'IT'S NEVER BEEN A THING!'

Lessons about gender equality from Drag Racing.





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"Drag Racing the most gender-equal motorsport in the world..."

WELCOME

Drag Racing is the most gender-equal motorsport in the world, with female drivers regularly competing and winning - at the highest levels alongside their male counterparts.

Since the formation of the National Hot Rod Association (NHRA) in 1951, the sport has progressively broken down barriers for female drivers.

This makes Drag Racing a compelling case study for other formats of motorsport aiming to achieve better gender balance.

This report explores the journey of gender inclusivity in Drag Racing, sharing lessons and best practices in gender equality that can be applied across other formats of motorsport.



DRAG RACING: THE MOTORSPORT ANOMALY

Findings from More than Equal's (MTE) groundbreaking 2023 Inside Track research report revealed that female drivers comprise only 4% of the elite motorsport population ^[1]. Formula 1, widely accepted as the pinnacle of motorsport, hasn't seen a female driver compete in a competitive race since the mid-70s ^[2].

Findings from the report further revealed that female drivers face a variety of physical, environmental and cultural barriers (such as limited track time and sponsorship) which affect their ability to progress to, and compete at, the highest level.

But not every format of motorsport is challenged with the same barriers. There is a notable exception; Drag Racing.

Drag Racing is a global format of motorsport. Drag Racing is a high-speed motorsport where two, and occasionally up to four, vehicles race side-by-side down a straight track, typically a quarter-mile, aiming to reach the finish line first. The race emphasizes acceleration, precision, and reaction time, with drivers competing to complete the distance in the shortest time possible.

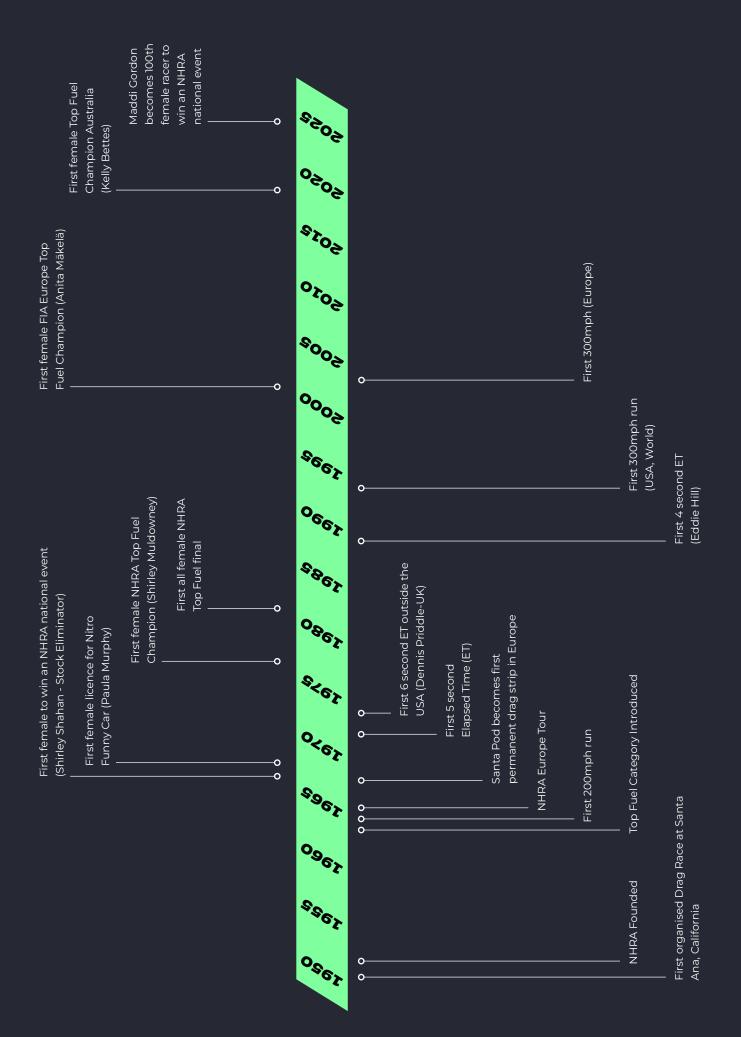
The NHRA (the largest Drag Racing governing body in the world) was founded in 1951 ^[3] and Europe's first permanent drag strip was established in Santa Pod in 1966 ^[4], which is where the original idea for this research came from. The authors estimate there are now more than 50,000 licensed drivers and riders, and around 400 drag strips worldwide.

Since the late 1960s, female drivers have not only successfully competed against male drivers at the highest level of Drag Racing but have repeatedly been crowned champions. Drag Racing recently celebrated its 100th female winner at an NHRA event ^[5].

Figure 1 illustrates the significant milestones in female representation and performance in Drag Racing.

Despite Drag Racing now being a shining example of gender equality, it took 15 years from the formation of the NHRA for the first female driver to be awarded a license to compete at the highest level of competition. Paula Murphy was the first woman to be licensed to drive a Nitro Funny Car in 1966 ^[6] and Shirley Muldowney was awarded a license to drive a Top Fuel Dragster in 1973 ^[7].





AIM OF THIS RESEARCH

Drag Racing presents an interesting anomaly in motorsport in terms of the level of success that female drivers have experienced at the highest levels of competition.

Moreover, it makes an interesting case study for other formats of motorsport who may be striving to increase female representation, as many of Drag Racing's barriers had been broken down by the 1970s.

