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Participation, barriers, facilitators and bullying experiences of trans people in sport and fitness: findings from a national community survey of trans people in Australia

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ABSTRACT

Objectives This study aimed to assess participation rates of transgender and gender diverse (trans) people in sport/fitness activities, compare mental health outcomes for trans people participating in sport/fitness with those who do not and explore internal/external barriers and bullying experiences faced by trans people in sport/fitness contexts.

Methods A cross-sectional online survey open to trans people aged ≥16 years living in Australia was conducted between February and April 2023 and it assessed rates of sport/fitness participation, barriers to participation and bullying experiences through multiple-choice questions. Mental health measures comprised the Kessler Psychological Distress Scale (K10) and self-reported history of self-harm and suicidality. Covariate-adjusted binary logistic regression models tested associations between interpersonal factors, sport/fitness variables and mental health outcomes.

Results Of 664 respondents (median age 32 years), around one-third (32.8%) regularly participated in sport/fitness. Common internal barriers to participation included anxiety about others' reactions (63.9%), body dissatisfaction/dysphoria (56.5%) and fears about feeling accepted/affirmed by others (54.7%). Respondents commonly reported experiencing inadequate bathroom/changing facilities (44.4%), exclusionary rules and regulations surrounding gender (36.7%), and invasive or uncomfortable policies or procedures (23.3%). Over one-third (34.4%) of trans people had experienced gender-based bullying or exclusion. Regular sport/fitness participation was associated with significantly lower K10 scores (mean difference=−4.4, 95% CI=−5.8, −2.9, $p<0.001$) and a 40% reduction in odds of recent thoughts of self-harm and suicide (aOR 0.6, 95% CI 0.5, 0.9, $p=0.01$; aOR 0.6, 95% CI 0.4, 0.9, $p=0.02$).

Conclusion Trans people face significant barriers to sport/fitness despite experiencing significant mental health and personal benefits from participation. Affirming and including trans people in sport and fitness should be a key priority for sport and fitness federations, organisations and policy-makers.

INTRODUCTION

Participation in sport, fitness and physical activity is associated with many known physical and mental health benefits, including reduced risk of cancer, diabetes, cardiovascular disease and early mortality¹

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Sport, fitness and physical activity are well-known protective factors against a wide range of physical and mental health conditions, yet little is known about sport, fitness and physical activity and its impact on mental health among trans and gender-diverse people, communities known to be disproportionately affected by physical and mental ill health.

WHAT THIS STUDY ADDS

⇒ This study underscores the magnitude of under-representation of trans and gender-diverse people in sport, fitness and physical activity, despite its potential mental health benefits, and uncovers common barriers and bullying experiences likely contributing to this health inequity.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ International Sporting Federations, National Sporting Organisations and their community-level counterparts in the sport, fitness and physical activity industry should include policy levers actively facilitating, supporting and affirming safe participation by trans and gender-diverse people, including visible, inclusive messaging, safe bathroom and changing facilities, and inclusive participation policies and regulations. This is a public health priority given the long-standing mental ill health disparities documented among trans and gender diverse communities and the proven benefits conferred by sport, fitness and physical activity.

and reduced risk of mental ill health outcomes, including depression and anxiety,^{2,3} self-harming behaviours⁴ and suicide attempts.⁴ Recent estimates of the burden of physical inactivity suggest a global cost of US\$27 billion per year due to healthcare expenditure and productivity losses.⁵ In Australia specifically, sport and physical activity saved \$A321 million in net positive impacts and saved a further \$A1.7 billion in disease spending, in 2018–2019.⁶ According to the WHO, to combat lagging global progress in increasing levels of sport and physical activity among the general population,

countries must undertake action underpinned by guiding principles of human rights, equity and public health evidence.⁷ In accordance with the United Nations' 2030 Agenda for Sustainable Development,⁸ countries must promote inclusion and equity of access to sport and physical activity, ensuring 'no one is left behind'.

Transgender and gender-diverse people (henceforth respectfully referred to using the inclusive umbrella term, 'trans') have a gender differing from the sex assigned at birth, including trans men, trans women, non-binary genders and culturally specific identities such as Brotherboys and Sistergirls.⁹ In recent times, the inclusion of trans people in sport and physical activity contexts has garnered significant attention.¹⁰ Trans people are estimated to comprise between 0.5% and 4.5% of the global adult population and 2.5% and 8.4% of the global child and adolescent population,¹¹ yet are significantly under-represented in sport and physical activity domains compared with their cisgender peers.^{12 13}

Sport and physical activity policies exclusionary of trans people, especially trans women, are increasingly being adopted at International Sporting Federations for elite sport despite the risk of flow-on effects to sport at the community level and the already existing barriers to participation of trans people in sport and physical activity.¹⁴ Studies have identified barriers to participation of individuals within trans communities in sport and physical activity such as risk of bullying and discrimination, fear of other people's reactions, and body dissatisfaction and discomfort.^{13 15 16} Qualitative studies involving semistructured interviews with young trans individuals found that inadequate changing facilities, anxiety about 'passing' as their affirmed gender, and concerns about being accepted were common negative experiences among respondents in youth sport and school settings.^{17 18}

At the time of our study's conception, there were no peer-reviewed studies that described rates of participation in sport or physical activity among trans people, and only one had been published by its completion.¹⁹ Therefore, we aimed to: first, assess participation rates of trans people in sport/fitness activities; second, compare mental health outcomes for trans people participating in sport/fitness with those who do not; and third, explore the internal and external barriers to sport/fitness participation. We hypothesised that participation rates would be significantly lower in trans people compared with the general population, mental health outcomes would be better in trans people participating in sport/fitness compared with those who did not participate, and trans people would report significant barriers to sport/fitness participation.

METHODS

Study respondents were recruited from a larger longitudinal Australian trans health study known as TRANSform, which is an ongoing longitudinal project with ongoing participant recruitment and multiple substudies. TRANSform was launched in May 2020. Inclusion criteria for TRANSform include (a) currently living in Australia; (b) having a gender different to what was presumed at birth and (c) being 16 years of age or older. TRANSform participants were recruited using a non-probability, snowball sampling approach with recruitment advertisements posted on social media and shared widely with trans community support groups, service providers and other relevant key organisations throughout Australia. This substudy included recruitment advertisements promoting a survey exploring barriers and facilitators to participation in sport/fitness. For example, recruitment

materials included headings such as 'As a trans person, what stops you from exercising or playing sport? We want to hear from you!' and 'Trans or gender-diverse? Aged 16–25? Participate in our survey exploring barriers and facilitators to participation in sport and fitness!' Gender-neutral representation of sport/fitness types (eg, a table tennis racquet) and images of trans people participating in sport/fitness are featured in these materials.

