

WOMEN IN TRAIL RUNNING

AOTEAROA 2015-2024

An analysis into overall participation rates for women in Aotearoa trail running

Over 60,000 individual race
results analysed

22 trail events and 61 trail
races

Distances from 20km up to
160km

Aotearoa trail running events
only



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What is this analysis about?

Over the past decade, trail running has seen a remarkable surge in popularity across New Zealand, drawing athletes and enthusiasts to explore the country's diverse and rugged landscapes. Among the most significant trends in this growing sport is the increasing participation of women. From 2015 to August 2024, the presence of women runners in trail races has steadily evolved, reflecting broader societal changes and the growing appeal of trail running as a sport that offers both physical challenge and personal fulfilment.

This analysis delves into the participation trends of women in trail running over the past ten years, using comprehensive race results data from trail races held across Aotearoa New Zealand. By examining data from 2015 to August 2024, this analysis provides a detailed overview of participation rates for women and highlights key patterns and disparities in representation across different events.

Through a careful analysis of participation rates, race distances, terrain types and social media presence, this piece seeks to shed light on the evolving role of women in trail running. It will also explore the barriers that have been overcome and those that persist, as well as the initiatives that have supported and encouraged greater participation. By understanding these trends, we can gain valuable insights into the dynamics of gender in trail running and appreciate the progress made towards greater inclusivity in this challenging and rewarding sport.

Terminology, Methodology etc

- **Gender:** This is the gender specified by a participant during race sign up.
- The difference between a **race** and an **event**: For the purposes of this analysis, an **event** refers to the overall gathering or competition, which often includes multiple **races** of different distances. For example, the WUU2K **event** in Wellington features several **races**: a 65km ultra-marathon, a 45km marathon, and a 21km half marathon.
- **Participation counts:** I have avoided using participation numbers in this analysis. The reason is due to the fluctuating number of events each year. For example, from 2020-2022, a number of events were cancelled due to Covid-19, so participation noticeably drops across these years (particularly 2022 with the cancellation of Tarawera Ultra). Due to this, proportions are used (i.e. 'x' event had 40% women participating).

What events are included?

There are some set criteria for an event to be included in this analysis:

- *Must have had at least four events in the ten year period, and the results must be available / easily readable.*
- *Races must be longer than 19km to be included*
- *Event must have at least 200 participants*
- *Must be a trail event and be based in Aotearoa*

While some events are named in this study, I have decided against publishing a full list. This is because the purpose of this analysis is to provide insight into what is working / not working so well in the trail running scene in Aotearoa, and is not intended to be a 'name and shame' list or anything remotely similar. I organise a small event myself (and assist in a larger one), and I know the effort and financial risk that goes into putting on a trail running event. If you feel any information included in this analysis is unsatisfactory regarding your event, please contact me at info@paincave.co.nz.

With that being said, 22 events across ten years have been included. This amounts to over 60,000 individual race results.

INTRODUCTION

The past decade has witnessed a notable rise in the popularity of trail running in New Zealand, but beneath this growth lies a striking gender disparity. This analysis delves into the participation trends of women in trail running, revealing both progress and persistent barriers. It highlights what areas are working and what needs improvement.

