
127 essential. TGD students report that teachers are instrumental in supporting physical activity.[22]

128

129 Scientific evidence supports the effectiveness of inclusivity training for PE teachers. Research
130 emphasizes the importance of incorporating equity and gender awareness education into PE
131 teacher training.[23] Professional development programs such as School Athletics for Everyone



132 (SAFE) have proven effective in promoting affirming practices by providing PE teachers with
133 the knowledge they need to create inclusive environments.[23] The SAFE program focuses on
134 educating teachers about transgender issues including terminology, understanding the challenges
135 faced by TGD individuals, and fostering inclusive practices within physical activity settings.

136

137 Implementation of professional development programs for PE teachers can have a significant
138 impact on increasing support for TGD individuals in physical activity settings. Teachers who
139 undergo inclusive training are more likely to create an environment that respects the gender
140 identities of their students. This, in turn, has a positive impact on the physical activity
141 participation of TGD individuals, reducing barriers and promoting their overall well-being. This
142 strategy is feasible and in line with the current paradigm on teacher preparation. If such training
143 is included during teacher education/preparatory work, teachers can be prepared as early as
144 possible in their career to support TGD students. If equipped with the knowledge and skills
145 needed to create inclusive and affirming environments, teachers can encourage transgender
146 children to engage in physical activity with confidence.

147

148 **Strategy 2**—Support policies for inclusion of TGD individuals in physical activity: Policies play
149 a crucial role in shaping the landscape of physical activity for TGD individuals. Existing policies
150 should be critically examined and modified to ensure the inclusion of TGD individuals in
151 physical activity. While the evidence is sparse on which policies promote physical activity for
152 TGD individuals, discriminatory policies that limit participation in physical activity in this
153 population should be eliminated. This policy statement advocates for a continual review of
154 policies in concurrence with the expanding literature on the topic.

155

156 Scientific evidence supports the role of inclusive policies in creating safe and welcoming spaces
157 for TGD individuals engaging in physical activity. Inclusive policies have a positive impact on
158 increasing physical activity participation and amplifying its benefits for TGD students.[12] By

159 implementing inclusive policies, schools and organizations can create environments where TGD
160 individuals feel validated, supported, safe, and encouraged to participate in physical activity.
161 Advocacy efforts should focus on assessing potentially discriminatory policies and promoting
162 evidence-based policies that prioritize inclusivity and equal opportunities for all individuals,
163 regardless of their gender identity.

164

165 Many current policies related to TGD individuals adopt an activity-specific approach wherein
166 TGD individuals' eligibility to participate is determined on the basis of their sex assigned at
167 birth, gender identity, hormone levels, or other criteria. Such policies perpetuate discrimination
168 and exclusion, creating barriers to physical activity engagement among TGD individuals.
169 Advocacy for policies that promote inclusion and ensure equal opportunities for participation in
170 physical activity is essential. Inclusive policies should recognize the diverse gender identities
171 within the TGD population and provide clear guidelines for their inclusion in physical activity
172 settings. These policies should prioritize respect, safety, and fairness without compromising the
173 rights and identities of TGD individuals. Widespread adoption and implementation of evidence-
174 based policies is recommended to transform environments to promote physical activity
175 participation and improve the overall health and well-being of TGD individuals.

176

177 **Strategy 3**—Create inclusive physical activity spaces: Creating inclusive physical activity
178 spaces that are safe, affirming, and welcoming can reduce barriers to participation in physical
179 activity among TGD people. Prioritizing inclusivity and creating welcoming physical activity
180 spaces remove barriers and promote active participation. The physical environment has the
181 potential to increase physical activity levels and contribute to improved physical and mental
182 well-being, social connection, and overall quality of life for TGD individuals.