Once participants are recruited into the TRANSform study via an enrolment survey that collects basic demographic information and an email address, they are then invited via email to participate in 2–3 substudies each year, with varying response rates. Between 2 February 2023 and 4 April 2023, 1987 TRANSform participants were invited via email to complete this online, cross-sectional survey. Written informed consent was not obtained; however, the survey preamble outlined that completing the survey implied consent.

The survey was designed collaboratively by researchers who are members of the Australian trans community (SB, BT and SZ), with support from a clinician specialised in trans healthcare (ASC) and collaborating national gender and sexuality diverse (LGBTQA+) community-controlled organisations that promote inclusion in sport Pride in Sport (ACON) (BN and ES) and Proud 2 Play. Feedback was also received from the Proud 2 Play trans community advisory group. This feedback led to minor changes in the survey instrument, particularly regarding the nomenclature framing of sport and fitness stakeholders and settings. Survey data were collected and managed using REDCap electronic data capture tools hosted at The University of Melbourne. The present paper reports findings in accordance with the Strengthening Reporting of Observational Studies in Epidemiology statement specific to cross-sectional studies.

Survey questions are outlined in detail in online supplemental appendix A. In brief, age, gender identity, sex at birth, history of and desire for gender-affirming hormone treatment and gender-affirming surgery/ies, and barriers and facilitators to sport/fitness participation were assessed through predominantly fixed-option responses. Trans-specific items assessing internal and external barriers to sport/fitness participation were generated from consultation with the available literature, a discussion between trans researchers (SB, BT and SZ) and collaboration with trans inclusive sport community experts at Pride in Sport and Proud 2 Play. The present paper does not detail an analysis of free-text responses discussing 'other' barriers and facilitators for sport/fitness participation. Items assessing participation in sport/fitness were derived from relevant sport and physical activity items from the Longitudinal Study of Australian Children questionnaire.²⁰ 'Regular' participation in sport/fitness was defined as participating in sport/fitness 'in a routine or as a hobby'. Two items also asked participants about the number of days per week they engaged in moderate to vigorous physical activity for >30 min and >60 min, respectively. These two items were included to provide supplementary, contextual details regarding participants' sport/fitness levels and importantly, would have included work and school-related activities (eg, transport to and from school/work, manual labour and school gym classes) in addition to sport and fitness participation outside of the work and school environment. The 10-item Kessler Psychological Distress Scale (K10) was used to assess generalised psychological distress among respondents.²¹ The K10 items assessed respondents' self-reported feelings over the past 30 days, with options ranging 1–5 (1=none of the time; 5=all of the time). Responses are summed and range 10–50, with higher scores indicating greater levels of psychological distress. Previous research has shown that the K10 has sound psychometric validity and reliability for use

within Australian adult populations.²² Aligning with the wording used in the 2007 Australian National Survey of Mental Health and Wellbeing, self-harm thoughts and behaviours, and suicide ideation, planning and attempt/s in the previous 12 months were self-reported.²³ Our research and author team included three trans investigators, senior and junior investigators (including a PhD student) from a variety of disciplines and of different ethnicities. The study population includes a spectrum of ages and gender identities. In discussing the generalisability of our results and limitations of the findings, we acknowledge that our findings may not be generalised to settings with fewer resources. The influence of socioeconomic status is considered in the discussion.

Equity, diversity and inclusion statement

Our research and author team included three trans investigators, senior and junior investigators (including a PhD student) from a variety of disciplines and of different ethnicities. The study population includes a spectrum of ages and gender identities. In discussing the generalisability of our results and limitations of the findings, we acknowledge that our findings may not be generalised to settings with fewer resources. The influence of socioeconomic status is considered in the discussion.

Data analysis

Data were summarised using frequencies and percentages for categorical variables and mean and SD for continuous variables. ORs were derived from logistic regression to assess for differences in proportions of categorical sport/fitness variables across genders (trans men, trans women and non-binary respondents). Logistic regression models were also constructed to test associations between current regular sport/fitness participation and mental health outcomes (levels of psychological distress, odds of self-harm thoughts and behaviours, and odds of suicide thoughts, planning, and attempts), controlling for age, gender, and whether participants were undertaking gender-affirming hormone treatment. Complete case analysis was undertaken during all model building with an alpha level computed at 0.05 discerning statistically significant findings. Where p values were statistically significant, CIs were inspected for impossible values to improve confidence in findings. All statistical analyses were performed using statistical software, STATA V.18, 2023.

RESULTS

Of the 1987 individuals invited to complete this survey, 664 (33.4%) provided valid responses. The age range for respondents was 16–79 years, with a median age of 32 years (26, 43). Most respondents were born in Australia (83.0%, *n*=551) with 3.2% (*n*=21) identifying as Aboriginal and/or Torres Strait Islander. There was near equal representation of trans men (35.1%, *n*=233), trans women (34.5%, *n*=229) and non-binary/gender diverse respondents (30.1%, *n*=200). Two respondents (0.3%) indicated culturally specific gender identities not captured by the other options. Full demographic characteristics are described in table 1.

Associations between mental health and sport/fitness participation among trans people

Of the 638 participants who responded to the question related to physical activity engagement outside of their work and/or school obligations, approximately one-third (32.8%, *n*=209) reported regularly participating in sport/fitness and over half (51.3%, *n*=327) reported decreased sports participation. See table 2 for a complete

Table 1 Demographic characteristics of present sample

Characteristic	n (%)
Age (years) (N=664)	
16–25	162 (24.4)
26–35	246 (37.1)
36–45	113 (17.0)
46–55	73 (11.0)
56–65	51 (7.7)
66+	19 (2.9)
Sex at birth (n=664)	
Female	391 (58.9)
Male	264 (39.8)
Unsure	2 (0.3)
No birth certificate	6 (0.9)
Prefer not to say	1 (0.2)
Country of birth (n=664)	
Australia	551 (83.0)
New Zealand	15 (2.3)
UK	42 (6.3)
USA	11 (1.7)
Malayasia	6 (0.9)
Germany	5 (0.8)
Singapore	5 (0.8)
Other	29 (4.4)
Aboriginal and/or Torres Strait Islander people (N=664)	
Aboriginal	19 (2.9)
Torres Strait Islander	0 (0.0)
Aboriginal and Torres Strait Islander	2 (0.3)
Neither Aboriginal nor Torres Strait Islander	641 (96.5)
Prefer not to say	2 (0.3)
State or Territory currently living in (N=664)	
Australian Capital Territory	32 (4.8)
New South Wales	167 (25.2)
Northern Territory	4 (0.6)
Queensland	95 (14.3)
South Australia	36 (5.4)
Tasmania	11 (1.7)
Victoria	245 (36.9)
Western Australia	74 (11.0)
Limited gender category (N=664)	
Man/trans man	233 (35.1)
Woman/trans woman	229 (34.5)
Non-binary or gender diverse (including agender)	200 (30.1)
Culturally specific gender identity not captured by other options	2 (0.3)
Gender-affirming hormone replacement therapy (HRT) (N=664)	
Currently receiving gender-affirming HRT	559 (84.2)
Not currently receiving gender-affirming HRT	105 (15.8)
Gender-affirming surgeries (N=664)	
Has had gender-affirming surgery(ies)	334 (50.3)
Has not had any gender-affirming surgeries	330 (49.7)

breakdown of frequency and duration of physical activity among participants.