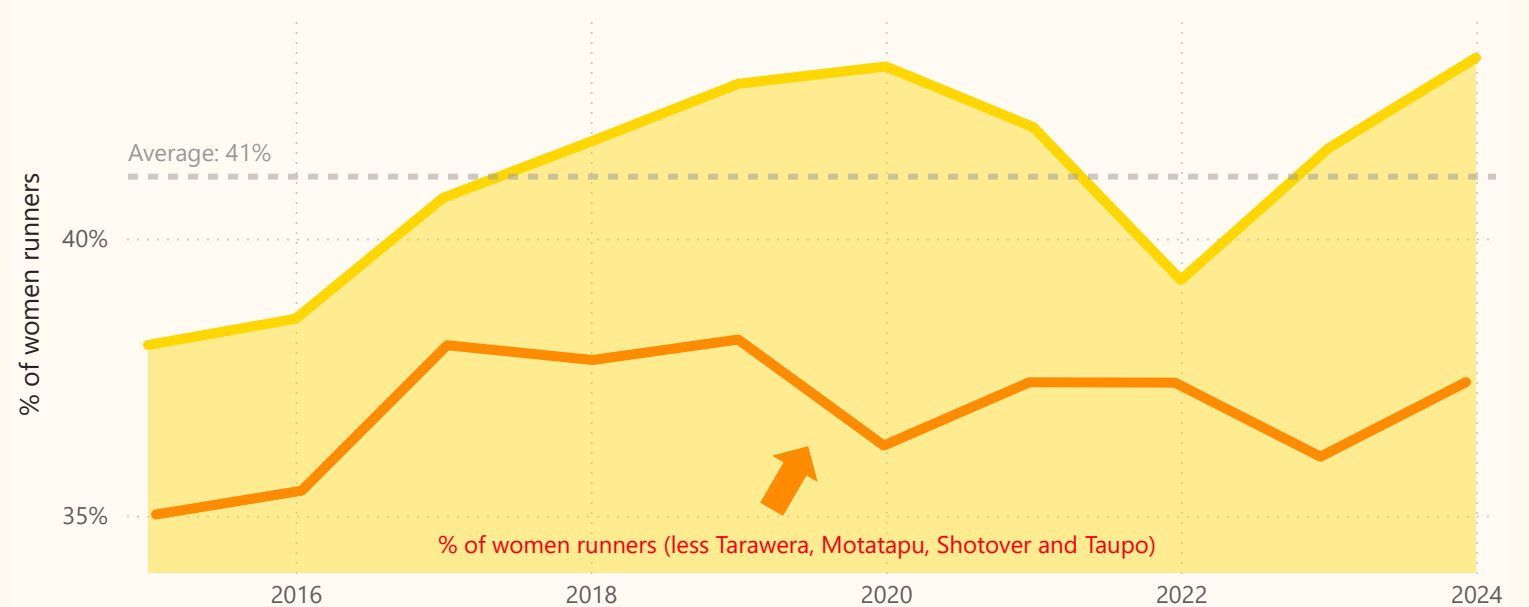
While highlighting the poor representation is important, it isn't the sole purpose of this analysis. There are several races that women are fairly represented in. These races tend to be below marathon length and runnable (not too steep or technical). I dig into what is working well, and what common themes there are in the events and races that women are participating in.

Key Findings:

- Only **41.6%** of all trail runners in New Zealand from 2015-2024 were women, with participation rates dropping further in ultra-marathons and races with steeper gradients.
- Races with more runnable terrain and shorter distances tend to have **higher women participation**, particularly races in the 20-30km range.
- The majority of races (over **55%**) fail to attract even **40%** women participation, underscoring the significant gender gap.
- Social media and event storytelling play a crucial role in increasing engagement for women in trail running events.

NOTE: Throughout this analysis, I make blanket statements such as "women avoid..." or "women tend to". These are generalised statements purely used to highlight some of the equality issues we see in trail running. They are not intended to fit all women into the same box. Many women prefer the more hardcore races and that is awesome too!

Only 41.6% of runners in Aotearoa trail races since 2015 were women

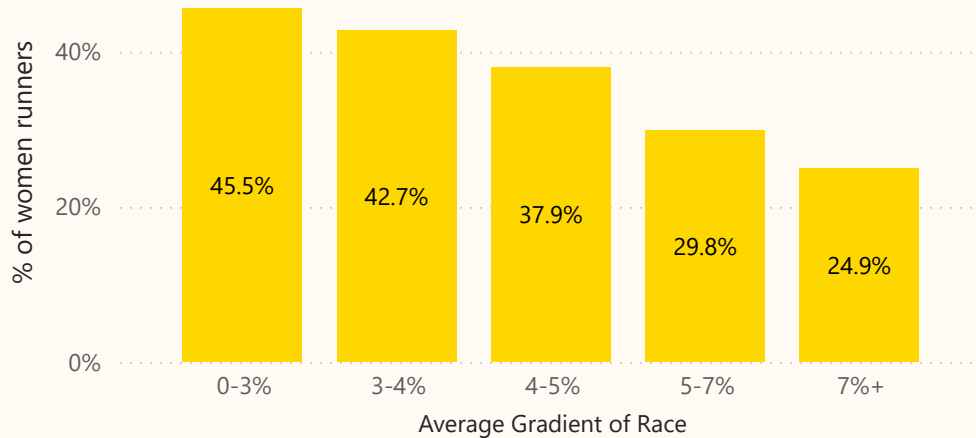


Since 2015, trail events in Aotearoa have been disproportionately weighted towards men. 80% of races and 95% of events are male-dominated, with only one event in the past four years having more female participants than male.