Therefore, the purpose of this research project is to identify and understand the factors that were, and are, instrumental in Drag Racing becoming the most gender equal motorsport in the world.

Through this study, we aim to uncover cultural and psychological learnings that can help improve female representation across other formats of motorsport.

HOW WE COLLECTED THE DATA

To help us understand how Drag Racing has achieved such excellent rates of female representation at the highest level, we undertook a multi-component study which involved:-

- Desk research (e.g. documentaries and articles on the history of Drag Racing)
- Nine interviews with relevant stakeholders in Drag Racing (e.g. drivers, media representatives, those in governance/regulator positions). To capture transatlantic differences, European and US participants were interviewed. The authors are aware that Drag Racing is well established in Australia, the Middle East and around the world. However, data collection was limited to Europe and USA solely for cost and proximity reasons. The interviews lasted up to 56 minutes with seven females and two males. Thematic analysis was conducted to identify the most important themes and factors in female representation in Drag Racing.
- Researcher observations at a European Drag Racing weekend.



WHAT WE FOUND

We identified six primary themes containing multiple subthemes that help explain why Drag Racing experiences such excellent female representation.

The primary themes illustrated in Figure 2 include:

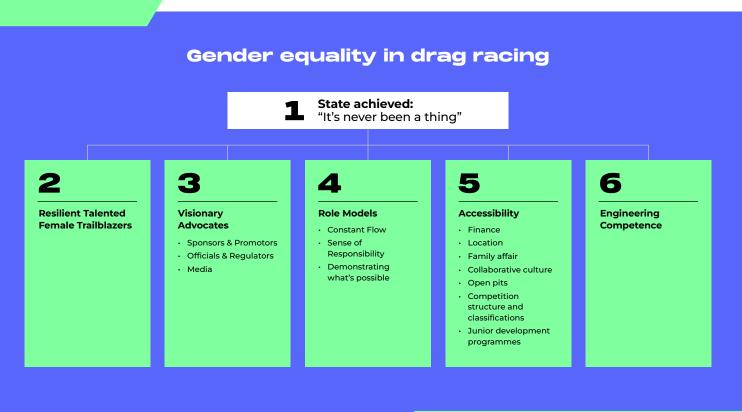


Fig. 2: Influential factors in achieving gender equality in Drag Racing.

The following sections unpack each theme and provide supporting quotes and examples for how other formats of motorsport can achieve similar levels of female representation.

IT'S NEVER BEEN A THING!

Many of the participants were almost bemused by the questions relating to female representation in Drag Racing, with one stating, *"it's never been a thing."* (Current female Drag Racing driver).

To highlight where Drag Racing is in terms of female representation, one media representative shared,

"Top Fuel, that's kind of our premier category; we will have 7 to 8 female competitors next year (in the US) which is insane."

"Half the class is going to be women... It's not a surprise that you got your ass kicked by Brittany Force on a Sunday, right? It's almost like an honor that you're lining up next to a six-time Pro Stock Champion, Erica Enders."

The authors are aware that in European Top Fuel Drag Racing there have already been races where half the drivers were female.

Although most of the current female drivers interviewed had no memory or experience of barriers into Drag Racing, several were aware of the history. One UK-based female Drag Racing team member stated, "those barriers had already been broken in America so for us there were no barriers."

Another representative from the media shared that one of the drawbacks of having such good female representation is that, "Unfortunately, we take it for granted, which is a shame because Drag Racing is so unique in the world of motorsports because of the numbers of people that we have across the whole broad spectrum of competitors. It's not like any other sport that's out there."

Every format of motorsport aspires to reach a point where gender is no longer a topic of discussion, as this would signal the elimination of all barriers to entry. However, it is crucial for formats like Drag Racing to uphold their history and understanding of gender equality so that other formats of motorsport can reach out and benefit from their experience.



RESILIENT TALENTED FEMALE TRAILBLAZERS

All the participants were unanimous in their belief that the resilience of handful of talented female Drag Racing trailblazers, most notably Shirley Muldowney, in the 1960s and 70s played an essential role in getting it to where it is now in terms of female representation. One governing body representative shared:

"We have a head start relative to other motorsports because there were trailblazers and pioneers who paved the way. We had women like Shirley Muldowney, Shirley Shahan, Judi Boertmen, and Judy Lilly, and these women competed in professional events as early as 1960. They won major events in the 60s and 70s. So, they paved the way a very, very long time ago. They dealt with a lot of crap back in the day. In those days, it was a male sport, and it was tougher for them to compete. But, because of all their trailblazing work, women today believe it's not even an issue. The issue is not even at the top of our minds anymore."

To illustrate the challenges and setbacks these resilient trailblazers faced, despite some female drivers such as Paula Murphy meeting the relevant criteria, until the mid 1960s no woman had ever been successful in gaining the NHRA licenses required to compete in the classes that involved higher speeds and more powerful vehicles (e.g. Funny Car, Top Fuel Dragster)^[6,7]. Paula Murphy's first application for an NHRA license to race a Funny Car, like Shirley Muldowney's to race TOP Fuel, was rejected because the panel deemed it *"an unsafe category for a woman to race."* (UK-based female Drag Racing team member).