183

184 Scientific evidence supports the role of inclusively designed physical activity spaces for
185 promoting physical activity among TGD individuals.[24] Inclusive practices can serve as



186 catalysts for improving the well-being of this population. Studies show that when TGD
187 individuals feel safe and supported in their environment, they are more likely to engage in
188 physical activity and experience the associated health benefits.[25] One key aspect of creating
189 inclusive physical activity spaces is an examination of the physical environment itself. Facilities
190 should strive to provide gender-neutral, private, or semiprivate changing rooms and shower
191 facilities to accommodate diverse user needs and preferences. Students should determine which
192 facilities are consistent with their gender identity. Furthermore, schools should designate any
193 existing facilities that are designed to be used by only one person at a time as accessible to all
194 students regardless of gender. At no time should students be required to use a single-user facility
195 because they are transgender or nonconforming. Centering diverse user needs can help alleviate
196 concerns about judgment, discomfort, and potential discrimination in shared spaces, benefiting
197 individuals beyond the TGD community. In addition to the physical environment, staff and
198 instructors should receive training on TGD inclusion and sensitivity. This should include
199 education on gender diversity, respectful language use, and the unique experiences and
200 challenges faced by TGD individuals. With appropriate training, personnel are better equipped to
201 create a supportive atmosphere where TGD individuals feel comfortable and empowered to
202 participate in physical activity by fostering a culture of inclusion and respect. Bullying,
203 harassment, and discrimination based on gender identity or expression should be prohibited
204 within school districts. These policies should include language to ensure that any incident is
205 given immediate attention, including investigation and age- and developmentally appropriate
206 action. Enforcement of antibullying policies should focus on education and prevention rather
207 than exclusionary discipline.

208

209 Practical strategies for supporting TGD youth in physical activity settings are needed.[24]
210 Increased inclusion and safety measures, such as developing anti-transgender harassment
211 policies and educational interventions, can have a positive impact on the physical activity
212 participation of TGD adolescents.[24] Addressing weight-based harassment and promoting
213 positive body image among TGD youth can also prevent unhealthy weight-related behaviors



214 associated with bullying.[25,26] Moreover, creating gender-neutral facilities, such as showers
215 and changing rooms, can enhance the sense of safety and inclusion among transgender
216 adolescents.[27]

217

218 Inclusive environments and policies are crucial to increase physical activity participation among
219 TGD individuals in college settings. Physical activity practitioners need to prioritize efforts to
220 develop and maintain inclusive leisure settings and programs, providing increased social support
221 for TGD individuals.[11] Colleges should develop sport and physical activity policies that
222 acknowledge a broad range of gender identities, moving away from a binary male/female
223 framework.[28] Advertising and communicating trans-inclusive policies are essential to create an
224 inviting and supportive environment for transgender college students.[28] In addition, creating
225 equitable race opportunities, fostering supportive environments, addressing harassment, and
226 offering equal prize pools can promote participation and inclusivity among women and gender-
227 diverse athletes.[29]

228

229 The impact and extent of creating inclusive physical activity spaces depend on the widespread
230 adoption of these practices across various settings. Fitness centers, sports clubs, and community
231 organizations should prioritize inclusivity in their policies and practices. Collaborative efforts
232 among stakeholders such as transgender advocacy groups, facility managers, and health and
233 design professionals can enable the implementation of best practices for creating inclusive
234 physical activity spaces.

235

236 **Strategy 4**—Encourage programs and activities that create social support networks and groups
237 promoting physical activity and inclusivity: Encouraging programs and activities that create
238 social support networks and groups is a valuable strategy to promote physical activity among
239 TGD individuals. These networks and groups provide a sense of community, connection, and



240 support, which can play a crucial role in fostering physical activity engagement and overall well-
241 being.

242

243 Existing scientific evidence shows that social support networks play a significant role in
244 promoting physical activity among TGD individuals.[10] These networks provide
245 encouragement, accountability, and a sense of belonging, which can positively influence
246 motivation and adherence to physical activity routines. Programs and activities that facilitate the
247 formation of these networks increase the likelihood of sustained physical activity engagement
248 among TGD individuals. Among adolescents, school clubs such as gay-straight alliances can
249 help to reduce bias-based bullying, attenuating various adverse health outcomes. Transgender-
250 specific physical activity programs or groups can be designed for the unique needs and interests
251 of TGD individuals, providing a safe and inclusive space for them to engage in physical activity
252 and creating a supportive network that motivates and encourages participation. In addition, it is
253 vital to foster inclusivity within existing physical activity groups and organizations. This can be
254 achieved by implementing educational initiatives to raise awareness about TGD issues and
255 promote understanding and acceptance within these settings. Existing groups and organizations
256 can build and foster an inclusive culture to be more welcoming and supportive of TGD
257 individuals who wish to engage in physical activity.

