

Talent Development in the New Zealand Sporting Context

Final Report

Ken Hodge¹, Scott Pierce², Megan Taylor³, & Angela Button¹

¹School of Physical Education, University of Otago, NZ

²Michigan State University, USA

³Miami University, USA

- We offer our sincere thanks to all the current elite athletes, former elite athletes, coaches, and parents of elite athletes who generously gave their time to talk about the complex issue of 'talent development' for elite athletes in NZ. Their knowledge, insights and recommendations have provided invaluable information for future elite athletes and those involved in assisting these aspiring elite athletes.
- We also acknowledge the fantastic help from the various national sporting bodies who assisted us with gaining access to current elite athletes, former elite athletes, coaches, and parents of elite athletes. Many thanks.

*This project was funded as a research grant by Sport New Zealand (known as Sport and Recreation New Zealand (SPARC) at the time of funding).

Contents

- Executive Summary page 3
- Talent Development in NZ Sport: An Overview page 5
- Why Talent Development? page 5
- What questions did we want to answer? page 6
- How did we collect this information? page 8
 - Who did we interview? page 8
 - Interview procedures page 10
 - How was the interview data analysed? page 10
- What did we find? page 12
 - Overview of findings page 12
- What does all this mean? page 14
- Practical recommendations page 21
- Future use of these findings page 26

- References page 27
- Appendix A: Interview Guides page 29
- Appendix B: Findings/Themes page 32
 - Athlete Pathways page 33
 - Support from Others page 62
 - Psychological Development page 81
 - Challenges page 109
 - Physical Training & Attributes page 116
 - Tall Poppy Syndrome page 122
- Appendix C: Pathways/Timelines page 130

Executive Summary

SPARC's¹ High Performance strategy acknowledges the need to make our high performance sport system "wiser, savvier, more innovative, and more strategic" (SPARC High Performance Strategy, 2010; p.3).

The purpose of this project was to gain an in-depth understanding of the **performance factors necessary for talent development** in the New Zealand sporting context from the perspective of:

- Current elite NZ athletes
- Former elite NZ athletes
- Coaches of elite NZ athletes
- Parents of elite NZ athletes

How did we collect this information?

We employed purposeful, strategic sampling where interview participants were selected by investigators as being the best people to provide a specific understanding of athletic talent development in NZ. This sample centred on the seven sports from SPARC's Targeted Sport Core High Performance Programme.

Who did we interview? (sample)

The operational definition of an elite athlete in this study was *an athlete who had represented New Zealand at the international level in his/her chosen sport.*

We interviewed twenty athletes (nine current athletes, 11 former athletes), six coaches, 12 parents and 1 brother (of current &/or former athletes). All interview participants signed an informed consent form and were informed about the standard research practice of confidentiality and anonymity. Thirteen of the twenty athletes interviewed were kind enough to respond to our request to use their names for the purpose of describing the elite nature and credibility of our sample of athletes (current & former) interviewed. The names of these 13 elite athletes are as follows:

¹ SPARC changed its name to Sport NZ on 1 February 2012. High Performance Sport New Zealand (HPSNZ) was established in 2011. Because the study was conducted prior to 2012 the name SPARC is retained in this report.

Current Elite Athletes: Alison Shanks, Mahe Drysdale, Nathan Cohen, Eddie Dawkins

Former Elite Athletes: Danyon Loader, Moss Burmester, Liz van Welie, Matt Randall, Susy Pryde, Lesley Rumball, Adine Wilson, Julie Seymour, Chantal Bruner.

Overview of Findings

Our comprehensive content analysis of the verbatim interview transcripts (over 550 pages of text) revealed six key themes regarding talent development. These six themes are not presented in any order of importance, as their relative importance varied across the experiences of these twenty elite NZ athletes. The full report include 96 pages of detailed findings (see Appendix B; page 32-129).

Six Key Themes

- Athlete Pathway
- Support from Others
- Psychological Development
- Challenges
- Physical Training & Attributes
- Tall Poppy Syndrome

Practical Recommendations

It is apparent from these findings that a number of key 'performance factors' should be considered as priorities for systematic development:

- (i) the crucial role that 'social support' plays in athlete development; especially *competitive support* from teammates and/or training partners.
- (ii) challenges along the athlete pathway are normal and expected, and sharing effective solutions and/or coping strategies should be actively encouraged.
- (iii) specific physical skill development needs should be clearly connected to '*work ethic*'; and *training motivation* is crucial.
- (iv) specific psychological skill development needs must be identified.
- (v) High Performance Sport NZ should continue with individualised athlete development plans, and consider extending the practice to selected pre-elite athletes.
- (vi) High Performance Sport NZ should consider incorporating these specific needs/key factors into an athlete tracking database.
- (vii) In addition, with respect to 'Tall Poppy Syndrome' (TPS), there is a need for an awareness and education programme for promising *junior* athletes to help these juniors develop methods to minimise the effect of TPS on their athletic development.

Talent Development in NZ Sport: An Overview

SPARC's High Performance strategy acknowledges the increasing professionalism surrounding the international sporting environment, and the need to make our high performance system "wiser, savvier, more innovative, and more strategic" (pg. 3) (SPARC High Performance strategy, 2010).

The purpose of this project was to gain an in-depth understanding of the **performance factors necessary for talent development** in the New Zealand (NZ) sporting context from the perspective of:

- Current elite NZ athletes
- Former elite NZ athletes
- Coaches of elite NZ athletes
- Parents of elite NZ athletes

For NZ to continue to produce successful athletes at the elite level and increase the potential of NZ athletes to win on the international stage, it is vital to gain an understanding of the pathway that our current and former elite athletes have taken. This research project addressed the issues of athletic talent identification and development in the NZ socio-cultural context by gaining insight and perspectives from athletes, parents, and coaches who have been involved in elite sport.

Overall, the aim was to gather information regarding talent development that can be used to help educate athletes, parents, coaches, and administrators about the process of talent development and to provide recommendations to promote the future development of champion NZ athletes.

Why 'Talent Development'?

SPARC's Talent Identification and Development (TID) Taskforce report (2004) arrived at the following overall conclusions:

- "There is no simple solution anywhere to this complex problem of long-term talent identification. To deduce otherwise fails to acknowledge the multi-faceted nature of talent and that its development relies on many influences (e.g. biomechanical, physiological, physical, psychological and

environmental factors). This was the overall conclusion reached by the Taskforce. If a world champion is an aggregate product of genetic endowment, a supportive environment and highly specialised training, it seems naïve to direct our efforts towards just identifying talent; talent development, which commences when a child is born, is the crucial but often misunderstood link. It is contended that the New Zealand TID strategy prioritise the establishment of a systematic and holistic long-term development process, with an on-going identification strategy embedded in it” (pg. 5; Linking Promise to the Podium: Talent Identification and Development [TID] in New Zealand. A Report to SPARC’s Board from the TID Taskforce, 2004)

Clearly **talent development**, more so than talent identification, needs to be the focus of future efforts for high performance sport in NZ.

As part of SPARC’s High Performance Strategy, **athlete development** is identified as a key tactic to ensure SPARC’s high performance mission is achieved. Additionally, SPARC’s High Performance Athlete Development Plan (2010) highlights the future focus on supporting “sport to accelerate talented athletes to podium potentials” (pg. 1) by developing a nationally coordinated High Performance Athlete Development (HPAD) plan. One key element in the development of the HPAD plan(s) will be the identification of crucial “defined **performance factors**” (p. 12) that need to be systematically developed (SPARC High Performance Athlete Development Plan, 2010-2016; “Building Athletes for success in 2016 and Beyond”, 2010).

What questions did we want to answer?

(Purpose)

This research project investigated a range of **performance factors** that have been found to be influential in the talent development of athletes. These performance factors included:

- talent development needs to be differentiated from talent identification (Abbott & Collins, 2002, 2004; Abbott, Button, Pepping & Collins, 2005);
- talent development is a dynamic, multi-faceted, multi-dimensional concept (Abbott & Collins, 2002; Bruner, Erickson, Wilson & Cote, 2010);
- the involvement of the parents and coaches in the development of elite athletes (Chase, Pierce, Byrd & Roethlisberger, 2010; Cote, 1999;

- Csikszentmihalyi et al. 1993; Gould, Dieffenbach & Moffett, 2002; Lauer et al., 2010; MacNamara, Button & Collins, 2010a; Morgan & Giacobbi, 2006);
- the development of psychological skills in elite athletes (Durand-Bush & Salmela, 2002; Gould, Dieffenbach & Moffett, 2002; MacNamara, Button & Collins, 2010a,b);
 - the development of life skills in elite athletes (Gould & Carson, 2004; Jones & Lavallee, 2009);
 - the systems involved in being spotted as a 'talented' athlete (Abbott & Collins, 2002);
 - the role of sport diversification in the development of elite athletes (Chase et al., 2010; Gould & Carson, 2004);
 - the views of sport specialisation (Abbott & Collins, 2002; Gould & Carson, 2004);
 - an additional (uniquely New Zealand) investigation into the concept of 'Tall Poppy Syndrome' within the NZ social-cultural context and its impact on the talent development of athletes (Mouly & Sankaran, 2000).

Although this previous research offers important knowledge about the development of elite athletes, it does not automatically relate directly to the NZ sporting context. Talent development is a long-term process and one cannot rely solely of the individual talent, a strong support system is also required (Cote, 1999; Gould, Dieffenbach, & Moffett, 2002; Morgan & Giacobbi, 2006). This project also investigated and analyzed the role of social-support systems in the NZ sporting context.

In addition to exploring the development of performance characteristics of New Zealand athletes, their support networks, and the systems and processes involved in talent development, this project also investigated the phenomenon of the '**Tall Poppy Syndrome**' (Feather, 1999; Feather & Sherman, 2002; Jackson, Dover, & Myocchi, 1998). 'Tall Poppy Syndrome' is a concept that is well known to all New Zealanders. However, minimal research has been conducted regarding its role and function in the NZ socio-cultural context (Mouly & Sankaran, 2000), and in particular, in the sporting environment. We explored this social construct from the viewpoint of those who have managed to stand out in NZ sport (i.e., from the tall poppy's perspective), and those who have been involved in the development of elite athletes. Thus, we also sought to provide insight into the effects of the 'Tall Poppy Syndrome' on our elite athletes' development, performances, and ultimate success.

In summary, this research project investigated the personal views of elite NZ athletes, their parents and coaches, with a view to offering specific recommendations for the **talent development** of NZ athletes.