One media representative also shared that some of the resistance towards female drivers competing at the highest level may have stemmed from male competitors not wanting, "A lady in a pink fire suit beating them out on the track." Footage from a documentary on Shirley Muldowney^[8] provides further evidence that this may have been a contributing factor, with one male driver in a media interview at the time sharing, *"It is against the male* ego for sure... Men invented this sport... We designed it. And now here comes a gal and she's beating us at our own game. It's a hard pill to swallow."

Findings from our interviews and the Shirley Muldowney documentary ^[8] revealed the breadth of the battles she had to endure, from fighting for her NHRA license to pushing for *"female bathrooms for fans and staff" and dealing with "being spat in the face."*

What became apparent was that talent coupled with a unique set of psychological skills were critical to her being able to break down barrier after barrier, with one media representative stating,

"Ultimately, she (Shirley) had just to keep performing because that's the bottom line, right? The bottom line is if you're good enough, those results will speak. Are competitors taking her seriously? What makes them take her seriously? Beating them! There's a ton of respect for the women competing out here, but they've earned it, right?" Given the importance that talent plays in breaking down barriers to female drivers, other formats of motorsport hoping to achieve similar level of female representation at the highest levels should put in place talent development programs for female drivers.

Many participants also mentioned Shirley Muldowney's unique psychological profile in her ability to tackle each challenge.

"Shirley was a different animal. You needed to have that. That thick skin and that hard crust like she did. And she was willing to put up with all the crap that she took from the guys. She gave, got, and wasn't afraid to back off. Many people would meet a situation like that and go, well, it's not worth the aggravation." (Media representative)

Several participants believed that Shirley's difficult upbringing and challenging relationship with her father helped shape a psychological profile perfect for the challenge in front of her.

"I saw the movie (Heart Like a Wheel, 1983) and then I saw the documentary (about Shirley Muldowney) and when she explained in the beginning about her dad and how she was raised ... It was like she was cut from the cloth to do what she did. I mean, she didn't do it because she had to do it. It was in her DNA. She was the person to carry the load because it was in her DNA." (Female ex-racing driver and ambassador). A paper published over a decade ago ^[9] proposed that *"talent needs trauma."* The authors suggested that often a differentiating characteristic in the highest performing athletes is that many have experienced some form of trauma in their formative years. It's suggested that this trauma leads to the development of a unique set of coping strategies that gives them the resilience to handle the stresses and strains of being at the top.

Shirley Muldowney certainly fits this profile, and there is an argument that she was absolutely the right person to break down barriers for all the women that came after her.

Of course, it's not ethical to artificially induce trauma, but it is possible to train and build resilience ^[10]. Given the important role of talent and resilience, young female drivers targeting the elite level in other formats of motorsport could benefit from intensive resilience training to equip them with the skills required to work through and bounce back from the inevitable barriers they will face.

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In addition to her resilience, it is important to acknowledge that Shirley Muldowney's trailblazing efforts in Drag Racing played out alongside the wider women's movement in the US ^[8]. While no participants directly referenced the women's movement in Shirley's ability to break down barriers, it is possible that it played a role. As such, female drivers trying to reach the elite levels of other formats of motorsport should explore how to make use of other movements to support their journey.

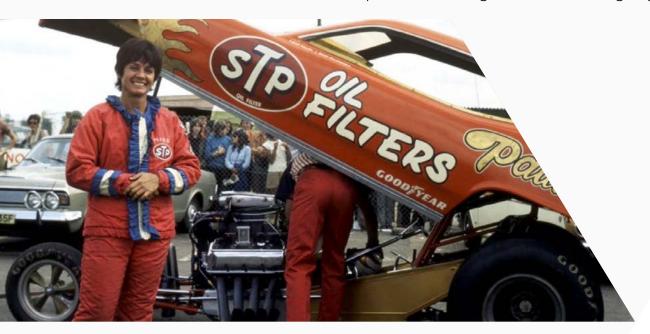
While female drivers such as Shirley Muldowney did a lot to break down barriers 50-60 years ago, it's important to acknowledge that Drag Racing also has a current group of resilient female trailblazers who are addressing the few remaining barriers.

For example, female drag racers recently lobbied the NHRA to develop a groundbreaking pregnancy policy to ensure that female drivers don't lose their points if they become pregnant ^[11].

"I think it's a huge credit to our women racers for getting together to talk about the pregnancy policy, long before approaching the NHRA, and having the courage to push us to enact that change." (Governing body representative). Furthermore, in developing the policy the same representative shared how the female drivers were motivated to ensure that the policy was fair to their male counterparts,

"We initially presented a much more progressive policy to the women racers. The current policy essentially is, if you want to step out of the car after the season has begun because of fertility treatment or pregnancy, you can be replaced by a replacement driver, and whoever has acquired the most points during that season, whether it's the original woman who stepped out or the replacement driver, they get the yearend championship points. What we had originally presented to the women drivers was that if you participate in just one race in that season and step out, the points are all yours. They reviewed it. They huddled up and said, "No, this isn't fair." It isn't fair to the men. And so, they are the ones that came back and said whoever acquires the most points in a season ultimately should be the one to whom the points are awarded."

As other formats of motorsport, work to achieve a level of female representation comparable to Drag Racing, they too would benefit from developing strong collaborative relationships with their resilient female trailblazers to co-create systems, policies, and processes that enable female drivers to perform at the highest levels with longevity.