As shown in table 3, trans people who were regularly participating in sport/fitness at the time of the survey reported statistically significantly lower levels of psychological distress (adjusted mean difference_{diff} −4.4 in K10 scores) and reduced odds of recent self-harm thoughts (adjusted odds ratio (aOR 0.6, 95% CI 0.46 to 0.92)) and

Table 2 Frequency and duration of physical activity among participants

Frequency and duration of physical activity	n (%)
Frequency of physical activity engagement not including work/school obligations (N=638)	
Still regularly participate in sport/fitness	209 (32.8)
Used to regularly participate in sport/fitness but now only participate occasionally	130 (20.4)
Used to regularly participate in sport/fitness but now do not	197 (30.9)
Never have regularly participated in sport/fitness	102 (16.0)
Approximate total number of days per week of >30 min of moderate to vigorous physical activity (N=660)*	
0	69 (10.5)
1	96 (14.6)
2	107 (16.2)
3	135 (20.5)
4	94 (14.2)
5	85 (12.9)
6	38 (5.8)
7	36 (5.5)
Approximate total number of days per week of >60 min of moderate to vigorous physical activity (N=651)*	
0	215 (33.0)
1	146 (22.4)
2	112 (17.2)
3	82 (12.6)
4	34 (5.2)
5	30 (4.6)
6	18 (2.8)
7	14 (2.2)

*This includes all forms of physical activity, including work-related physical activities such as transport and from work

thoughts of suicide (aOR 0.6, 95% CI 0.42 to 0.93), compared with trans people who were not regularly participating in sport/fitness—even after adjusting for age, gender and gender-affirming hormone treatment.

A total of 84.0% (n=558) of the 664 respondents reported experiencing at least one internal barrier to sport/fitness participation, 60.2% (n=400) reported experiencing at least one external barrier to sport/fitness participation and 34.4% (n=162) reported experiencing bullying from an individual within a sport/fitness setting (table 4).

The most common internal barriers were anxiety about others' reactions (63.9%, n=424), body dissatisfaction or dysphoria (56.5%, n=375) and fears about feeling accepted and affirmed by others (54.7%, n=363). The most common external barriers reported were inadequate bathroom/changing facilities (44.4%, n=295), exclusionary rules and regulations surrounding gender (36.7%, n=244) and invasive or uncomfortable policies or procedures (23.3%, n=155).

Respondents most commonly reported experiencing gender-based bullying or exclusion (eg, intentional misgendering) from other sport/fitness venue patrons such as gym members and tennis club members (16.6%, n=78), sport/fitness venue staff such as receptionists and membership officers (15.9%, n=75) and sports team members (13.8%, n=65) (table 4).

DISCUSSION

This national cross-sectional survey of 664 trans Australians aged 16–79 years found that consistent with our hypotheses, rates of participation in sport/fitness in this trans sample were notably low. Regular participation in sport/fitness was associated with statistically significant reduced odds of self-harm thoughts, and suicidal thoughts in the preceding 12 months, and lower psychological distress (K10). Most respondents reported experiencing internal barriers to sport/fitness participation, and over one-third reported bullying or exclusion from an individual within a sport/fitness setting. The most commonly reported external barriers were inadequate bathroom/changing facilities and exclusionary rules or policies regarding gender.

This study underscores the potential magnitude of sport/fitness participation disparities affecting trans people in Australia. One in three (33%) trans people in this sample reported current regular participation in sport/fitness. By contrast, four in five (78%) people in the Australian general population participate

Table 3 Associations between current regular sport/fitness participation and mental health outcomes*, †

	Currently participates regularly (n=209)	Not currently regularly participating (n=429)	Mean difference, 95% CI	OR, 95% CI	P value
K10 continuous, mean, (SD)	20.9 (7.78)	25.6 (8.72)	–4.4 (–5.78, 2.94)		<0.001
	Frequency n (%)	Frequency n (%)			
Thoughts of self-harm over past 12 months	86 (42.8)	221 (54.4)		0.6 (0.46, 0.92)	0.01
Yes	115 (57.2)	185 (45.6)			
No (ref)					
Attempts of self-harm over past 12 months	36 (18.2)	93 (23.1)		0.8 (0.52, 1.24)	0.32
Yes	162 (81.8)	309 (76.9)			
No (ref)					
Thoughts of suicide over past 12 months	44 (22.1)	128 (31.5)		0.6 (0.42, 0.93)	0.02
Yes	155 (77.9)	279 (68.6)			
No (ref)					
Suicide planning over past 12 months	28 (14.1)	82 (20.2)		0.6 (0.39, 1.01)	0.06
Yes	170 (85.9)	324 (79.8)			
No (ref)					
Suicide attempts over past 12 months	3 (1.5)	20 (4.9)		0.3 (0.09, 1.04)	0.06
Yes	197 (98.5)	387 (95.1)			
No (ref)					

Statistically significant results (p<0.05) are displayed in bold text.

*Values have been adjusted for participants' age, gender and whether they are receiving gender-affirming hormone treatment.

†Some participants chose not to answer questions related to self-harm and suicide, hence frequencies of responses to above questions vary K10, Kessler Psychological Distress Scale.