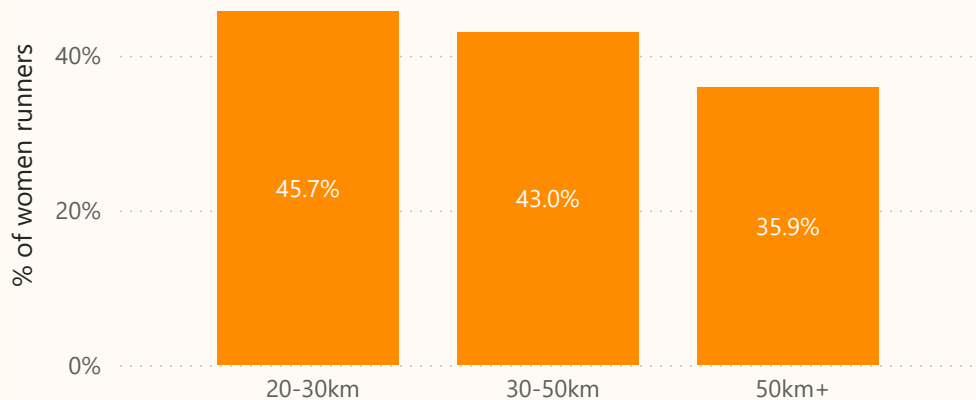
Overall participation sits at 41.6% for women during this time period. This is well below an equitable amount and gets worse when some of the larger events are removed. When Tarawera Ultra, Shotover Moonlight Marathon, Motatapu, and Taupo Ultra are excluded, participation rates for women drop down to 36%. These events tend to have a higher participation rate for women, particularly in the 20-30km distances, and are partially masking what is occurring at other events.

Despite an overall slight upward trend in participation rates for women since 2015, the participation rates outside of the four events mentioned above is stagnant. While popularity is growing in trail running, gender representation in the other races remains largely unchanged.

The steeper the race gets, the lower the participation rates for women



Larger distances also see a drop in the proportion of women runners



DOES THE TYPE OF RACE AFFECT PARTICIPATION RATES?

Several key factors significantly influence the participation rates of women in trail running across Aotearoa New Zealand.

While no specific distance or gradient consistently sees women outnumbering men, there is a clear trend: women's participation rates decline in steeper and longer events. **20-30km races** boast the highest participation rates, with **45.7%** of the field being women. **30-50km races** follow closely, though this is primarily driven by two highly popular events. For other races in this distance range, the percentage of women runners drops below **38%**, highlighting that outside a few standout races, participation struggles to reach gender parity.

The impact of **gradient** is equally striking. Women are gravitating towards races that are **more runnable**—those with a gradient of **less than 4%**. When the gradient exceeds **4%**, however, we see a sharp decline in representation - at gradients of **5% or higher**, women's participation falls below **30%**. The steepest events, with gradients above **7%**, are especially challenging in terms of gender diversity, with participation rates for women dipping to **24.9%**.

This data suggests that race characteristics such as length and technicality play a significant role in shaping the gender balance. Women are more likely to participate in shorter and less technical races, while longer, steeper, and more demanding courses see disproportionately lower participation for women. This trend indicates an opportunity for race organisers to consider adjustments that could make more challenging races accessible or appealing to a broader demographic, including women.

When we combine both harsher gradients and longer distances, the participation rates for women fall even further. **Ultra-marathons**—defined here as distances over 45 km—with a gradient of more than **5%** experience a dramatic drop, with only **23.8%** of participants being women.

Although these demanding races represent just **6%** of the total runners included in this analysis, they account for **20%** of all races.

Proportion of women runners in races that are over 5% gradient and longer than 45km

23.8%

HOW MANY RACES GET AT LEAST 40% WOMEN?