VISIONARY ADVOCATES

Although resilient female trailblazers such as Shirley Muldowney were central to breaking down early barriers to female representation, visionary advocates who worked within, and alongside, the sport also played a critical role.

Three types of visionary advocates were identified: sponsors & promoters, media representation and regulators and officials.

SPONSORS AND PROMOTERS

Andy Granatelli was one of the first high profile sponsors to back a female drag racer.

Granatelli, described by one participant as a *"marketing genius,"* was the CEO of motor oil company STP in the 1960s. He identified Paula Murphy as a Drag Racing talent and brand asset during this time. As a result, he sponsored and supported her fight against the NHRA to secure her racing license, threatening to pull his money out of the sport if they didn't ^[12].

While his motivations were likely also financial, he did play a critical role in shaping the sport with one female ex-racing driver and ambassador stating, "He was a businessman who was a marketing genius. He saw an opportunity... Paula was gutsy, adventurous, willing to give it a try. Natural talent, natural ability with a machine and competitive by nature... And Andy Granatelli he was a marketing genius... And she's a willing participant saying, "sure."

Once a handful of female drag racers started to get sponsored and compete at the highest level, it prompted other sponsors and promoters to recognize the opportunity, with one Media representative reflecting, "You can't run a business excluding 50% of the population. It's just not good, sound business and Drag Racing always embraced that... One of the things the drag race and promoters did when Paula came along, when Shirley came along, they realized they could put people into the grandstand... So, if they can make bucks doing this, and of course they also did the classy powder puff derbies."

One UK-based female Drag Racing team member struggled to understand why female drivers in other forms of motorsport struggle to secure the required sponsorship to progress sharing, *"The ladies (in Drag Racing) have always traditionally raised more sponsorship than any of the males."*

That said, one participant was keen to point out that female drivers should not have to make compromises to achieve sponsorship stating, "To have the option of getting sponsors, or to get to the next level, also comes with a bit of sexuality... Women aren't measured to the same standard."

The sexualization of female athletes has received increased media attention over the past decade. It is not an issue specific to Drag Racing with MMA fighter Dakota Ditcheva recently stating that she's been forced to accept it ^[13]. However, other formats of motorsport seeking to increase the number of female drivers securing sponsorship deals should ensure that such deals don't come with compromises or conditions. Drag Racing was ahead of it's time in understanding the commercial value that female drivers can bring to the sport. Yet findings from More than Equal's Inside Track report ^[1] revealed that other formats of motorsport must catch up, with many female drivers struggling to secure sponsorship.

An article published in May 2024, MTE in collaboration with Crant ^[14], found that female drivers have the potential to be valuable assets for brands targeting the motorsport fanbase. However, they are relatively underutilized.

Other formats of motorsport could benefit from learning about the commercial value that female drivers can bring to the sport.

OFFICIALS AND REGULATORS

The officials and regulators from the largest Drag Racing governing body in the USA, the NHRA, have also been visionary and influential in supporting female drivers in Drag Racing.

Most notably, this year the NHRA launched their groundbreaking pregnancy policy. This policy was created to address some of the challenges female drivers considering starting a family reported.

One current female racing driver explained how the nature of the sport before the launch of the policy meant that some female drivers had to choose between their careers and having a family stating,

"We have many women now that are over 40 and don't have families. If this had been in place earlier (the pregnancy policy), they might have started families because they were so afraid to lose their jobs and their sponsors, and they'd never be able to come back. So, they put having a family on hold." In addition, a governing body representative explained the added pressure that a lack of pregnancy policy in Drag Racing put on female drivers,

"I think Leah Pruett said it well in a recent interview. She said, "we're racing an invisible race", which is to try to establish their careers, win, and establish their personality, sponsor relationships... All before they can have a child. And then stepping out of the car to have a child is a significant impact on their racing career, sponsor relations, etc, etc."

As discussed previously in the resilient, talented female trailblazers' theme, the launch of the pregnancy policy now means that female drag racers do not need to worry about losing their points, as a replacement driver can continue in their place. A policy of this nature communicates a great deal to female drivers, demonstrating that they are welcome and supported in the sport.

A representative from a Drag Racing governing body further shared the innovative and collaborative process that they went through with the female racers to create the policy,

"A coalition of women drivers in our series came to us and said, "Hey, we think you need to address this policy." The most important take-away is it shows our collaboration with our racers and our racing community... We had to consult a lot of different experts over the course of six plus months. We organized some calls with a coalition of our women racers to give them an opportunity and a forum to ask questions about it of our expert OB/ Gyn experts." If other formats of motorsport are to attract more female drivers at the elite level, they would benefit from adopting this innovative and collaborative approach to ensure that an environment is co-created with their needs in mind.



MEDIA REPRESENTATION

Drag Racing has also worked well with media partners to grow female representation. One female driver who races in Europe shared her experience of the level of coverage that she received when she first broke onto the scene, *"It was a massive thing. It was like a proper media thing. I was on all the like chat shows and all the papers. It was like a big deal."* Furthermore, in the US, two films have been made about female drag racers. The first was the 1983 film, Heart like a Wheel, which was a docudrama about Shirley Muldowney, and the second was a Disney film called Right on Track, which told the story of female drag racer Erica Enders and her sister. Both movies were instrumental in boosting female representation with one ex-racing driver and ambassador stating, *"I* mean that alone (Right on Track) had an impact for that timeframe."