Table 4 Internal barriers, external barriers and bullying experiences within sport/fitness among trans people

	Total sample, n=664, n (%)
Any internal barrier/s	558 (84.0)
Body dissatisfaction or dysphoria	375 (56.5)
Feeling/being perceived as having a gender that is not yours	315 (47.4)
Anxiety about others' reactions	424 (63.9)
Fears about feeling accepted and affirmed by others	363 (54.7)
Revealing sports uniforms, attire or clothing	224 (33.7)
I feel uncomfortable participating before I have the gender-affirming surgery/ies I want	31 (4.7)
I feel uncomfortable participating until I pass/am read as my affirmed gender	103 (15.5)
Any external barrier/s	400 (60.2)
Inadequate bathroom/changing facilities	295 (44.4)
Exclusionary rules and regulations surrounding gender	244 (36.7)
Invasive or uncomfortable policies or procedures	155 (23.3)
Lack of parent/guardian support	26 (3.9)
Total Sample, n=471, n (%)*	
Any bullying or exclusion experiences	162 (34.4)
Sports team members	65 (13.8)
Parents/guardians of other team members	32 (6.8)
Coaches/trainers	59 (12.5)
Umpires/referees	32 (6.8)
Sport/fitness venue staff, for example, receptionist, membership officer	75 (15.9)
Other sport/fitness venue patrons for example, gym members, tennis club members	78 (16.6)

* Respondents who reported that they had never participated in sport/fitness or not since they had realised they were trans were excluded from analysis

in sport/fitness at least once per week.²⁴ Between study conception and publication, one comparable study has been published involving a cohort of trans adolescents (n=1756) in Minnesota, USA, which found that one in four (25%) trans adolescents participated in a sport,¹⁹ compared with one in three (33%) of trans people aged 16+ years in this sample reporting currently regularly participating in sport/fitness. Although a substantially higher proportion of trans participants reported performing at least 30 and 60 min of 'physical activity' per week (90% and 67%, respectively), this would have included work and school-related activities (eg, transport to and from school/work, manual labour and school gym classes) in addition to sport and fitness participation outside of the work and school environment. The Australian Sport 2030 Strategy's strategic priorities are underpinned by the principle of ensuring that all people in Australia can participate in sport and physical activity when and how they want, in a safe, fun and inclusive way.²⁵ Hence, addressing the under-representation of trans people in sport/fitness settings is of critical public health importance for politicians, policy-makers, sports-governing bodies and other stakeholders with an interest in promoting equitable sport/fitness access and participation.

The powerful role of sport/fitness participation in preventing mental ill health, including depression²⁶ and anxiety² symptoms, self-harm⁴ and suicide,²⁷ has been robustly established within the literature. In accordance with a joint consensus statement from Sports Medicine Australia and the Australian Psychological Society, sport/fitness has the potential for satisfying peoples' basic needs for autonomy, competence and social connection, facilitating positive interactions which prevent unwanted social

isolation and make people feel valued.²⁸ Our study extends the available literature by investigating barriers and mental health outcomes associated with sport/fitness participation among a large sample of trans people of diverse ages. Further, this study found that trans people participating in sport/fitness were between 40% and 70% less likely to report recent self-harm thoughts, suicidal thoughts and suicide attempts, regardless of age, gender and whether or not participants were taking gender-affirming hormones at the time. Our findings show a strong association between sport/fitness participation and lower risk of suicide attempts and suicidal thoughts which despite not causative, warrants attention.

Research/policy implications

Promoting sport/fitness participation and reducing internal and external barriers to participation for trans people may potentially aid in reducing mental ill health disparities in trans people.²⁹ Australia-specific research suggests that over 40% of trans Australians have attempted suicide³⁰ with global research suggesting mental ill health disparities have widened since the COVID-19 global pandemic.^{31 32} Urgent efforts are required to promote sport/fitness participation among trans people to ensure they can enjoy healthier, happier and more productive lives and maximise the health and economic benefits of sport and physical activity in Australia.^{33–35} More than half of respondents cited fears, anxieties or concerns about other people's potentially non-affirming and unaccepting responses as a primary internal barrier to their participation in sport/fitness, aligning with previous preliminary research.¹⁷ This is a striking finding given only 0.1% of people in the Australian general population during 2022 reported fear of discrimination as a barrier to participation in sport/fitness.²⁴ As everyone has a right to participate in sport/fitness without fear of discrimination, greater visible promotion of inclusivity and acceptance of trans people may help create affirming spaces for trans people to safely participate in sport/fitness.^{36 37} Furthermore, the striking prevalence of internal barriers as distinct from external barriers and bullying experiences among trans people within this sample suggests that despite increasing global appetite for trans inclusion in sport, future efforts to promote and sustain trans participation in sport must address internal barriers preventing trans people from participating in sport. Paradoxically, much of this work will likely involve providing education and awareness around gender diversity in sport settings to all players and patrons (cisgender and trans) to ensure the consistent affirmation, acceptance and respect of all trans people in sport.

Rules, regulations, policies and procedures that are exclusionary, invasive or uncomfortable towards trans people, pose a significant barrier to both competitive and grassroots sport/fitness participation among trans people.^{17 38} Recent years have seen a sharp increase in trans exclusionary sport/fitness policies and legislation.¹⁰ There is emerging research into the impact of gender-affirming hormone therapy on physical performance, but the evidence base is not definitive, largely based on retrospective data with only a small number of longitudinal uncontrolled studies, all of short duration.³⁹ This study highlights the negative impact of exclusionary, restrictive policies on trans participation in sport/fitness and the importance of developing and implementing evidence-based policies to equitably and inclusively promote participation in sport/fitness among trans people, including within non-competitive, amateur community settings such as casual runs in the park.⁴⁰

Inadequate bathrooms and changing facilities were the most common external barrier to sport/fitness participation cited in this study, despite a previous community survey showing that 84% of trans people would feel comfortable if their sport/fitness setting had an 'all-gender' or gender neutral toilet available to patrons.¹³ Trans people often fear being physically assaulted or verbally abused in bathrooms or denied access altogether.⁴¹ Sexual assault is also frequently reported in trans people who have restricted access to bathrooms, and as such it is not surprising that inadequate bathrooms are reported as a common external barrier.⁴² Having available single cubicles or visible safe spaces in sporting and fitness facilities are important to promote participation.

Over one-third of respondents (34.4%) in this study who were regularly participating in sport/fitness reported experiencing gender-based bullying or exclusion within a sport/fitness setting within the preceding 6 months. A similar study of 858 gender and sexuality diverse people in Germany (mean age = 33.1 years) found between 30% and 42% of trans respondents reported a negative personal experience associated with their sexual orientation and/or gender identity within a sport/fitness setting.⁴³ Given that reports of bullying or exclusion from venue staff and patrons, as well as team members and coaches/umpires, were relatively comparable, a concerted effort from sport federations and authorities, in conjunction with more local, community-level regulators, is required to prevent bullying, exclusion and victimisation of trans people in sport/fitness.³⁷ Specific codes of conduct should be developed, or ratified, where applicable, to ensure zero-tolerance of gender-based bullying, harassment and vilification. These tenets should apply to employees and volunteers of sporting organisations and venues, as well as players, coaches, officials and other relevant persons.⁴⁴

Limitations

There were multiple limitations to this cross-sectional study. First, the results describe associations we are unable to attribute causation between the outcomes. Second, the predominantly online-based recruitment may have limited the participation of the older trans community members, those who are less computer proficient, those in regional and remote areas with limited internet access or people who may have difficulty communicating in English. Third, not all areas of Australia were represented proportionately, however, the predominance of respondents in South-Eastern states is in line with previous Australian trans community surveys.⁴⁵ Additionally, making accurate comparisons with the cis-community at large was also limited due to inconsistencies in the definition of fitness and physical activity in the literature and of what constitutes regular participation. Further research and sector collaboration is critical to ensure that comparisons can be made, and that all data are captured within physical activity contexts. Finally, the survey asked participants to exclude school-based physical activity when responding to the questions relating to physical activity. Hence, this may have resulted in some participants under-reporting team sport given the overlap between school-based physical activity and team sport. However, given very few were of school-attending age (only 0.3% of participants (n=2) were less than 18 and only 2.7% (n=18) were less than 20), it is unlikely that this would have had a substantial impact on our findings.