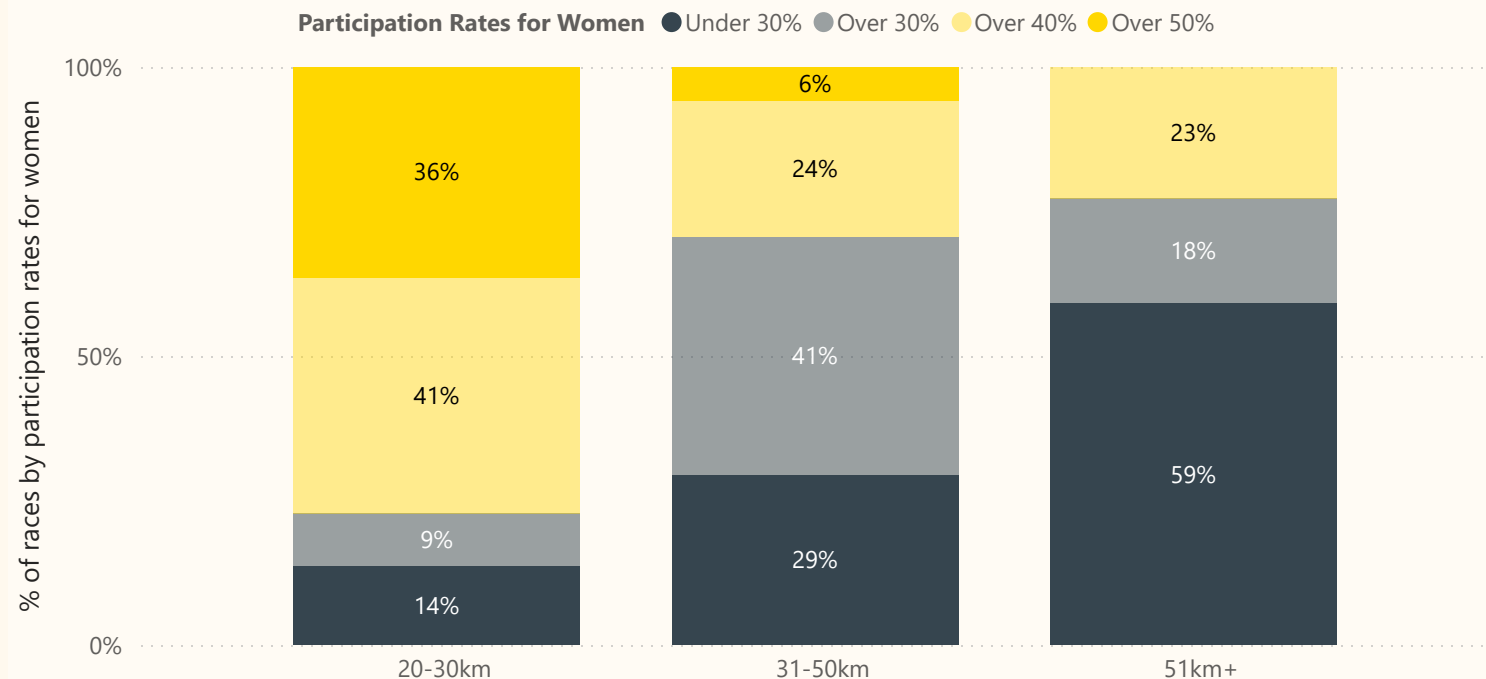
Out of the 61 races analysed, 34 have a participation rate among women of **under 40%**. Let that sink in—**more than half** of the trail races in New Zealand fail to attract even 40% women to their start line. When we exclude the 20-30km distance range, this figure jumps to **75%** of trail races.

For context, only **two** races have less than 40% male participation, and **none** drop below 30%. This stark contrast raises questions about the inclusivity of trail running events and the barriers women face in participating, even in races with broad appeal.

On top of this, the overall average is propped up by a handful of larger, well-known events that attract higher numbers of women. These popular events are exceptions to the rule, and while it's encouraging to see strong women representation at these events, they mask a deeper issue. There are many other races that women are avoiding - and these are not smaller, niche, gnarly races - the events in this analysis are all medium to large in size (min of 200 runners).

Fewer than **15%** of races saw women make up half the participants. On the other hand, over **one-third** of races had less than 30% women—a clear sign that there are significant challenges in attracting women to trail running races across the country.