Media coverage such as this plays a key role in not only the visibility and sponsorship opportunities it can open-up but also the ability to attract more women into the sport.

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ROLE MODELS

Unsurprisingly female Drag Racing role models were identified as being central to feeding the pipeline of young female drivers, with one UK-based female Drag Racing team member sharing, *"From a very early age, there were females driving, competing... And so, you always had this dream that that you could do that because you saw other females doing it."*

Within role models there were three subthemes (Constant Flow, Sense of responsibility and Demonstrating what's possible and what it takes) that explains how female role models are critical to ongoing female representation in Drag Racing.

CONSTANT FLOW

Many participants were keen to stress that more than just one role model is needed if the goal is to maintain change. Instead, to feed a pipeline of new young female drivers, it's essential to cultivate a history of female representation through the constant flow of role models in the media. To highlight this point, one female ex-driver and ambassador shared,

"You've got Shirley Muldowney, the huge role model in the 60s. So, you've got that history. So, you have not only current role models today, but they are growing even more. You know, the Erica Enders, the Ashley, Brittany and Courtney Force sisters, I could go on and on about the names of the gals running there. So, you have current role models, so you don't have gaps. You don't, like in Indy (Indy Car), you know, you have maybe one in the field, and then you may go for a year or two, and then there's none. But in Drag Racing, there's no gap. There are always many women out there who are competing and winning. And then you have its history. So, you must reference the past and then have current talent and success."

SENSE OF RESPONSIBILITY

Interestingly, it became clear that being a female role model in Drag Racing comes with a certain level of responsibility and associated roles. Female (and male) role models in Drag Racing don't just perform well. They actively contribute to the sport's ongoing growth and evolution.

Much of this stems from the fact that the major governing bodies "encourage people to bring their young children (to events) to get to know our racers, and there's great level of accessibility to the competitors." (Governing Body Representative).

This level of accessibility means that role models can forge meaningful relationships with the next generation of competitors and pass on their knowledge and inspiration. One media representative shared, *"they (the role models) have a certain amount of responsibility, you know, towards others."* And another highprofile female racing driver shared how she supported the next generation of female drivers,

"Two weeks ago, a driver (hit a significant milestone), and I sent her a message, congratulated her. And you know, she said that like, "yeah, you were my inspiration cos you showed me that it could be done."

Role models are critical to increasing the representation of any underrepresented group, but what is unique about Drag Racing is that the role models play a highly active role, and this is expected within the sport.

Other formats of motorsport could adopt these lessons as they consider how to make the best use of male and female role models to support the next generation of female drivers.

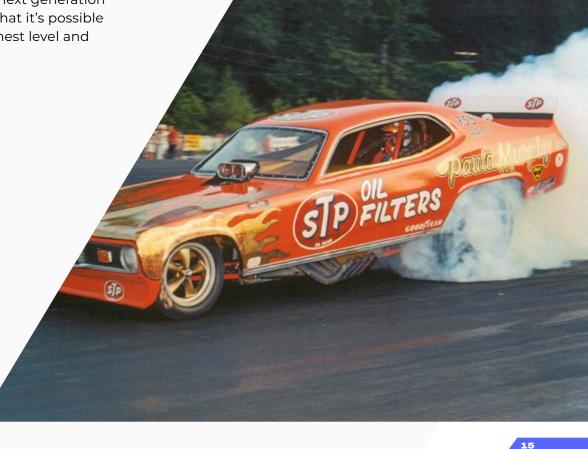
DEMONSTRATING WHAT'S POSSIBLE AND WHAT IT TAKES

The participants identified several ways in which female Drag Racing role models can inspire and motivate the next generation of drivers by demonstrating what's possible as a female in Drag Racing.

For example, one female ex-racing driver and ambassador shared that the diversity in the profile of female Drag Racing role models communicates that there's a place for you regardless of whether you're "*mild mannered and soft spoken*" or like Shirley Muldowney, "all female with her hot pants and pink."

Another current high-profile female drag racer shared how she'll often attend events and *"have my kids running,"* which further communicates to the next generation of female drag racers that it's possible to compete at the highest level and have children. Finally, two participants also shared how role models can be a powerful vehicle for sharing what it takes to race at the top. With one current female racing driver sharing that she had to build more muscle to be able to drive her vehicle successfully, and another that the top female drivers often must skip university or college if they want to be successful.

Role models demonstrating what's possible and what it takes only increases the pipeline of female drivers who make it to the top. Other formats of motorsport should consider this when they're reflecting on how to make best use of their role models.



ACCESSIBILITY

Although specific individuals have played a critical role in making Drag Racing the most gender equal motorsport in the world, the environment itself is also a key factor in successfully growing a female participation base that then translates to elite performance.

More specifically, every participant identified Drag Racing as one of the most accessible and most diverse motorsports in the world. All unanimously believed that this is a foundational reason for excellent female representation and performance rates at the highest level. One female ex-racing driver and ambassador shared,

"Whether you do it, or whether you watch it, it's easy to watch, and it's relatively easy to do at the very entry-level grassroots; females, black people, Hispanics, you know, all forms of cultures, all different cultures are now exposed to it."

Many other formats of motorsport do not share such diversity, with women typically only making up 10% of participation rates ^[1]. Barriers to entry to under-represented groups at the grassroots level inevitably means that fewer will make it to the elite level.

