

Pathways, Enablers and Barriers of Entry and Development for Women in Motorsport in New Zealand.

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Abstract

This qualitative research investigates the pathways, enablers, and barriers to access for women in motorsport in New Zealand, where only 5% of licensed competitors are women. Semi-structured interviews were conducted with 12 female drivers, revealing that access to the sport is generally informal in nature, often stemming from family connections or exposure to other female competitors, and typically begins later in life. Although intrinsic motivation and informal support networks are effective facilitators, advancement is hindered by systemic barriers, including prohibitive financial costs, psychological pressures, discrimination, and the burden of familial obligations. The results indicate a clear need for governing bodies in motorsport to introduce structured and inclusive pathways and formal support systems to alleviate the pressure of barriers and generate greater female participation and development.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Student's Signature:

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Ethics Approval

Ethics approval was granted by the Auckland University of Technology Ethics Committee on 25 March 2025 (document number 25/69).

Chapter 1. Introduction

1.1 Research Background

The majority of research on sport participation has primarily focused on individual predictors of participation. However, this would provide no real insight into the role of the other predictors, including those dictated by organisation, governance, and policy, which is complex (Allender et al., 2006). The predictors of participation in sport are multi-dimensional and act on individual, interpersonal, community, organisational and societal levels (Rowe et al., 2013). The influence of participation in sport, at any level, requires that the experience and interpretation of the actions of others are vital in influencing participation behaviour (Guillan, 2019). As individuals interact with their environment, they gain experience, learn what suits them as individuals and create a 'historical horizon' from which to judge results based on themselves (Shilbury et al., 2013). It is for this reason that individual perception and interpretation of their environment is deemed necessary to realise and understand the needs of individual motorsport competitors.

Despite the global popularity of motorsport, little research has been conducted into the facilitators and barriers of participation that exist for women. By adopting a model that can examine the multiple and complex aspects of the sport environment in greater depth, an understanding of motorsport in New Zealand can be gained. The Socio-Ecological Model (SEM) provides sports management researchers with a framework to extrapolate their results, as it examines sport participation by investigating the various levels of the sporting organisation's environment and how they influence behaviour (Rowe et al., 2013). The SEM is a theoretical framework that aims to understand the interactions among individual, interpersonal, community, organisational, and policy levels affecting behaviours and outcomes (Kovács, 2025). In sports research, the SEM has been further narrowed down into three layers: intrapersonal, interpersonal, and organisational, to generate more insights into the interplay and overlap between these layers (Jenkin et al., 2018). The SEM has been used throughout sports research to develop a better understanding of physical education outside of performance and health-related measures (O'Connor et al., 2012), increase participation from

marginalised groups by identifying barriers at multiple levels (López-Cañada et al., 2019), and assist in the integration of social goals into sport education (Wallhead et al., 2013).

1.2 Research Context

Women's involvement in motorsport has grown steadily over the past two decades but remains markedly below parity with male participation. Interest in the sport has grown considerably over recent years, with female fans averaging 10 years younger than their male counterparts, and a 40 per cent increase in interest over the last 5 years (More than Equal, 2023). However, globally, women account for approximately 10 per cent of all competitors across competition categories, with up to 13 per cent in early karting, but this falls to just 7 per cent in open-wheel and circuit racing (More than Equal, 2023). Statistics indicate that women in motorsport tend to have much shorter careers, typically lasting from 1 to 5 years, in contrast to men, whose careers often exceed 12 years. This high rate of early departure significantly diminishes the number of women who could potentially excel at the highest levels of the sport (More than Equal, 2023).

This number is reduced further in New Zealand. As of 2018, only 5% of the 5255 licensed competitors with Motorsport New Zealand are women (Peters, 2018). An effort has been made to drive participation; Women in Motorsport New Zealand (WIMNZ) was formed in 2012 as the New Zealand arm of the FIA Women in Motorsport Commission and runs an array of driver training days, mentoring schemes, and exchange programs to encourage women into the sport (Motorsport NZ, n.d.). The number of female competitors in premier national series is small but growing. In the first round of the 2023 Toyota 86 Championship, for example, there were four female competitors, the most ever, and more were involved in various aspects of officiating and volunteer duties (Holland, 2023).

Despite these advances, quantitative participation measurements specific to New Zealand are sparse. Anecdotal evidence from series managers and participant surveys attributes a family and community ethos as a driver for female engagement; however, the cost of and access to the sport reflect global barriers (Holland, 2023).

1.3 Research Aim and Design

This study aims to identify and build an understanding of the factors that influence participation and development for women in motorsport in New Zealand.

- What participation pathways exist for women in motorsport in New Zealand?
- What factors have enabled women to compete and progress to higher levels in motorsport in New Zealand?
- What barriers have limited women's ability to compete and develop in motorsport in New Zealand?

To answer these research questions, 12 participants completed semi-structured interviews to assess the pathways, facilitators, and hindrances to development and participation in motorsport for women in New Zealand. Data was analysed using thematic analysis, aligning key themes identified with the SEM (Braun & Clarke, 2006). Themes were categorised based on which level of the SEM was affected to display key relationships and focus areas.

1.4 Dissertation Structure

The structure of this dissertation is presented in the following chapters. Chapter 2 provides a review of the current literature on enablers and barriers to sport participation and development, examined through a SEM lens and participation pathway models. Chapter 3 discusses the methodology used in this research for data collection and analysis. Chapter 4 presents the study's findings, based on key themes identified in the data collected through the interview process. Chapter 5 presents a discussion of the results, their relationship to the current literature, implications for motorsport governing bodies, clubs, and the limitations of the current research, as well as gaps for further research.

Chapter 2. Literature Review

2.1 Introduction

This literature review aims to analyse the academic literature concerning sport pathway models, enablers, and barriers to participation and development, providing a better understanding of the support and challenges women face in motorsport. The review first provides an overview of the socio-ecological model (SEM) and its context in sport, then discusses general and gender-specific factors influencing participation in each level of the SEM and finally examines foundational models of sport participation and athlete development.

2.2 Sport Participation and Development

Researchers and sports practitioners have taken a keen interest in elite sport pathways, as they have considerable implications for athlete development, coaching, and other aspects of sport management policies. The primary goals of research into sport pathways and athlete development are to optimise talent identification and talent development practices, aiming to improve performance and long-term participation in sport (Huxley et al., 2017). By examining the specific dynamics of elite pathways, researchers can identify the central elements of athlete development that facilitate the transition from grassroots participation to elite competition, which are crucial for national sports success and international competitiveness (Varghese et al., 2021).

The knowledge gained from elite sport pathway research can better inform the development of effective sport-related policies (Lucidarme et al., 2017). A cross-national examination of sport policies reveals how different countries have employed distinct factors to contribute to athletic success (de Bosscher et al., 2016). These factors become vital for policymakers and administrators to develop structures that enhance athlete support, providing opportunities for key elements such as talent identification, resource allocation, and a quality competitive environment (Ramos et al., 2023). By appraising the effectiveness of sport policy, those with a stake in sport can more effectively strategise for future sport initiatives aimed at producing elite athlete talent.

Also under intense scrutiny are the governance forms and structures of elite sport. Strong policies and structures devised by the various sports organisations have encouraged drastic development of elite sport. For example, De Bosscher and Sotiriadou (2019) have found that the coordination between and strategic management of athletes and resources of the various athlete pathways has become vitally important. This lends more credence to the belief that holistic and well-coordinated pathways can lead to a more sustainable success for those athletes involved at elite levels.

Central to the literature is the impact of economic factors on access to elite sport. Kristiansen and Houlihan (2015) believe that, in specific settings, such as Norway, parental wealth can create an environment that encourages young athletes to participate in elite-level sports. This disparity must be fully understood if young athletes of all origins are to be provided with proper developmental conditions.

A crucial factor in the developmental processes of elites is the financial and emotional support provided by family members and coaches. Huxley et al. (2017) identified strong emotional and financial support as one of the key enablers of the Australian contestants' success at the Olympic Games level. This highlights the importance of fostering supportive environments that empower athletes to excel, highlighting a need for practitioners to cultivate these relationships proactively.

Additionally, understanding athlete pathways aids in promoting dual career options, where athletes balance their sports commitments with academic or professional endeavours. Cartigny et al. (2020) explored how early adverse experiences in elite sports can deter athletes from continuing in the sport, suggesting that organisations need to address these issues to support athlete retention and dual career development better. This suggests a broader need for systemic changes that consider the multifaceted lives of athletes, extending beyond their sporting identities and roles.

2.3 The Socio-Ecological Model

The socio-ecological model (SEM) is a theoretical framework that aims to understand the interactions among individual, interpersonal, community, organisational, and policy levels affecting behaviours and outcomes in a range of contexts, including sport. This model, initially proposed by

Bronfenbrenner (1979), highlighted how human development is influenced by the various systems in which a person finds themselves, explaining how different levels of influence interact to establish one's behaviour and opportunities (Figure 1). The SEM has been increasingly used in sport literature to better understand patterns of participation, barriers to participation and the influences of social and environmental factors on sport pathways.