CONCLUSION

Trans peoples' participation in sport/fitness is associated with mental health benefits, namely lower rates of psychological distress, fewer thoughts of self-harm and fewer thoughts of suicide. Despite these benefits, sport/fitness participation rates among this national sample of trans people in Australia appear notably lower than previously documented sport/fitness participation rates in the general Australian population. Unique internal and system-level barriers and experiences of gender identity-based bullying may, in part, be responsible for low sport/fitness rates among trans people in Australia. Given the greater risk of mental ill health documented within this community and the potential mitigating effect of sport/fitness participation, strategies to reduce participation barriers, such as visible messaging to promote inclusion of trans people, safe bathroom or changing facilities within venues, and inclusive policies among sporting organisations are urgently needed.

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TRANSform: An Australian Longitudinal Gender Health Study Online Survey – Sport, physical activity, and mental health among trans young people

Title	TRANSform: Sport, physical activity, and mental health among trans young people
Short Title	TRANSform
Principal Investigator	Ada Cheung
Associate Investigator(s)	Sav Zwickl, Leslie Peters, Benjamin Trevitt, Alex Wong, Ariel Ginger

1 Introduction

TRANSform is an ongoing study designed to investigate the health and wellbeing experiences of the Australian transgender, gender diverse and non-binary (TGDN) community. This includes all individuals who have a gender that is different from what was presumed for them at birth, including binary and non-binary gender identities, and cultural gender identities (e.g. Brotherboy, Sistergirl, Fa'afaine, Fakaleti). This survey on sport and fitness and mental health, is open to TGDN community members aged 16 – 25 years.

All data will be stored in a secure password-protected University of Melbourne server for 7 years after which point it will be destroyed. Only investigators will have access. Your personal details will never be shared with any third party and any data that is published will be non-identifiable. If you choose to complete this survey it implies that you understand what you have read and consent to take part in the research project. Participation in this research is voluntary.

2 What is the purpose of this research?

Recently, the involvement of TGDN people in sport and fitness has been the focus of much public debate. Discrimination and exclusion against TGDN communities within sport and fitness, particularly TGDN young people, pose significant harms to mental health. Conversely, it is well known that sport and fitness offers significant benefits for mental health and well-being to young people at large. As TGDN young people are already at increased risk of experiencing mental ill-health, further research is required to better understand the relationship between sport and fitness participation and mental health among TGDN young people.

This study broadly aims to (1) examine the relationship between TGDN young peoples' experiences of sport and fitness participation and mental health, and (2) describe barriers, facilitators, and motivators for sport and fitness participation unique to TGDN young people.

This research is a collaboration between the Trans Health Research Group, based at The University of Melbourne and a team of collaborators. Investigators include Sav Zwickl, Leslie Peters, Benjamin Trevitt, Emma Staples from Pride in Sport, Ryan Storr and the trans community advisory committee from Proud 2 Play, together with endocrinologist Dr Ada Cheung who has worked extensively in trans healthcare.



3 What does participation in this research involve?

You must be aged 16 - 25 years and currently living in Australia, to take part in this survey. You must also have a gender that is different from what was presumed for you at birth, including binary and non-binary gender identities, or have a cultural gender identity that is different to the gender presumed at birth (e.g. Brotherboy, Sistergirl, fa'afaine, fakaleti).. By completing the following survey, you are telling us that you understand the purpose of this study, and that results will be used for research purposes. Completion of this survey implies that you consent to participation in this study. Your responses will contribute to the research project results. If you do not wish to take part in this project, please do not fill out the survey.

All data will be stored in a secure password-protected University of Melbourne server for 7 years after which point it will be destroyed. Only investigators will have access. Your personal details will never be shared with any third party and any data that is published will be non-identifiable.

4 What are the possible risks and disadvantages of taking part?

As most of the TRANSform surveys will be sent electronically, please be aware that dependent on your computer and mobile phone settings, notifications may pop up on your screen, in the view of others. If you are concerned about other people learning of your involvement in this study, you can change the settings on your computer and phone, to prevent notifications and you can also add a password to your computer and phone.

This survey asks sensitive questions about mental health. If this survey raises concerns for you or someone you know please see your doctor or contact the following organisations for support:

DISCHARGED Weekly online Suicide Peer Support Groups for trans and gender diverse folks.
<https://www.discharged.asn.au/>

QLife 1800 184 527 and webchat <https://qlife.org.au/> (available 3pm - midnight, every day)

Lifeline on 13 11 14 and webchat <https://www.lifeline.org.au>

Beyond Blue 1300 22 4636 and webchat <https://www.beyondblue.org.au>

Suicide Call Back Service 1300 659 467 <https://www.suicidecallbackservice.org.au/>

13 Yarn on 13 92 76 <https://www.13yarn.org.au>

In the event, that the research team is concerned for your imminent health and safety as a result of your survey responses, we may call or email you to check in, and refer you to local mental health crisis and assessment teams or your local doctor, as appropriate.

5 Who has reviewed the research project?

This study has been approved by the Austin Health Human Research Ethics Committee, Reference Number HREC/57155/Austin-2019, ACON Research Ethics Review Committee Ref No 2020/03 & Thorne Harbour Health Community Research Endorsement Panel Ref No THH/CREP 20-006

6 Further information and who to contact

The person you may need to contact will depend on the nature of your query.



If you have any queries or require more information about the project, please contact:

Project Contact Person

Name	Sav Zwickl
Position	Research Investigator
Telephone	(03) 9496 2260
Email	transform-research@unimelb.edu.au

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about being a research participant in general, then you may contact:

Complaints contact person

Position	Complaints Officer
Telephone	(03) 9496 4090
Email	ethics@austin.org.au



TRANSform: An Australian Longitudinal Gender Health Study

Online Survey – Sport, physical activity, and mental health among trans young people

SECTION 1: ELIGIBILITY SCREENING

This survey relates to the personal experiences of trans, non-binary and gender diverse young people aged 16-25, who currently live in Australia. Do you meet these eligibility criteria?