Since 2015, the majority of races have had less than 40% women participation



There were no events that reached 50% participation for women (this is the combined participation rate for all races/distances at an event across all ten years). The Shotover Moonlight Marathon gets an honourable mention with 49%, which is largely driven by two of the shorter races they have at 21km and 30km.

No. of events that had 50% participation rate for women

0

WHAT RACES ARE WOMEN REPRESENTED IN?

For this section, I have isolated the races that have had female representation at 48% or higher over the past ten years, to see what these races have in common. 48% is used as I wanted a bit of leeway in terms of representation, particularly as this is over ten years, so one low year may drop a race slightly below 50%.

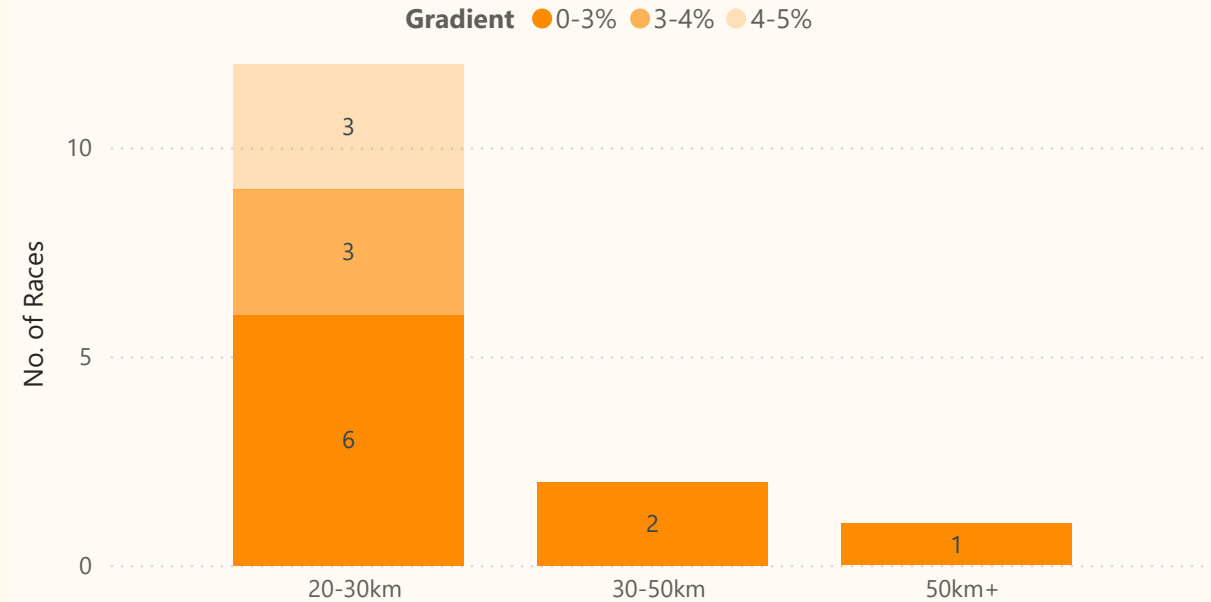
There are only **15** races that qualify out of 61. Not a high number, but that is hardly surprising at this point. The graph to the right shows that the **20-30km** races are by far the most popular amongst women, accounting for twelve of the fifteen races. More runnable races also prove popular, with nine of the fifteen having an average gradient below **3%**, and none exceeding **5%**. The three larger races—two in the 30-50km range and one 50km+—are all high-profile, marquee events with average gradients under 3%.

Trail running is currently in a transition period. It began as a rugged, niche sport, attracting participants who embraced a "no-frills" and "the harder, the better" mindset. However, over the past decade, trail running has gained broader appeal, with the race calendar now offering a wide range of events that cater to a more diverse audience. While all participants enjoy the challenge and sense of accomplishment that come from trail running, the way they pursue these experiences can vary greatly.

What remains unclear is whether women gravitate toward shorter, more runnable distances because they genuinely prefer them, or whether barriers are preventing them from participating in longer, more challenging races. A recent survey, [Women in Trail and Ultrarunning](#) by Ali Pottinger, found that a lack of time for training, a lack of confidence in themselves, and a lack of confidence in meeting cut offs were the main reasons women haven't run an ultramarathon yet. Another survey, [Removing barriers to women in trail running](#) by the ITRA, also found that **66%** of women would like better provisions such as toilets and changing facilities.