258

259 A supportive environment that motivates and empowers TGD individuals to engage in physical
260 activity is created by encouraging programs and activities that foster social support networks
261 promoting physical activity and inclusivity. These initiatives have the potential to enhance
262 physical and mental well-being, promote social connections, and contribute to a more inclusive
263 and equitable society.

264

265 There is a significant gap in research regarding interventions and strategies to increase physical
266 activity specifically among TGD individuals 40–59 years of age. To address this gap, further



267 scientific research is needed to understand the unique barriers to and facilitators of physical
268 activity engagement among transgender adults. Rigorous studies and gathering of evidence can
269 lead to the development of tailored interventions addressing the specific challenges faced by
270 older transgender adults. This may involve addressing issues related to access to affirming health
271 care, social support, and inclusive physical activity programs. While more research is needed to
272 inform evidence-based strategies, acknowledging the importance of inclusivity, tailored
273 interventions, and social support can lay the groundwork for promoting physical activity among
274 older transgender adults. Efforts should be made to ensure that transgender adults have equitable
275 opportunities to engage in physical activity and that barriers are minimized.

276

277 **Future strategies for a developing research field**

278 The research on physical activity among TGD individuals is developing. While it is clear that TGD
279 individuals engage in less physical activity than other groups, evidence-based interventions to increase
280 physical activity are lacking. As the research on the topic develops, policymakers and practitioners
281 should rely on trusted resources such as the Community Guide for Preventive Services to conduct
282 reviews and provide support on which evidence-based interventions are appropriate. To effectively
283 promote physical activity among TGD individuals, development of a comprehensive community guide
284 for TGD individuals is recommended. Resources should be tailored to the specific needs and preferences
285 of TGD individuals and draw upon existing programs while making necessary modifications to ensure
286 inclusivity and effectiveness. The community guide can serve as a valuable resource for health care
287 providers, community organizations, and individuals within the TGD community. It should provide
288 evidence-based interventions and strategies that focus on promoting physical activity and overall well-
289 being among TGD individuals. Furthermore, the guide should emphasize the importance of creating safe
290 and affirming environments for TGD individuals to engage in physical activity. This may involve
291 recommendations for inclusive policies, staff training, and the development of gender-affirming spaces
292 within fitness facilities, recreational centers, and community programs. This will allow for continuous
293 improvement and adaptation to changing needs and emerging evidence.

294

295 **Alternative Strategies**

296 There are potential alternative strategies to increase physical activity for everyone that may also
 297 affect TGD individuals. There is a robust literature on the impacts of physical activity
 298 interventions in health care settings, schools, neighborhoods, and other settings.[30] These
 299 interventions are effective in improving physical activity in certain populations and should be
 300 implemented to improve the health and well-being of everyone.[30] However, physical activity
 301 interventions largely have not been studied in TGD populations. The strategies that this policy
 302 statement proposes focus on the unique barriers that TGD individuals face and are proposed to
 303 reduce inequity in physical activity in this population.

304

305 **Action Steps to Implement Evidence-Based Strategies**

306

	Evidence-Based Strategy		Action Steps
1	Support professional development for PE teachers, exercise class instructors, and other instructors.	1a	Professional organizations should develop training for PE teachers and other instructors in promotion of physical activity for TGD youth.
		1b	State education departments, legislatures, and school-based organizations should develop and implement policies to support TGD individuals so that they feel validated, supported, and encouraged to participate in physical activity.

2	Support policies for inclusion of TGD individuals in physical activity.	2a	Federal and state legislatures should develop and implement policies that support physical activity for all people, including transgender individuals.
		2b	State departments of education should continually review policies that may limit physical activity for TGD individuals and implement policies and programs that increase TGD inclusion while decreasing bullying and weight-related harassment. APHA state affiliates should work with state departments of education to implement policies to reduce bullying.
		2c	All levels of education (primary, secondary, and postsecondary) should develop TGD-inclusive physical activity policies (gender-neutral changing rooms and spaces to shower) and programs (nonbinary physical activity programming). APHA state affiliates should work with universities to implement inclusive policies.
3	Create inclusive physical activity spaces.	3a	All public entities should establish and maintain gender-neutral facilities, such



AMERICAN PUBLIC HEALTH ASSOCIATION
For science. For action. For health.