- a. Yes
- b. No

SECTION 2: LOCATION AND AGE

[Note to reviewers: Additional demographic data has been collected as part of the TRANSform Enrolment Survey, which has previously been given ethical approval]

What is your postcode for your usual place of residence? If you do not have a permanent place of residence, please list the postcode for the place where you have spent the most time in the past 6 months. [XXXX]

What is your current age? [YY]

SECTION 3: TEAM SPORT, INDIVIDUAL SPORT, AND FITNESS ACTIVITY

The following questions ask about your participation and experiences in sport and fitness activity in team and individual environments.

Sport is physical activity with a set of rules, or goals to train or excel in specific skills. This can be further classified into *team sport* (e.g., football, cricket, or netball) OR *individual sport* (e.g., swimming, tennis, karate, or gymnastics). Other activities are classed as fitness activity (e.g., going for a walk/run, bike ride, going to the gym, or doing a group fitness class).

[Note to reviewers: The following questions in blue have been copied from The Longitudinal Study of Australian Children (LSAC) study, to allow for data comparisons W: <https://growingupinaustralia.gov.au/>]

In the last 12 months, since current month last year, did you regularly participate in team sport outside of school hours/organised activities? (e.g., football, cricket, netball)?

- a) Yes
- b) No

If yes, on average, in a typical week, how many hours would you spend doing team sport, including practice or training where relevant (e.g., football, cricket, netball)?

- a) Less than 1 hour
- b) Between 1 and 3 hours
- c) More than 3 but less than 5 hours
- d) Between 5 and 10 hours



- e) More than 10 and less than 15 hours
- f) 15 hours or more

How important is team sport to you (e.g., football, cricket, netball)?

- a) Not important
- b) A little important
- c) Fairly important
- d) Very important

In the last 12 months, since current month last year, did you regularly participate in individual sport, coaching or lessons outside of school hours/organised activities (e.g., swimming, tennis, karate or gymnastics)?

- a) Yes
- b) No

If yes, on average, in a typical week, how many hours would you spend doing individual sport, including practice or training where relevant (e.g., swimming, tennis, karate or gymnastics)?

- a) Less than 1 hour
- b) Between 1 and 3 hours
- c) More than 3 but less than 5 hours
- d) Between 5 and 10 hours
- e) More than 10 and less than 15 hours
- f) 15 hours or more.

How important is individual sport to you (e.g., swimming, tennis, karate or gymnastics)?

- a) Not important
- b) A little important
- c) Fairly important
- d) Very important

In the last 12 months, since current month last year, did you regularly participate in a fitness activity outside of school hours/organised activities (e.g., going for a run, to the gym, or doing a group fitness class)?

- a) Yes
- b) No

If yes, on average, in a typical week, how many hours would you spend doing fitness activity, including practice or training where relevant (e.g., going for a run, to the gym, or doing a group fitness class)?

- a) Less than 1 hour
- b) Between 1 and 3 hours
- c) More than 3 but less than 5 hours
- d) Between 5 and 10 hours
- e) More than 10 and less than 15 hours
- f) 15 hours or more.

How important is fitness activity to you (e.g., going for a run, to the gym, or doing a group fitness class)?

- a) Not important
- b) A little important



- c) Fairly important
- d) Very important

About how many days each week do you do at least 30 minutes of moderate or vigorous physical activity? (This is all the time you spent in activities that increased your heart rate and made you breathe hard)

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5
- f) 6
- g) 7

About how many days each week do you do at least 60 minutes of moderate or vigorous physical activity? (This is all the time you spent in activities that increased your heart rate and made you breathe hard)

- a) 1
- b) 2
- c) 3
- d) 4
- e) 5
- f) 6
- g) 7

SECTION 4: SOCIAL AND MEDICAL GENDER AFFIRMATION

We are interested in the factors that contribute to you participating in sport and fitness activity, and/or why you do not or cannot participate in sport and fitness activity. This may include whether you have socially affirmed your gender and your experiences with gender-affirming hormones and surgeries.

Although we understand that gender is complex, sometimes we can only analyse the survey data using a limited number of categories. Which group best reflects your gender (select one)

- a) Man/Trans man
- b) Woman/Trans woman
- c) Non-binary or gender diverse (including agender)
- d) A culturally specific identity not captured by other available options

Which of the following statements best describes your experience of participating in sport or fitness activities? (select one)

- a) I am not out as trans and have **not** socially and/or medically affirmed my gender
- b) I am out as trans and have socially but **not** medically affirmed my gender
- c) I am out as trans and have socially and medically affirmed my gender
- d) I am living in my affirmed gender and no one knows I am trans (sometimes called 'stealth')
- e) Not applicable – I have not engaged in sport or fitness since I realised I was trans

Which of the following sport/fitness activities do you participate in? (select all that apply)

- a) Boys/men's sport/fitness
- b) Girls/women's sport/fitness



- c) Mixed-sport sport/fitness
- d) LGBTIQA+ specific sport/fitness
- e) Non-gendered sport/fitness
- f) Not applicable – I have not engaged in sport or fitness since I realised I was trans

If a – e: Please explain why you chose this option/s? (optional)

Which of the following statements best reflects your experience in relation to gender-affirming hormones? (select one)

- a) I am currently using hormones
- b) I have used hormones in the past but am no longer using them
- c) I want to use hormones in the future
- d) I am thinking about if hormones are right for me
- e) I have no interest in hormones
- f) Unsure
- g) Prefer not to say

If yes to hormone use, in what month and year did you start hormonal therapy? [MM, YYYY]

[If you have started, ceased and then restarted hormones, please state the most recent time you started hormonal therapy]

Which of the following statements best reflects your experience in relation to gender-affirming surgery? (select one)

- a) I have had all the surgery(ies) I want
- b) I have had surgery(ies) but I want further surgery
- c) I want to have surgery(ies) in the future
- d) I am thinking about if surgery is right for me
- e) I have no interest in surgery
- f) Unsure
- g) Prefer not to say

If yes to surgery, in what month and year did you have your most recent gender affirming surgery(ies)? [MM, YYYY]

SECTION 5: BARRIERS TO TRANS, GENDER DIVERSE AND NON-BINARY PARTICIPATION IN SPORT AND FITNESS ACTIVITY

The following questions relate to potential barriers you may have experienced in sport and fitness, specific to your gender identity.

Which statement best describes your previous and/or current participation in sport/fitness?

“Regular” means participating in sport/fitness in a routine or as a hobby. For example, joining a soccer club, enrolling in boxing classes, joining and attending a gym, etc.

