

A woman with long dark hair, wearing a white Asics running jacket with orange accents, stands in a stadium at night. The background is dark with stadium lights visible. The text 'Closing the Gender Exercise Gap' is overlaid in large white font, and 'study report 2023' is overlaid in a smaller, italicized white font below it.

Closing the Gender Exercise Gap

study report 2023

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Executive summary

It's time to Move Her Mind

In the largest global study of its kind on the gender exercise gap, this report presents data from 24,772 survey respondents and 26 focus groups across the world. Commissioned by ASICS and led by renowned academics Dr Dee Dlugonski and Dr Brendon Stubbs, the goals of this study were to identify exercise and sport barriers, motivators and facilitators for women and girls worldwide. We also wanted to explore the factors associated with lifelong exercise and sport participation for women across ages, activity levels and geographies.

Key findings:



Women's physical activity levels are positively linked to their state of mind. The more women move, the better women feel. Women who report exercising regularly are happier, more confident and less stressed.



Almost **two-thirds of mothers cited motherhood as the primary reason they dropped out of doing regular exercise.** Gendered expectations about caregiving and household responsibilities were also shown to negatively impact women's exercise levels.



Running and strength training were the most frequently reported types of activity across age groups, activity levels and regions.



Friends are women's most important exercise influencers in childhood and adulthood. Women are most motivated to exercise by those who are similar to themselves.



Actionable strategies to support lifelong participation in sport and exercise that were identified by focus group participants included:

- Creating **accessible, affordable, safe and inclusive spaces** for women within sport and exercise
- **Educating** everyone about the specific needs of girls and women
- Using visual representations of **real women**
- **Challenging gendered expectations** for girls and women



Yet around the world, **over half of women are not exercising as much as they would like to** and are losing out on the physical and mental health benefits. Employed women, mothers and homemakers were the least active groups of women, while students and retired women were the most active.



Men's perceptions of the challenges women face were different. Men reported body insecurities, fear of harassment and fear of judgement as the top three exercise barriers for women. **Only 34% of men recognised time as a barrier to exercise for women.**



51% of women reported decreasing or stopping exercise as they got older and **all women were facing myriad universal challenges and barriers to exercise** throughout their lifetime.



Over 80% of women endorsed intrinsic and health-related reasons for exercise including physical benefits, self-care, mental wellbeing, staying in shape, managing stress, feeling happy, and enjoying exercise/sport. Very active women were more likely to report exercising because it was 'always part of their life' (71%) compared with inactive women (40%).



The most reported barriers were **lack of time, other commitments and the cost of coaches or trainers.**

Thousands of individuals and grassroots organisations are already making an impact in communities around the world. They are actively dismantling barriers for women in sport, and their actions, big and small, are supporting more women and girls to move.

Now, we must collectively work together to use these key findings to implement changes and create a more inclusive and supportive environment for women to prioritise movement, so they can experience the physical and mental benefits of exercise.



Ever since I was young, I've been lucky enough to have a strong relationship with exercise and sport. Starting with simply playing outside as a child, through competitive sporting experiences, and then becoming a coach – exercise has, for me, always been a natural part of life.

But when I became a coach, I realised it wasn't the same for everyone, especially women. I started to see a difference in how men and women engage with sport and saw that not everyone had the same positive experience I've been privileged to have. It's why I've dedicated my academic career to understanding and promoting physical activity among women, children and families.

Movement is a human right – everyone should be able to find time to take part in some form of exercise. Furthermore, countless research studies have shown that there are both physical and mental benefits from leading an active lifestyle.

So why is there such a gender gap when it comes to taking part in physical activities or getting enough exercise? And, more importantly, how do we close it?

It's time to understand what's holding women back

And so, I've partnered with ASICS, and together, using science and research, we are looking to unearth the reasons for the gender exercise gap across the globe.

Of course, when we set out with this study, we knew the challenge would be complex. There are, after all, many contributing factors holding women back when it comes to exercise. But it's time we identify these factors so we can address them and start working on the solutions that will lead to change.



***Foreword by
Dr Dee Dlugonski***

Start Your Lead

In our mission, *we've been dedicated to*

- **Applying a lifespan approach to our research**, so we could understand early life factors that are likely to impact beliefs and behaviours into adulthood
- **Discovering the barriers** women face in finding positive sporting or exercise experiences
- **Exploring regional** similarities and differences worldwide
- **Using both quantitative and qualitative methods** to capture broad perspectives (quantitative) and to truly listen to women's stories and anecdotes, giving them a voice as individuals who can be part of the solution (qualitative)
- **Engaging with individuals, groups, communities and organisations** to identify solutions that could be implemented at scale to work towards equitable exercise and sport opportunities that facilitate mental and physical health



Over the following pages, you will find the results of this study. I would like to share my thanks to every person who shared their perspectives. Whether taking part in the survey, participating in or chairing a focus group or spreading the word about the study, you have contributed to its success – and you have been invaluable in helping us on the path to driving change.

- Dr Dee Dlugonski

What we did *and why*

The ASICS 2022 State of Mind Study uncovered a gender exercise gap, revealing that women, especially young women, are exercising significantly less than men.ⁱ

ASICS commissioned a study to better understand why and what can be done to help. The study, including all data collection and analysis, was led independently by Dr Dee Dlugonski, Assistant Professor at the Sports Medicine Research Institute, University of Kentucky, and was supported by Associate Professor Brendon Stubbs of King's College London. Both are world-leading researchers in movement and mental wellbeing.

We wanted the study to be broad, including women of all ages, from all regions and with varying degrees of activity. So, as well as comparing results by region or age, we also categorised participants into four activity levels: inactive, fairly active, active and very active women. We also wanted both genders involved – for women to share their own experiences and for men to share their perspectives on gender exercise inequality.

We conducted our research via:



**A global online survey
(for quantitative
insights)**



**Focus groups
(for qualitative
insights)**



ⁱASICS State of Mind Study 2022: <https://www.asics.com/gb/en-gb/mk/smsb-state-of-mind-index-global-results>

In total, 26 focus groups took place around the world, and 24,772 people completed our global online survey across more than 40 countries including:

- > Australia
- > Brazil
- > Canada
- > China
- > France
- > Germany
- > India
- > Italy
- > Japan
- > Korea
- > The Netherlands
- > New Zealand
- > Saudi Arabia
- > Singapore
- > Spain
- > Thailand
- > Malaysia
- > UAE
- > UK
- > USA

24,772 people >40 countries

This makes it the biggest study of its kind. All focus groups were led by independent facilitators, including leading academics and industry experts.

Across our qualitative and quantitative research, ASICS asked participants to explore the barriers preventing them or women they know from regularly exercising, dropping out of exercise, maintaining exercise levels or from progressing in their sport. We also wanted to examine the facilitators, influencers and motivators that were already driving change, either encouraging more women to become active or supporting their existing participation in physical activity.