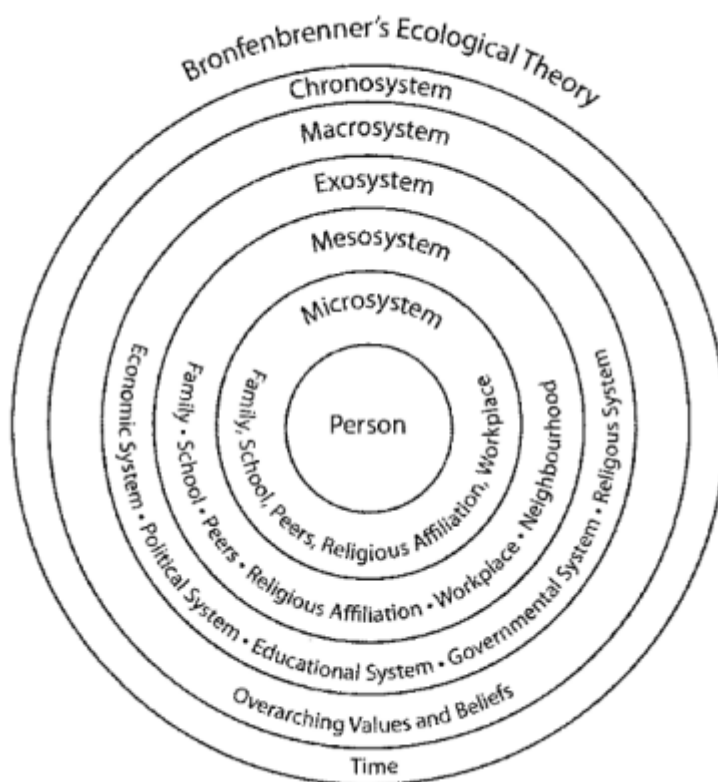


Figure 1. The socio-ecological model (Bronfenbrenner, 1979)

The SEM can be further broken down into three key layers, intrapersonal, interpersonal and organisational, for broader analysis (Figure 2). This method has been used by Jenkin et al. (2018) to critically analyse perceived benefits and barriers to sport participation in the aging population and the interplay of themes across different levels.

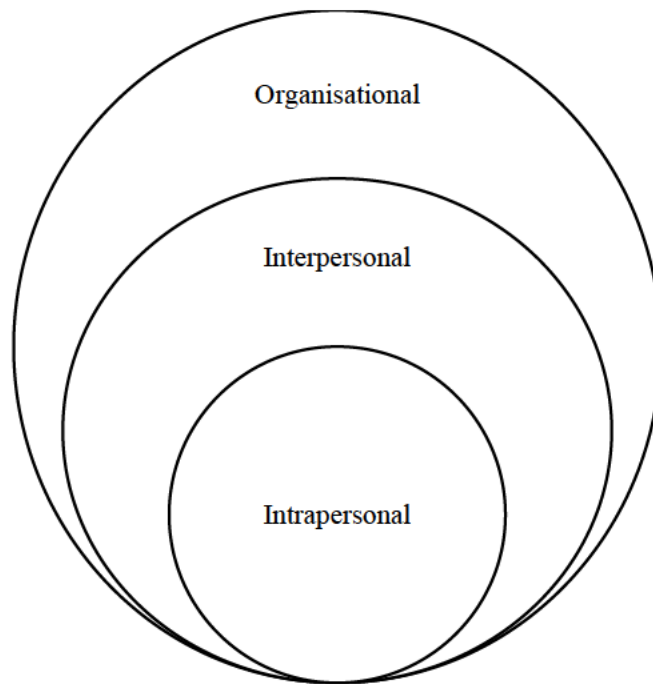


Figure 2. The three-layer socio-ecological model

In the context of sports pathways, the socio-ecological model adds several important dimensions to their understanding. First and foremost, it enables researchers to examine how the multi-level influences contribute to sports participation across many different demographic sections. For example, Vella et al. (2014) noted how socio-ecological influences were considerable predictors of participation and dropout rates in organised sports among children (Vella et al., 2014). Their findings identified several factors involved, including community resources, family support, and individual motivation, all of which interacted in a meaningful way to affect whether a child remained involved in a sport or dropped out.

Secondly, the SEM helps identify barriers that different groups across a society face in accessing sport pathways. For example, regarding the barriers faced by women, it is evident that discrimination and resource issues are compounded by other interpersonal and organisational issues within the sports landscape (Marshall et al., 2024). It is through the application of SEM principles that researchers can identify these barriers and develop meaningful strategic interventions aimed at targeting them at the differing levels.

Additionally, sport participation, physical activity, and social capital can also be examined in terms of SEM. Marlier et al. (2015) suggested that sport can serve as a lever for the development of enhanced mental health and social capital in underprivileged communities, highlighting how community type interaction influences individual participation levels and health issues (Marlier et al., 2015). This finding is consistent with the results of Eime et al. (2015), which relate the decline in participation levels to broader systemic health considerations. This suggests that socio-ecological factors are pertinent to the development of effective sports policies (Eime et al., 2015).

Finally, the SEM is valuable in terms of designing suitable interventions to encourage healthier lifestyles through sport. For example, Hoekman et al. (2021) demonstrate how local-level sport policy can be influenced through a socio-ecological lens, specifically in terms of the steps taken at a grassroots level to encourage higher levels of participation (Hoekman et al., 2021). Recognising that effective policy must consider individual, community and organisational facets will allow stakeholders to effectively strategise their efforts at enhancing sport pathways.

2.3.1 Intrapersonal Level

The first level of this model focuses on personal attributes that impact participation in sports and physical activities. These factors include health motivation, self-perception of ability, age, gender, health status, and intrinsic motivation.

At the individual level, several internal factors critically influence sports participation, primarily driven by perceived benefits to mental and physical health. It is well-documented that physical activity has a significant impact on overall well-being, affirming the strong correlation between exercise and improved mental health outcomes, particularly in youth and adults (Lubans et al., 2016; Foley et al., 2023). These health benefits serve as potent motivators for individuals to engage in regular physical activities; medical professionals often highlight these advantages to encourage lifestyle changes among patients (Foley et al., 2023).

Additionally, the concept of self-efficacy plays a significant role in facilitating sports participation. Individuals often gain motivation and confidence through successful experiences in

their chosen activities, which strengthens their perceived competence and encourages continued engagement. This notion is supported by research indicating that the feeling of accomplishment after participating in sports directly correlates with enhanced motivation levels and commitment to an active lifestyle (Almagro et al., 2020; Amaro et al., 2023). Emotional well-being, bolstered by regular physical activity, further consolidates motivation through positive reinforcement, thereby promoting a cycle of engagement (Foley et al., 2023). Research suggests that intrinsic motivation leads to greater adherence to athletic pursuits compared to extrinsic motivators such as rewards or accolades, as it fosters a genuine desire to participate for the sheer joy of the activity (Amaro et al., 2023; Ling et al., 2024). Individuals who engage in sports for personal satisfaction tend to set specific and meaningful goals such as weight loss or skill improvement, which further enhances their commitment and establishes a clear pathway for achieving additional satisfaction and success within their sporting endeavours (Jakobsen, 2014).

Conversely, a lack of intrinsic motivation serves as a fundamental barrier to sports participation. Many individuals do not enjoy sports or physical activity, leading to a general lack of interest in participating. Research indicates that individuals with low intrinsic motivation are less likely to engage in sports regularly, suggesting that fostering a genuine interest in physical activities is essential for sustained participation (Teixeira et al., 2011). Notably, this aspect of motivation is compounded by psychological barriers, particularly for adolescents. Concerns about body image, the fear of being judged, and self-consciousness about physical appearance significantly affect individuals' willingness to participate, especially among girls (Phipps, 2019; Cunningham, 2008; Gjesdal & Hedenborg, 2021). These psychological barriers are particularly pronounced in performance-driven environments, where scrutiny and comparison are inherent. The pressure to conform to specific performance standards often amplifies feelings of inadequacy (Oblak et al., 2023), demonstrating the need for inclusive and supportive environments that prioritise personal progression over mere competitive outcomes. Research has shown that addressing these internal psychological barriers requires nuanced interventions aimed at fostering a sense of belonging, competence, and enjoyment rather than focusing solely on performance metrics (Hammond et al., 2022).

In contrast, various individual barriers significantly reduce participation in sports, affecting people across different age groups, including adolescents and adults. A primary barrier is the perception of insufficient time due to competing commitments, such as work, studies, and family obligations. Studies highlight that such constraints impact participation, especially for adults seeking to balance multiple responsibilities (Pelletier et al., 1995). Family obligations emerge as a critical barrier for women's sports participation. Beyond traditional caregiving roles for children, women often bear the responsibility for elder care and maintain family dynamics that limit their leisure time for sports (Eime et al., 2015). Such responsibilities highlight not only a personal challenge but also signify structural social expectations that disproportionately reinforce the notion of caregiving as primarily a female duty. Policies and initiatives aimed at increasing female participation must address these systemic challenges by advocating for support such as flexible scheduling and childcare provisions (Reece et al., 2022; Rodrigues et al., 2018).

Financial limitations also present a significant obstacle; the costs associated with equipment, transportation, and registration fees can deter individuals from participating in sports. Such financial constraints disproportionately affect lower-income populations, demonstrating how socioeconomic status can influence physical activity levels (Pampel et al., 2011).

2.3.2 Interpersonal Level

This level of the socio-ecological model focuses on interpersonal influences that shape an individual's physical activity behaviours, particularly within their immediate social network, including family, friends, and coworkers. Social support from these groups is instrumental in enhancing motivation and creating consistency in exercise habits.

Interpersonal relationships play a crucial role in enhancing sports participation, with various social factors influencing an individual's engagement in physical activities. Research consistently shows that support and encouragement from one's social network, including friends, family, and peers, serve as significant facilitators of sports involvement (Rumahpasal et al., 2020; O'Brien et al., 2021). Parental influence is crucial in shaping children's participation in sports, and it tends to differ

significantly between genders. Studies indicate that adolescent females often seek validation and encouragement more from adults compared to their male counterparts, who may assess their abilities through competitive outcomes (Thorbecke & Grotevant, 1982). Consequently, parental attitudes toward gender roles in sports can have a direct impact on girls' confidence and willingness to participate in sports (Hong et al., 2020). Moreover, the role of parents in sports often includes a hidden emphasis on success that may inadvertently demotivate girls who face high performance expectations (Šukys et al., 2015). This suggests that when parents actively model engagement in sports, they not only encourage their children to participate but also serve as vital role models who demonstrate the value of physical activity (Rumahpasal et al., 2020; O'Brien et al., 2021).