- a) I used to participate regularly in sport/fitness but now don't
- b) I used to participate regularly in sport/fitness but now I only participate occasionally
- c) I have never regularly participated in sport/fitness
- d) I still participate regularly in sport/fitness



[Branching: The following questions will be asked to participants who regularly participate in sport/fitness]

In the last 6 months, have any of the following internal (personal) factors/barriers negatively affected or discouraged your participation in sport and/or fitness activities? (please select all that apply)

- a) Body dissatisfaction or dysphoria
- b) Feeling/being perceived as having a gender that is not yours
- c) Anxiety about others' reactions
- d) Fears about feeling accepted and affirmed by others
- e) Revealing sports uniforms, attire, or clothing
- f) I feel uncomfortable participating before initiation/stabilisation of gender-affirming hormones
- g) I feel uncomfortable participating before I have the gender affirming surgery/ies I want
- h) I feel uncomfortable participating until I pass/am read as my affirmed gender

In the last 6 months, have you experienced any other internal (personal) factors/barriers that have negatively affected or discouraged your participation in sport and/or fitness activity? Please specify. [freetext]

How often in the last 6 months, have internal (personal) factors/barriers negatively affected or discouraged your participation in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

In the last 6 months, have any of the following external (environmental) factors/barriers negatively affected or discouraged your participation in sport and/or fitness activity? (please select all that apply)

- a) Inadequate bathroom/changing facilities
- b) Exclusionary rules and regulations surrounding gender
- c) Invasive or uncomfortable policies or procedures
- d) Lack of parent/guardian support

In the last 6 months, have any other external (environmental) factors/barriers negatively affected or discouraged your participation in sport and/or fitness activity? Please specify. [freetext]

In the last 6 months, how often have external (environmental) factors/barriers negatively affected or discouraged your participation in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always



In the last 6 months have you ever been bullied or excluded (e.g., intentional misgendering) based on your gender by any of the following people when participating in sport and/or fitness activity? (please select all that apply)

- a) Sports team members
- b) Parents/guardians of other team members
- c) Coaches/trainers
- d) Umpires/referees
- e) Sport/fitness venue staff e.g., receptionist, membership officer
- f) Other sport/fitness venue patrons e.g., gym members, tennis club members

In the last 6 months have there been any other people or groups of people that have bullied or excluded you based on your gender when participating in sport and/or fitness activity? Please specify.

In the last 6 months, how often has bullying or exclusion based on your gender negatively affected or discouraged your participation in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

Have there been any other gender-related factors/barriers that have negatively affected or discouraged your participation in sport and/or fitness activities? Please specify. [freetext]

[Branching: The following questions will be asked to participants who used to but no longer participate or now only occasionally participate in sport/fitness]

Have any of the following internal (personal) factors been a barrier to participating in sport and/or fitness activity? (please select all that apply)

- a) Body dissatisfaction or dysphoria
- b) Feeling/being perceived as having a gender that is not yours
- c) Anxiety about others' reactions
- d) Fears about feeling accepted and affirmed by others
- e) Revealing sports uniforms, attire, or clothing
- f) I am not comfortable participating before initiation/stabilisation of gender-affirming hormones
- g) I am not comfortable participating before I have the gender affirming surgery/ies I want
- h) I am not comfortable participating until I pass/am read as my affirmed gender

Have any other internal (personal) factors been a barrier to participating in sport and/or fitness activity? Please specify. [freetext]

How often have internal (personal) factors been a barrier to participating in sport and/or fitness activity?

- a) Never a barrier
- b) Rarely a barrier
- c) Sometimes a barrier
- d) Often a barrier



e) Always a barrier

Hypothetically, if these internal (personal) factors were not barriers, how often would you participate in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

Have any of the following external (environmental) factors been a barrier to participating in sport and/or fitness activity? (please select all that apply)

- a) Inadequate bathroom/changing facilities
- b) Exclusionary rules and regulations surrounding gender
- c) Invasive or uncomfortable policies or procedures
- d) Lack of parent/guardian support

Have any other external (environmental) factors been a barrier to participating in sport and/or fitness activity? Please specify. [freetext]

How often have external (environmental) factors been a barrier to participating in sport and/or fitness activity?

- a) Never a barrier
- b) Rarely a barrier
- c) Sometimes a barrier
- d) Often a barrier
- e) Always a barrier

up

Hypothetically, if these external (environmental) factors were not barriers, how often would you participate in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

Have you ever been bullied or excluded (e.g., intentional misgendering) based on your gender by any of the following people when participating in sport and/or fitness activity? (please select all that apply)

- a) Sports team members
- b) Parents/guardians of other team members
- c) Coaches/trainers
- d) Umpires/referees
- e) Sport/fitness venue staff e.g., receptionist, membership officer
- f) Other sport/fitness venue patrons e.g., gym members, tennis club members
- g) Not applicable – I have not participated in sport and/or fitness activity since I realised I am trans
- h) Not applicable – I have never participated in sport and/or fitness activity



Have there been any other people or groups of people that have bullied or excluded you based on your gender when participating in sport and/or fitness activity? Please specify. [freetext]

How often has bullying or exclusion based on your gender influenced your decision/ability to participate in sport and/or fitness activity?

- a) Never influenced
- b) Rarely influenced
- c) Sometimes influenced
- d) Often influenced
- e) Always influenced

Hypothetically, if bullying and exclusion was not a concern, how often would you participate in sport and/or fitness activity?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Always

Are there any other gender-related barriers to your participation in sport and/or fitness activities? Please specify. [freetext]

Have any of the following factors led to your decision to not participate in sport/fitness? (please select all that apply)?

- a) N/A - I am still regularly participating in sport
- b) Body dissatisfaction or dysphoria
- c) Feeling/being perceived as having a gender that is not yours
- d) Anxiety about others' reactions
- e) Fears about feeling accepted and affirmed by others
- f) Revealing sports uniforms, attire, or clothing
- g) I am not comfortable participating before initiation/stabilisation of gender affirming hormones
- h) I am not comfortable participating before I have the gender affirming surgery/ies I want
- i) I am not comfortable participating until I pass/am read as my affirmed gender
- j) Inadequate bathroom/changing facilities
- k) Exclusionary rules and regulations surrounding gender
- l) Invasive or uncomfortable policies or procedures
- m) Lack of parent/guardian support
- n) Experienced bullying
- o) None of the above
- p) N/A - I have never regularly participated in sport

SECTION 6: FACILITATORS TO TRANS, GENDER DIVERSE AND NON-BINARY PARTICIPATION IN SPORT AND FITNESS ACTIVITY

The following questions relate to potential factors that may facilitate your participation in sport and fitness, specific to your gender identity.