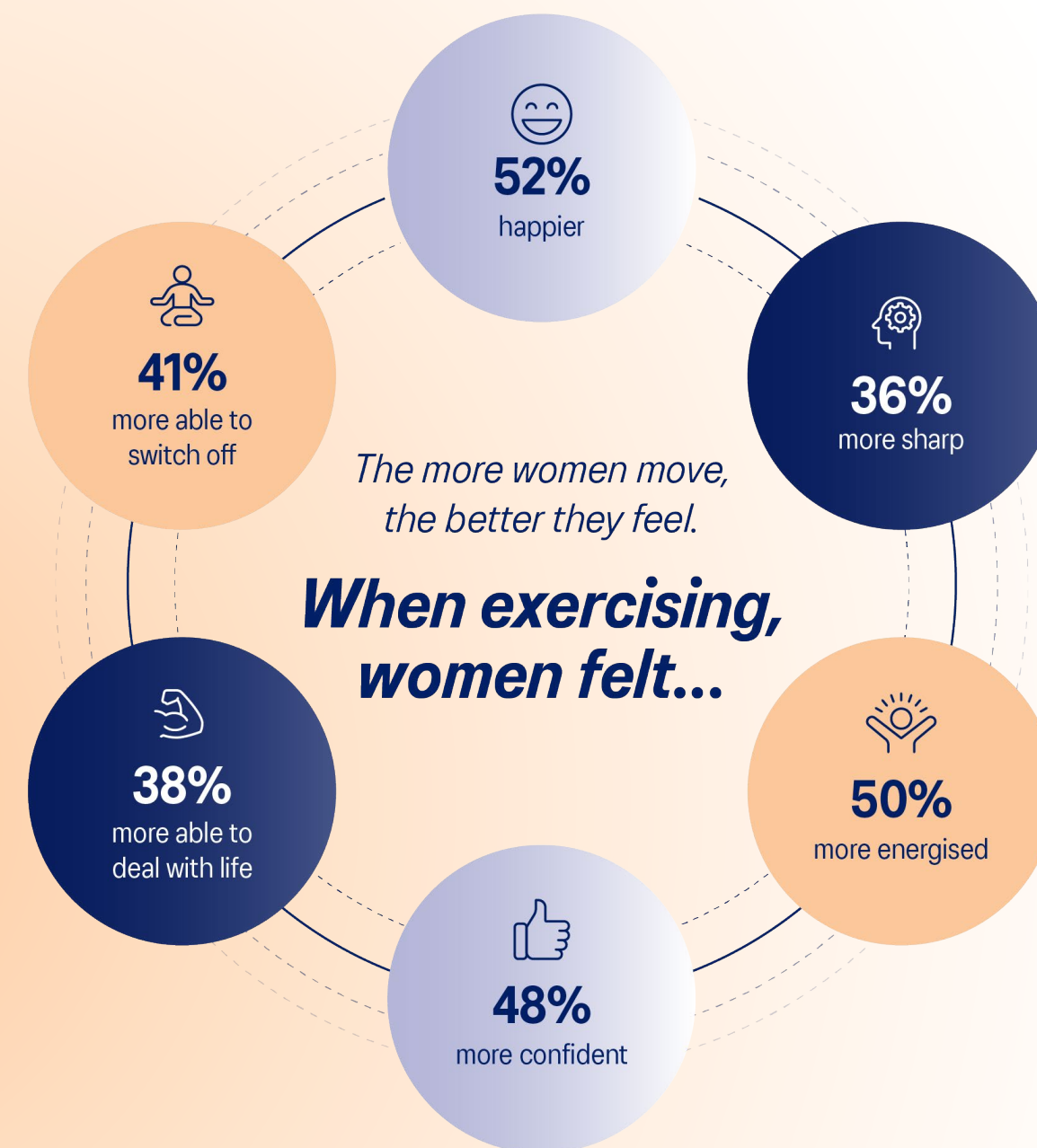


The *study* findings

Women's physical activity levels and their state of mind

There is a direct link between women's levels of physical activity and their state of mind – the more women exercise, the better they feel.

There was a positive correlation between physical activity levels and women's State of Mind scores, with more physically active women reporting higher scores. Conversely, the lower a woman's level of physical activity, the lower her State of Mind score.



Yet, around the world, over half of women are not exercising as much as they would like to, meaning they are losing out on the physical and mental health benefits.

Women reported feeling 52% happier, 48% more confident and 50% more energised when exercising regularly compared with when they were not exercising regularly. They also reported feeling 67% more stressed and 80% more frustrated when not exercising regularly.

Yet, in every corner of the world, women are feeling unsatisfied with their levels of physical activity. Over half of women in the sample (51%) said they were dissatisfied with their current exercise levels and wanted to do more.

Europe represented the region where women were least satisfied with their levels of physical activity, with 53% wanting to be more active – including 62% of women in Italy, 56% in the UK and the Netherlands, and 54% in Germany. Equally, 56% of women in Japan were dissatisfied with their level of exercise – the highest across Asia, while two-thirds of women in India and China were satisfied.

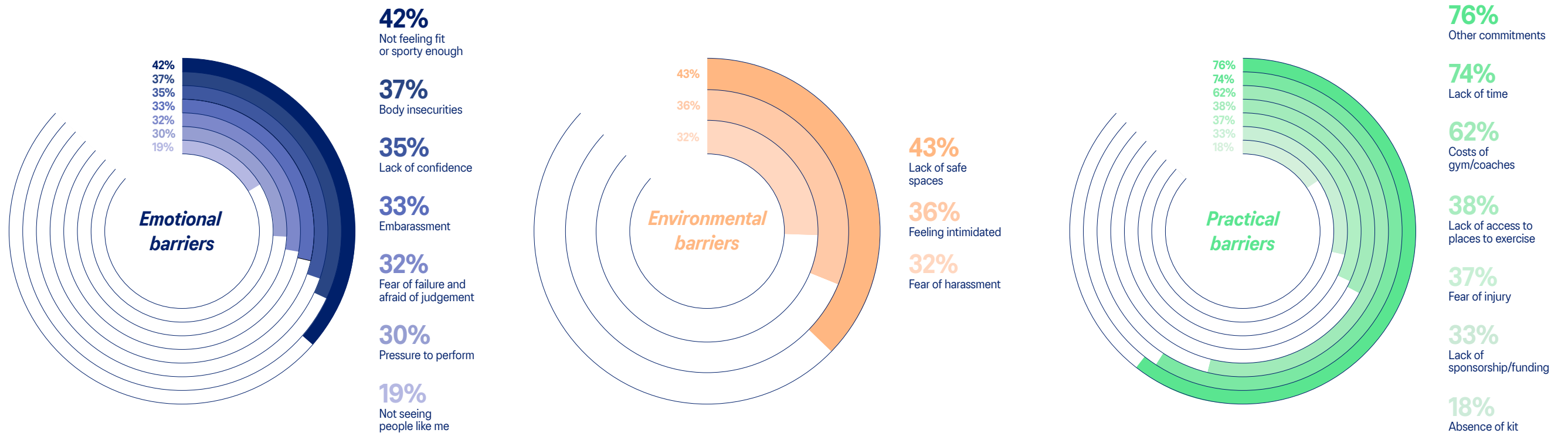
COUNTRY	% NOT SATISFIED/ NOT DOING ENOUGH
Italy	62.1
The Netherlands	56.4
Japan	56.4
UK	56.1
Sweden	54.2
Germany	53.9
Philippines	53.3
Australia	51.4
Spain	50.9
US	50.8
New Zealand	50
UAE	50
Singapore	50.0
France	49.5
Vietnam	49.5
Canada	48
Indonesia	46.2
Brazil	44.9
Thailand	43.8
South Africa	39.6
Poland	38.6
Malaysia	38.1
Saudi Arabia	36.1
India	33.6
China	31.9
South Korea	23.2



Universal barriers to exercise

All women face barriers to exercise during their lifetime...