The significance of role models extends beyond familial support; coaches and mentors play a crucial role in the development of athletes. Effective coaching can enhance athletes' confidence and bolster their commitment to sports (Spruijtenburg et al., 2025; Sheridan et al., 2014). Coaches, family, and peer support contribute to a network that helps instil motivation and focus among young athletes, encouraging them to persist in their athletic activities (Chan et al., 2012). This network effect emphasises the interconnected nature of social support in sports, where multiple sources can simultaneously impact motivation and participation levels (Sheridan et al., 2014; Chan et al., 2012). The presence of successful female athletes can inspire young girls and foster a positive culture around female participation in traditionally male-dominated sports (Wilson et al., 2022). The media, by highlighting female sports achievements, aids in redefining societal norms and encouraging increased visibility for women in athletic contexts (Eime et al., 2013; Young et al., 2015). Recent institutional support initiatives, such as the F1 Academy, which mandates teams to support female racers, exemplify how structured interventions can dismantle systemic barriers within sports (Williams, 2024).

Furthermore, studies indicate that peer support is crucial in creating an environment that encourages sports participation. For instance, research has shown that having friends who engage in sports can motivate individuals to join and remain involved in athletic activities due to the sense of camaraderie and mutual encouragement that develops (Dalen & Seippel, 2021; Hoye et al., 2015).

The interest expressed by peers in participating together can create a sense of accountability, increasing motivation to engage in regular physical activity, thus reflecting the social psychology behind sports participation (Dalen & Seippel, 2021; Hoyer et al., 2015).

In contrast, one major deterrent is the lack of adequate social support from peers, family, and teachers. Studies indicate that the absence of supportive friends can lead to reduced motivation and engagement, particularly for children and adolescents who often rely on peer companionship to participate in sports (Holt et al., 2016; Ross et al., 2021). The literature highlights that peer pressure can discourage involvement in sports, particularly if an individual feels isolated or unsupported. For instance, youth who lack friends attending the same sports sessions may feel less inclined to participate, which can impact their overall engagement and enjoyment (Ross et al., 2021).

Family dynamics also play a pivotal role in shaping attitudes toward sports participation. Research shows that the impact of familial responsibilities, particularly women, who may have caregiving roles that limit their ability to participate in physical activities. Broader societal norms often dictate that women may prioritise family obligations over personal leisure, including sports. This can lead to a perception that physical activity is a lower priority compared to other domestic responsibilities (Holt et al., 2016). The burden of caring for not only children but also aging parents or extended family members can create significant time constraints, effectively becoming a barrier to sports participation (Ruseki et al., 2011).

Additionally, the competitive nature of sports and the prevalence of male-dominated culture can create environments that feel unwelcoming for women and girls. Reports indicate that perceived gender bias within sports can deter female participants, as they may feel that their abilities are undervalued or that they do not belong in competitive settings. The importance of fostering a supportive environment that encourages participation from all genders is highlighted, emphasising the detrimental effects of competitive pressures and gender discrimination in sports (Larkin et al., 2015). Deep-rooted stereotypes concerning gender roles significantly hinder women's participation in sports. These stereotypes often position sports as masculine, thereby limiting adolescents' access to

opportunities in physical activities perceived as aligning with traditional masculine traits, such as strength and speed (Eime et al., 2019). Research indicates that societal expectations of femininity can limit the types of sports that girls feel they can participate in, often reflecting broader cultural biases (Timperley & Phillips, 2025).

2.3.3 Organisational Level

At this level, organisations are responsible for implementing structures, policies, resources, and organisational practices that positively or negatively impact participation within motorsport clubs, governing bodies, and associated organisations.

Organisations with flexible practices and adaptable program delivery arrangements are shown to be better able to meet the needs of participants. The ability to modify organisational structures to improve the organisation's responsiveness to change, such as by introducing hybrid delivery models, increases accessibility. Organisations that are open to creativity and flexibility in their altered practices create better opportunities for inclusive participation (Brinkley et al., 2016). This includes investment in accessible facilities, adaptable equipment, and programs identified to enhance participation in various forms. The allocation of strategic resources to staff training and development enhances the organisation's capacity to serve diverse populations (Campos et al., 2024).

Holistic support networks provide greater opportunities for participation. Included in this are services that provide financial assistance to individuals whose economic conditions may hinder participation, as well as the establishment of mentoring programs and peer support systems, and the inclusion of family units in involvement creates holistic pathways to participation. The provision of wraparound services aimed at eliminating multiple barriers to participation is found to be particularly effective (Gjesdal & Hedenborg, 2021).

Organisational cultures that are entrenched in favour of enabling competitive performance generate barriers to greater participation. Negative and discriminatory attitudes of organisations have substantial negative participatory consequences for individuals. A mindset that resists change or innovation in practices or policies can foster ingrained, exclusionary attitudes towards individuals (De

Brock et al., 2022). Collaborative, community-led initiatives, where stakeholders co-design events, outreach, and educational workshops, cultivate a sense of ownership and collective identity, which has been shown to sustain participation in other sports disciplines by strengthening social cohesion and trust between organisers and participants. Moreover, community champions and mentors who visibly represent diverse backgrounds play a crucial role in normalising motorsport involvement, thereby reinforcing positive norms and motivations at the community level (Mori et al., 2025).

A lack of policy support can significantly hinder efforts to increase sports participation among adults. It has been noted that most sports-related policies tend to focus primarily on youth and student programs, often neglecting the adult population, resulting in limited engagement in physical activities (Kruszyńska & Poczta, 2020). This lack of targeted programming can lead to decreased awareness and utilisation of available sports resources for adults, impeding community-wide participation. The need for sustained policies is reinforced by studies, such as the one conducted by Kruszyńska and Poczta (2020), which argue that consistent access to sports facilities is essential for maintaining physical activity levels and improving overall community health outcomes. They emphasise that without continual governmental investment and strategic policymaking, opportunities for participation may significantly decline.

Moreover, the customisation of sports programs aimed at girls can significantly bolster their engagement. It is imperative to consider the preferences and perspectives of female participants when designing activities, as tailored experiences that prioritise enjoyment over competitiveness have been shown to resonate well (Thul & LaVoi, 2011). Adolescents often favour non-skill-based and flexible activities that allow for autonomy in their choices, which can enhance their intrinsic motivation to participate (Bevan & Fane, 2017; Noonan, 2022). Providing flexible scheduling and childcare services is another crucial element in enabling greater participation among women, as it respects their diverse life commitments and potential constraints (Young et al., 2015).

Access to sports facilities and equitable funding continue to be ongoing issues for women's sports. Women generally receive less financial support compared to men, resulting in inadequate facilities, equipment, and sponsorships for female athletes (Bowes & Culvin, 2021; Allison &

Knoester, 2024). This inequality is compounded by sports organisations often favouring male sports, which often receive preferential access to practice times and funding, leading to a disadvantage for women (Eime et al., 2015; Laird et al., 2016). Additionally, the design of sports uniforms and equipment often caters to male athletes, causing further discomfort and undermining women's participation (Laird et al., 2018).

2.4 Foundation Models of Sport Participation

Analysing sport participation models provides the necessary foundation to understand common and potential pathway opportunities for women in motorsport in New Zealand. Early models of elite sporting pathways often pictured progression as pyramids, where a broad base of recreational participation gradually narrows as athletes progress towards higher levels of competition (Tinning et al., 1993). More recent research, such as the Sport Participation Pathway Model (SPPM), focuses on the different patterns present from early adolescence to adulthood, as well as the level of competition, ranging from non-organised to elite (Eime et al., 2022). With motorsport being unique compared to traditional sports, in which many participants start later in life, understanding these models provides a necessary foundation for understanding the pathways and progression available for women in motorsport in New Zealand.

2.4.1 The Sport Participation Pyramid

The primary, underlying assumption of the Sport Participation Model is the 'trickle-down theory' or 'demonstration effect' which states that success at the elite level encourages and enhances participation at the grassroots level. The premise of this theory is that successful elite sportspeople serve as role models, providing an incentive for the public to engage in physical activity and participate in sports. To justify public money spent on elite sport and major sporting events, policy makers are prone to mention the chances of trickle down, that 'the holding of events, success in sport, and athlete role models, inspire the populace to participate in sport and physical activity' (Mölenberg et al., 2020).

This model emphasises the significance of early exposure to sports, high-quality coaching, and access to suitable resources for talent identification and development (Green, 2005). As the pyramid narrows, these stages demand increasing commitment, specialisation, and competition, pushing athletes to navigate challenges such as mastering skills, getting physically fit, building mental toughness, and effective time management.

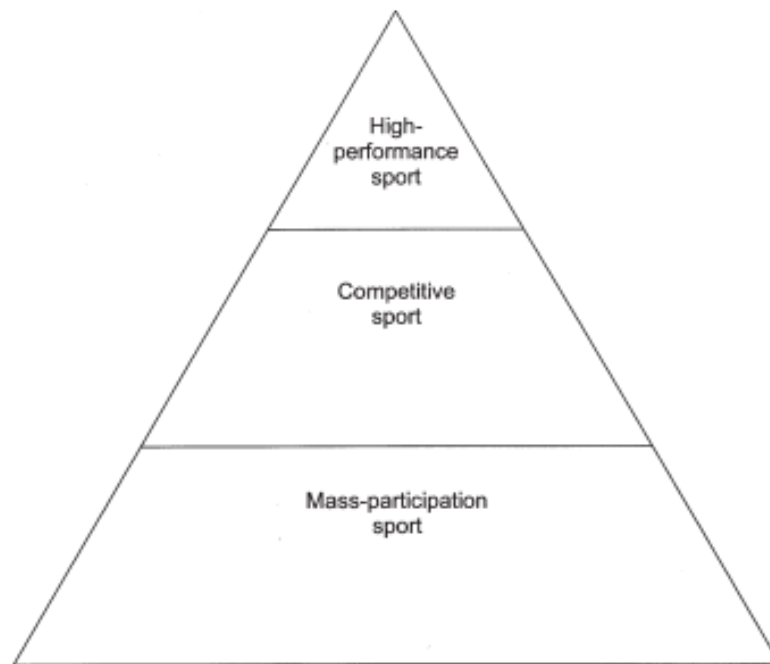


Figure 3. The sport participation pyramid (Green, 2005)

However, the pyramid model has been criticised, with one major critique being that many individuals participate in sport purely for enjoyment without any desire to reach higher levels of competition (Cury et al., 2024).