How did we collect this information?

(Methods)

This research project employed purposeful, strategic sampling where interview participants were selected by investigators as being the best people to provide a specific understanding of athletic talent development in NZ (Mason, 2002). This purposeful sample centred on the seven sports from SPARC's Targeted Sport Core High Performance Programme. These included athletics (track & field), bike, rowing, swimming, triathlon, yachting, and netball. Participants were current elite athletes, former elite athletes, parents, and coaches who have had specific experiences and involvement in the successful development of athletic talent. These participants were from a variety of regions across New Zealand, and included both male and female athletes from a range of different ethnic backgrounds.

Who did we interview? (sample)

The operational definition of an elite athlete in this study was *an athlete who had represented New Zealand at the international level in his/her chosen sport*. The following criteria were used to select participants: a current elite athlete, a recent former elite athlete, a parent of an elite athlete, and/or a coach of an elite athlete. The aim of this study was to interview 20 current elite New Zealand athletes, 20 former elite New Zealand athletes, 20 parents of elite New Zealand athletes, and 20 coaches of elite New Zealand athletes. Unfortunately, logistical and access problems/challenges made it impossible to achieve the ambitious goal of 80 interviews. Swimming NZ were undergoing a SPARC review at the time we wished to collect data; they respectfully declined to participate. However, we approached a number of former elite swimmers individually; three swimmers accepted our

invitation. Triathlon agreed to participate, but triathletes were either overseas or unavailable/declined to participate. Similarly, many athletics (track & field) athletes were either overseas or unavailable/declined to participate. Yachting NZ, as an organisation, declined to participate.

We interviewed twenty athletes (nine current athletes, 11 former athletes), six coaches, 12 parents and 1 brother (of current &/or former athletes). All interview participants signed an informed consent form and were informed about the standard research practice of confidentiality and anonymity. However, thirteen of the twenty athletes interviewed were kind enough to respond to our request to use their names for the purpose of describing the elite nature and credibility of our sample of athletes (current & former) interviewed.

The thirteen athletes listed below gave us signed permission to list their names. However, these athletes were assured that no names would be attached to the quotes in the findings in an effort to respect anonymity and to encourage candid responses. Finally, names of teammates, coaches, and opponents have been deleted in places where such information could jeopardise anonymity.

Current Elite NZ Athletes

- *Alison Shanks* – cycling (Olympic Games 2008; World Track Cycling Champion, 2009; World Track Cycling Championship, 2010; Commonwealth Games, 2006).
- *Mahe Drysdale* – rowing (Olympic Games bronze medallist, 2008; Olympic Games, 2004; Five-time World Champion 2006, 2007, 2008, 2010, 2011; World Championship silver medallist, 2009).
- *Nathan Cohen* – rowing (Olympic Games, 2008; Two-time World Champion 2010, 2011).
- *Eddie Dawkins* – cycling (Commonwealth Games silver and bronze medallist, 2008; World Championship gold medallist, 2008).

Former Elite NZ Athletes

- *Danyon Loader* – swimming (Olympic Games double gold medallist, 1996; Olympic Games silver medallist, 1992; Commonwealth Games gold medallist, 1994; Commonwealth Games, 1990, 1998).

- *Moss Burmester* – swimming (Olympic Games, 2004, 2008; Commonwealth Games gold medallist and bronze medallist, 2006; World Championship gold medallist, 2008; Commonwealth Games, 2002, 2010).
- *Liz van Welie* – swimming (Olympic Games, 2004; Commonwealth Games silver medallist, 2006).
- *Matt Randall* – cycling (Olympic Games, 2004; Commonwealth Games bronze medallist, 2002).
- *Susy Pryde* – cycling (Olympic Games, 1996, 2000; Commonwealth Games silver medallist, 1998; Commonwealth Games silver medallist, 2002; Commonwealth Games 1994).
- *Lesley Rumball* - netball (Commonwealth Games silver medallist, 1998; 2002; World Championship gold, 2003; silver, 1999; and bronze, 1995).
- *Adine Wilson* – netball (Commonwealth Games gold medallist, 2006; World Championship gold, 2003).
- *Julie Seymour* – netball (Commonwealth Games silver medallist 1998; 2002).
- *Chantal Bruner* - athletics (Commonwealth Games, 1994, 1998, 2002, 2006; Olympic Games, 1996).

Interview Procedures

We used semi-structured, face-to-face, qualitative interviews. The interviews were designed to be informal interactional exchanges of conversation with the specific purpose of gaining an understanding of the participant's perspective and experiences of athletic talent development (Shank, 2006). This method focused on the importance of building effective reciprocal communication whilst inquiring into the meaning the participants made of athletic talent development (Mason, 2002). The interviews had a fluid and flexible structure and although they were based on an interview script, it was not imperative that the full list of questions was covered in a specific order (see Appendix A for a copy of the Interview Guides; pages 29-31). Interview questions were structured around the athletic talent development literature, and were tailored towards the participant group (parents, coaches, or athletes). All interviews were audio-recorded (with the participant's permission) and then transcribed verbatim immediately following the interview. The raw data consisted of over 550 pages of verbatim interview transcripts.

How was the interview data analysed?

Following the completion of each interview and transcription, the interviews were content analyzed individually by members of the research team who followed the same analysis procedure (Creswell, 2007). Significant statements were identified and marked on each of the transcripts and these “slices” of data were recorded as meaning units. Once meaning units had been identified throughout each transcript, these pieces of data were grouped into themes or categories. This categorization was based on the specific information from each unit and the essence of that information in relation to the research questions about talent development in NZ sport. These themes represented groups of meaning units that were identified as being relevant and related (Creswell, 2007). The analysis of the interviews was completed immediately following transcription due to the large sample size of this study. This allowed the researchers to analyse the data while it remained fresh and in the appropriate context. This meant that some interviews were analysed individually before others had taken place, thus allowing interview probes to be tailored and developed based on interview findings (Shank, 2006). Once all interviews had been conducted and analysed individually, cross-case coding was completed across all data and participants.

Following analysis of the data by each of the researchers, “investigator triangulation” was used to improve descriptive validity (Johnson, 1997). The researchers came together to compare their analyses and interpretations of the interviews and check the data to make sure the information was accurately represented (Johnson, 1997). Common themes and categories were identified and agreed upon by the four researchers. To ensure trustworthiness and to improve the validity of the current study, the researchers employed practice reflexivity (Johnson, 1997; Schram, 2006). “Reflexivity” involves self-awareness and critical self-reflection on the assumptions, beliefs, and predispositions the researcher had about the NZ sporting context and about athlete talent development (Johnson, 1997).

What did we find?

(Results/Findings)

In these interviews we investigated the personal views of elite current and former NZ athletes and their coaches and parents, with a view to offering specific recommendations for the **talent development** of NZ athletes. In this section we first provide an overview (in bullet point format) of the major findings – six major themes and sub-themes from the interviews. Our substantive commentary of these themes is contained in the ‘What does all this mean? (discussion) section (see pages 14 to 21). Finally, our detailed findings, including numerous quotes from athletes/coaches/parents, are provided in Appendix B (see pages 32-129).

Overview of Findings

Our comprehensive content analysis of the verbatim interview transcripts (over 550 pages of text) revealed six key themes regarding talent development. These six themes are not presented in any order of importance, as their relative importance varied across the experiences of these twenty elite NZ athletes.

A. Six Key Themes (see Appendix B for details; pages 32-129)

- Athlete Pathway
- Support from Others
- Psychological Development
- Challenges
- Physical Training & Attributes
- Tall Poppy Syndrome

B. Themes and Sub-Themes (see Appendix B for details; pages 32-129)

Athlete Pathway

- Athlete Specific Pathway (also see Appendix C for specific pathway timelines for each athlete; pages 130-139)
- Competition Structure
- Talent Identification Systems
- Environment/NZ Sporting System

Support from Others

- Peers
- Sport Specific Significant Others
- Coaches and Trainers
- Family
- Sport Science Support
- School Personnel
- Non-Sport Significant Others

Psychological Development

- Psycho-Social Development: Role models; childhood dreams; athletic identity; coaching preferences; team dynamics...
- Psycho-Behavioural Development: Psychological skills and characteristics such as self-belief; competitiveness; independence...
- Motivational Issues & Orientations
- Coping Resources

Challenges

- Maintenance Stage
- Inexperience/Age
- Transition into Sport/Event
- Tall Poppy Syndrome
- Changing Support Crew
- Financial
- Changing Environment
- Non-Selection/Selection
- Under-Performing/Losing
- Pressure
- Life Events
- Illness/Injury
- Workload
- Competing Sports/Specialisation
- Team Dynamics
- Competing Interests/Life Balance
- Lack of Support
- Confidence/Performance Anxiety
- Conflict with Coaches

Physical Training & Attributes

- Training
- Technique & Technical Skills
- Genetic Make-Up

- Injury
- Fitness

Tall Poppy Syndrome (TPS)

- Definitions and Perceptions of TPS
- Responding to TPS
 - Block it out/Ignore
 - Serves as motivation
 - Acting as a Tall Poppy
 - Avoiding being seen as a Tall Poppy
 - Struggling to respond and cope
 - Using support networks
- TPS Perceived as Positive
- TPS in Youth Sport
- TPS in Elite Sport
- Impact of TPS and Examples
 - Role of Media

What does all this mean?

(Discussion & Conclusions)

As previously mentioned, this project aimed to help educate athletes, coaches, and administrators about the process of talent development and develop recommendations to promote the future development of champion NZ athletes. The number of stakeholders of this research was therefore wide-spread. Athletes, coaches, and sport organisations will all be able to benefit from the findings from this research project.

These perceptions from elite athletes, and their coaches and parents, provide specific recommendations for sporting bodies, coaches and high performance managers to follow in order to give young athletes opportunities to succeed (see pages 21-26 for 'Practical Recommendations'). Although it is recognized that there is no specific recipe for athletic success (Abbott & Collins, 2002, 2004; Abbott et al., 2005; Chase et al., 2010), these elite athlete findings offer the NZ sporting

community with some useful guidelines and recommendations. However, the reader needs to bear in mind the fact that, while each of the athletes interviewed were the elite of the elite in NZ sport (see sample description on pages 9-10), the 'sample' of athletes interviewed was limited to the five sports of athletics, cycling, netball, rowing, and swimming.