When we asked women and men to rank and share the barriers and challenges to exercise, we found that all women – regardless of age, location or activity level – are experiencing myriad barriers that prevent them from exercising.



The top five barriers were

Other commitments and time

Too many other commitments (76%) and not enough time (74%) were the most common obstacles preventing women from exercising.

Cost

The high cost of a personal trainer (62%) and gym membership (59%) were two common barriers to exercising for women across ages, locations and activity levels.

Unsafe or unwelcoming environment

43% of women said a lack of safe spaces and environments was putting them off from exercising. Africa and Latin America were the regions where this barrier was reported most widely, with 65% and 52% of respective respondents citing a lack of safe spaces preventing them from exercising.

Not feeling fit or sporty enough

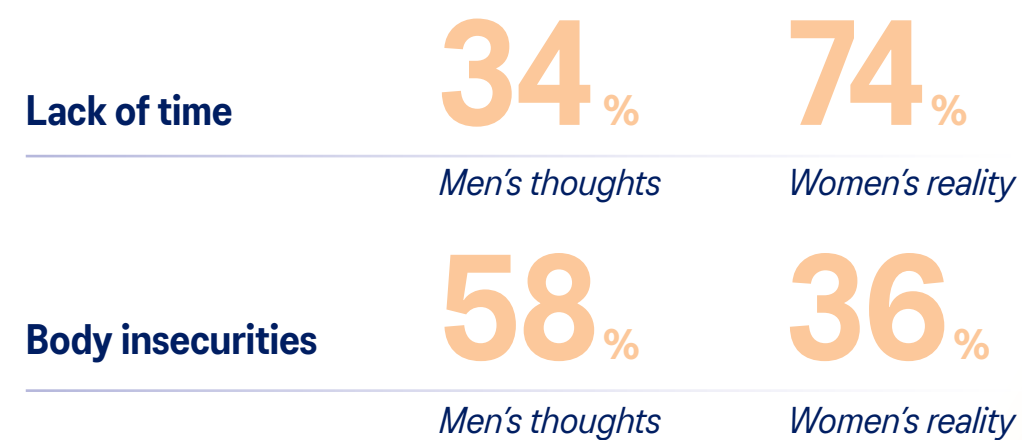
42% of women felt they were neither fit nor sporty enough to exercise. While this feeling was most widespread among inactive women (59%), it was still common among the fairly active (51%), active (41%) and very active (32%) groups.

Lack of access to exercise equipment and/or spaces

38% of women said that they lacked access to the relevant equipment or spaces to exercise, with younger women (45%) representing the most common group to cite the issue.

...but men's perceptions are strikingly different

Men have a very different perspective of the barriers preventing women from exercising. When asked what they thought were the most common issues for women, only 34% of men responded with a lack of time despite three-quarters (74%) of women citing the issue. Not only this, but 58% of men thought body insecurities were the leading reason preventing women from exercising compared with only 36% of women. Of the top five barriers to exercise perceived by men, only one (cost) actually featured in the list of most common obstacles reported by women.



This indicates a disparity between men's perceptions and the daily reality felt by billions of women around the world. Men being more aware of the everyday challenges and barriers impacting women's activity levels may help them to better support the women in their life to exercise and, subsequently, help close the gender exercise gap.

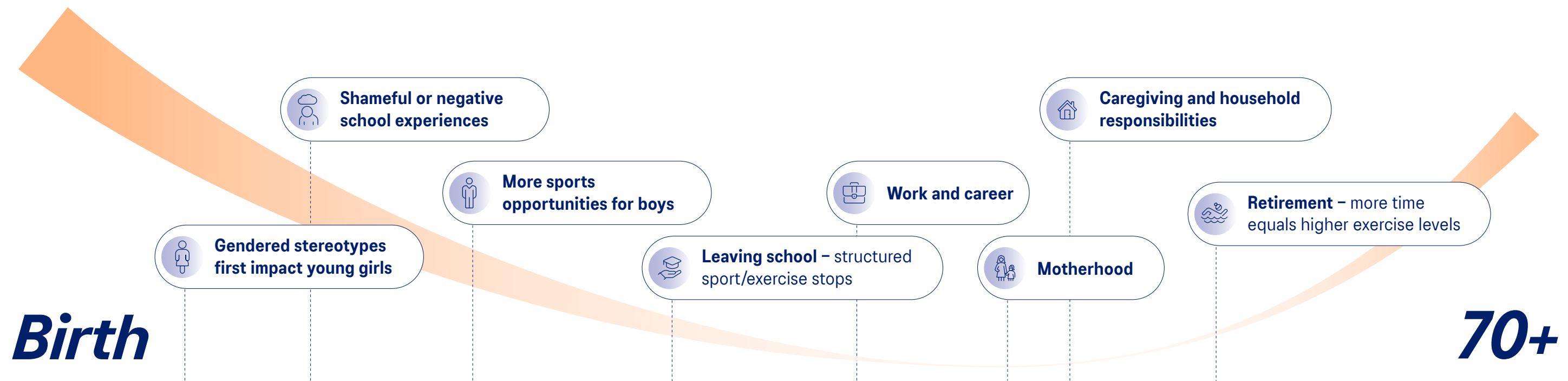


'What makes it most difficult for me are the day-to-day obligations – it's the children, it's the house, the work; there's always a lot to do and I'm pushing it off for later, tomorrow I go, tomorrow I go and that tomorrow never comes. In short, I don't do it. I really want to do it, to incorporate this fitness side and do more exercises, but I can't.'

Focus Group participant – Latin America

Lifelong experiences with exercise and sport

Women are dropping out of/decreasing exercise throughout adolescence and early adulthood with over half (50.7%) of women reporting their exercise levels reduced as they grew up.



This drop-off rate is fuelled by gender expectations.

51%

of women report **decreasing or stopping exercise as they grow up**, and all women **face universal challenges to exercise throughout their lifetime.**

Not having the time (59%) and **work** (35%) were the two leading reasons for dropping out of exercise, highlighting how other commitments and women's careers are forcing them out of leading an active lifestyle. Additionally 12% of women also cited **boys being given more sport opportunities than girls** as a reason their activity levels decreased as they grew up. Focus group participants also spoke about the detrimental impact having **negative or shameful sport experiences at school** on their activity levels later in life.

Focus group participants frequently described **societal expectations and gendered roles** that played a crucial role in stopping exercise, particularly during the key career and childbearing years.

Women described how **gendered stereotypes**, including that women should bear the majority of childcare, family caregiving and household responsibilities, impact their levels throughout their lifetime.

'The message I got from my mom was... dad goes out and does his sports thing and my mom will do a videotape at home and then try all the diets.'

Focus Group participant – USA

Quantitative data support this finding, with almost two-thirds (61%) of mothers citing motherhood as the primary reason they dropped out of doing regular exercise or sport altogether. Overall, homemakers were the second least active group of the entire sample (slightly ahead of employed women), with activity levels reaching their lowest during the primary childbearing and child-rearing years for mothers. This highlights the impact of gendered expectations and pressures for women to be the primary caregiver are having on their exercise levels and, as a result, their state of mind.