			as bathroom, showers, and changing rooms, to support physical activity.
4	Encourage programs and activities that create social support networks and groups promoting physical activity and inclusivity.	4a	Federal agencies that promote physical activity should develop specific strategies to increase physical activity among TGD individuals. Specifically, the Community Guide for Preventive Services should establish materials that highlight available evidence on physical activity for TGD individuals and describe appropriate interventions to increase physical activity in this population.
		4b	Organizations (e.g., nonprofits, for-profit organizations, parks and recreation departments, fitness centers, sports clubs) that regularly promote and implement physical activity programming should create environments that are safe, affirming, and welcoming to TGD people, encouraging formation of social networks that support physical activity.
		4c	Researchers should develop, implement, and evaluate TGD-specific physical activity interventions for adults to

			advance the understanding of physical activity for this population.
5	Encourage researchers to conduct studies on physical activity for TGD individuals.	5a	Researchers should conduct rigorous studies to understand issues associated with physical activity for TGD individuals and develop and test interventions to increase physical activity in this population.

307

308 **Opposing Arguments**

309 Some opponents of inclusive policies to support transgender people’s engagement in physical
 310 activity argue that transgender individuals have an unfair advantage in sport. While this
 311 argument is exclusively targeted at transwomen, it also reinforces hegemonic masculinity. This
 312 argument also has little to do with population health. Most Americans engage in individual
 313 physical activity, not sport. However, recreational, youth, and intermural sports should be
 314 inclusive to all individuals, including transgender individuals. It is clear that very few
 315 transgender individuals are participating in competitive sport.[31] Only one transgender girl is
 316 playing sports in the state of Utah, highlighting how this issue has been magnified by those in
 317 opposition. A review of extensive media campaigns against transgender athletes revealed no
 318 evidence to support claims that these athletes are dominating their fields or that there has been an
 319 impact on women’s sports.[32] Sports organizations are continuing to evaluate the evidence on
 320 TGD athletes. While this process occurs, it is important to continue to support nonathletes’
 321 engagement in physical activity. Public health should support TGD individuals across the life
 322 span in engaging in physical activity for health and well-being.



References

1. Warburton DER, Bredin SSD. Health benefits of physical activity: a systematic review of current systematic reviews. *Curr Opin Cardiol*. 2017;32(5):541–556.
2. World Health Organization. Physical activity. Available at: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>. Accessed August 31, 2023.
3. Safer JD, Coleman E, Feldman J, et al. Barriers to health care for transgender individuals. *Curr Opin Endocrinol Diabetes Obes*. 2016;23(2):168–171.
4. Holder J, Morris J, Spreckley M. Barriers and facilitators for participation in physical activity in the transgender population: a systematic review. *Phys Act Health*. 2022;6(1):136–152.
5. Fraser B, Pierse N, Chisholm E, Cook H. LGBTIQ+ homelessness: a review of the literature. *Int J Environ Res Public Health*. 2019;16(15):2677.
6. McCann E, Brown MJ. Homeless experiences and support needs of transgender people: a systematic review of the international evidence. *J Nurs Manage*. 2021;29(1):85–94.
7. Lightner JS, Schneider J, Grimes A, Wigginton, M, Curran L, Gleason T, Prochnow T. Physical activity among transgender individuals: a systematic review of quantitative and qualitative studies. *PLoS One*. 2024;19(2):1–17.
8. Bishop A, Overcash F, McGuire J, Reicks M. Diet and physical activity behaviors among adolescent transgender students: school survey results. *J Adolesc Health*. 2020;66(4):484–490.
9. Cunningham TJ, Fang X, Town M. Prevalence of five health-related behaviors for chronic disease prevention among sexual and gender minority adults—25 U.S. states and Guam. *MMWR Morb Mortal Wkly Rep*. 2018;67(32):888–893.
10. Espinoza SM, Brown C, Gower AL, Eisenberg ME, McPherson LE, Rider GN. Sport and physical activity among transgender, gender diverse, and questioning adolescents. *J Adolesc Health*. 2023;72(2):303–306.