The female participation base at the grassroots level needs to increase to increase the likelihood of female drivers making it to the highest levels of motorsport. Drag Racing is able to share some invaluable lessons on how to achieve this.

Seven accessibility sub-themes were identified from interviews and observations. Each theme helps build a clear picture of how and why Drag Racing is one of the most accessible motorsports in the world. Themes include finance, location, family affair, collaborative culture, open pits, competition structure and classifications, and junior development programs.

FINANCE

Findings from More than Equal's Inside Track report revealed that finance is the biggest barrier to drivers trying to make it to the elite levels of motorsport, with suggestions that female drivers are disproportionately affected. ^[1].

Drag Racing doesn't have the same financial barriers to entry as other formats of motorsport, with one representative from a governing body sharing, "You don't need a multi-million team to start racing. We've got 200 plus drag strips in the US, and most of them just allow you to take your normal everyday driver there to race."

Events where drivers can take their own cars to the track are called *"track days"* or *"Run What Ya Brung (RWYB)"*, and one female UK-based drag racing team representative shared, *"Those track days, you do get a different demographic to normal, proper race dates."*

One media representative shared that the cheaper access to Drag Racing could indeed be a factor in female representation because "you didn't have to be filthy rich to go ahead and do it."

A low cost to entry means that Drag Racing is successful in boosting female participation rates which in turn feeds a pipeline of elite female drivers at the top.

LOCATION

Similarly to cost, the physical ease of access to Drag Racing tracks was identified as another reason for excellent female participation rates.

One ex-racing driver and ambassador shared that there are, *"little drag strips all over the country."* Moreover, a media representative shared how this accessibility at grassroots level feeds into the elite pipeline, *"There's a very grassroots element* to Drag Racing that filters up into the national ranks as well."

Another media representative highlighted how low cost and ease of access to drag strips work together to increase the diversity of the sport,

"One of the things that was so good about the culture of the sport, and I think one of the reasons why there were so many different people involved with it, for men and women and the different ethnic groups, was the availability of racetracks and the economy of racing. I don't know how anybody would get into an entry level Formula One car. I don't know how they would have gotten into an entry level car at that level, even in its earliest years. But the culture of Drag Racing was such that the guy could buy his 55 Chevrolet, you know, put some cut out mufflers on it, put a bigger carburetor on it and go to, you know, probably within 10 miles of his home in California and find a racetrack and go there."

FAMILY AFFAIR

All participants unanimously summed up Drag Racing as a *"family oriented"* and *"generational*" sport. Many female drivers talked about the fact that they *"grew up"* at the racetrack.

Several participants highlighted how it differs from other formats of motorsport, with one female driver sharing, "it's not just a dad going away with their son or daughter for a weekend."

One female participant emphasized the importance of family culture in attracting and maintaining female drivers in the sport citing the importance this played in their safety, childcare, and knowledge of the cars.

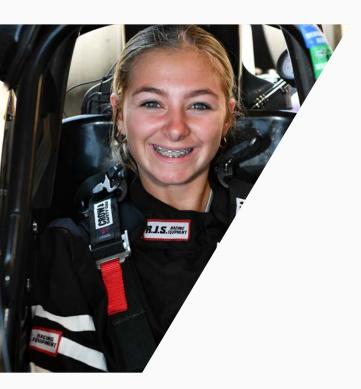
"It's family. You know, even at a young age, there were always people around that would look out for you. And you then in turn looked out for other people... And certainly, I remember when I was younger, the older people and particularly females, would always look out for me and the kids. The children that were much younger than me would... they would go off and play with other kids at races and everybody looked out for everybody else. And if there was a job that needed doing, I mean, you did it, starting from cleaning the cars, mixing fuel. If you were not mechanically able, there was always other jobs that could be done within that team environment." (Female UK-based Drag Racing team member)

Another representative from a Drag Racing governing body re-emphasized this point,

"I think it's less so about the business and more about providing people a safe environment in which to race and a fun environment in which to compete. And I think that's always been kind of the overarching goal is that we want to provide that environment." It's clear that Drag Racing not only offers ease of access to female drivers, but it also feels safe and welcoming once they are in it. Findings from MTE's Inside Track report revealed that this is not always the case in other formats of motorsport ^[1].

Finally, several interviewees explained how the family-orientated nature of drag means that Drag Racing families are cultivated. And within these families, talent and knowledge is passed down through generations regardless of whether the driver is male or female,

"Many of the women in our sport, the top names, right - like the Courtney Force, Brittany Force, Ashley Force, Leah Pruett, Angelle Sampey, Maddie Gordon - all of these women come from Drag Racing families. So, they've had roots, they've grown up around the sport. And I think that's something that really helps us. I think the kids grow up helping their parents around the cars. They go to the races. They're kind of like their crew in a sense. And then they get hooked. They fall in love with the sport, you know, boys and girls alike. And then they end up competing." (Media representative)



COLLABORATIVE CULTURE

Related to being family-orientated, the collaborative nature of Drag Racing, even amongst different drivers and teams was emphasized with one female racing driver explaining why collaboration sits at the heart of Drag Racing,

"It's a very special environment... We have worked in Camaro Cup, like Carrera Cup, like stuff like that. The difference is that I thought people and mindset are different (in Drag Racing) than these sports for a few various reasons. I think one being that when there's only two cars running against each other, you know, nobody wants to have a solo run. Like nobody wants to run a single. Who wants to win on that? There's no honor in that. And the same thing, you really want the other person to run quick because you want to beat someone because you're good, not because they broke down. So, I feel that people help each other. You see so many people, like we have teams that have lower budgets, they use our brand-new tires to run them in because usually for us, we run better if the tires have been run around. But they don't have the same budget to buy tires, which means that they can use ours and save money on that and we can have them for competition. So, it's just teams help out in a whole other way."