'The biggest thing for me was the birth of my child. I had created something that I couldn't take my eyes off. Does that mean I have to be the one to watch him all the time? It's probably not the case, but it has become very difficult for me to take time off and go somewhere else to exercise by myself.'

Focus Group participant – Japan

With over half (54%) of surveyed men believing women dropped out of exercise because they don't enjoy it, there is a need for educating men on the reality of the barriers women face so they can support the women in their lives to exercise more.

Despite this, over half of men (55%) do believe women exercise less and participate in fewer sports than men, and almost two-thirds (65%) agree there is a gender gap in exercise and sport. It is encouraging that 80% of men agree they have a role to play in supporting girls and women to participate in exercise and sport.



Yet, women are

breaking stereotypes

and empowering themselves and others

Despite the countless barriers and challenges preventing women from leading an active lifestyle, our study showed that many women are exercising and empowering themselves and others to move more.

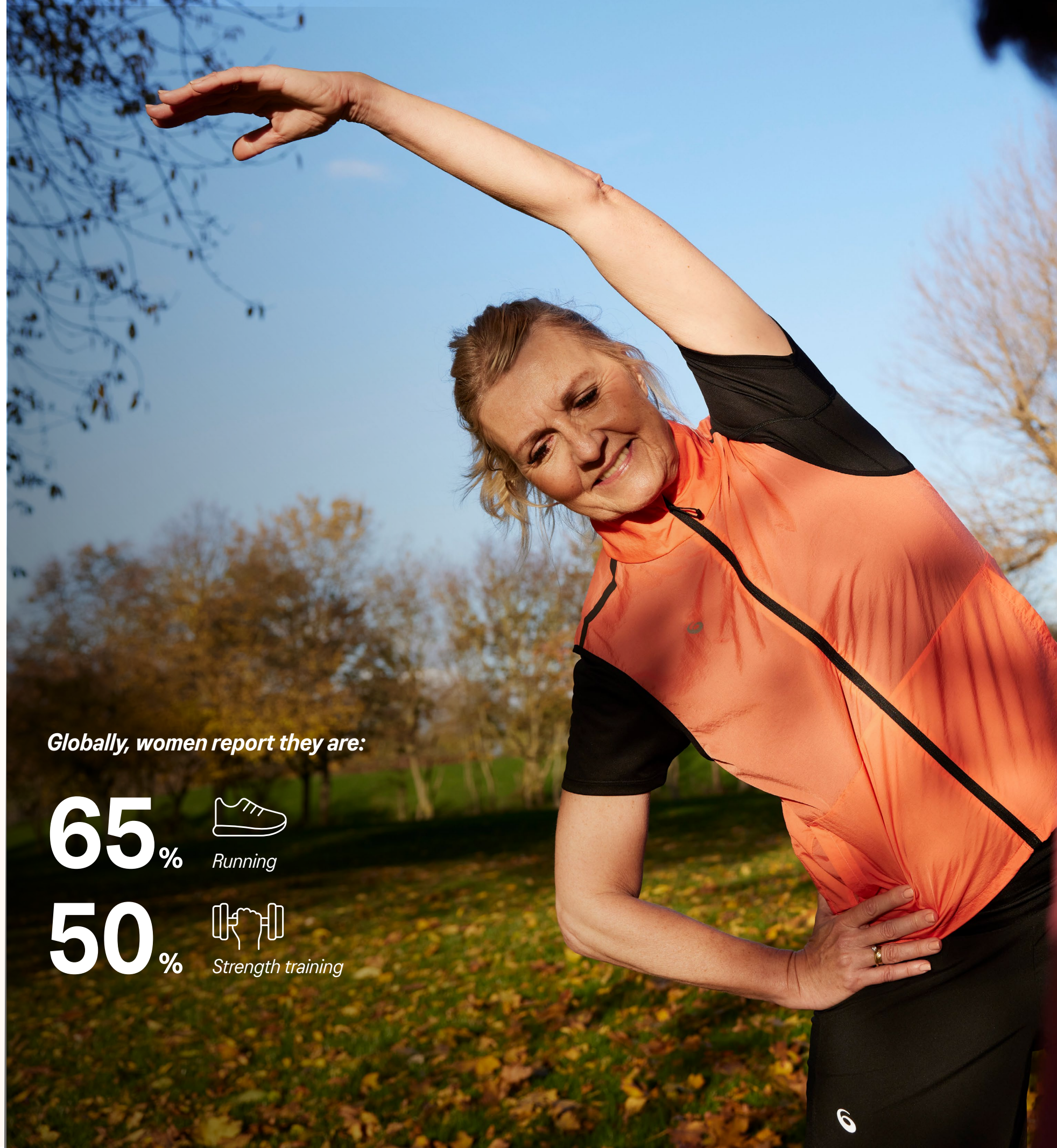
Globally, 65% of women report running, and 50% are strength training – including a significant number of older women, 40% of whom are lifting weights, a sport traditionally dominated by men.

While the sample of those older or retired was relatively small, the study showed that on average, older and retired women are more active than their younger or employed counterparts. The study also found women aged 61 and over to be reporting the fewest challenges to leading an active lifestyle, owing to barriers such as work and other commitments often reducing with age, giving them more time to exercise.

Globally, women report they are:

65%  Running

50%  Strength training



Motivators *and facilitators*

Women are exercising for their mental and physical health rather than aesthetics...

When we asked women to rank and share why they currently or used to exercise, we discovered that women have a wide range of reasons for engaging in exercise and sport. However, they are overwhelmingly more likely to exercise for their mind and body rather than aesthetics.

In fact, the most common reasons they gave for exercising were:

96%

Physical health
benefits

95%

Self-care
benefits

92%

Mental health
benefits

'I remember vividly standing in the shower after that very first run, which blew my mind. I was like 'okay I need to do this again because it made me feel EPIC'. I was so proud of myself. I exercise for the way it makes my body FEEL rather than for any aesthetic reason.'

Focus Group participant – UK



More than 50% of women said they exercise to help manage their stress levels, feel happy, establish routine and structure, and improve their quality of sleep.

Why exercise?

Manage stress levels

Feel happy

Routine

Structure

Improve quality of sleep

Motivation for exercise tends to differ depending on a woman's current level of activity. We found that active women find a wider range of meaningful benefits than those who are less active. These benefits, in turn, could be why they are more likely to continue to exercising.

Having regular and positive experiences of exercise as a child was also a contributing factor to leading a physically active lifestyle later in life.