Athlete Pathways

- The diverse developmental pathways that these athletes navigated were similar to those identified in previous research. Not surprisingly, as athletes developed along their pathway they inevitably encountered a number of challenges (see later section on 'challenges'; pages 19-20).
- It appears that early involvement in a wide range of sports and physical activities can benefit athletes' subsequent development within a specific sport. Consequently these findings suggest that individuals should be provided with a range of sporting opportunities during their school years and that diversification rather than specialisation should be encouraged.
- Whilst all athletes interviewed were involved in a diverse range of activities during childhood, some athletes did not become involved in the sport that they ultimately excelled in until their late teens (e.g., athlete 18, athlete 15; see Appendix C for individual athlete timelines; pages 130-139). Consequently, a diverse involvement may be more important than early involvement in a specific sport and avenues need to be open for late starters to access sports.
- Some researchers have suggested that it takes an athlete 10 years of practice to excel (e.g., Ericsson et al., 1993; Starkes & Ericsson, 2003); however, the time it took these athletes to excel varied greatly. For example, whilst athlete 20 and athlete 14 followed this 10yr pattern, athlete 7 had only been rowing for a couple of years before becoming a gold medallist at the World Championships (see Appendix C for individual athlete timelines). Similarly, athlete 15 was only in her 3rd year of cycling when she began

excelling on the international scene (see Appendix C for individual athlete timelines). Again, a diverse sporting background may have expedited these latter athletes' progress within their sport. In addition, **quality** training and experiences are likely more important than quantity.

Support from Others

- It's important to note from a practical standpoint that parents most often provided the introduction to sport. It also appeared that parents were important in providing emotional, esteem, and financial support. Although some parents did provide instructional support, for the most part athletes' parents were not significantly involved with coaching or providing sport-specific instruction for these athletes. Additionally, as these athletes moved along their pathway the type of support provided by family members changed from financial or tangible support to more emotional or esteem support. Most athletes cited little or no parental pressure or expectation to excel at sport; yet their parents were strongly supportive of their sporting endeavours. Parent and family support appeared to be critical for athletic talent development and success, and these common themes provided evidence for the supportive role that parents and family can play.

They didn't really, they didn't push me. Like they didn't force me to do anything, but they still supported me in everything I did. [MS2]

- The most important type of support provided by peers at the elite level appeared to be **competitive support**. Athletes thrive off of the competition amongst teammates or partners in a training environment. When this type of support was not provided, several athletes felt their performance suffered. Training in a competitive environment provided motivation and a gauge of the athletes' abilities. It therefore appears important for athletes, who have a desire to reach the elite level of sport, to surround themselves with peers who will provide them with this competitive motivation.

It changed our training environment, we went from training with a group of guys which was quite social, we got on quite well. ...[To a group where] we were quite competitive and there was a lot of internal competition to training. And that [other less competitive] group was

completely different, ...so in terms of a training environment, it just wasn't conducive to us working particularly hard. [MR3]

- Many athletes mentioned the need for emotional support after or during challenging times, such as relocation and injury. Athletes who did receive emotional support through communication with coaches or medical staff reported that it had a substantial influence on their ability to cope with the injury. This finding highlighted the importance of open lines of communication between athletes and support staff at all times, especially when the athlete may be trying to overcome challenges.

They're [coaches & management] pretty good with the communication we get. They're like 'don't worry too much'. They're quite secure on if you get back and you're fine, then we'll play you; you'll make the team. But just make sure that you get through your rehab and what not. But you don't always believe what they say. ...So that does help them having communication with you. If they had no communication I reckon I would have been buggered -- How am I going to get through it? So communication [is crucial]. [FN2]

Psychological Development

- These elite athletes indicated through many examples that it was their *psychological attributes* that separated them from other athletes throughout their development. Alongside the focus on physical ability and physiological characteristics in talent development, emphasis should also be placed on psychological skills and characteristics. Steps should therefore be taken in talent identification and development processes to gain an understanding of athlete psychological skills needs. Coaches and parents will be key resources in helping to build this understanding.
- As stated above, athletes stated in many cases that it was their psychological characteristics that separated them from others at the elite level. For example, support for psychological skill development should be provided and recommended to athletes who are (i) making the transition from youth level to elite level sport, (ii) relocating for training or study; and (iii) for those trying to 'win after winning' (Jackson et al., 1998). Although it may not be necessary for every athlete, or accepted by every athlete, efforts

should be made to make these services available at the developmental level (e.g., psych skills for motivation, commitment, training motivation, confidence, coping with pressure, etc).

- Many athletes identified the changes in the quantity and quality of training as they progressed in their development at the high school level – the psychological issues of motivation and training motivation became evident as key factors.

Rowing was a sport that I found that when you're younger it's probably 90% natural talent and you know 10% hard training. But I started to learn that as you got older you know it was probably 10% natural talent and 90% hard training. [MR2]

I think as you got round that 16 to sort of 19-20 year old bracket, that [training] really starts changing. ...I was younger [than club teammates]... so I thought I had to train more. So I started training more than them and then I beat one of them once and thought 'oh that's pretty good'. And then the next time you try beat the guy that was next ahead and then sort of work your way up. So that was probably the major influence, [I] was sort of getting made to train harder to keep up with people that were above you. But then at the same time you started picking them off. And I aimed the results that way, so I thought it just encouraged me to train harder and harder. [MR2]

- Many psychological skills and characteristics were developed through experiential learning. Athletes and coaches should engage in regular reflective practice to help gain an understanding of potential psychological skills that may have been learned from certain experiences and how the sporting environment could be manipulated to foster the development of these skills.
- A clearcut finding across all of these athletes was the need to enjoy their sport at all levels of development. Enjoyment clearly consisted of taking pride and satisfaction in hard physical work, as well as successfully coping with challenges/problems. The key focus was the mindset of actively seeking to enjoy their sporting experience. Efforts to develop elite athletes will be fruitless if athletes do not have the intrinsic motivation to pursue their dreams

and persevere with demanding training loads – enjoyment appears to be a key element in this intrinsic motivation (i.e., inside/internal drive to succeed).

You just got to have that intrinsic motivation, got to have that drive from inside. Because... if you're doing it for your parents or whoever, [then it] won't work. You can't hurt yourself for anybody else, [no-one] except yourself. [MC1]

Challenges

- Experiencing a variety of challenges and problems, and athletes experiencing a non-linear athletic development pathway, was consistent with previous research (also consider this finding alongside diverse pathways taken by athletes).
- Also consistent with recent previous research on the development of experts, athletes across these sports highlighted how the challenges they experienced throughout their development provided valuable learning experiences and were ultimately crucial in them becoming an elite athlete.
- Previous research has highlighted that athletes experience different challenges when trying to stay at the top of their sport (the maintenance stage) compared to getting to the top, with the former often considered to be more difficult (Jackson et al., 1998). Consistent with this previous research eleven of the athletes highlighted the different challenges experienced when staying at the top of one's sport. Amongst these eleven athletes nine individuals highlighted challenges that they found more difficult at the maintenance stage of their athletic career. In contrast two athletes highlighted how they found the challenges they faced whilst getting to the top more difficult. One athlete mentioned some challenges that were harder at the 'getting there' stage and others at the 'maintenance' stage.
- While these athletes reported a range of challenges, the way in which an athlete responded to a challenge was more important than the actual challenge itself. The coping skills employed by the athletes in this study to respond to obstacles and set-backs clearly contributed to their ability to

distinguish themselves from other athletes. Athletes at all levels should acknowledge and expect that challenges/problems are going to occur. Athletes and coaches need to be proactive in identifying likely challenges and then learning coping strategies to deal with potential problems and difficulties – they should be encouraged to see such challenges as learning experiences.

I think you have to experience and come through some really big obstacles in order to succeed at the top level. [FR3]

You know it's a learning thing, it's taking those situations [challenges] and trying to learn from them and trying to adapt. [MR1]

Physical Training and Attributes

- Several male athletes mentioned that at the early stages (secondary school level) natural talent appeared to advantage certain individuals. However, most athletes did not describe themselves as being 'naturally talented' and mentioned that at a certain age talent and ability levels off – at that stage 'work ethic', motivation, commitment, and training motivation take precedence. This advantaged the athletes who were already accustomed to training hard (or were already working at a high training volume). They felt that 'naturally-talented' athletes, who were not accustomed to this level of training because they had previously relied on their natural abilities, were more likely to fall behind or drop out of the sport.
- Many athletes mentioned that training volume increased greatly (i) once they selected into the high performance system, (ii) with a new coach, and/or (iii) prior to a major event (Commonwealth Games, Olympics, etc.). In these situations, once again the key factor was not necessarily physical ability or physical attributes, rather key psychological factors such as 'work ethic', motivation, commitment, and training motivation were most important.

Tall Poppy Syndrome

- For a number of athletes the Tall Poppy Syndrome appeared to negatively impact their perceptions of themselves and their abilities. Steps should be taken by national sporting organisations to prepare athletes to cope with incidents of TPS and create strategies to deal with scenarios where others may try to 'cut them down'.
- While 'Tall Poppy Syndrome' (TPS) was not viewed as a consistently significant issue at the elite level, there was considerable evidence that TPS was a consistent challenge/problem at youth sport/high school level. Consequently there is a need to have an awareness and education programme for promising junior athletes regarding methods to minimise the effect of TPS on their athletic development.

Practical Recommendations

It is apparent from these findings that a number of key 'performance factors' should be considered as priorities for systematic development:

- (i) the crucial role that 'social support' plays in athlete development; especially *competitive support* from teammates and/or training partners.
- (ii) challenges along the athlete pathway are normal and expected, and sharing effective solutions and/or coping strategies should be actively encouraged;
- (iii) specific physical skill development needs should be clearly connected to 'work ethic'; and training motivation is crucial;
- (iv) specific psychological skill development needs must be identified;
- (v) High Performance Sport NZ should continue with individualised athlete development plans, and consider extending the practice to selected pre-elite athletes;
- (vi) High Performance Sport NZ should consider incorporating these specific needs/key factors into an athlete tracking database.

- (vii) In addition, with respect to 'Tall Poppy Syndrome' (TPS), there is a need for an awareness and education programme for promising junior athletes to help these juniors develop methods to minimise the effect of TPS on their athletic development.