While the nature of the environment was described as collaborative, one female driver was keen to emphasize that this didn't detract from the competition between drivers on track, "Once you're in the car and you're suited and booted in the car, strapped in heading down the pairing lanes, then I guess the competitive side stuff kicks off." Theories and research in both evolutionary and social psychology often suggest that females value collaborative environments more than their male counterparts. Academics theorize that this is because such environments have been critical to their survival and ability to raise children successfully ^[15].

The uniquely collaborative nature of Drag Racing may explain why so many females are drawn to it.

While it's unlikely that other formats of motorsport would make wholesale changes to their environments, they could take some learnings away about the importance of social networks for female drivers in a sport that can often be isolating and lonely.

OPEN PITS

Almost every participant discussed the role that having open pits in Drag Racing played in the accessibility of the sport.

Unlike other formats of motorsport such as Formula 1, Drag Racing pits around the world are open to everyone. This plays a key role in creating an environment that doesn't segregate and allows young female drivers to build meaningful relationships with role models and even senior executives. Implicitly communicating that all are welcome, which is something female drivers do not always experience in other formats of motorsport.

"I think in Drag Racing specifically, because every ticket to our event is a pit pass there's no, there's no red tape, there's no special sticker you need - Our drivers act the same way, they are constantly at the end of their ropes, signing autographs... You'll have 30 rows deep of people to see John Force on a weekend and he will stand there the entire time." (Media representative) And another representative from a governing body explained,

"Our senior executives are at most of our tracks. We go out there, and that fosters an additional layer of accessibility. The pits are open to everybody, including us (the executives). We're constantly there. We're interacting with the race teams and racers. And so, we could have that level of trust, that relationship where they feel comfortable coming to us when they need something or want something changed and vice versa."

COMPETITION STRUCTURE AND CLASSIFICATIONS

Several participants also explained how the mixed competition structure and classifications create an added layer of accessibility and diversity to the sport, with one female driver sharing, *"I can literally be 18 years old, racing a Top Fuel car against someone that's 75... That happens and you just kind of take away those boundaries."*

Furthermore, a representative from a governing body further explained,

"We've got a very broad variety of classes. It's not like you're competing in just like one type of car and you can just compete in that type of car. We've got 20 plus different classes and street legal vehicles. You can start in a relatively lower, less expensive class and work your way up if you're passionate. Our licensing process is relatively simple, especially if you start in the street legal ranks. You don't have to take many complex courses to learn how to drive or that sort of thing."

All these factors reinforce the perception of an environment that doesn't differentiate and is accessible to all.

JUNIOR DEVELOPMENT PROGRAMS

Several participants mentioned the success of the junior dragster program in attracting young female drivers to the sport. Several gave reasons for the critical role that the program plays in building a solid female participation base. One female ex-racing driver and ambassador explained, "So as far as the female participation, the magic that they (Drag Racing) have is their junior dragster program... When you see how many young girls sign up for that!"

Another female driver explained that when junior dragster came to her country the federation orchestrated it so that male and female representation was equal to set the tone,

" I was 10, they came with these junior dragsters... the (country) Federation bought these cars.... And I remember, it was four of us who did it for like 3 events. And they did it deliberately. So, it's two girls and two boys." One female ex-racing driver and ambassador also suggested that junior dragster was easier to become involved in than other entry level motorsports such as karting because, "those little junior dragsters are a lot less complicated than even the go karts."

The technical ease of engagement at the entry level of competition removes any knowledge-related barriers. Previous research has identified that the complexity of the kart, even at the entry levels of competition, can be a challenge for the parents of young female drivers who often do not have a history in the sport ^[16].

5

ENGINEERING COMPETENCE

There was a strong belief that to be successful as a drag racer, you need to *"know what you're talking about"* in terms of the car's mechanics and engineering.

" The people that are competing at the level now, have that feel for the race car that they know and can explain and tell you why it did what it did, when it did it, and a lot of the times how to keep it from doing that."

(Media representative)

Several of the participants were keen to stress that many of the top female drag racers were also highly competent mechanics and engineers, as they had grown up working on the cars with their families.

"They get started relatively young, go with their moms and dads to the drag strips, and hang out there all day. They're hanging around in the pits, talking cars, and messing around with them. They're in that environment. So, the girls and women in our sport soak it up by osmosis. And, many of our racers, they're there [at events] from Thursday through Sunday with their families, they're camping out. It's more exposure to the sports, cars, and engineering. So, the ones who have that engineering expertise, or the expertise in cars, have been around [the sport] relatively long." (Governing body representative).

Furthermore, one media representative shared that female drivers who didn't have mechanical or engineering competence had historically been criticized stating, "so many times when Shirley used to race, one of the knocks against their people would say, well, she doesn't work on the car."

Mechanical and engineering competence is valued in Drag Racing. And female drivers with this competence are celebrated and respected. Driver development programs in other formats of motorsport, should consider including training in this aspect of performance to improve the competence and respect of their female drivers.