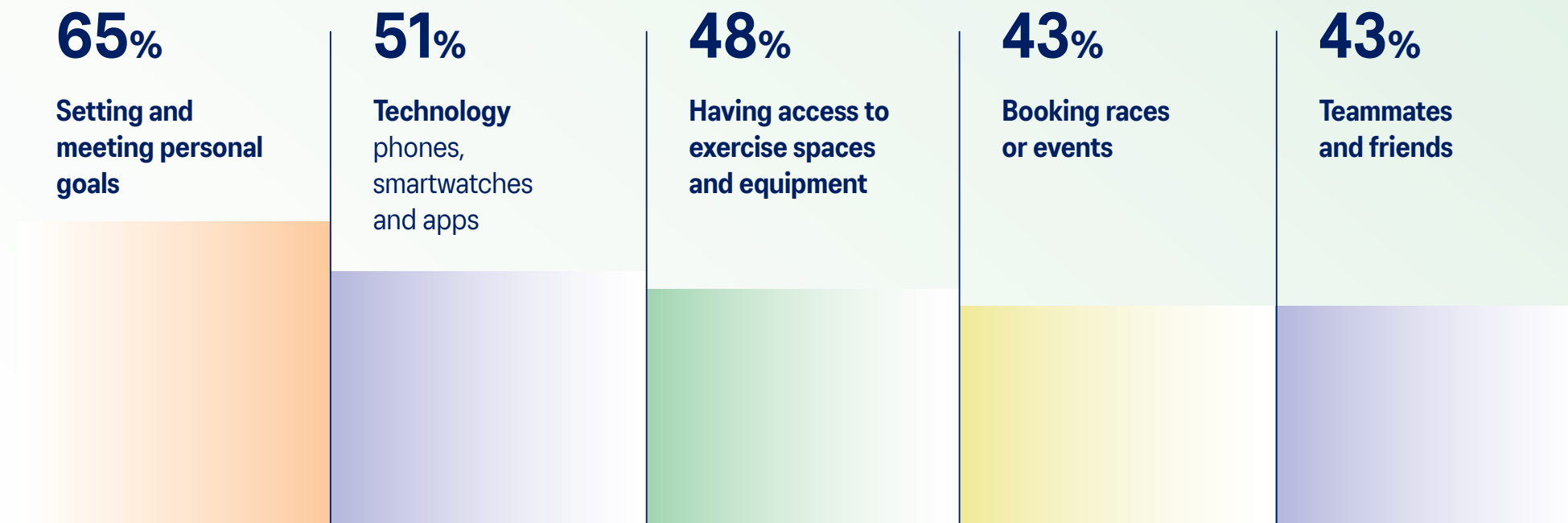
Older women who regularly exercise, for example, are more likely to report high levels of physical activity if it's something that has always been a part of their life, in contrast to inactive women (71% versus 40%).

Mental health issues and physical health scares were the life events most likely to result in women kick-starting new, regular exercise routines. This was the same across all ages and all regions. Furthermore, the study revealed that women who have maintained regular levels of physical activity throughout their life reported higher State of Mind scores compared with those who haven't.



Supported by technology and meeting personal goals...

When it came to the impactful facilitators behind exercise, the study found that the following things encouraged women to embrace physical activity and/or kept them going:



Interestingly, all of these facilitators were universal across all ages and all regions.

On the flip side, workplaces and employers ranked the lowest when it came to exercise facilitators. Again, this was observed across all ages and all regions.

Given this, and the finding that work and other commitments are often barriers to exercise, employers could consider what more they could do to help encourage and facilitate movement during the working day. This is especially pertinent as, worryingly, employed women are the least physically active in comparison to women who are students, retired or self-employed.

The importance of inclusion, acceptance and representation



Exercise has an image problem that is off-putting and intimidating for many women.

The study found that a major barrier preventing inactive women from exercising was a feeling of being judged or not being accepted or included by the exercise industry. Forty-one percent of women not currently exercising stated they were embarrassed about how they would look exercising, while over a third (36%) feared judgement from others. **A staggering six in ten (58%) women not exercising also reported “not feeling sporty enough” to start doing so.**

Focus group participants stated that they don't see people who look like them are at a similar fitness level.

'I don't see women like me; it's not real. When you look at some brands, it's almost like you can see they've been tokenistic. It's good to see brands using stronger-looking women, but again, that's not achievable for most of us. This isn't just about body shape and diversity; it's about using normal people. Normal people like me. Showing that I can do it too.'

Focus Group participant – USA

This feeling was not unique to inactive women. Active women – those who exercise at least 150 minutes per week also cited a lack of representation as a barrier, with a fifth (19%) saying they do not see women who look like them exercising, while one in six (17%) note they do not feel represented by sports brands.

'I work mainly with women 50 plus, and they all say the same thing – that they never see themselves doing any of these things in any marketing.'

Focus Group participant – UK

There was a widespread desire from women across all ages, regions and activity levels to see people who look like them, and who are at the same level, represented by the industry in sports adverts and marketing.

'I want to see more people from my kind of community. Let's make sure we're diverse enough and representative enough because seeing one kind of narrow model of what athleticism looks like can be discouraging.'

Focus Group participant – USA

The cycle of low self-confidence must be broken

Women in the focus groups spoke about feeling unwelcome or intimidated, or how a lack of representation within the industry is fuelling a cycle of low self-efficacy (a lack of self-belief to achieve goals) and low self-confidence, further preventing them from taking up exercise.

Inactive women were particularly affected by these feelings, with almost half (45%) saying they lack the confidence to exercise, while over a third (38%) feel too intimidated to start.