[Branching: The following questions will be asked to participants who regularly participate in sport/fitness]

In the last 6 months, have any of the following internal (personal) factors facilitated or affirmed your participation in sport and/or fitness activity? (please select all that apply)

- a) Being on gender-affirming hormones
- b) Having had gender affirmation surgery/ies
- c) Passing/being read as my affirmed gender
- d) Being satisfied with my body and/or appearance

In the last 6 months, have any of the following external (environmental) factors facilitated or affirmed your participation in sport and/or fitness activity? (please select all that apply)

- a) Adequate bathroom/changing facilities
- b) Inclusive rules and regulations surrounding gender
- c) Affirming or respectful policies or procedures
- d) Parent and/or guardian support

In the last 6 months have you ever felt your gender has been accepted and affirmed by any of the following people when participating in sport and/or fitness activity? (please select all that apply)

- a) Sports team members
- b) Parents/guardians of other team members
- c) Coaches/trainers
- d) Umpires/referees
- e) Sport/fitness venue staff e.g., receptionist, membership officer
- f) Other sport/fitness venue patrons e.g., gym members, tennis club members

[Branching: The following questions will be asked to participants who used to but no longer participate or now only occasionally participate in sport/fitness]

Would any of the following internal (personal) factors facilitate or affirm your participation in sport and/or fitness activity? (please select all that apply)

- a) Being on gender-affirming hormones
- b) Having had gender affirmation surgery/ies
- c) Passing/being read as my affirmed gender
- d) Being satisfied with my body and/or appearance

Would any of the following external (environmental) factors facilitate or affirm your participation in sport and/or fitness activity? (please select all that apply)

- a) Adequate bathroom/changing facilities
- b) Inclusive rules and regulations surrounding gender
- c) Affirming or respectful policies or procedures
- d) Parent and/or guardian support

Would having your gender accepted and affirmed by any of the following people facilitate you to participate in sport and/or fitness activity? (please select all that apply)

- a) Sports team members
- b) Parents/guardians of other team members
- c) Coaches/trainers



- d) Umpires/referees
- e) Sport/fitness venue staff e.g., receptionist, membership officer
- f) Other sport/fitness venue patrons e.g., gym members, tennis club members

SECTION 7: HOW DOES PARTICIPATING IN SPORT/FITNESS MAKE YOU FEEL?

The following statements relate to the positive or affirming experiences you may have had in sport and fitness, specific to your gender identity. Please rate your response (from Strongly Disagree to Strongly Agree) to the following statements.

[Branching: The following questions will be asked to participants who regularly participate in sport/fitness or participants who used to regularly participate but now only participate occasionally]

Participation in sport and fitness activity affirms my gender identity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I feel more confident and satisfied with my body when I participate in sport and fitness activity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I feel more connected with my body when I participate in sport and fitness activity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

Participating in sport and fitness activity is necessary for my gender affirmation.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I experience gender *euphoria* when I participate in sport and fitness activity. Gender euphoria is a positive feeling about your gender identity, gender expression, or gender affirmation. Gender euphoria may involve feeling happy, confident, content, safe, or another feeling you recognise as being positive to you.

- a) Strongly Disagree
- b) Disagree



- c) Neutral
- d) Agree
- e) Strongly Agree

How has participating in sport and fitness activity positively contributed to your gender affirmation (if at all)? Please specify. Feel free to write as much or as little as you like.
[freetext]

[Branching: The following questions will be asked to participants who no longer participate or never regularly participate in sport/fitness]

Participation in sport and fitness activity would affirm my gender identity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I would feel more confident and satisfied with my body if I participated in sport and fitness activity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I would feel more connected with my body if I participated in sport and fitness activity.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

Participating in sport and fitness activity is necessary for my gender affirmation.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree

I would experience gender *euphoria* when I participate in sport and fitness activity. Gender euphoria is a positive feeling about your gender identity, gender expression, or gender affirmation. Gender euphoria may involve feeling happy, confident, content, safe, or another feeling you recognise as being positive to you.

- a) Strongly Disagree
- b) Disagree
- c) Neutral
- d) Agree
- e) Strongly Agree



How would participating in sport and fitness activity positively contribute to your gender affirmation (if at all)? Please specify. Feel free to write as much or as little as you like.
[freetext]

SECTION 7: MENTAL HEALTH

This is the final part of the survey. These following questions ask about your mental health. Please select the option that best fits your experience.

***[Note to reviewers: The following questions in blue have been copied from The Longitudinal Study of Australian Children (LSAC) study, to allow for data comparisons W:
<https://growingupinaustralia.gov.au/>]***

In the past four weeks about how often did you feel tired out for no good reason?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel nervous?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel so nervous that nothing could calm you down?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel hopeless?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel restless or fidgety?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel so restless you could not sit still?



- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel depressed?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel that everything was an effort?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel so sad that nothing could cheer you up?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

In the past four weeks about how often did you feel worthless?

- a) None of the time
- b) A little of the time
- c) Some of the time
- d) Most of the time
- e) All of the time

During the past 12 months have you thought about hurting yourself on purpose in any way?

- a) Yes
- b) No

During the past 12 months have you hurt yourself on purpose in any way?

- a) Yes
- b) No

During the past 12 months did you ever seriously consider attempting suicide?

- a) Yes
- b) No

During the past 12 months did you make a plan about how you would attempt suicide?

- a) Yes
- b) No



During the past 12 months how many times did you actually attempt suicide?

- a) 0 times
- b) 1 time
- c) 2 or 3 times
- d) 4 or 5 times
- e) 6 or more times

SECTION 8: FINAL COMMENTS

Is there anything else you want to share with us about your experiences around sport and fitness as a trans, gender diverse or non-binary person? (optional) [freetext]

Message received by participants after submitting the survey:

Thank you for completing this survey! Your voice matters and will help in improving our understanding of sport, physical activity, and mental health among trans young people.

If this survey has raised concerns for you, please see your doctor or contact the following organisations for support:

DISCHARGED Weekly online Suicide Peer Support Groups for trans and gender diverse folks.
<https://www.discharged.asn.au/>

QLife 1800 184 527 and webchat <https://qlife.org.au/> (available 3pm - midnight, every day)

Lifeline on 13 11 14 and webchat <https://www.lifeline.org.au>

Beyond Blue 1300 22 4636 and webchat <https://www.beyondblue.org.au>

Suicide Call Back Service 1300 659 467 <https://www.suicidecallbackservice.org.au/>

13 yarn on 13 92 76 <https://www.13yarn.org.au>

Please keep an eye on your email as we will be in touch with you again soon with other opportunities to share your experiences on important health and wellbeing topics. All surveys that are sent to you are voluntary - if you do not want to complete a survey you do not have to. You can opt-out of TRANSform any time by emailing transform-research@unimelb.edu.au

Please do not hesitate to contact us with any questions or feedback: transform-research@unimelb.edu.au