Additionally, empirical evidence supporting the direct positive effect of elite sport success or events on mass participation is fragmented and often lacking (Thomson et al., 2021). Some studies have even found counter-effects, where mass participation rates decreased despite elite success in specific sports disciplines (Weed et al., 2015; Ramchandani et al., 2017). This highlights the tension in political priorities between investing in a small group of elite athletes and developing a wide range of organisations and facilities for mass participation. While elite athletes and events can have an

inspirational function, their broad effects on participation (attraction, retention, and advancement) are complex and difficult to isolate from other short-term determinants, such as changes in infrastructure or neighbourhood activity-friendliness.

The limitations of the sports participation pyramid are especially relevant when considering women in motorsport. If the sport relies solely on a "trickle-down" effect from a handful of elite female drivers, it may not significantly increase overall female participation. The pyramid model, with its heavy emphasis on climbing to elite levels, could inadvertently overlook what women truly need and want if they are looking to participate recreationally or for enjoyment, rather than pursuing a professional career. This really emphasises the need for more diverse pathways that cater to all sorts of ambitions and levels of engagement, moving beyond just focusing on developing elite sports stars.

2.4.2 The Sport Participation Pathway Model

The Sport Participation Pathway Model (SPPM) aims to map different patterns of participation in organised, elite, non-organised, and casual social and recreational sports activities across various age groups. It particularly highlights the problem of dropout in competitive, club-based sports, especially among teenagers. The SPPM also points out that there is a largely untapped market in organised social and recreational sports, where options often feel limited (Eime et al., 2022).

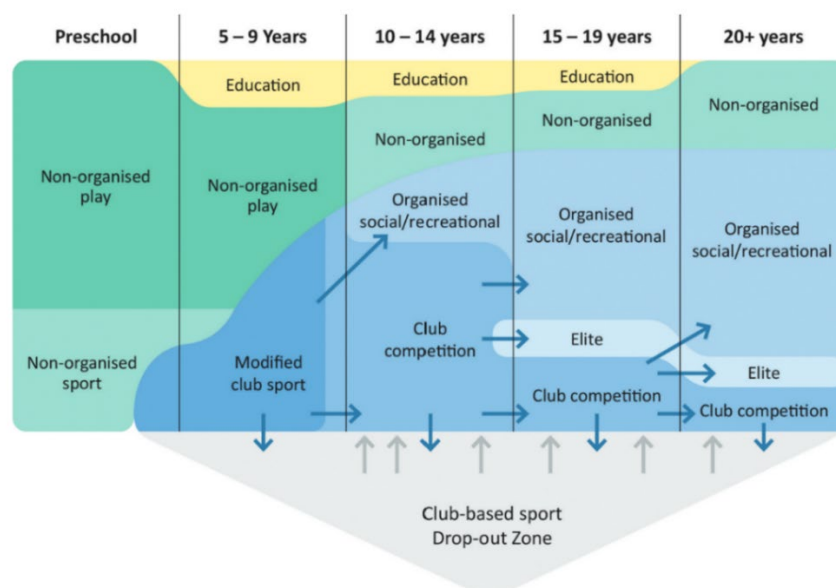


Figure 4. Sport Participation Pathway Model (Eime et al., 2022)

This model suggests that traditional club-based sports, often focused on competition and winning, do not adequately cater to wider societal changes that demand a more consumer-driven approach to participation opportunities. As leisure-time activities diversify, the capacity of sports club volunteers is impacted (Eime et al., 2020). Similar conceptual models like Sport4Me, which builds on SPPM principles, advocate for flexible, inclusive, and equitable sporting opportunities that prioritise "fun", friends, physical literacy, and play. This involves a shift from extrinsic motivations such as winning to intrinsic factors of fun and enjoyment, which have the potential to improve participation, retention, and individual well-being. The Sport4Me model proposes that community sports structures should shift their focus from delivering competitions and "winners" to positioning "fun sport" at the centre, while still allowing for competitive pathways (Eime et al., 2023).

2.5 Conclusion

In all areas and levels of sport participation and competition, enablers and barriers are present, complex and often intertwining. The use of the SEM provides the ability to identify intrapersonal factors, such as intrinsic motivation, time and financial limitations; interpersonal factors, including direct support networks, family dynamics, and the competitive environment of the sport; and organisational factors, including accessibility, policy, and incentive support. Using this model to explore the participation environment for women in New Zealand enables the examination of numerous factors across all levels that influence their ability to compete and develop within the sport. Further exploration of the various participation pathway models present in the literature provides the necessary foundation to understand the unique introduction into motorsport and how it differs from traditional sporting avenues.

Chapter 3: Method

3.1 Introduction

This chapter outlines the methodology adopted for this research project, which aims to identify the pathways, enablers, and barriers faced by women in motorsport in New Zealand. Section 3.2 presents the aims of this study, while Section 3.3 introduces the underlying research paradigm and the researcher's positionality. Section 3.4 details the research method employed, and Section 3.5 describes the overall research design. Section 3.6 then explains the data collection process, followed by Section 3.7, which provides an overview of the thematic analysis approach used for data analysis.

3.2 Aim and Research Questions

This study aims to explore the participation pathways, as well as the enablers and barriers, experienced by women in motorsport in New Zealand.

In order to achieve this aim, the following research questions were developed:

1. What participation pathways exist for women in motorsport in New Zealand?
2. What factors have enabled women to compete and progress to higher levels in motorsport in New Zealand?
3. What barriers have limited women's ability to compete and develop in motorsport in New Zealand?

The insights generated from this research will provide a deeper understanding of how women are introduced to motorsport, how they develop within the sport, and how they progress to higher levels of competition, as well as the challenges they face along the way. These findings will offer valuable guidance for clubs, event organisers, and governing bodies to enhance women's participation in motorsport. The findings will also expand the academic knowledge base on motorsport participation, particularly women's participation, which is currently under-researched. By identifying effective strategies and addressing barriers, this study aims to support the creation of a more inclusive culture that fosters development and progression for women in the sport.

3.3 Research Approach and Paradigm

A research paradigm comprises the interconnected theoretical and methodological beliefs that guide the selection, evaluation, and critique of a researcher's perspectives (Grant & Giddings, 2002). A researcher's worldview, or paradigm, shapes their perception of the world, influencing their research and affecting how they interpret and analyse data (Rohman & Alharthi, 2016). For this study, an interpretivist paradigm was deemed most appropriate, as it enables the exploration of multiple realities and truths.

Interpretivism emphasises the subjective nature of human experience, acknowledging that individuals actively construct their meanings based on their social interactions (Rohman & Alharthi, 2016). Melnikovas (2018) further supports this by asserting that interpretivist research is vital for exploring the intricate, meaningful levels of individuals' experiences within their cultural and social contexts. This approach allows researchers to delve deeper into participants' perceptions, producing richer and more nuanced understandings of their lived realities. Additionally, the interpretive approach's subjective lens necessitates a keen awareness of the researcher's subjectivity throughout the study. Knowledge construction in this context is inherently influenced by the researcher's perspectives and experiences, making it both context-dependent and subjective (Steptoe & Fancourt, 2019). This aspect is especially crucial when documenting diverse experiences, such as sport participation, where findings may differ widely depending on each participant's background and circumstances.

The interpretivist paradigm also aligns closely with qualitative methods, which are designed to capture detailed, descriptive data. Rehman and Alharthi (2016) note that such approaches enhance the richness of data collected through interviews, revealing patterns and themes that contribute to broader understandings of social phenomena. The objective is not merely to categorise experiences but to document the complex interplay of individual realities, which is particularly important considering the various influences on sports participation, ranging from policy to personal physical capabilities.

3.4 Research Method

For this study, the researcher adopted the semi-structured interview approach, a qualitative data collection technique that allows for both flexibility and adaptability (Adeoye-Olatunde & Olenik, 2021). This method enables the researcher to explore predetermined topics while dynamically engaging with participants, which can lead to deeper insights and richer data. A defining feature of semi-structured interviews is their conversational yet structured format, which strikes a balance between open dialogue and a guiding framework. This structure allows researchers to pursue emergent themes that arise during the discussion, thereby enhancing the depth and relevance of the findings (Adeoye-Olatunde & Olenik, 2021; Kallio et al., 2016). The conversational style also encourages participants to share their perspectives more openly, allowing researchers to gather insights that might be overlooked in more rigid or standardised methodologies (Oerther, 2021; Hanna, 2012).

3.5 Research Design

3.5.1 Recruitment of Participants

To recruit potential participants, a purposive sampling strategy was employed. This approach was selected to identify individuals who met specific inclusion criteria, thereby ensuring the collection of relevant and information-rich data (Palinkas et al., 2015). To be considered for this study, participants were required to meet the following criteria:

- Female
- 18 years of age or older
- Currently competing in, or having previously competed in, motorsport in New Zealand

Initial contact was made with key members of the motorsport community in New Zealand, including managers and secretaries of regional car clubs, the Women in Motorsport Advisory Commission, and the President of MotorSport New Zealand. Contact was made through publicly available email addresses. Through these organisations, flyers were distributed via mailing lists and social media accounts, inviting participants to join the study. Interested individuals were directed to

contact the primary researcher for further information. Afterwards, they were provided with a 'Participant Information Sheet' (see Appendix 1) and asked to nominate suitable dates and times for an interview. At the beginning of each interview, participants were read an oral consent form (see Appendix 2), and the interview commenced only after they had given their consent. Interviews were conducted over a period of two months, from May to June 2025.

3.5.2 Participants

A total of twelve individuals participated in this study. The participants represented a diverse range of experience levels, competition tiers, and motorsport disciplines. Table 1 presents an overview of each participant's experience, the disciplines in which they have competed, and the pseudonym used to identify them in this study.