45%

lack the confidence to exercise

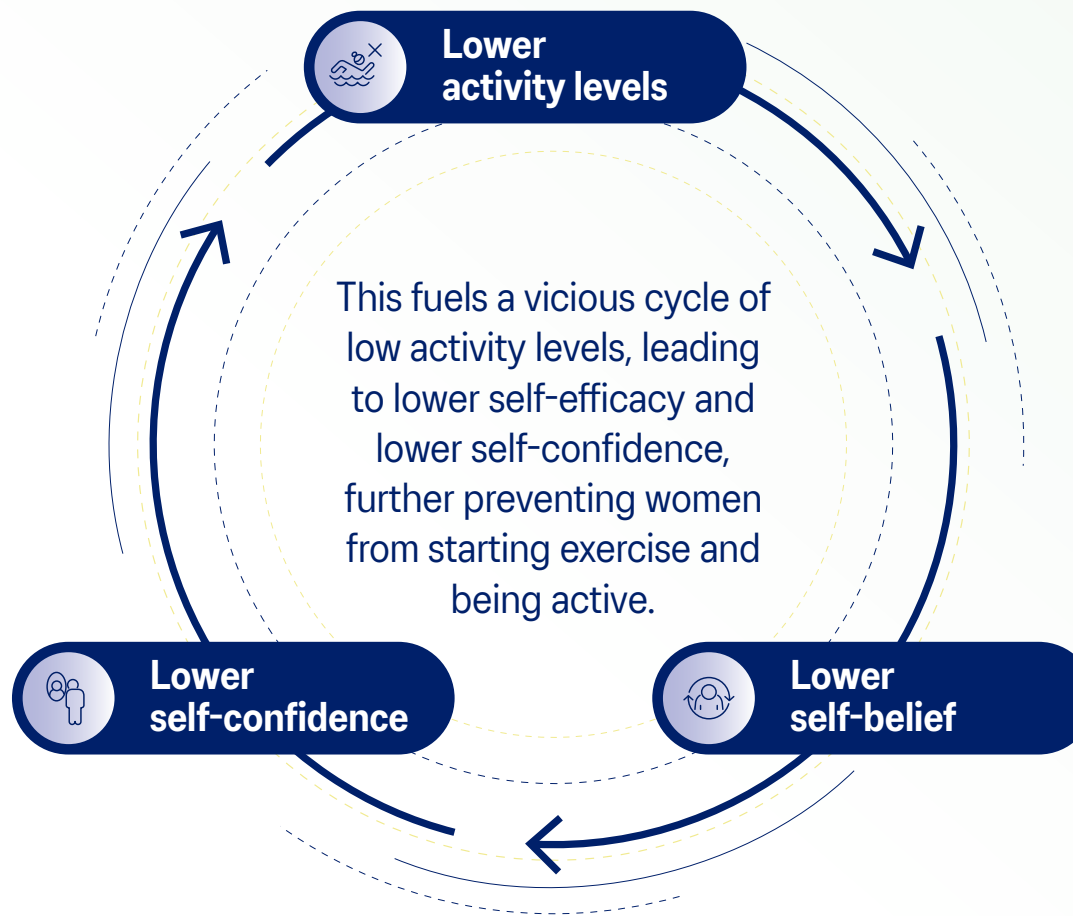
38%

feel too intimidated to start

What's more, recollections of negative, intimidating or shameful experiences of exercise – such as its use as a form of punishment when growing up or having intimidating or unwelcome experiences in gyms – further fuelled this vicious cycle of confidence.

Participants in the focus groups criticised societal beliefs about being a beginner or stopping and starting exercise and sport throughout their lifetime.

We know that the more women move, the better they feel. Yet, 45% of inactive women say they lack the confidence to exercise.



This vicious cycle must be broken.

'Noone ever told me I could be average at sport. At school, noone was like, 'Oh, do this sport... it doesn't matter if you're not going to make the team'. So, I had that mentality of unless I'm gonna be competing at county level, there's no point picking this up. As a girl, you had to choose between being sporty or academic; boys managed to do both.'

Focus Group participant – USA



'Some of my Singaporean friends were maybe a little bit chubby at school. So, at lunchtime, they were made to run around. The shame around that has been associated with exercise ever since. It makes it harder to get into it as an adult.'

Focus Group participant – Singapore





Women's Exercise Influencers

Friends and women like themselves are women's biggest influencers...

When we asked women to share their exercise influencers, we found that in a society dominated by celebrity or influencer culture, women are most likely to be influenced into taking up exercise or a new sport by those much closer to home – their friends.

And this has been the case throughout their lifetime.

36%

said a female friend encouraged them to take up exercise or a sport **in their childhood**.

33%

at their current age, still cite their friends as being the reason they've become active.

From a regional perspective, these trends were reflected further with over half (57%) of women in China, 48% in Saudi Arabia and 47% in the UAE stating that female friends were their primary exercise influencers, underlining the power of exercising together in these regions.

This peer influence is further evidence that women want to see others like them, rather than celebrities or models, taking part in activities or exercise before they try it themselves.

This is further supported by the numerous focus group participants who mentioned the vital impact of local grassroots organisations and individuals in encouraging and inspiring women of all ages and abilities to participate in exercise or sport within their community.

Most common influencers on exercise or sports



Friends



A parent in childhood



Romantic partners in adulthood

After friends, the second-most common exercise or sports influencers for women were parents in childhood or romantic partners in adulthood. These were an even mix of males and females, showing that both genders can have an impact on women's participation in sport.

Interestingly, younger women (18–31) were twice as likely to name their parent as an exercise role model during their childhood, compared with women aged 50 and above. This could suggest a generational shift, perhaps indicating that parents have become more supportive or encouraging of their daughters exercising than they have been in previous generations.

Finding solutions

Women are driving change, but while progress is being made, more can be done.

Participants in the study shared their thoughts and suggestions on what could help break down barriers to exercise. Women noted that making movement more accessible, inclusive and recognised in all forms, while challenging society's gendered expectations, would help to support them in moving more.

In summary, they identified four key areas to bring about meaningful change:

Make movement more accessible

We need to make exercise more practical and welcoming, centred around women and their needs. This includes providing childcare, fitting around work or other commitments and being fun, affordable and safe. Let's make exercising easier for women.

Make movement more inclusive

We need to make exercise more inclusive for all women, regardless of age, race, size, background or activity level. We need to maximise the role that friends, family and community can play in inspiring women to move. Let's make exercising more inviting and judgement-free for women.

Challenge gendered expectations

We need to improve education, challenge female stereotypes and accelerate societal change. Let's empower women and girls to have the time, freedom and support to move.

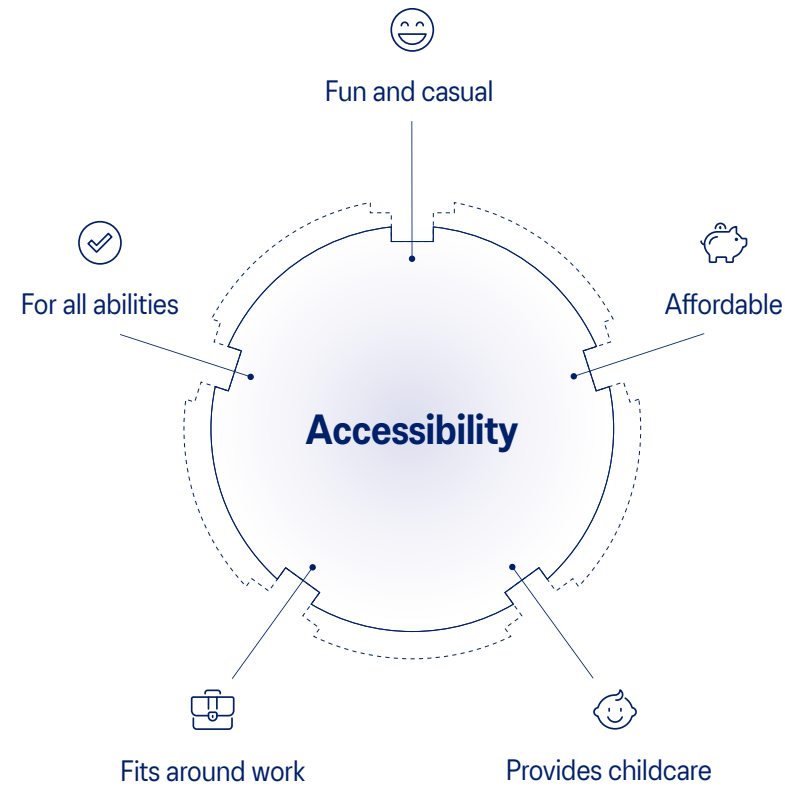
Re-define what movement means

We need to change the narrative and celebrate all forms of movement, recognising it's much more than gruelling hours, reps or distances that can have a positive impact. Let's make being a beginner, average or excellent at exercise all OK for women.