While the data clearly indicates a preference for shorter and more runnable races, we must ask: Are women choosing these races because they genuinely prefer them, or are they limited by external barriers such as the demanding training required, strict cut-offs, or inadequate facilities?

12 of the 15 Races that have at least a 48% representation of women are in the 20-30km range



For races 50km or less that have a gradient of under 4%, gender equality is reached.

Of the 22 events in this analysis, 14 have a race available that meet this criteria - although two of these events are no longer active. This means that almost half of the currently active events don't offer a single race option under conditions that are strongly favoured by women.

Proportion of women runners in races 50km or less and under 4% gradient

50%

THE IMPACT OF SOCIAL MEDIA

This section looks at the websites and social media of 20 out of the 22 events in this analysis (two events are no longer active).

All events are effective at communicating the essential information - such as course descriptions, costs, transport, compulsory gear etc. Most events, but not all, use uplifting and expressive language on their homepage and their social media. Interestingly, the events that did not do this well had the lowest participation rates amongst women (with the exception of one event).

However, there are four events that stand out in terms of participation amongst women, and some noticeable correlations that set them apart. These events don't stop at one or two uplifting paragraphs on their homepage. They don't stop at a couple of inspiring social media posts or write a couple of emotive sentences before quickly moving on to the compulsory gear and course descriptions. Instead, they consistently weave storytelling and encouragement throughout their entire online presence. Their websites and social media platforms showcase positive, inclusive language, images of women runners (all shapes and sizes), and reassuring details about course safety and support,.

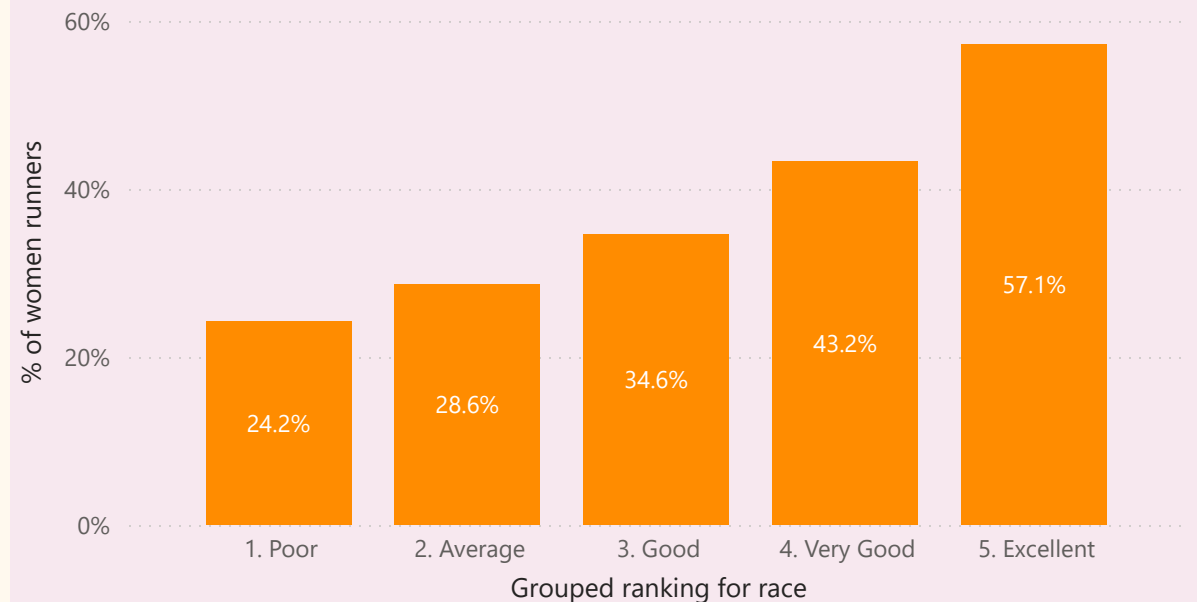
Most event websites are operating at roughly a 20/80 split of emotive/inspiring language to direct/informative content. The 'successful four' operate closer to a 50/50 balance. On social media, they push that ratio to almost 90/10. They inspire potential participants with stories about the event, the scenery, the land, the culture, and the people. *How could you possibly even think of missing this event? Imagine the feeling of crossing the finish line, achieving a goal you once thought was impossible.* Yes, they provide all the necessary information, but they also weave an inspiring narrative, rather than just a few quick paragraphs.