Table 1: Interviewee Profiles

Name	Age	Years of Experience	Motorsport Discipline
P1	50+	30+	Circuit, Rally
P2	30-40	30+	Karting, Open Wheel, GT
P3	20-30	6	Rally
P4	20-30	3	Speedway
P5	40-50	13	Rally, Autocross, Motokana
P6	20-30	2	Circuit
P7	20-30	10	Drag, Circuit, Motokana
P8	18-20	1	Autocross
P9	50+	28	Circuit, Drag, Hill Climb, Speedway, Autocross, Motokana
P10	30-40	6	Circuit
P11	30-40	4	Motorcycle
P12	40-50	30+	Karting, Open Wheel, GT

3.6 Data Collection

Due to participants being located across New Zealand, all interviews were conducted online via Microsoft Teams. Ethical approval for this research was obtained from the AUT Ethics Committee

(AUTECH) (see Appendix 4). The interviews were designed as semi-structured discussions focused on participants' involvement and experiences in motorsport. They were guided by an interview schedule that explored participants' introduction to the sport, the support they received, and the barriers they had faced during their time competing (see Appendix 3). Questions were organised according to levels of the socio-ecological model to identify the catalysts and hindrances to participation and development across multiple levels. The first section addressed participants' involvement in motorsport, as well as their personal sources of support and the challenges they faced. The second section explored interpersonal experiences, followed by questions examining organisational, community, and policy-level enablers and barriers. All interviews included the complete set of open-ended questions, which were framed to encourage meaningful and candid discussion.

All interviews were conducted by the primary researcher and lasted approximately 30 to 45 minutes. They were recorded and transcribed using Microsoft Teams, with transcripts cross-checked by the researcher against the recordings for accuracy. Prior to commencing the interview, participants provided oral consent and were advised that, to protect anonymity, their names would be removed from the final results and replaced with pseudonyms.

3.7 Data Analysis

The interview recordings and transcripts were analysed using Braun and Clarke's (2006) six-phase thematic analysis approach. This method of data analysis involves six phases: familiarisation with the data, coding, generating initial themes, reviewing themes, naming, and writing up. Phase one involves familiarising oneself with the data through review and note-taking, followed by phase two, in which the initial codes are generated to capture key pieces of information. Phase three uses the codes to identify any broader patterns or themes. Then, phase four is a further review process to ensure that the themes and patterns accurately represent the dataset. Phase five focuses on creating clear definitions of what each theme represents, and finally, phase six is the final product of results (Braun & Clarke, 2019).

To become familiar with the data, the researcher reviewed the interview recordings and transcripts, first ensuring that all participants' answers were captured, and then making initial notes of key points and statements. These key points were then coded, using the socio-ecological model as a framework, and further categorised into more detailed themes within each level. Figure 5 provides an overview of the SEM factors as they relate to this study.

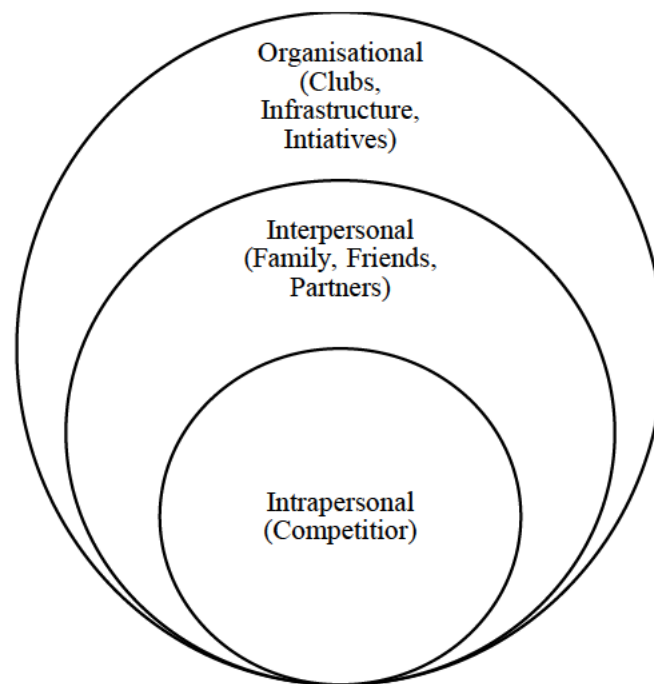


Figure 5. Motorsport socio-ecological factors

3.8 Conclusion

This chapter provided an overview of the research method used to answer the research questions. A discussion of method, participants, data collection, and analysis outlined how the study was conducted and who participated. An interpretivist mindset was employed to accurately interpret the participants' responses, uncovering the pathways, enablers, and barriers faced by women in motorsport in New Zealand. The findings of the interviews are categorised and explored in Chapter 4. During the analysis process, the researcher frequently referred to the interview transcripts and notes to ensure the accuracy and appropriate context of the experiences described by the participants were maintained.

Chapter 4. Results

4.1 Introduction

This chapter provides an overview of the participants' responses to the interview questions and the key themes that emerged in relation to the pathways, enablers, and barriers faced by women in motorsport in New Zealand. Section 4.2 examines the participants' pathways and introduction to the sport, Section 4.3 identifies the enablers of participation and progression in the sport, and Section 4.4 identifies the barriers faced in competing and developing. Themes identified as barriers and enablers to participation and development will be categorised using the socio-ecological model (SEM) to provide necessary structure and relevance, as shown below (Figure 6). In the intrapersonal layer, there are intrinsic motivation enablers, as well as barriers such as lack of knowledge, lack of confidence, pressure, and financial constraints. In the interpersonal layer, there are external support enablers and barriers, including a lack of knowledge sharing, discrimination, and familial responsibility. Finally, in the organisational layer, there are external support enablers, as well as barriers such as a lack of knowledge sharing, discrimination, and financial constraints.

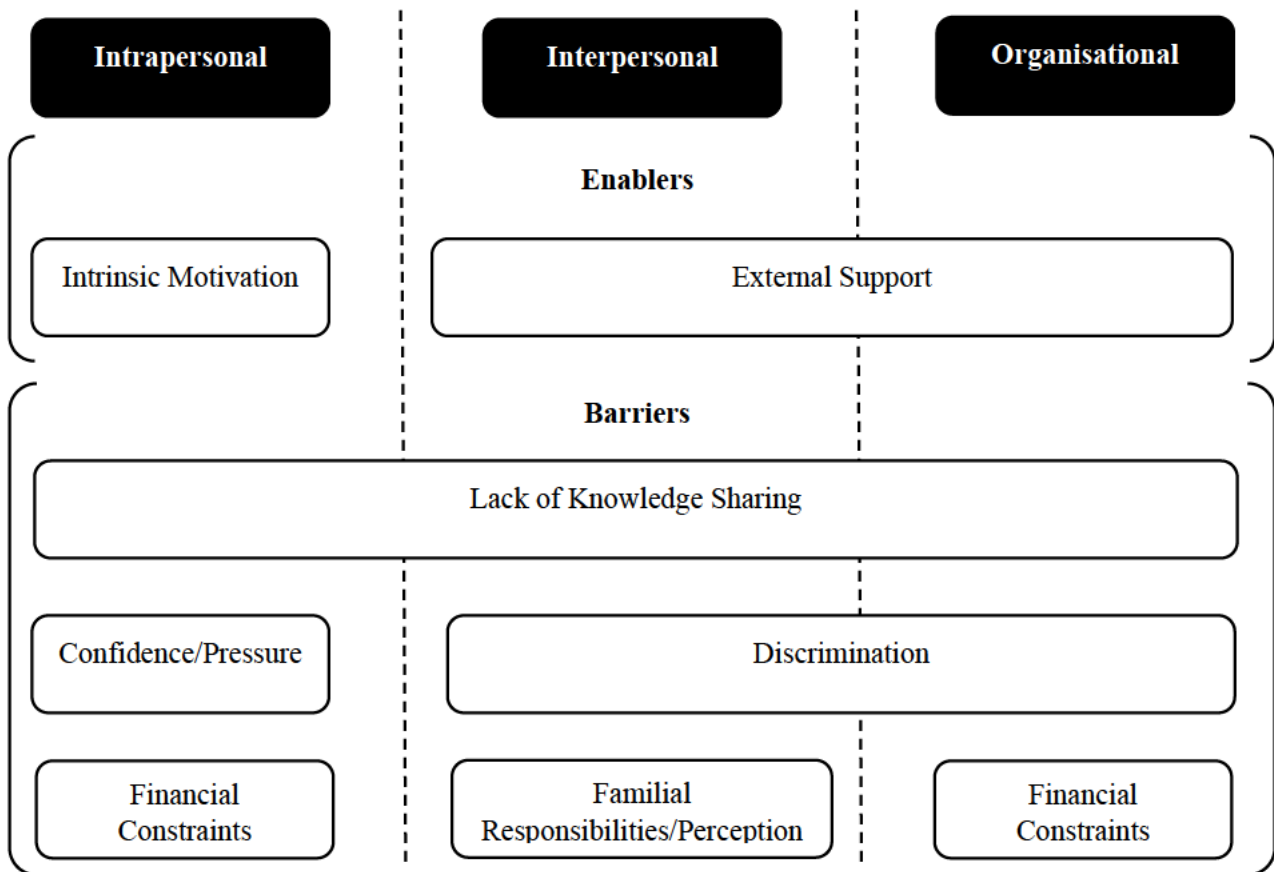


Figure 6. Identified Themes for Barriers and Enablers for Women in Motorsport in New Zealand

4.2. Research Question 1: What participation pathways exist for women in motorsport in New Zealand?

This section aims to identify the key participation pathways for women who wish to compete in motorsport in New Zealand, addressing Research Question 1. The themes covered are family introduction and driver observation.

4.2.1 Family

The first theme identified as a key influencer of women's participation in motorsport in New Zealand was family. This pathway directly links to the interpersonal level of the SEM, reinforcing the benefits of strong, immediate support networks. Of the 12 participants, seven stated that their introduction and initial participation were due to a family member or members competing. Participant

10 stated that: *“I’ve been involved in motorsport my entire life...My grandfather started when he was younger, then mum started and then even both my sister and I followed suit”*.

This suggests that most participants are more often “born into” the sport rather than discovering it independently. Due to the high degree of knowledge and financial support required to participate in motorsport, this highlights the benefit of having early exposure to an existing, close network of active or former participants in the sport. Participant 12 shared a similar sentiment, stating that:

“I was lucky, I guess, that my family were very involved in it...I don’t remember my mum racing, that was before I was born, but I grew up with my dad racing, and I’ve got an older brother and sister, and they both raced”.