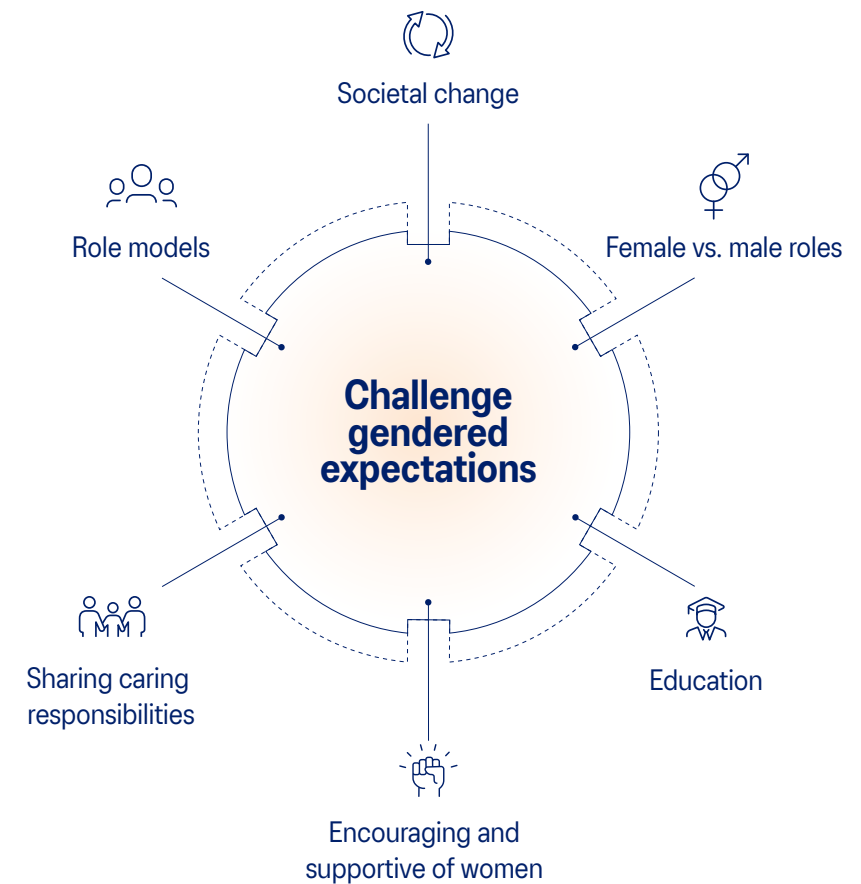
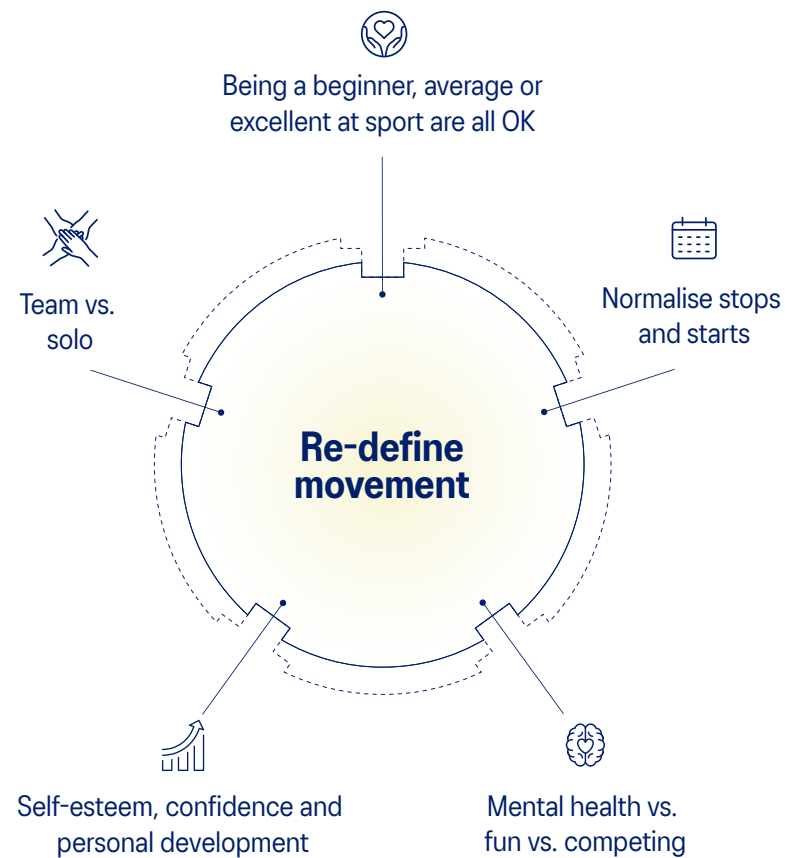


'A lot of races are for professionals, but there could be ones with goals that are easier to accomplish. Running is not all about the race.'

Focus Group participant
- China



Actionable strategies suggested to support women and girls to move more include...



Conclusion

by Dr Dee Dlugonski

As you will have seen, the gender exercise gap is a complex challenge. It did not develop overnight, and it will not be solved with one single solution.



For me, the key takeaways from the study's findings are:

- > **No matter their age, an active lifestyle can lead to more positive mental wellbeing.** We need to do more to support exercise and sporting opportunities for women at all phases of their lives.
- > **Regardless of their level of activity, women are facing barriers to being as active as they would like to be.** Therefore, solutions need to support individuals across the full spectrum, from inactive people through to elite, professional athletes.
- > **Many women reported experiencing gendered expectations that impacted the time they had free to either exercise or play sport.** Caregiving roles, such as caring for children, elders or conducting other household responsibilities, were particularly salient barriers reported by women in the quantitative and qualitative data.
- > **Friends, partners and parents have a significant influence on the amount (or lack) of exercise girls and women engage in during their everyday lives.** Many said these relationships directly impact the amount of time they set aside for exercise, their attitudes towards exercise or their choice of sporting activity.

Ultimately, this study has provided significant insights for understanding the gender exercise gap. Conducting the study has shown the power of giving women a voice so we can understand the barriers that are holding them back from exercising as much as they would like. Further to that, it has given those who want to drive change an opportunity to come together as a group and use the insights to build the most effective solutions.

We all have a role to play in doing just that, and I've been overwhelmed by the number of people who have voiced their eagerness to be part of the solution.

So, now's the time to start making changes. It's time more women and girls experience the positive physical and mental benefits of exercise. Let's close the gap, together.

It's time to Move Her Mind.

Appendix: Methodology

Study Background

Results from the ASICS 2022 State of Mind Index identified a gender exercise gap, with women, especially young women, exercising significantly less than men. ASICS commissioned the Move Every Mind study to better understand why the gap exists and to identify actionable strategies to close it. The study was led by Dr Dee Dlugonski, Assistant Professor at the Sports Medicine Research Institute, University of Kentucky, and was supported by Associate Professor Brendon Stubbs of King's College London. Both are world-leading researchers in movement and mental wellbeing.

Purpose

The goals of this study were to 1) identify exercise and sport barriers, motivators and facilitators; 2) explore factors associated with lifelong exercise and sport participation for women across ages, activity levels, and geographies; and 3) understand women's positive and negative experiences with exercise and sport.

Study Design

This mixed methods study included a global online survey (quantitative) and focus group interviews (qualitative). The online survey was delivered via Qualtrics. Focus groups occurred in-person or via video conferencing software. Focus group interviews were led by a member of the research team, leading academic or industry facilitators who received training from the research team. Data collection occurred from June 2023 through September 2023.

Participants

Individuals who were at least 18 years of age were invited to complete the online survey regardless of their gender, age, geographic location or level of activity. Focus group participants were invited by facilitators, study partners or members of the ASICS team.

The final sample included 24,772 participants (n = 16,655 female) who completed the global online survey and 187 focus group participants who were part of 26 focus groups. Individuals across more than 40 countries (including Australia, Brazil, Canada, China, France, Germany, India, Italy, Korea, Japan, the Netherlands, New Zealand, Saudi Arabia, Singapore, Spain, Thailand, Malaysia, United Arab Emirates, the United Kingdom and the USA).