Athlete Pathway -- Implications

1. These athletes consistently highlighted the multifaceted nature of talent. In addition, a number of athletes highlighted how they didn't show 'early talent' but developed through the development of a high work ethic (e.g., training motivation). In fact, a number of athletes discussed individuals who had shown early talent but relied too much on their 'natural' talent and failed to develop the work ethic and training motivation required to excel at the top of their sport. Indeed, many athletes highlighted the danger of relying too much on performance or physique to identify athletes as they believed the 'hard work ethic athlete' would have been overlooked in such a system. Consequently, it is important that opportunities are provided for those athletes who show the determination to overcome weaknesses (e.g., physical stature, physiological capacity, technical skills) through hard work and determination.
2. These twenty elite athletes followed diverse pathways and reached the same stages of development at different ages. For example, athlete 10 first got selected for an age group NZ team (U21) at 18 years of age. However, athlete 14 competed for NZ in the U17 at age 12 and U21 at age 15. Consequently, resources and support services, rather than being age-specific, need to be specific to the stage of development of each athlete. For example, three 15 year old netballers may employ psychological skills in different ways (e.g., coach-led vs. self-determined goal setting) depending on their stage of development within netball (e.g., club netball, representative netball or NZ age group squad).
3. If an athlete does not 'make it' early in their career (e.g., Athlete 6 took 14 years before making the NZ elite team and was 27 years old), rather than

automatically removing support, providers should try to identify the factors inhibiting their development and ascertain whether they can be overcome. Leaving the door ajar for the 'late-maturing athlete' appears to be an important issue for sporting bodies to consider.

4. Wherever possible, national sporting bodies and High Performance Sport NZ should expose athletes to a range of sport science support services, but it should be the coach's and athlete's responsibility to prioritise the support necessary to achieve their own goals and to choose the right kind of support at the right time.
5. High Performance Sport NZ should continue to provide opportunities for athletes to experience training and competition overseas. In a small and isolated country like New Zealand, international experience seems necessary to fully engage athletes in the mastery / maintenance stages.

Social Support from Others -- Implications

1. The most important type of support provided by peers at the elite level appeared to be **competitive support**. Athletes thrive off of the competition amongst teammates or partners in a training environment. When this type of support was not provided, several athletes felt their performance suffered.
2. Training in a **competitive environment** provided motivation and a gauge of the athletes' abilities. It therefore appears important for athletes, who have a desire to reach the elite level of sport, to surround themselves with peers who will provide them with this competitive motivation.

Psychological Development -- Implications

1. Athletes identified a number of psychological attributes that they viewed as being important to their development as an elite athlete. These skills should be a key focus for mental skills training programmes for pre-elite athletes. These skills included:

- self-belief/confidence
 - determination & commitment
 - work ethic/training motivation
 - competitiveness
 - mastery orientation
 - independence/autonomy
 - personal responsibility & discipline
 - coping skills
2. It is encouraging that many of the psychological attributes recognised by elite athletes as critical to their success can be developed and learnt. In other words, these skills are not innate, it is not a case of accepting that an athlete either has them or that they will never have them. With the appropriate support structures and flexible resource allocation systems in place, sport governing bodies can help to develop these key psychological skills with pre-elite athletes.
 3. Whilst similar psychological attributes were identified across athletes, the effective employment of these skills is likely to vary across sports (e.g., rowing and netball). Therefore resources need to be **sport-specific** and consider the unique constraints of each sport.
 4. Recognition of desired psychological attributes and how their employment may vary at different stages of development may also expedite an athlete's transition to the next stage of development.
 5. It would also be of benefit to (i) consider the extent to which the training environment facilitates the desired psychological skills training (e.g., does the coach provide encouragement and time for athletes to mentally rehearse skills in training?) and (ii) provide coaches with support and education about how to develop psychological skills.
 6. Sporting bodies and High Performance Sport NZ should continue the current good work in this area of sport science support. However, it would appear

that additional effort would be beneficial to upskill coaches about mental skills training and creating an environment that supports such development.

Challenges -- Implications

1. All athletes described a diverse range of challenges they had experienced. Whilst support can be provided to help smooth out some of these challenges (e.g., advice and support following injury), it is important that athletes develop a range of skills that will help them cope, manage and move through any challenge. Indeed, athletes explained how challenges and set-backs (e.g., de-selection; injury) helped them to develop the psychological skills they ultimately required to excel at the top of their sport.
2. Athletes identified a number of psychological attributes (e.g., determination, work ethic/training motivation, independence/autonomy, personal responsibility & discipline, coping skills) that they used to manage and overcome the range of challenges they experienced.

Physical Training and Attribute -- Implications

1. Many athletes mentioned that at the early stages of development (high school level) natural talent appeared to advantage certain individuals. However, these 'naturally talented' need to also develop training related attitudes/psych skills such as 'work ethic', motivation, commitment, and training motivation. Those 'naturally-talented' athletes who are not accustomed to this level of training motivation and work ethic are more likely to fall behind or drop out of the sport (athletes in our study perceived this was the case, but none of our sample fitted into this category).
2. Many athletes mentioned that training volume increased greatly (i) once they were selected into the high performance system, (ii) with a new coach, or (iii) prior to a major event (Commonwealth Games, Olympics, etc.). In these situations, the key factors that athletes need to develop are not necessarily physical ability or physical attributes, rather key psychological factors such

as 'work ethic', motivation, commitment, and training motivation were most important.

Future Use of these Findings

We intend to disseminate these findings in a number of different ways:

- The findings were primarily presented in this plain-language summary report for SPARC -- highlighting the key findings and practical recommendations (e.g., key performance factors to be developed; specific skill [psychological and/or physical] development needs; athlete development plans; key factors for an athlete tracking database). This final report is also accompanied by a two page user-friendly Executive Summary.
- Key findings and practical recommendations will also be presented and disseminated in a number of practical ways. It is the aim of the researchers that the key findings and recommendations will be presented and disseminated for athletes, parents, coaches, and sport organizations by SPARC. This could be in the form of website articles, newsletter articles, magazine articles, workshops, and coaching clinics.
- The findings will also be submitted to the Association of Applied Sport Psychology (USA) for presentation at the annual international conference.
- The research findings will be collated and submitted to an academic sport science journal for publication. Approval from SPARC will be sought regarding content; and the SPARC Research Grant will be acknowledged.

References

- Abbott, A., & Collins, D. (2002). A theoretical and empirical analysis of a 'state of the art' talent identification model. *High Ability Studies*, 13(2), 157-178.
- Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: considering the role of psychology. *Journal of Sport Sciences*, 22, 395-408.
- Abbott, A., Button, C., Pepping, G-J., & Collins, D. (2005). Unnatural selection: Talent identification and development in sport. *Nonlinear Dynamics Psychology and Life Sciences*, 9, 61-88.
- Bruner, M.W., Erickson, K., Wilson, B., & Cote, J. (2010). An appraisal of athlete development models through citation network analysis. *Psychology of Sport and Exercise*, 11, 133-139
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, 13, 395-417.
- Chase, M. A., Pierce, S. W., Byrd, M., & Roethlisberger, B. (2010). *Talent development in youth sports: Reflections from professional athletes*. Paper presented at the Association of Applied Sport Psychology Conference, Providence, RI.
- Creswell, J.W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. (2nd ed.). Thousand Oaks, CA: Sage.
- Csikszentmihalyi, M., Rathunde, K., Whalen, S & Wong, M. (1993). *Talented teenagers: The roots of success and failure*. New York: Cambridge University Press.
- Durand-Bush, N., & Salmela, J.H. (2002). The development and maintenance of expert athletic performance: Perceptions of world and Olympic champions. *Journal of Applied Sport Psychology*, 14, 725-747.
- Ericsson, K. , Krampe, R., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, 363-406.
- Feather, N. T. (1999). *Values, achievement, and justice: Studies in the psychology of deservingness*. New York: Kluwer Academic/Plenum Press.
- Feather, N. T., & Sherman, R. (2002). Envy, resentment, Schadenfreude, and sympathy: Reactions to deserved and undeserved achievement and subsequent failure. *Personality and Social Psychology Bulletin*, 28, 953-961.
- Gould, D, & Carson, S. (2004). Myths surrounding the role of youth sports in developing Olympic champions. *Youth Studies Australia*, 23(1), 19-26.

- Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology, 14*:3, 172-204.
- Jackson, S.A., Dover, J., & Myocchi, L. (1998). Life after winning gold: I. Experiences of Australian Olympic gold medalists. *The Sport Psychologist, 12*, 119-136.
- Johnson, R.B. (1997). Examining the validity structure of qualitative research. In A.K. Milinki (Ed.), *Cases In Qualitative Research* (pp. 160-165). Los Angeles, CA: Pyrczak.
- Jones, M. I., & Lavallee, D. (2009). Exploring perceived life skills development and participation in sport. *Qualitative Research in Sport and Exercise, 1*(1), 36-50.
- Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). Parental behaviors that affect junior tennis player development. *Psychology of Sport and Exercise, 11*, 487-496.
- Mason, J. (2002). *Qualitative researching* (2nd ed.). Thousand Oaks, CA: Sage.
- MacNamara, A., Button, A., & Collins, D. (2010a) The role of psychological characteristics in facilitating the pathway to elite performance Part 1: Identifying mental skills and behaviours. *The Sport Psychologist, 24*, 52-73.
- MacNamara, A., Button, A., & Collins, D. (2010a) The role of psychological characteristics in facilitating the pathway to elite performance Part 2: Examining environmental and stage-related differences in skills and behaviors. *The Sport Psychologist, 24*, 74-96.
- Morgan, T., & Giacobbi, P.R., Jr. (2006). Toward two grounded theories of the talent development and social support process of highly successful collegiate athletes. *The Sport Psychologist, 20*, 295-313.
- Mouly, V.S. & Sankaran, J. (2000). The tall poppy syndrome in New Zealand: An exploratory investigation. In M. Sheehan, S. Ramsay & J. Patrick, *Transcending boundaries: Integrating people, processes and systems*. Griffith University: Brisbane.
- Schram, T.H. (2003). *Conceptualizing and proposing qualitative research* (2nd ed.). Columbus, OH: Merrill Prentice Hall.
- Shank, G.D. (2006). *Qualitative research: A personal skills approach* (2nd ed.). Columbus, OH: Merrill Prentice Hall.
- Starkes, J., & Ericsson, K. (2003). *Expert performance in sports: Advances in research on sports expertise*. Champaign, IL: Human Kinetics.

Appendix A: Interview Guides

Interview Guide – Current & Former Athlete

Intro Question: Can you describe your involvement in sport, involvement as an athlete, the sport you are involved in at the elite level, how long you have involved, and your achievements at the elite, international level?