Spousal influence was another observed introduction to the sport, with two participants stating it as their first venture into motorsport. Participant 1 stated that: *“I started driving my husband’s car, which is how I think back in the day was how most of the women ended up starting. I mean, you’re already paying the bill”*. This highlights the same beneficial support that was observed from family introduction, but at a later stage in life.

4.2.2 Driver Observation

The second identified theme was deriving an interest and initial participation from observing another driver. This theme coincides with the interpersonal and organisational level of the SEM. While not as direct as familial influence, this observation indicates a separate, outside force that facilitates the desire to participate. Participants 9 and 10 both observed existing female racing drivers and decided to try the sport as a result. Participant 9 spoke about this, stating that they:

“Actually, saw another woman doing it. I was watching the Taranaki tarmac rally, I believe it was, and there was a woman there, and I said to my partner at the time, ‘I want to do that,’ and he went all right then. So, we went and bought a car, built it up, and I started racing...that’s how I got into it because I just thought, well, if someone else can do it, why can’t I?”

This quote highlights the potential role models have in serving as someone's first introduction to the sport and eventual desire for participation. However, role models do not need to be observed directly by attending a racing event. As observed with the youngest participant, participant 8, social media can catalyse participation. They stated:

“I saw stuff online...different videos like, you know, TikTok and stuff. Just TikTok’s basically like rally and Formula 1. So, I was like Oh, that looks cool. And I was looking for a hobby, so I was like, I’ll give it a go”.

This suggests that there is a new avenue for the younger generation to develop a desire to participate.

4.3 Research Question 2: What factors have enabled women to compete and progress to higher levels in motorsport in New Zealand?

This section aims to identify the key themes that enable women to compete in motorsport in New Zealand, addressing research question 2. The themes covered are intrinsic motivation and external support.

4.3.1 Intrinsic Motivation

The first enabler identified was intrinsic motivation to do better, gain enjoyment, and grow. This enabler is directly associated with the individual level of the SEM and is shown to be a significant factor influencing sustained engagement in sports. 3 participants mentioned this, with participant 4 stating that: *“I’m always, no matter what happens, no matter how badly I absolutely break my car, it is always a smile on my face. And I’m always enjoying these races.”* Participant 11 continues this by saying that: *“On the whole it’s I think it’s been really good, really challenging and a really good growth or learning curve for me. And I really enjoy it.”* These participants highlight a clear, personal enabler outside of progression into higher levels of competition.

4.3.2 External Support

As discussed in the introduction to the sport, most participants utilise an existing interpersonal support network, comprising their family, friends, and partners, to advance in the sport. This theme extends across the interpersonal and organisational levels of the SEM, with support networks found

throughout multiple areas of the sport. Only 2 participants did not explicitly mention receiving this support. Eight of the participants also mentioned having a supportive community around them, which includes other competitors, clubs, and wider racing support staff. Participant 4 states that: *“Definitely very supportive when you first get into the sport, the other competitors can be very supportive. Always willing to offer help, like help with tools, or if you've got damage and things like that.”*

Participant 6 continues this with their experience: *“I'm the only female racer and there is about 50 or 60 other males in the class, so it's difficult. But my classes are really welcoming, and they always look after me, so I'm really thankful for that.”*

This support also extends beyond the interpersonal level, with participant 7 mentioning "Girls in Motorsport", a women-run club designed to provide a safe space for women in the sport. When asked about what enables them to compete, they stated that:

“Especially with Girls in Motorsport, we're all very supportive of everyone giving something a go. And if and if you don't have a good day or you do something wrong, there's no. There's no animosity. There's no. Judging for, you know, you might not have got the right.”

4.4 Research Question 3: What barriers have limited women’s ability to compete and develop in motorsport in New Zealand?

This section aims to identify the key themes that hinder women's participation in motorsport in New Zealand, addressing research question 3. The themes covered are financial constraints, confidence and pressure, discrimination, familial responsibilities, and knowledge sharing.

4.4.1 Financial Constraints

Almost all participants identified financial pressure as the most significant barrier to competition, a barrier primarily experienced at the personal level due to the necessity of self-funding in motorsport but also extending to the organisational level of the SEM, where the difficulty of acquiring meaningful sponsorships without being perceived as the “token women” is evident.

Of the 12 participants, 10 mentioned experiencing financial constraints, including an increase in the cost of equipment compared to their male counterparts, entry and licensing fees, and the initial cost of competing with the cost of the car, parts, maintenance, repairs, petrol and transport and travel. The issue of obtaining sponsorship was also highlighted. Participant 2 explained that when they were starting: *"Obviously, financial support would have been good or a scholarship or, you know, something like a helping hand like they do now."* Furthermore, participant 12 continued this with their experience moving into elite competition: *"We went to see some big, like, CEO of a company, and he just said my wife can't reverse the car into the car park, so why would I, you know, sponsor a female"*.

4.4.2 Confidence and Pressure

Confidence and pressure to perform were also common barriers that are associated with the intrapersonal level of the SEM, with 6 participants stating each as a significant hindrance to progression and performance. Participant 10 stated that:

"I think headspace is a really big one for anyone who's competing and self-doubt... I'd get into my head if I thought I'd had a bad day. If I'd thought I hadn't performed to what I thought I could do...I'm naturally someone who gravitates to you should do better."

When asked if the participant felt pressure to prove themselves more than their male counterparts, participant 12 stated: *"Yeah, I think personally I did. I always wanted to. Yeah, prove that I was just one of them."*

These examples highlight a prominent individual barrier faced by the participants; however, the view of confidence was perceived differently by participant 2. They observed that this may be a gendered barrier, rather than an individual one, saying that: *"You tell a boy that that corner's flat. They'll go out and they'll do it hands down. Like they've been told, it's flat. They can do it. You tell a woman that that corner's flat, they'll go. Show me."*

4.4.3 Discrimination

The next barrier, and arguably most concerning, is being actively targeted both on and off the track due to being a woman. This deep-rooted barrier extends across the interpersonal and organisational levels of the SEM, with clear patterns of discrimination shown from peers, clubs and even the accessibility of appropriate equipment.

5 participants experienced this, with participant 2 saying that: *“I got taken to by a lot of the boys because of the parents saying don't let that girl beat you. You let a girl beat you, that's the end of your career.”* And: *“I lost New Zealand titles because of my gender. It sounds stupid. I go, oh, no. It was just your **** driving. No, I was literally taken out.”*

Participant 9 continued this by stating that: *“I've also been harassed quite a lot. I've had aggressive behaviour towards me. I've had a couple of physical assaults as well, and so those have been really hard to overcome.”* Moreover, participant 12 said that: *“I think that guys didn't like being beaten. So, I got taken out, loads, crashed into.”*

It is important to note that this targeting and misogyny have been primarily mentioned as a historical barrier, with most participants mentioning the overall improvement in the environment of the support, stating that clubs and events have come a long way in becoming inclusive and supportive of women competing. However, the fact that multiple participants shared experiences of dangerous behaviour towards them from male counterparts still presents a significant hindrance.

Discrimination can also be observed in the design of equipment and the added cost of gear specifically designed for women. Participant 4 stated that: *“Sometimes the actual equipment it's not made for woman in a sense... why do I have to pay 200 bucks for the exact same thing just because I'm a woman.”* Which is further expanded on by participant 7 by saying that:

“One of the biggest struggles is finding the correct gear for women. That was quite a big challenge when I started because everything was available for men. And you couldn't really find the right fitting suit or things like that. That was a really big struggle. Which we had to do a lot of searching to figure

out where we could get dedicated women's suits and racing gear. And to be honest, it's still an issue now... buying one off the shelf is not a great experience at all."

These examples highlight a systemic issue of equipment and gear being either difficult to find or more expensive than equipment designed for men, purely because it is designed to fit women comfortably.

4.4.4 Familial Responsibilities and Perception

A gendered barrier commonly experienced by women, and identified in this study, is the familial expectations and responsibilities. This barrier is associated with the interpersonal level of the SEM and is typically displayed as the need or expectation to take responsibility for children.

Participant 3 shared their difficulty juggling being a mother and competing by stating that:

"It's been quite difficult because, you know, I took six months off. I've got a 2-year-old boy. So, I needed to take quite a bit of time off rallying for that... like 90% of the guys are dads, and it's an accurate disparity there. I don't want to just be a mum and then give up everything."

Participant 6 shared a similar sentiment, saying: *"I am a single mother that tries to make this work. I sacrifice a lot for it."* Participant 4 expands on the perception of this stereotype:

"They'll go off to have children, or they go get married and things like that, and they go, oh, that's their career over, kind of thing. And it's like, no, not necessarily like one of the ladies, she's had two kids. And she came back at the start of the season, and she is like number eight in New Zealand at the moment. She is absolutely like a force to be reckoned with."

This barrier highlights a rather "traditional" way of thinking that a woman must care for the children and look after the house, sacrificing their own hobbies and enjoyment to do so. While this has not stopped the participants of this study from competing and continuing to race after having children, it has made it more challenging.

4.4.5 Knowledge Sharing

The next most common barrier was the lack of initial knowledge, knowledge sharing, and visibility of mentors. This barrier is unique in that it extends across all levels of the SEM: intrapersonal through lack of base knowledge when starting, interpersonal and community through a lack of willingness from external social networks, and organisational and policy from the lack of clarity or access to key aspects of the sport from clubs and sporting bodies.

8 participants mentioned this, with participant 4 stating that: *“It’s about who you know, not what you know.”* Moreover, participant 7 continues this with: *“It’s finding the right people to talk to that will listen when a woman wants to get into motorsport. It’s quite difficult to find someone who is willing to talk to you and don’t think that you’re wasting their time.”*

The process of obtaining a racing licence was also an observed pain point, where the lack of readily available information and knowledge sharing proved to be a hindrance. When participant 1 began in the sport, they stated that:

“I had no idea that any Joe bloke could go and get a race licence. Yeah, they haven’t got a clue, and that’s still the case. People just don’t know. Ordinary people could go and get a race licence...It’s like it’s a secret society or something. Because it’s so difficult unless you know somebody who’s already doing it.”