Online Survey

The survey was designed by highly experienced academics and has received ethical clearance from Kings' College London. It asked participants to select the gender they best identify with, from the options of 'female', 'male', 'non-binary/non-conforming', 'transgender' and 'prefer not to say'. This follows methodology that was recommended by the Pew Research Center, in which gender identity is used rather than assigned sex at birth.

16,655 of people who completed the survey identified as female – they are referenced throughout as women. 7,536 identified as male and are referenced as men. 129 respondents identified as 'non-binary/non-conforming' and 41 as 'transgender'. Where their views have combined with those who identified as 'male', we have referenced the sample as non-female.

The survey asked female participants to answer questions about their demographic characteristics (age, country of residence, employment, education and number of children), emotional and cognitive function, physical activity level (days physically active over the last week and minutes of physical activity per day), regular exercise participation (at least once per week over the past year), satisfaction with current exercise levels, types of exercise and sport, reasons for stopping exercise as an adult and as a child/adolescent, reasons for participating in exercise or sport, barriers and facilitators to participation, and people who motivated or influenced you the most to do exercise or sport in childhood and adulthood.

Non-female participants were asked to answer questions about their demographic

characteristics, roles engaged with girls and women, perceptions of exercise and sport barriers for women, perceptions of the gender exercise gap and their role in closing the gap.

Focus Groups

All focus group interviews were conducted using a standardised discussion guide that was developed by the research team. The questions were designed to explore participants' own positive and negative experiences with exercise and sport, their perceptions of barriers and challenges that girls and women experience in exercise and sport, and possible solutions for closing the gender exercise gap.

Measures – Female participants

State of Mind Score

The ASICS State of Mind Score assigns a score of between 1-100, made up of 10 emotional and cognitive metrics: Composure, Resilience, Positivity, Contentment, Relaxation, Confidence, Alertness, Calmness, Focus and Energy. Participants completed 6 items about their emotional and cognitive function and 4 items about their mental ability over the last month on a scale from 1 (not at all) to 5 (average) to 10 (extremely). Scores were summed to create a total score ranging from 10-100, with higher scores indicating greater emotional, cognitive and mental ability.

Physical Activity

Participants were asked to report the number of days in the past week that they were physically active, defined as 'sustained movement that raises your heart rate, such as exercise or sport'. Participants who reported at least one day of physical activity were then asked to report the number of minutes per day of activity. These questions were previously used in the ASICS 2022 State of Mind Study. Weekly minutes of physical activity were calculated by multiplying the number of days of activity by the daily number of active minutes. Daily minutes of physical activity were truncated to 180 minutes. Participants were categorised into the following activity levels using weekly physical activity minutes: inactive (<30 minutes), fairly active (30-149 minutes), active (150-299 minutes) and very active (300+ minutes).

Current Exercise

To assess satisfaction with current exercise levels, participants were asked, 'How satisfied are you with your current exercise levels?'. Possible responses included, 'I am doing as much exercise as I would like to do', 'I am doing too much exercise', 'I am not doing enough exercise' or 'exercise is not important to me'.

Regular exercise was measured with 1 item, 'Do you currently engage in exercise or sport regularly (at least once a week on average over the past year)?'. Participants who responded 'Yes' were asked to describe their participation as one of the following: 'I currently exercise regularly, but don't race or compete', 'I currently exercise regularly and used to race or compete', 'I'm a recreational athlete/sportswoman', 'I'm an amateur athlete/sportswoman' or 'I'm a professional athlete'. Participants who reported not currently engaging in exercise or sport regularly were asked if they had ever participated in exercise or sport regularly during their adult life. Participants who answered 'Yes' to this item were asked to describe their previous participation in exercise or sport using the options above.

Participants selected exercise and sports that they participated in from a list of 25 options and had the opportunity to write in any exercise or sport that was not included on the list.

Lifetime Exercise/Sport Participation

Participants who reported engaging in regular exercise or sport at any point in their life were asked to identify 'Why they stopped exercising regularly/participating in sport' from a list of 16 reasons that included lack of time, becoming a mother, starting work/changing jobs, injury, lack of funding or sponsorship, among others and also allowed participants to write in other reasons.

All participants were asked to respond 'Yes' or 'No' to the following question, 'As you developed/grew up, did your level of exercise or sport decrease?', to identify individuals who had stopped or decreased exercise/sport during childhood or adolescence. Participants who responded 'Yes' were then asked to identify reasons for the decrease.

Survey respondents were asked to select up to three people who motivated or influenced them most during their childhood/adolescence. Then, participants were provided with the same list of individuals and asked to select up to three people who most influenced their current exercise or sport participation.

Reasons for Exercise

Participants indicated their reasons for exercising regularly by responding to 14 items on a 5-point scale from 'Strongly disagree' to 'Neither agree nor disagree' to 'Strongly agree'. Sample items included 'to feel happy', 'to manage stress', 'because I enjoy exercise/sport' and 'to be social/part of a team'. Participants who somewhat or strongly agreed with an item were considered to endorse that reason for exercise.

Exercise Facilitators

Participants were presented with a list of 8 possible exercise facilitators that included 'having a coach/trainer', 'phone/app/smartwatch', 'workplace incorporating exercise into the working week/helping subsidise' and 'having access to local sports grounds/facilities/safe running trails'. Participants were asked to check all items that encouraged, motivated or facilitated their exercise.

Exercise Benefits

Exercise benefits were assessed by presenting participants with a set of 9 items and asking participants to first report how they felt when they have been able to exercise regularly and then to report how they felt when they were not able to exercise regularly using the same 9 items. Participants responded on a 5-point scale from 'Strongly disagree' to 'Strongly agree'. Items included 'happy', 'confident', 'focused', 'stressed' and 'frustrated'.

Exercise Barriers

To assess barriers to exercise, participants responded to 25 items about factors that had ever stopped or made it difficult to maintain exercise levels or to progress within their sport using a 5-point scale that ranged from 'Strongly disagree' to 'Strongly agree'. Sample items included 'too many other commitments', 'absence of the right kit', 'lack of access to relevant equipment or places to exercise', 'fear of harassment', 'lack of confidence', 'coaches/trainers cost too much' and 'pressure to perform'. Participants who responded 'Somewhat' or 'Strongly agree' were categorised as reporting that exercise/sport barrier.

Measures – Non-female participants

Survey participants identified all roles they held related to girls and women, e.g., sports coach, exercise trainer, teacher, married to, parent, sibling, etc.

Participants were then asked whether they found girls dropped out or stopped doing sport/exercise as they grew up. Participants who responded 'Yes' were asked to identify reasons from a list that included the following items, 'they don't have the time', 'body insecurities', 'teachers don't encourage them', 'injury', etc.

Non-female participants were asked 'What do you think stopped/put women off from exercising' using the same list of barriers that were presented to female respondents on the same 5-point scale. Participants were asked to respond 'Yes' or 'No' to 'Do you think you have a role to play in encouraging/supporting women to exercise regularly'. Participants who responded 'Yes' were provided with the opportunity to enter an open-ended response to 'What role do you think you can play?'.