RECOMMENDATIONS

Findings from this research project have provided valuable insight into how a gender-neutral motorsport can achieve gender equality. Many lessons can be shared with other formats of motorsport, who may be striving to achieve greater rates of female representation at the participation and performance levels.

BELOW IS A LIST OF RECOMMENDATIONS: -

To increase the number of female drivers, other formats of motorsport should establish dedicated talent development programs for women. Drag Racing has shown that female talent is key to breaking down gender-related barriers.

The journey to making Drag Racing one of the most genderequal motorsports was challenging. Desk research and interviews revealed that the resilience of a few trailblazing female drivers played a key role in this transformation. Female drivers aiming to reach the elite levels in other formats of motorsport could benefit from resilience training, which would equip them with the psychological tools needed to overcome the many barriers they're likely to encounter.

Visionary advocates were essential to Drag Racing becoming a gender equal format of motorsport. Therefore, sponsors, regulators, and the media in other forms of motorsport should collaborate to support female drivers through the system (e.g., co-create policies and systems that support female drivers).

Female role models were and are still essential to feeding the pipeline of female drivers in Drag Racing. Other formats of motorsport seeking to increase their levels of female representation should explore how to make best use of their role models to feed the next generation of drivers. For example, in Drag Racing female drivers regularly use their platform to educate the younger generation on what's possible and what it takes to make it to the elite level.

In Drag Racing, female drivers often have expertise in mechanics and engineering, which not only enhances their driving skills but also earns them respect from competitors and teammates. Aspiring female drivers in other formats of motorsport could benefit from more education and training in these areas to improve their performance and gain the respect of their peers. Drag Racing is a family-oriented sport, which has been key to consistently bringing in new female drivers. Other formats of motorsport could benefit from exploring how to foster familyfriendly environments to attract more women to the field.

Drag Racing is naturally collaborative, as drivers race side-by-side often with only one competitor and prefer not to race alone. Many participants highlighted this collaborative atmosphere as a key factor in attracting female talent. Theories from evolutionary psychology suggest that women are often drawn to collaborative environments, as these have historically supported their survival and caregiving roles. To improve female representation, other formats of motorsport should consider investing in supportive communities for female drivers.

Drag Racing has fewer barriers to entry, making it one of the most diverse motorsports globally. In contrast, other formats of motorsport face significant entry-level barriers and should explore ways to lower these obstacles. Without strong female participation at the grassroots level, it's unlikely that many will progress to higher levels. Race series like the Global Karting League, for example, provide a low-cost entry point into karting ^[17].

Motorsport organizations, teams, and individuals looking to boost female participation should connect with their counterparts in Drag Racing and see firsthand how women and girls compete - and win alongside men and boys.



REFERENCES

- [1] Inside Track: Exploring the Gender gap in Motorsport. Available at https://www.morethanequal.com/fact-finding-mission
- [2] From on-track history makers to strategy masterminds Six trailblazing women of F1 past and present. Available at https://www.formula1.com/en/latest/article/international-womens-day-trailblazing-women-f1-past-and-present.6rY8yNSHyQ15dyvqgxZDE0
- [3] About NHRA: National Hot Rod Association. Available at https://www.nhra.com/about-nhra
- [4] The history of Santa Pod and Drag Racing. Available at https://santapod.co.uk/history
- [5] Maddi Gordon becomes 100th female winner in NHRA national event history. Available at https://www.nhra.com/news/2024/ maddi-gordon-becomes-100th-female-winner-nhra-national-event-history
- [6] Funny car pioneer Paula Murphy. Available at https://www.nhra.com/news/2016/female-funny-car-pioneer-paula-murphy
- [7] Shirley Muldowney: Automative Hall of Fame. Available at https://www.automotivehalloffame.org/honoree/shirleymuldowney/#:~:text=In%201973%2C%20Shirley%20Muldowney%20became,up%20in%20Schenectady%2C%20New%20York.
- [8] Shirley: the life and career of Shirley Muldowney. Available at https://www.youtube.com/watch?v=COCQGInHck0
- [9] The rocky road to the top: Why talent needs trauma. Available at https://link.springer.com/article/10.1007/BF03262302
- [10] Mental fortitude training: An evidence-based approach to developing psychological resilience for sustained success. Available at https://www.tandfonline.com/doi/abs/10.1080/21520704.2016.1255496
- [11] NHRA debuts groundbreaking healthcare policy designed to support pregnant competitors. Available at https://www. planetfl.com/features/nhra-groundbreaking-healthcare-policy-pregnant-competitors#:~:text=In%20effect%2C%20this%20 new%20policy,to%20compete%20for%20the%20championship.
- [12] Paula Murphy Festival Master. Available at https://www.youtube.com/watch?v=lhBYUQbf8TQ
- [13] 'I have to accept sexualisation of female fighters.' Available at https://www.bbc.co.uk/sport/articles/c166keplxl4o
- [14] Revving up potential: The untapped potential of female drivers in brand narratives. Available at https://www.morethanequal. com/content-hub/article/revving-up-potential
- [15] The origins of sex differences in human behavior: Evolved dispositions versus social roles. Available at https://psycnet.apa.org/ record/1999-05337-002
- [16] The 5 roles parents of female drivers play. Available at https://www.morethanequal.com/content-hub/article/the-5-rolesparents-of-female-drivers-play
- [17] Global Karting League. Available at https://www.globalkartingleague.com/