Participant 10 also experienced this:

“Trying to figure out the entire, like, how you get your club licence and how to do all that stuff was actually quite difficult...there isn’t really a manual that teaches you what to do, where to go, how to do this.”

4.6 Conclusion

This chapter presents the findings of the interviews conducted in this study and identifies the common themes that influence women's ability to compete and progress in motorsport in New Zealand. Influence from family and friends was the most prevalent pathway and enabler to

participation and progression. Highlighted barriers included financial constraints, a lack of foundational knowledge and knowledge sharing, as well as confidence and pressure to perform, and active targeting by male counterparts. Further investigation into the findings and opportunities for growth within the sport are discussed in Chapter 5.

Chapter 5. Discussion

5.1 Introduction

This chapter presents the study's findings regarding the pathways, enablers, and barriers to women's participation in New Zealand motorsport. The results are contextualised in the literature and theory concerning this issue, including consideration of the socio-ecological model (SEM), as well as models used for general sports participation. The chapter addresses the complexity of the overall context of factors that determine women's experience and involvement within this male-dominated sport. The analysis describes how the pathway into the sport is more reliant on family-based, informal networking than on formal developmental pathways, and this reliance extends to the nature of the support systems found. The findings highlight how a combination of personal motivation, community support, and significant systemic barriers collectively defines the environment for female competitors, ultimately underscoring the need for structural and cultural change within the sport's governing bodies and grassroots communities.

Sport participation is a multidimensional phenomenon, with personal, social, and environmental factors interacting with and influencing each other to impact overall outcomes (Vella et al., 2014). The SEM was used as a lens to guide the data collection process, the interview data analysis, and to contextualise the key themes identified through thematic analysis, which produced the following discussion.

5.2 Overview of Key Findings

The findings revealed that the primary introduction to motorsport for women in New Zealand is through family involvement. Most participants were introduced to the sport through family members or partners who were already active in motorsport, while only a minority discovered the sport independently by observing other drivers, both in person and online, highlighting the importance of visible role models. Enablers to participation were primarily intrinsic motivation and external support networks, while barriers included financial constraints, confidence and pressure, discrimination, family responsibilities, and limited knowledge sharing. These findings suggest that

women's participation in motorsport in New Zealand remains heavily reliant on informal networks and self-motivation, rather than structured developmental pathways or institutional support.

5.3 Discussion of Findings in Relation to Literature

5.3.1 Pathways into Motorsport

The prominence of family as a pathway in this study aligns with previous research that highlights the influence of family and social factors on sports engagement, in particular (Vella et al., 2014; Rumahpasal et al., 2020). Within the SEM, the concept of family support resides within the interpersonal level, where family support and socialisation into the sport contribute to the initial participation and motivations to compete in the sport. The technical and resource-intensive aspect of motorsport magnifies this dependency, as those who would not necessarily be involved in a racing family environment face increased barriers to participation due to financial constraints, technical skills, and limited access to key information.

The few respondents who entered motorsport by observing it before entry through either real or social media highlighted the more recent development of mediated visibility as a potential pathway into motorsport. This aligns with recent research stating that media exposure of athletes and role models with visibility appears to be one of the driving factors behind their uptake by women (Wilson et al., 2022; Hopkins et al., 2022). The use of social media by the younger participants in this study introduced a new dimension to the structured participation pathways evident in the literature. This could potentially bridge the visibility gap identified in the literature for a new generation of women in male-dominated sports (Eime et al., 2019).

5.3.2 Enablers to Participation and Progression

Two key enablers — intrinsic motivation and external support — were crucial in maintaining women's participation and promoting development. Intrinsic motivation, which can be characterised as enjoyment, challenge, and personal growth, aligns with the findings of research that has identified the role of intrinsic motivation for ongoing participation in sport (Amaro et al., 2023; Foley et al., 2023). The emphasis on enjoyment and self-development by participants reflects intrinsic motivators

associated with long-term adherence and satisfaction, which the literature contrasts with extrinsic motivators such as rewards or competition outcomes (Teo et al., 2015).

The presence of close interpersonal and community support structures was also an important enabler, consistent with the interpersonal and wider organisational sections of the SEM. Family, friends and club members were often referred to as vital emotional and practical support structures. This finding is consistent with previous studies, which have shown that self-efficacy, motivation, and retention in sport can be enhanced with social support (O'Brien et al., 2021; Sheridan et al., 2014). Importantly, this has been extended to include structures, such as "Girls in Motorsport", a women-led organisation that provides safe and supportive environments for participation in motorsport in New Zealand. These initiatives exemplify the principles of inclusive sport models, such as Sport4Me, where engagement in sport is emphasised over competitive sport, and enjoyment, flexibility, and engagement are further enhanced by using community-based approaches in place of competition (Eime et al., 2023).

Overall, the presence of intrinsic motivation and external support systems reinforces the argument in the literature that sustainable participation depends on both personal agency and supportive social ecosystems. However, the findings also reveal that such support is organic, rather than institutionalised, suggesting that motorsport in New Zealand relies heavily on informal community goodwill rather than systematic inclusivity policies or development frameworks.

5.3.3 Barriers to Participation and Progression

The obstacles identified, financial constraints, confidence and pressure, discrimination, family responsibilities, and information sharing, are reflective of many challenges highlighted in the broader gender and sport literature. These barriers occur at multiple levels of the SEM, demonstrating how individual, interpersonal and organisational layers interact to limit women's participation and progression in motorsport.

The most common barrier was financial constraints, which supports the literature identifying economic status as a key determinant of access to elite and non-elite levels of engagement in sport

(Kristiansen & Houlihan, 2015). The high costs associated with motorsport create exclusionary conditions that can disproportionately affect women who already face systemic inequities in sponsorship and funding (Bowes et al., 2021). Participants' experiences of bias in potential sponsorship support the research, which shows that gender stereotypes particularly inhibit women's access to funding and subsequently their visibility (Eime et al., 2019). This highlights how inequities at organisational and policy levels translate into individual financial barriers, further widening the gender divide.

Confidence and pressure emerged as significant psychological barriers, illustrating the individual-level challenges identified in the SEM. Several participants expressed feelings of increased self-doubt and the notion that they were required to prove themselves against male competitors. Related to the conclusions of Hammond et al. (2022), it is suggested that women engaged in competitive sports are vulnerable to increased performance anxiety related to both gender expectations and scrutiny of their performances. The observation that women require more validation before they accept risk or challenge, "show me" rather than "I will do it", illustrates gendered patterns of socialisation in sport, such as those found by Phipps (2019) and Gjesdal and Hedenborg (2021), who identified the impact of self-concept and confidence in female participation.

Another significant theme was that of discrimination, both past and present. Some interviewees commented that they had been targeted, harassed or deliberately obstructed by male competitors, reflecting the persistence of masculine cultural norms within motorsport. These accounts reflect previous findings that gender prejudice and exclusionary practices exist for women in male-dominated sports (Larkin et al., 2015). However, while the interviewees acknowledged advances towards inclusivity, it is evident from the reports of physical harassment and differential treatment that the culture has not yet transformed. Structural issues such as the design of equipment and racing gear further illustrate how gender bias extends into the material and organisational domains, reinforcing inequity through seemingly neutral systems of provision.

Additionally, gendered constraints were found to persist in terms of family responsibility. The accounts provided by interviewees aligned with previous research on gendered constraints in sport

(Reece et al., 2020; Rodrigues et al., 2017). Women face a persistent dilemma between family and domestic responsibilities, which limits their time and resources available for sports. The findings show that while many women continue to compete after motherhood, they must make significant sacrifices, suggesting that motorsport culture remains misaligned with the needs of women balancing multiple roles.

Finally, knowledge sharing and visibility emerged as systemic barriers, spanning the interpersonal, organisational, and community levels. The lack of accessible information about licensing, entry requirements, and career progression pathways created an impression of motorsport as an "insider's" activity, available primarily to those already embedded in existing networks. This aligns with findings in the literature, which identify limited access to informal networks of mentors and the lack of informational resources as key barriers to female participation in male-dominated sports (Clerck et al., 2025; Wicker et al., 2020). The general lack of clarity on matters such as licensing and other progression processes brings attention to the structural barriers involved within motorsport.

Collectively, these barriers highlight how women's participation is constrained not by a single factor but by an interplay of psychological, social, and systemic forces. While individual motivation and support can mitigate some challenges, structural reform is required to address the underlying inequities embedded within the sport's culture and institutions.

5.4 Interplay of Socio-Ecological Layers

Enablers and barriers were identified across all three layers of the SEM with clear crossover. The external support enabler spans both the interpersonal and organisational layers; interpersonal support comes from family, friends, peers, and other competitors, while organisational support comes from clubs, events, and governing bodies. Barriers also extend across multiple layers, with the most prevalent being the lack of knowledge sharing. Starting with intrapersonal, the difficulty lies in building and establishing an initial knowledge base. Interpersonal challenges arise when there is no established support network or a lack of willingness to help from other individuals or organisations. Organisational challenges include a lack of easy access to key information, such as licensing,

technical, and essential event details. Discrimination is also evident across the interpersonal layer, through mistreatment and judgment from other racers, and organisational, resulting in a lack of appropriate and affordable equipment. Finally, financial constraints are evident in the intrapersonal layer, with personal finance and the direct costs of equipment and competition, and in the organisational layer, with the costs of competing, as well as the difficulty of acquiring sponsorships.

This interplay or linking of themes across the different levels of the SEM aligns with findings in the broader literature on perceived enablers and barriers to sport participation. A study on sport participation for older adults found multiple interconnected benefits and barriers that influenced one another. For example, the lack of knowledge and participation opportunities had a direct link to time constraints and societal factors (Jenkin et al., 2018), which, in the case of this study, could explain the connection between a lack of knowledge sharing, discrimination, and the perception of familial responsibility. This interplay serves to highlight the complexity of barriers and enablers, as well as the influence that one or multiple factors may have on each other across all layers of the SEM.