1. How did you first become involved in sport?

I am trying to establish a timeline from the time of your initial involvement in sport to where you are today. This may take some time but it is important for me to understand your progression through sport. Be sure to include all sports you have played and the ages from which you played. So, how did you progress from your original involvement in sport to where you are today?

2. When did you specialise in your sport?

3. When and why did you realize you had the potential to be very good at sport? (*At what stage of development did this happen?*)

4. What factors distinguish you from those who did not demonstrate talent? (*At what stage of development did this happen?*)

5. What factors distinguish you from other talented athletes who “did not quite make it” to the elite level? (*At what stage of development did this happen?*)

6. Were there any points in your development that you found particularly difficult and how did you manage these?

7. Did you face any different challenges when you were striving to get the top when you were trying to remain at the top?

8. We’ve talked a lot about the support you required through-out your development and those that helped with this but I was also wondering if you experienced any negative influences during your development that we have not discussed?

9. As an athlete who has been “talented enough” to become an elite athlete in the New Zealand sporting context, what are 3 things that you believe you HAD to DO or EXPERIENCE to be sure you fulfilled your potential?

Interview Guide – Coach

Intro Question: Thinking about this specific athlete, can you briefly describe the role you played in this athlete's career?

1. When did you first become involved with this athlete?

To the best of your knowledge, how did this athlete progress from this original involvement with you to their highest level? This may take some time but it is important for me to understand his/her progression through sport. Be sure to include all sports they played and the ages from which they played. So, how did they progress from that original connection with them to where they are today?

2. When did your athlete specialise in your sport?

3. When did you realize your athlete had the potential to be very good at sport?

Why? *(At what stage of development did this happen?)*

4. What factors distinguish your athlete from those who did not demonstrate talent?

(At what stage of development did this happen?)

5. What factors distinguish your athlete from other talented athletes who “did not quite make it” to the elite level? *(At what stage of development did this happen?)*

6. Were there any points in your athlete's development that they found particularly difficult and how did your athlete manage these?

7. Did your athlete face any different challenges when you were striving to get the top compared to when your athlete was trying to remain at the top?

8. We've talked a lot about the support your athlete required throughout their development and those that helped with this but I was also wondering if they experienced any negative influences during their development that we have not previously discussed?

9. As a coach of an athlete who has been “talented enough” to become an elite athlete in the New Zealand sporting context, what are 3 things that you believe your athlete HAD to DO or EXPERIENCE to be sure they fulfilled her/his/their potential? *(Views of Talent Development)*

10. How effective do you think current TI and TD processes are in your sport

Interview Guide – Parent

Intro Question: Can you briefly describe your son/daughter involvement in sport and their achievements to date?

1. How did your son/daughter first become involved in sport?

How did your son/daughter progress from their original involvement to their highest level? This may take some time but it is important for me to understand his/her progression through sport. Be sure to include all sports they played and the ages from which they played. So, how did they progress from that original connection with them to where they are today?

2. When did your son/daughter specialise in their sport?

3. When did you realize your son/daughter had the potential to be very good at sport?

Why (did you realize this)? *(At what stage of development did this happen?)*

4. What factors distinguish your son/daughter from those who did not demonstrate talent? *(At what stage of development did this happen?)*

5. What factors distinguish your son/daughter from other talented athletes who “did not quite make it” to the elite level? *(At what stage of development did this happen?)*

6. Were there any points in your son/daughter’s development that they found particularly difficult and how did your son/daughter manage these?

7. Did your son/daughter face any different challenges when you were striving to get the top compared to when they were trying to remain at the top?

8. We’ve talked a lot about the support your son/daughter required throughout their development and those that helped with this but I was also wondering if they experienced any negative influences during their development that we have not previously discussed?

9. As a parent of an athlete who has been “talented enough” to become an elite athlete in the New Zealand sporting context, what are 3 things that you believe your son/daughter HAD to DO or EXPERIENCE to be sure they fulfilled her/his/their potential? (Views of Talent Development)

Appendix B: Interview Findings/Themes

- Athlete Pathway
- Support from Others
- Psychological Development
- Challenges
- Physical Training & Attributes
- Tall Poppy Syndrome

Athlete Pathway

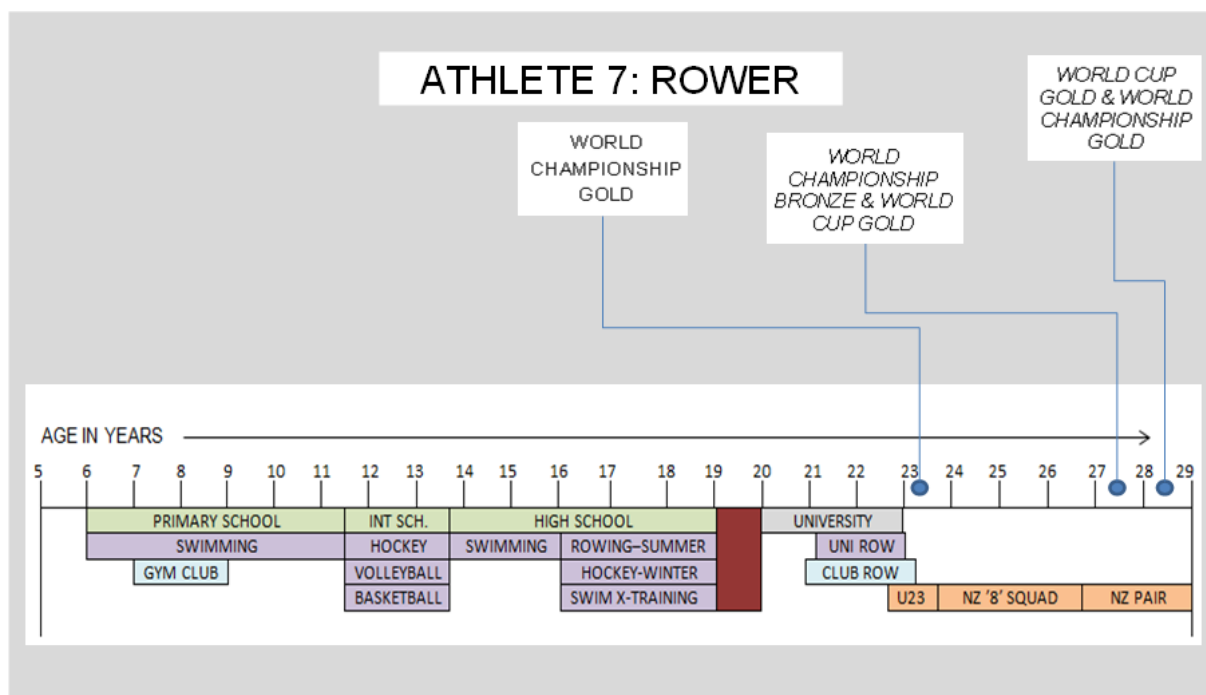
All quotes are presented as being anonymous; however, to provide some context we have given each athlete a coded identifier such as “FN5”. In this example FN5 refers to a female netball player, # 5; while MR1 refers to a male rower (#1), and so on.

Diverse Pathways

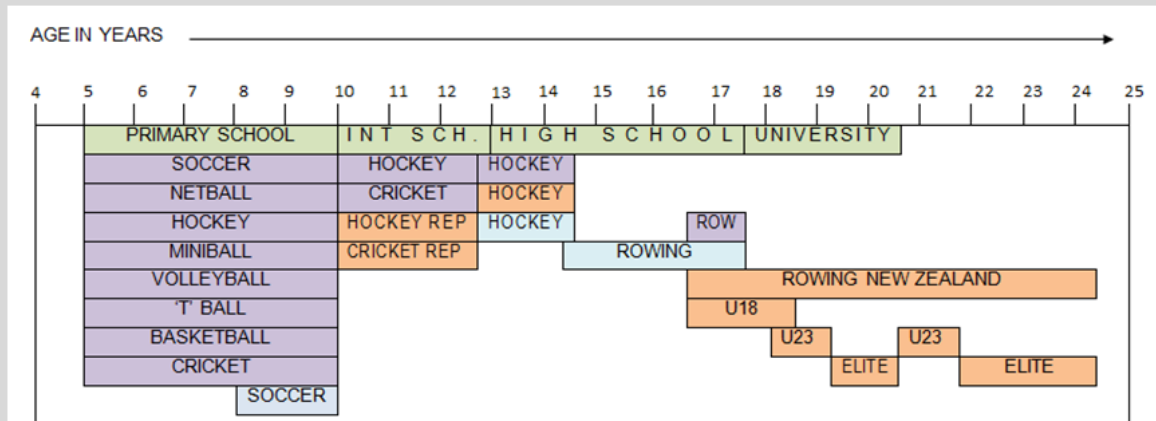
Prior to considering those factors that helped and hindered this group of elite athletes from excelling in their respective sports, it is useful to consider the pathways that each athlete took in their pursuit of excellence (see Timeline files for each athlete in Appendix C). The athletes had a diverse range of sporting backgrounds.

Specific athlete pathways – and examples

Contrasting the three rowers presented in the time lines below a number of differences can be observed in the rowing pathway they pursued. For example, athlete 7 didn’t become involved in rowing until his university years whilst athlete 8 started rowing at 14 and developed through the NZ rowing system (NZ U18, NZ U23, NZ Elite). Furthermore, whilst athlete 8 and 9 both started participating in rowing at age 14, athlete 8 specialised in rowing soon after whilst athlete 9 continued to be involved in a range of sports and didn’t specialise in rowing until she was 20 (see Timeline files for each athlete in Appendix C).