11. VanKim NA, Erickson DJ, Eisenberg ME, Lust K, Rosser BRS, Laska MN. Weight-related disparities for transgender college students. *Health Behav Policy Rev.* 2014;1(2):161–171.
12. Voss RV, Kuhns LM, Phillips G, et al. Physical inactivity and the role of bullying among gender minority youth participating in the 2017 and 2019 Youth Risk Behavior Survey. *J Adolesc Health.* 2023;72(2):197–206.
13. Wilson OWA, Jones BA, Bopp M. College student aerobic and muscle-strengthening activity: disparities between cis-gender and transgender students in the United States. *J Am College Health.* 2021;71(2):507–512.
14. Smalley KB, Warren JC, Barefoot KN. Differences in health risk behaviors across understudied LGBT subgroups. *Health Psychol.* 2016;35(2):103–114.
15. Amodeo AL, Esposito C, Antuoni S, Saracco G, Bacchini D. Muscle dysmorphia: what about transgender people? *Cult Health Sex.* 2022;24(1):63–78.
16. Jones BA, Haycraft E, Bouman WP, Arcelus J. The levels and predictors of physical activity engagement within the treatment-seeking transgender population: a matched control study. *J Phys Act Health.* 2018;15(2):99–107.
17. Safer JD, Coleman E, Feldman J, Garofalo R, Hembree W, Radix A. Barriers to healthcare for transgender individuals. *Curr Opin Endocrinol Diabetes Obes.* 2016;23(2):168–171.
18. Reisner SL, White JM, Bradford JB, Mimiaga MJ. Transgender health disparities: comparing full cohort and nested matched-pair study designs in a community health center. *LGBT Health.* 2014;1(3):177–184.
19. Muchicko MM, Lepp A, Barkley JE. Peer victimization, social support and leisure-time physical activity in transgender and cisgender individuals. *Leisure/Loisir.* 2014;38(3–4):295–308.

20. Lopez-Canada E, Devis-Devis J, Pereira-Garcia S, Perez-Samaniego V. Socio-ecological analysis of trans people's participation in physical activity and sport. *Int Rev Sociol Sport*. 2021;56(1):62–80.
21. Caudwell J. Queering indoor swimming in the UK: transgender and non-binary wellbeing. *J Sport Soc Issues*. 2022;46(4):338–362.
22. Berg P, Kokkonen M. Heteronormativity meets queering in physical education: the views of PE teachers and LGBTIQ+ students. *Phys Educ Sport Pedagogy*. 2022;27(4):368–381.
23. Greenspan SB, Whitcomb S, Griffith C. Promoting affirming school athletics for LGBTQ youth through professional development. *J Educ Psychol Consult*. 2019;29(1):68–88.
24. Herrick SSC, Duncan LR. A qualitative exploration of LGBTQ+ and intersecting identities within physical activity contexts. *J Sport Exerc Psychol*. 2018;40(6):325–335.
25. Jones BA, Arcelus J, Bouman WP, Haycraft E. Sport and transgender people: a systematic review of the literature relating to sport participation and competitive sport policies. *Sports Med*. 2017;47(4):701–716.
26. Teti M, Bauerband LA, Rolbiecki A, Young C. Physical activity and body image: intertwined health priorities identified by transmasculine young people in a non-metropolitan area. *Int J Transgender Health*. 2020;21(2):209–219.
27. Alanko K, Lund H. Transgender youth and social support: a survey study on the effects of good relationships on well-being and mental health. *YOUNG*. 2020;28(2):199–216.
28. Phipps C. Thinking beyond the binary: barriers to trans* participation in university sport. *Int Rev Sociol Sport*. 2019;56(1):81–86.
29. Ayala E, Riley-Schmida A, Faulkner K, Maleski K. Microaggressions experienced by women and gender diverse athletes in competitive cycling. *Women Sport Phys Act J*. 2021;29:1–9.



30. Centers for Disease Control and Prevention. About physical activity. Available at: <https://www.cdc.gov/physical-activity/php/about/index.html>. Accessed August 16, 2024.
31. Cox S. Why I'm vetoing HB11. Available at: <https://governor.utah.gov/2022/03/24/gov-cox-why-im-vetoing-hb11/>. Accessed August 31, 2023.
32. Media Matters for America. Fox News has aired more segments on trans athletes so far in 2021 than it did in the last two years combined. Available at: <https://www.mediamatters.org/fox-news/fox-news-has-aired-more-segments-trans-athletes-so-far-2021-it-did-last-two-years-combined>. Accessed August 31, 2023.