For instance, Motatapu Trail Marathon uses uplifting vocabulary and imagery to create an emotional connection with potential participants, fostering a sense of inclusivity and adventure. Their website and social media accounts are filled with bright, vibrant photos of women smiling. Their videos have uplifting music and commentary. They are also the only event in this analysis that has achieved gender equality for a race at the marathon distance (51.9%).

I grouped all races by their performance across several key factors: race distance, race gradient, social media content, website content, event size, terminology used, and language style. Races were rated as 'Excellent' if they are runnable, shorter, use expressive terminology on their website and social media, incorporate uplifting language and photos, have effective story telling, active social media and are part of a larger event. Races rated as 'Poor' are steeper, longer, have direct terminology, minimal storytelling, infrequent or no social media, and are part of a smaller event. Some of these factors may be partly self-fulfilling, but the trends are clear regardless.

Races rated as Excellent have had incredible women representation across the past ten years (57%). When events prioritise positive, uplifting and welcoming language and content on their social media platforms and website, while offering shorter, more runnable race options, the results are resounding. On the flipside, races that were rated Poor had a mere 24% women representation.

Races with runnable terrain and have active, uplifting social media and websites have the highest participation rates for women



CONCLUSION

This analysis highlights the ongoing challenges in increasing participation rates for women in trail running across Aotearoa New Zealand. Over the past decade, the data reveals a consistent gender gap, with only a few races achieving near-equal participation between men and women. While events like half-marathons with runnable terrain and uplifting marketing strategies have seen strong representation from women, steeper, longer, and more technical races continue to face low participation rates.

Key factors driving women's engagement include race distance, gradient, and the language and storytelling used by event organisers. Races that successfully attract women focus not just on the physical demands of the event but also on creating an inclusive and inspiring atmosphere through their websites and social media. The importance of offering a diverse range of race types—catering to different experience levels and preferences—cannot be overstated if we want to see greater equity in participation.

While a handful of marquee events have helped boost overall participation rates, they mask the deeper issue that persists across the broader trail running landscape. There is still much work to be done, particularly in creating more accessible and appealing opportunities for women in the sport. Moving forward, race organisers have a clear opportunity to modernise their approach, using positive language and storytelling to foster a welcoming environment and designing courses that cater to a wider audience.

The data showing higher participation rates in shorter, more runnable races raises the question of whether this trend reflects genuine preference or if external barriers are limiting women's participation in longer, more challenging events. Findings from recent surveys suggest that it may not be a simple matter of choice. According to Ali Pottinger's *Women in Trail and Ultrarunning* survey, many women cite practical barriers such as limited time for training and concerns about meeting strict cut-off times, as significant factors preventing them from participating in ultra-marathons. In addition, the ITRA survey, *Removing Barriers to Women in Trail Running*, revealed that 66% of women would like to see better provisions like toilets and changing facilities—issues that are often more pronounced in remote or rugged race environments.

I did also consider the '**Lucy Bartholemew Effect**' (or LBE for short) in this analysis. This is a 'feminomenon' where events that have had trail running legend Lucy Bartholemew attend in the past, see a boost in participation for women.

LBE = 46.3%

Participation rate for events Lucy has not raced = 38.3%

There does seem to be something in this, although it is not concrete. I'm not denying that LBE is real, but it felt like a chicken or the egg scenario. Does Lucy drive this boost or was she attracted to these awesome events because they are doing more of the right things?

This analysis was conducted by **Pain Cave** (paincave.co.nz), NZ's trail running race result database, and **UTH Analytics** (uthanalytics.co.nz), specialists in data analysis.

This is a passion project, driven by my love for trail running and data analysis. Any support, whether by signing up for paid membership on Pain Cave, or through shares, feedback, or spreading the word, is greatly appreciated.

An annual update to this analysis will be provided through Pain Cave, extending to all trail events across Aotearoa and their participation rates for women.