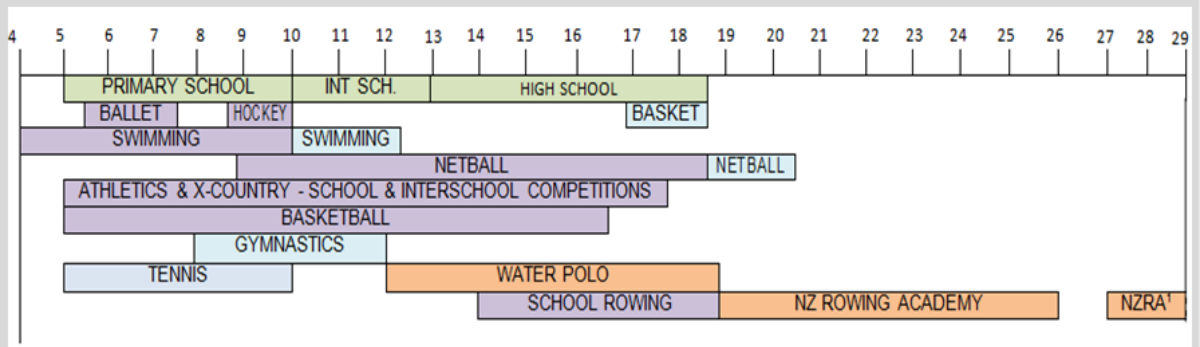


ATHLETE 8: ROWER*



*Athlete requested achievements not be identified

ATHLETE 9: ROWER*



*Athlete requested achievements not be identified

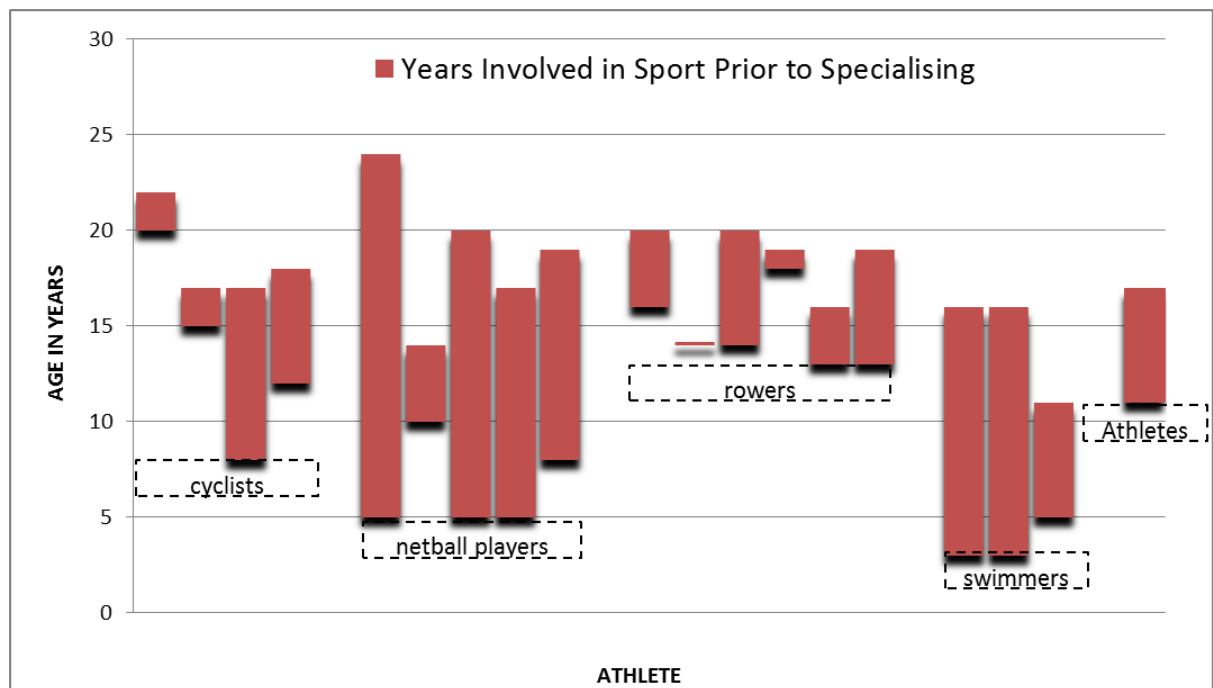
General Pathway Observations

The age at which athletes first became involved in their ultimate sport and the age that they specialised varied greatly both across and within sports (See Figure 2).

Rowers typically became involved in their sport later than those from other sports and were involved in the sport for a fewer number of years prior to specialisation.

- Netballers' diverse background was apparent with years an athlete was involved in the sport prior to specialisation varying. In addition, whilst four of the athletes progressed through representative age group netball, one athlete (whilst she did play netball through-out school) did not get selected into the NZ system until she was 17 years old.

Figure 2 Number of years that each participant was involved in their ultimate sport prior to specialising (bottom of bar shows age of 1st involvement in sport and top of bar shows age of specialisation)



Although diversity was apparent in the backgrounds of the athletes, all had been actively involved in sport through-out their childhood and have continued involvement ever since. All but three participants highlighted at least six sports that they had been involved in by the time they reached high school. The remaining three athletes mentioned four, three and two sports they had actively participated in prior to high school.

So I played a heap of sports and I tried to juggle it so I could play different sport because it gave you better balance I think, or I felt, than just being focused on one. Sometimes it got hard, because there were things that were clashing, so you had to make decisions at times, but it wasn't until university that I solely focused on netball and even then I played in an odd social basketball league after that and we always skied and snowboarded as well. So I tried to keep

*another hand a little bit in other sports but by that stage it was kind of my main focus. [FN5]**

**=Female Netballer # 5*

*Ever since primary school I played rugby, cricket, basketball, water polo, did athletics, and as I moved through the schooling process I sort of picked up sports and dropped sports. I did underwater hockey and stuff and volleyball and had to drop cricket and water polo. That was an intermediate sort of phase and as I got to high school, I started to focus more on cycling. [MC2]**

**=Male Cyclist # 2*

Perceived Benefits of Being Involved in a Range of Physical Activities During Childhood

Seven athletes highlighted the importance of being involved in a range of activities as a child and how it had benefited their development in their ultimate sport.

Transfer of skills

Athlete reflects on how she was made to choose between Netball and Touch and believes that if she had continued playing touch she would have been a better netball player because of the speed and quickness factor and her ability to change direction. She thinks the movement patterns are similar.

I think, for me personally if I had of kept playing [touch rugby] I would have been an even better [netball] player. Just because of, just how the game is and how fast and how quick and how fit you have to be and you know the change of directions, it's so similar to netball but just [played] on a field, and the movement patterns and everything [are so similar]. So giving that up was pretty hard. [FN1]

Similarly FN5 also talked about multiple benefits she got from playing a broad range of sports. She believed that her broad sporting involvement helped broaden her range of skills and movement for netball. In addition, she highlighted how from an enjoyment point of view how cross training through participation in other sports was more exciting than running round a track by herself.

Athlete MC2 highlighted how rugby did not complement his cycling training as he was getting injured too much. As a result he took up volleyball which he thinks was a good cross training for cycling as it required "lots of explosive power and stuff like that". His coach highlighted these skills and outlined how the experience of other sports helped him realise his enjoyment in the sport of cycling.

He played age group rugby at school. He could probably turn his hand to anything really. A basketball player, he could be a rugby player, he could be anything he wants. But this rings his bells! Excites him when you're going 70 plus k's an hour. Doesn't bother me, I think kids should be well-rounded and try everything. [Coach MC2]

Developing a fitness base

My fitness was one of the key [factors in getting me picked in teams as a young girl]. Because I had background in athletics and cross country, I loved running... and my mum had a background in athletics as well, so from quite a young age we'd be out, I guess we'd say training, but I just go for a run about every day or maybe take one or 2 days off a week ...we had to feed the hens or whatever and to do that you had to run about oh I guess it would have been a good kilometre down there and back. So it's funny how you're used to doing physical things, you're always out on the farm or horse riding or walking or running around the farm. [FN4]

Learning about your physical capacity

I read... [a book that stated that]... 85% [of people] will go through their whole lives and never know how far they can physically push themselves. I thought that's true. That's the same I've found with our netballers, they don't actually know how far they can push themselves and what their bodies are capable of. They always think that there is a ceiling they get to and then that's it ... Athletics helped me there because that middle distance training is just bloody [hard]... And I think the fact you can't hide on a team with athletics was probably a good thing... Sometimes in a team you can actually hide and get away with not having done the work because someone will cover up for you. So maybe all team sports people need to experience individual and maybe vice-versa, maybe having a bit of experience in both is useful because they have different qualities in each of them. [FN3]

Social benefits

Athlete MS2 stated that whilst there are no transferable skills from swimming on to land apart from the mind-set and maybe your work ethic, he chose to do other activities alongside his swimming as swimming alone all the time “becomes a little bit boring”. Netballer FN1 also highlighted the social benefits she gained from being involved in touch rugby.

Choosing To Specialise

As highlighted above, the age that athletes specialised and the number of years in a sport prior to specialisation varied greatly both within and across sports (see Figure 2). For many athletes, choosing to specialise was a ‘natural’ progression and therefore a simple choice:

I just didn't have the skills or the speed or you know the presence necessary to make it in the position I was playing [in rugby]. So when I started, had a bit of success in rowing I sort of changed my priorities a little bit... Skill based sports such as rugby where a lot more natural talent [is] involved -- I just didn't have [the talent] to compete with some of the guys that were sort of way more talented. So with rowing I started training and then started seeing direct results from my training. So I found it hard in rugby when you're part of the team, to actually see yourself getting better; whereas rowing when I focused on that... I could see my week to week

improvement and I could see my change physically and I could see that the harder I trained the faster I got... That's why other sports sort of stopped because I could see myself going forward in rowing and I was prepared to train hard cause I enjoyed hard training whereas in the other sports I didn't have the direct sort of feedback. [MR2]

FC1 highlighted how the visibility of the pathway in cycling drew her towards it as opposed to athletics. She stated that being selected in the NZ team for the Oceania Games meant running was put on the backburner because she couldn't do both sports. Along with her coach she decided that cycling was a better sport to pursue because you "don't see too many white middle distance runners" winning world titles and Olympic medals and she saw a better pathway in cycling to achieve at the elite level.