5.5 Implications

The results demonstrate the need for motorsport organisations in New Zealand to implement initiatives that promote participation without relying on friends and family members. These pathways are traditionally very reliant on informal networks of participation and communicate inadequacy of formal mechanisms for recruitment, education, and retention. Observation of the entry age of the participants shows a tendency towards late entry into motorsport. The absence of structured developmental pipelines for girls in motorsport contrasts with the assumptions of the pyramid and sport participation pathway (SPPM) models, which are based on progressive, early-age engagement. This suggests that motorsport, at least in the New Zealand context, operates outside the traditional sport development logic, relying instead on individual initiative and informal networks rather than institutionalised pathways. Collaboration between clubs and governing bodies to create clear and accessible pathways for women without existing connections to the sport could greatly increase exposure to and participation in motorsport. At the club and team levels, developing mentoring

programmes, providing pathways to information detailing entry requirements, group technical training, and licensing days could help reduce the initial knowledge gap of new entrants in the sport.

Policies would also need to look at the inequities of sponsorship and funding barriers to participation. Targeted fundraising models, scholarships, and sponsorship initiatives will help reduce entry gaps for women. Collaborating with the media and sponsors to promote women's achievements can enhance their visibility and socially endorse women's participation. The financial commitment required to compete in motorsport is a persistent barrier to participation and an issue that may never be fully resolved. However, the implementation of targeted policies and initiatives may help alleviate some of the strain and reduce its impact as a barrier.

5.6 Recommendations for Further Research

While this study has generated key insights to help increase participation and reduce barriers, further focused investigation into early-stage participation pathways, talent development, and progression into higher series could help establish clear paths for women and girls who want to enter the sport. In contrast to early pathways, later-stage development investigation could produce the necessary knowledge to assist the large portion of participants entering the sport at a later age, and progress outside of club-organised competition. While the majority of participation occurs at the club and grassroots level, helping elevate women to higher levels of competition would not only increase visibility and desire to participate but also create key role models and mentors to assist in knowledge sharing and motivation.

A long-form study to analyse the full lifecycle of motorsport competition in New Zealand for women is an avenue that could provide insights into specific pain points in the processes. Analysing key transitions from early age karting, competition, progression into higher level series, sponsor acquisition and transition out of competition or moving to recreational, grassroots participation could allow policy makers to have a more complete understanding of each stage of participation, unique challenges that arise with each, and where best to focus support to grow the sport

5.6 Limitations

The size of this research study was largely dictated by the requirements of a 60-point dissertation. While on the higher end of participant count, to maintain within the set guidelines, a limited number of participants were interviewed compared to similar research cases. To further improve the data collected and build a deeper understanding of the interplay between the layers of the SEM, distributing a wider questionnaire to current competitors in New Zealand may have been beneficial. This would have allowed the researcher to access a wider pool of information and examine patterns, outliers, and further analyse potential regional differences.

Ensuring a diverse range of participants is crucial to enable the interpretation of the data to be applicable to the wider population (Hebl & Avery, 2013). The researcher did not actively recruit participants for this study from a range of competition levels. While differing competition levels were explored in this study, the consensus that misogyny and discrimination have decreased over time presents an additional line of inquiry for the new generation of competitors. It would be beneficial to conduct a deeper analysis of new entrants into motorsport to generate an unbiased view of barriers to entry and competition from those who have been involved in and influenced by the sport over a long period.

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Appendix

Appendix 1: Participation Information Sheet



Participant Information Sheet

Date Information Sheet Produced:

05/03/2025

Project Title

Pathways, Enablers and Barriers of Entry and Development for Women in Motorsport in New Zealand

An Invitation

Kia ora,

My name is Cort Dixon, and I am conducting this research as a requirement of completing the Master of Business specializing in Sport Leadership and Management at Auckland University of Technology,

As a life-long motorsport competitor and fan, diversity and inclusion are paramount for the sustainability of the sport. This study aims to explore the gaps in current motorsport research and contribute to the growth of the sport in New Zealand. By exploring the pathways, enablers and barriers for women in New Zealand motorsport, this study looks to create a more concise view of the current climate of the sport to help further participation and development.

I would like to invite you to participate in this research as your experience and insight will be of great value. Your participation is voluntary, and you may withdraw at any time prior to the completion of data collection.

What is the purpose of this research?

The purpose of this study is to investigate the pathways and development of women in motorsport in New Zealand. The study will specifically focus on entry into motorsport, progression into different racing series, and barriers and enablers for development.

How was I identified and why am I being invited to participate in this research?

Those considered for this study are females over the age of 18 who are either currently competing or have competed in motorsport in New Zealand. You have been invited to participate based on your involvement and/or contribution to the sport.

How do I agree to participate in this research?

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

Participation in this research involves being interviewed for approximately 30-45 minutes about your experience and insights from competing in motorsport. Interviews will be conducted online.

What are the discomforts and risks?

A low level of discomfort and risk to participants may occur in this study. Participants may experience a low level of discomfort or embarrassment if they are not accustomed to voicing their experiences and insights.

To alleviate any discomforts and risks, your identity will remain confidential and will not be disclosed in the final written report. In the interview, only appropriate questions will be asked, and you are not required to answer



questions if you do not feel comfortable. You will also have the opportunity to provide feedback to the researcher if you wish to extract or remove any parts of the conversation.

What are the benefits?

The findings of this research may prove beneficial to improve practice, management and development for women in New Zealand motorsport by highlighting issues that have been and are currently being experienced by women in the sport. For participants, this research is an opportunity to talk about your experience in motorsport and voice any concerns and successes in the current climate. For the researcher, the benefits include a further understanding into a topic that interests them and the completion of their Master of Business in Sport Leadership and Management.

How will my privacy be protected?

Your identity will be kept classified and will not be disclosed in the written report. Any material paraphrased or quoted from transcripts will be confidential and will only be identified with a pseudonym or label, for example 'Participant A'. As mentioned, you will also have the opportunity to provide feedback to the researcher if you wish to extract or remove any parts of the conversation

What are the costs of participating in this research?

The cost of participating is your time.

What opportunity do I have to consider this invitation?

From receiving this Information Sheet attached to your invitation email, there is one month for you to consider participating in this research.

Will I receive feedback on the results of this research?

A summary of the research findings will be emailed to participants. Participants can choose to opt out of receiving this summary if they so wish.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Mel Johnston, melody.johnston@aut.ac.nz.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Cort Dixon, cth7089@aut.ac.nz

Project Supervisor Contact Details:

Mel Johnston, Senior Lecturer AUT, melody.johnston@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 25/03/2025, 25/69.

Appendix 2: Oral Consent Script

Oral Consent Script

The participant joins the video conference

Do you agree to my recording your consent to participate?

If they agree, then the record function will be activated and they will be asked the following:

Have you read and understood the information provided about this research project in the Information Sheet dated 5th March 2025

Do you have any questions about the research?

Do you understand that notes will be taken during the interviews and that the interview will also be audio-recorded and transcribed?

Do you understand that taking part in this study is voluntary (your choice) and that you may withdraw from the study at any time without being disadvantaged in any way.?

Do you understand that if you withdraw from the study then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used? However, once the findings have been produced, removal of your data may not be possible.

Do you agree to take part in this research?

Do you wish to receive a summary of the research findings? (please tick one): Yes No

Do you want me to send you a copy of the audio recording for this consent? Yes No

Please confirm you name and contact details

Participant's name:

Participant's Contact Details (if appropriate):

.....
.....
.....
.....

I will now turn off the recording of the Consent and then will start a separate recording for the interview.

Appendix 3: Interview Script

INDIVIDUAL

What age did you start participating in motorsport?

What form of motorsport have you competed in and for how long?

What inspired you to get into motorsport?

What has your experience been like in motorsport? (i.e., do you feel isolated, supported, empowered etc.)

Have you faced any personal challenges in your journey (e.g., confidence, physical demands, finances)?

Have you ever felt pressure to prove yourself more than your male counterparts?

What kind of support or resources did you have that was helpful when you started out?

What kind of support or resources did you wish you'd had when starting out?

What were some of the biggest struggles competing in motorsport professionally and how did you overcome them to reach the level you are/did?

INTERPERSONAL

What's your experience like working with male vs. female racers or teammates?

Have you experienced different treatment from peers or coaches based on your gender?

Can you share any examples where your interactions with male racers highlighted gender differences?

ORGANIZATIONAL

Do you think teams, clubs, or organizations expect different things from male and female riders?

How inclusive do you feel motorsport clubs or teams are toward female riders?

Are there enough opportunities (e.g., races, training) for female riders at your level?

COMMUNITY

Do you see female representation celebrated in motorsport events?

Have you seen changes in attitudes toward women in motorsport over time?

SOCIETAL/POLICY LEVEL

Are there gender-specific policies or initiatives (or lack thereof) that influence your ability to compete?

Do you believe Motorsport NZ and car clubs are genuinely working to address gender inequality?

Appendix 4: Ethics Approval



Auckland University of Technology Ethics Committee (AUTECH)

27 March 2025

Melody Johnston
Faculty of Health and Environmental Sciences

Dear Melody

Re Ethics Application: **25/69 Pathways, Enablers and Barriers of Entry for Women in Motorsport in New Zealand**

Thank you for your responses to AUTECH's conditions.

Your ethics application has been approved for three years until 25 March 2028.

Non-Standard Conditions of Approval

1. Update the Information Sheet:
 - a. include in the 'How was I identified' section that 'you responded to an advertisement sent out by Motorsport NZ (3.e).
 - b. Include advice that a report will be sent to Motorsport NZ (condition 3.k).
2. Update the advertisement/email with the ethics approval number and the date of the approval (25 March 2025)

Non-standard conditions do not need to be submitted to or reviewed by AUTECH unless requested but must be completed before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTECH.
2. All public facing documents must have the AUTECH approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTECH prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTECH, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTECH grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online <http://www.aut.ac.nz/research/researchethics>

For any enquiries, please contact the Secretariat at ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTECH Secretariat
Auckland University of Technology Ethics Committee

Cc: cth7089@aut.ac.nz