In contrast, a number of athletes were experiencing success in more than one sport and the decision to specialise was often far from simple:

In the back of my mind, I knew that I probably had more potential to go further in rowing [than hockey]... based on my size and my physique and the success that I had already had... And as a hockey player, I was good, [but] I was never really exceptional. And I guess my size could have been a drawback there for hockey. Lots of the hockey players are smaller, or whatever. But also it was either go to the hockey trial and maybe play an Australian team; or go to the Junior trial, which was in the South Island, get a trip to Athens, and go to a Junior World Champs. It's a lot more appealing. And in terms of that, not only then, but for the rest of my career as well the opportunities you get within rowing [are better]. And it's in a way an individual sport, as much as being a team sport. In hockey, in New Zealand, the successes they've had -- well they're not World Champions and all that kind of thing. At the time the twins were rowing, and ...they were Olympic Champions. And I'd seen them in Athens. I remember watching them and I guess that was the drawcard for me, seeing them. Being the best in the world. [FR2]

I played for New Zealand for touch for 5 years and then I came to a point where I couldn't play netball and touch, even though they're winter/ summer sports, netball just clashed and I had World Champs when we were in training camps and stuff like that so that was pretty gutting... They [Netball NZ personnel] said 'you can't keep playing touch you know, it clashes and you need to put your mind on the court'. So I got the hard word so I had to give it up. ...I could wake up every morning and I'd want to go play [touch] and I'd want to go train where netball was sort of 'oh here it go again'. So I think I loved touch and my passion was touch. Netball was just something I was good at, but then once I had to give it up I sort of had to turn it into the opposite [develop a passion for Netball] which slowly has come. [FN1]

In addition, in a number of sports, the athletes had to decide which event they would specialise in:

Rowing

In rowing two athletes decided to change event and give the 'single' a go. In both of these instances the rowers report that their decision was controversial and they were not supported from the personnel within the sport:

*It was either stay in the 'eight' and potentially qualify, but knowing there was only a few limited spaces for that 'eight'. And we were OK, [but] never really awesome. Or try to qualify for the single, which I knew there were more spaces for. And I knew I had success at the Junior level. So it was kind of almost controversial because I think Rowing New Zealand thought I needed more time developing and I was... 19 when I was saying this to them. And thinking back I think, 'oh? I can see their point'. But at the same time, I would have **never** have been to the Olympics had I not done that. ...But in hindsight I think they were right in many ways in that I potentially wasn't ready in terms of how strong I was, and I was never going to be a World Champion, but... I also probably wouldn't have that Olympic experience and I wouldn't still be in it now and have had all those years and K's under my belt ... I think at the end of the day I made the right choice. [FR2]*

I wasn't a great single sculler, and I was pretty much written off... Rowing NZ, the selectors were unhappy with me taking on the single, you know they thought my future lay in the four and that I was never going to make it as a single... It meant having to pretty much leave the squad because I wasn't allowed to row the single and be part of the squad. [MR1]

Cycling

At first people were totally questioning it [my decision to just be a pursuiter]... I felt quite uncomfortable and didn't really feel I belonged in the cycling community for a long time because I couldn't ride in a bunch and couldn't just jump on the track and do like a points race or whatever. The only thing I could do was like a pursuit and it was like you weren't really accepted into the cycling community as a real cyclist... Then the results I guess started speaking for themselves... and I think it almost transformed people's ideas, not everyone's but you know some ideas that 'oh, you don't have to do everything and there is more than one way to be a cyclist'. [FC1]

A successful track sprinter highlighted how initially coaches thought he had promise as an endurance cyclist, but his interest was in sprinting:

Ever since I started cycling the coach said I was going to be an endurance rider, but I was like 'no way' I'm not riding on the road

that much'... I got bigger than everybody else earlier, so I was always bigger than everybody else and it seemed to just have stayed that way... being stronger and preferring to go in the gym and do sprint training compared to doing long road ride and stuff. [MC2]

Athletics

One coach described his perspective on specialisation in sport with reference to his self-defined concept of 'talent capture'. He expressed his dislike of this idea and believed that sporting organisations should stay broad in their identification of talent and their views on specialisation.

If I look at other sports. Kids from the age of 11 if they're any good are grabbed by sports, so there's talent capture. And so if it's a winter team sport they put them in a squad. They'll give them bags etc. Throughout the summer they'll give them training, right when they should or could be playing other sports... gymnastics, athletics, or cricket or something. So they can't do that sort of thing. I think it's a negative thing. If you start that at 11 years old, playing one sport, 12 months a year, I just think it's head in the sand stuff. I would hate to see athletics [track & field] go that way. [Coach MA1]

It's really important for a sport like track and field, where we would be helping them develop in their late twenties to mid thirties that if we just try and capture them, as a lot of talent ID happens in NZ, hold them in our sport. It will stop their development. They may be better at another sport. And that would be pretty unfair and pretty selfish. [Coach MA1]

Swimming

The parents of a swimmer described how the pathway and timing of specialisation for their son differed from others in swimming and may have impacted on his eventual development and success.

You see kids who are ID'ed when they're quite young and said they've got the X-factor and stuff like that... They have the ability to be world class, and then they don't go past [junior level]; yeah they've all dropped out a lot of those by about 15-16... A lot of them too have been training 10 sessions a week since they were 12 or even younger. Whereas [son's name], he had a late start, he had variety... I think he was always fresh. [Parent MS1]

Recognising an Athlete's Potential – Others

As will become apparent within this report a whole host of factors influenced talent development for these athletes. Fifteen athletes highlighted how their talent had been recognised by others.

Talent Identification through Performance

Six athletes perceived that their talent had been identified from a multi-dimensional viewpoint with performance being considered alongside psychological and physical factors.

However, seven of the athletes (including three netballers and two cyclists) highlighted that their talent had been identified primarily as a result of their performance levels.

I was very fast as a child... a lot of parents would get a little bit upset, this is what mum told me. Because they thought I was a lot older than I was, because I was quite good at what I did... and mum would get asked for birth certificates and things to see if I was the right age... So you know I guess it was then that mum sort of realized that I was quite good. I used to win everything, win all the sprinting stuff at school and stuff, but to me I just wanted to play. [MA1]

Whilst some saw the focus on performance as a positive one:

I came through the ranks so they saw me every year and knew what to expect and if I got better and better they could see that. Whereas someone that doesn't go to these tournaments doesn't get seen. [FN1]

Others felt that it had disadvantaged them:

I never made a netball rep team at high school... I remember going along to the trials and being disappointed that I didn't get in... You kind of went along to a trial and it felt like the selectors knew who they wanted, they kind of had pre-picked their team from who was in the year before or it was often the most successful high schools. The people who were getting in the rep teams were at the schools that were winning the competitions. ...It felt very difficult to be in a mediocre school and actually get [picked]. [FN3]

Talent Identification through Physique

A swimmer discussed how a focus on physique had led to her mum being told that she wouldn't be an elite swimmer:

My coach said to my mum when I was little... don't expect me to be a good swimmer because I wasn't the right body shape and I wasn't the right height and that sort of thing. That was when the AIS were coming out with all these things and they tested you to see if you were in the right sport and that sort of thing... Like I was never someone that would have been picked as a really good swimmer because of how I looked, but I was certainly someone that was a really hard worker. Like whenever I was told to do something, like by a coach then I would do it. I was really particular on my training, I never missed training sessions, I never slept in. [FS1]

Multidimensional issues with Talent Identification

Many athletes identified how talent is multi-dimensional and cannot just be determined through considering an individual's physique.

What is Talent? Talent is a package... Now you look at [name of another athlete's] journey; if he wasn't stubborn, good at expressing himself, full of self-

worth, I mean [name of athlete] doesn't do doubt... [He] is just absolutely calculated... I think talent is [important], yes you've got to have the talent. [Name of a different athlete] used to do erg's really well... but where [name of athlete] strength lies is in the mind, and because he really wants it [MR1]

Work ethic

For instance, one rower highlighted how early developers might fail to develop the work ethic required to excel as success was too easy for them. In contrast the 'smaller' guys had to train hard from a young age in order to be competitive:

When I first started rowing you know if you're big and you're strong, you're good at high school rowing and I was smaller than everyone else at this stage so I knew that I just wasn't as good... I just looked at all these other talented people that were so much bigger than me and so much stronger, you know they could beat you without even trying. Then as we started getting older... after... 16 years of age it started changing a little bit as it was the people that trained harder started having more success. So the big guys 'cause they were so talented they never learned how to train hard, they didn't know they had to train so hard because they'd already beaten everyone else without even having to try. Whereas the smaller guys like myself we were a lot smaller so we had to train harder to try beat big guys and probably when you got to 18,19, 20 it wasn't so much how big you were but it was how hard you trained ...For me it's only natural to train hard, it's what I did every day and I didn't feel like I had to change at all to carry on my success. Whereas a big guy found it harder because he hadn't had to train hard and then he didn't know how to train hard... Whereas I got better and better every week they thought to themselves they were getting worse and worse every week because they were comparatively getting further behind because they didn't do the training. [MR2]

So it may not be that you're physiologically any better, but that you have that determination, dedication, perseverance, that you'll train your heart out, that you'll do what you're asked. When I look back, I was never the fastest, but I just never gave up. I'd always keep training and I'd always be around, and they said my nickname was 'just one more', like I'd do one more because I was just so driven. Also, I turned very, very passionate about netball... I couldn't wait until the netball season, even when I was 10 or 11, that's what my mum says now. I'd always ask 'why can't I play netball?'. [FN4]

We don't necessarily have the talent ID program that measures everyone up and says "oh you'd be a good rower". Or you do a VO2max test or whatever, but I don't think we have the resources to do that. And I think that if you did put a whole lot of resources into that you wouldn't necessarily get the right people anyway. Because to be a good rower, you want to be there. You're not just going to walk up to Joe on the street and he may be tall but he may have no desire whatsoever to be an athlete. ...Like a lot of our rowers don't have the size. But, like Nathan Cohen... and his [rowing] partner

[World Champions in the double] ... they're not the biggest guys but they're athletes. And they're determined and they're probably some of the hardest working guys on our team, and they are there because of those attributes... And I think if money was pumped into talent ID you wouldn't necessarily get the results that for the amount of money you put in initially -- just because we don't have the population and the funding to do that. So, I think Rowing New Zealand has it right, in that all our Juniors and Under-23's train amongst the elite rowers and that's the kind of I guess it's an environment. And there's a clear pathway and that is talent ID in a way because you're being picked up from a very young age, if you're good enough. But then there's no reason to say that someone who didn't make the junior team then wasn't going to make the Elite Team in 6 years' time. [FR2]

An athlete's hunger to excel

I identified myself and put myself there... If you're talent identifying people in cycling, and saying testing them and saying well you should be a pursuiter and you should be kilo rider that's fine. But I don't think going in the schools and plucking people out and saying well you've got the somatotype to be a good triathlete, let's go. Well do they want to be a good triathlete? Or cyclist or whatever? So I have a wee bit of an issue like that. I mean that's what you do in like China and Eastern Bloc. We're not. I think you still have to have some kind of bubble -- the cream rises to the top and then you got to do what you got to do to make them the best from there. [MCI]

Ability to perform in big events

We often found that... a lot of the NZ team shined within NZ, but put them in an international stage and they always crumbled. The difference between those who didn't make the team, I guess [it was] hard work, the work I did. There was no one around me, no one that I ever swam with, that trained as much as me, that came to every session and was pedantic about it. Like I was really good about flexibility and warm up and stretching and all that kind of stuff. That would be the only thing. I guess you've got to have some talent, you do need to have talent to get there, but I just always worked hard and that would be the difference, and that's the difference I see between lots of athletes is the ability to actually work hard. [FS1]

Need to consider team dynamics rather than just performance

[I remember reading about selection policies for a rowing 'eight']. In the rowing 'eight' they had a gold medallist, Olympic medallist, world champions, stuff like that all vying for the rowing 'eight' against this, I think Oxford [rower]... [when] it came to the choosing of the last person for that team. So there were still Olympic medallists and world champions vying for the one position in the boat, yet they chose someone who didn't have the same qualifications. He, you know in terms of his success in the sport, yet they broke away from the norm, and they ended up winning the race.

Why they put him in there was he just brought a different dynamic to the team, he balanced the team out, emotionally and things like that. So the whole point is sometimes you've got to sacrifice elite for the success of the team. But yet high performance people would say put that higher ranked person on paper in that environment. [MS2]

The need to recognise late developers

I kind of think that it would be harder to be missed today. There seems to be more talent things out there, certainly from a netball point of view, more eyes out there, watching, already more systems in place to get those people. I feel like, maybe I wasn't good enough to make those teams, but I think the chances of that happening now would probably be slimmer. But in saying that, my own experiences probably makes me bat for those that don't make it in situations and don't just look to the ones that were already in the team, so I'm a bit of a batter for the late developer, and maybe I was a late developer, just picked it up a little bit later. [FN3]

Additional Talent Identification Quotes

When I got dropped, I was like I'm going to give this running a go so went and trained with his squad and then as a bit of cross-training I'd go out on the bike and stuff with him and beat him up the hills... He was like 'oh well actually you could be a pretty good cyclist' and I guess there was people in the gym as well... [who said]... 'I think you're a better athlete than just sitting on the bench at netball' and I suppose it was the people pushing me as well that probably saw that I had athletic potential but was being wasted by sort of sitting on a netball bench and I mean that was due to a whole number of factors. I mean I could have been a netballer in a different team or whatever, it was just the dynamics of the team and the players that were there at the time... I guess they saw that I had like those sort of raw physical abilities to be able to go and do something with them. [FC1]

Well just one of my mates was like come down to the track one day and we'll ride around, its cool, I'd done it a couple times, and I was like whatever, I'll give it a go. And the coaches were just like you've got a lot of promise to be an endurance rider, come back next week and we'll get a bike sorted out for you and we'll see how good you are. I went back next Sunday and got an old rickety bike and started to do some training and they saw some promise that I guess I didn't see, but they were like you've got to give this a go and see how you like it and it really snowballed from there. It wasn't really anything to do with being identified as a cyclist or anything, it was just sort of luck of the draw, if I didn't go to the track I probably wouldn't be sitting here talking to you guys. [MC2]

Recognising an Athlete's Potential – Self

Athletes also highlighted the factors that made them realise that they had talent. Perceived determining factors included performance ($n=12$), psychological ($n=2$), physical ($n=4$), experience ($n=3$), technical ($n=2$) and 'natural' talent ($n=2$)

Performance – Being Selected in Teams

I think I was about 16, so I think we made the tournament team and then we had the New Zealand secondary school trials and stuff like that so that's when I sort of started thinking you know "hey I can actually make a go of this". ...It was probably about 16-17 where I actually thought that I'll give netball a shot and start making all these teams. [FN1]

It was when I was playing hockey [that I recognised that I had talent]. Making rep teams. And it seemed that kind of whatever sport I played I could turn my hand to relatively well. I was never, like I said, I was never awesome at cricket, or may never have been the best hockey player, but I was always good enough to make a rep team... So I guess it's a natural ability that I had at sports. And I guess that natural ability helped when I started rowing as well. Just the general athleticism, it probably all came from just being so active when we were young and playing lots of sports when we were younger. [FR2]

Psychological Factors

Training ethic

When you were younger a lot of it was natural talent... I think as you got round that 16 to sort of 19-20 year old bracket, that really starts changing... I always thought I was behind because I was younger and everything so I thought I had to train more so I started training more than them [the older club rowers]. And then I beat one of them once and thought "oh, that's pretty good" and then the next time you try to beat the guy that was next ahead and then sort of work your way up. So that was probably the major influence, was sort of getting made to train harder to keep up with people that were above you. But then at the same time you started picking them off. ...It just encouraged me to train harder and harder each time because you could see that yeah success was happening. [MR2]

I just think my training ethic and my willingness to do the hard yards, I could just see myself suddenly [achieving my goals], these little goals of making [name of province]U21's and then NZ U21 just suddenly became achievable, I could see myself fitting in the picture.[FN3]

Training leading to improvements that reinforced potential

So with rowing I started training and then started seeing direct results from my training. So I found it hard in rugby when you're

part of the team to actually see yourself getting better. Whereas in rowing when I focused on that... I could see my week to week improvement and I could see my change physically and I could see that the harder I trained the faster I got... that's why other sports sort of stopped because I could see myself going forward in rowing and I was prepared to train hard because I enjoyed hard training whereas in the other sports I didn't have the direct sort of feedback. [MR2]

Physique

In the back of my mind, I knew that I probably had more potential to go further in rowing [than hockey]... based on my size and my physique and the success that I had already had... And as a hockey player, I was good, I was never really exceptional. I guess my size could have been a drawback there for hockey. Lots of the hockey players are smaller, or whatever. [FR2]

It was those trials in 2001 that really opened my eyes to go 'wow I'm actually not far off the best people in the country'; and technically I was a long way off them but physically I was very close to them. And that sort of inspired me... that I can work on those technical skills which obviously, only being in the sport for three years, was something that I needed to keep improving on anyway; then there was potential to go a long way. [MR1]

I suppose luck more than anything that I sort of went into it [rowing]... In 2001 the selectors were sort of looking for new people and sort of spotted me as a big guy and sort of thought they'd give me a chance and that's where it all started for me. [MR1]

But also it was either go to the hockey trial and maybe play an Australian team. Or go to the Junior trial, which was in the South Island, get a trip to Athens, and go to a Junior World Champs. It's a lot more appealing. ...the opportunities you get within rowing. And it's in a way an individual sport, as much as being a team sport. In hockey, in New Zealand, the successes they've had -- well they're not World Champions and all that kind of thing. At the time the twins were rowing, and... they were Olympic Champions. And I'd seen them in Athens. I remember watching them and I guess that was the drawcard for me, seeing them. Being the best in the world. [FR2]

Experience

I became a specialist lead-out person for a few years at least... Then in '96 I was kind of at the stage where I'd raced enough and had cycling strength and was training harder and harder and getting older and older that I was starting to win races. 1997 was really my breakthrough year on the national circuit. It was just years of experience, years of being taught and learning and being open to those experiences... Those were the years where I was just winning most things at that stage. It took years. [FC2]

Technique

One athlete who came into her sport at a relatively late stage after giving up netball talked about her lack of technique being a deciding factor in choosing her event in cycling:

We came in and said I'm going to be just a pursuiter, because we knew I didn't have the technical skills to ride like the bunch races on the track and to sort of fast track all that. We could leave all those technical skills and just focus on the pursuing which was more physical and you could actually control that side of things, it didn't have to be like learned over years and years. [FC1]

'Natural' Talent

Two athletes stated that they began to realise that they had 'natural' sporting talent. One athlete attributed this 'natural' talent to her broad sporting background as a young child whilst the other believed that it was an innate gift.

Developed as a result of being active when younger

[At 10 or 11] it seemed that kind of whatever sport I played I could turn my hand to relatively well. I was never, like I said, I was never awesome at cricket, or may never have been the best hockey player, but I was always good enough to make a rep team. So I guess it's a natural ability that I had at sports. And I guess that natural ability helped when I started rowing as well. Just the general athleticism, it probably all came from just being so active when we were young and playing lots of sports when we were younger. [FR2]

An innate talent

I suppose I've got good genes, well it was quite funny because I've got six sisters and we've all got a little bit of everything but I have everything if you understand like I have flair, I have fitness, and I have speed. Like one of my sisters is quite fast but unfit as hell, one of my sisters got the amazing ball handling skills but slow. And like another one she's got like that mongrel attitude but then she's got no fitness, ...I can see it in all my other sisters, like they have maybe one or two attributes where I have say maybe ten compared to what they do but put them all together it would probably make what I've got. [FN1]

Flair... you can't teach it ...you're either born with it or you're not. You've either got it or you don't, or you either know how to use it or you don't know how to use it. So I think flair would have to be for me like deception, like... I don't know how you teach it or how you show it, it's just a natural ability I suppose that only some people are blessed with or some people use. [FN1]

General Observations Regarding Talent Identification Processes

Athletes also highlighted a number of factors they viewed as either positive or negative features within NZ sporting systems:

More support now being provided to netballers, but not more depth

I'm so aware of what it was like early on in terms of you just did it all yourself and the trainer sent you a programme for the next six weeks... To what it's like now where the girls have all the access to just about a personal trainer to be there all the time and the mental skills help and the nutritional help and I'm sometimes like well how can you not make it? Which brings me back to that whole mental side of it. If you don't want it, no amount of support, really in my eyes is going to help those people if they haven't got the inner drive themselves to do it and it constantly frustrates me seeing people chuck all this money at them and they're not making any improvements. ...I'm kind of in the view that if you've got any amount of talent in netball there is a lot of support out there, right through a long period before you might actually make the Silver Ferns. That's from financial to all the support services that are in place. And yet we don't seem to have any more depth, for all that more money and stuff that's put into it. [FN3]

The many choices available to young athletes was identified by a coach as a potential obstacle for the continued development of netballers in New Zealand.

And a lot of these kids now that I teach for instance; you see elite sports secondary schools players dealings with ...many more choices now. Whereas back in your day even, there weren't that many choices. It was probably boys rugby, cricket, soccer and for girls it was really netball, tennis, basketball. There wasn't much else, but now there's all the individual sports and everything else. ...A lot of them will just say they'll only do it if they like it, where like in the old days there wasn't the choices so they had to like it. I don't know where we'll [netball] end up to be honest. [Coach FN1]

Involvement in both Team and Individual Sports

All athletes were involved in both team and individual sports at some point in their development. The importance of these experiences were emphasised by both parents and coaches.

I think it's really important when kids are at secondary school that they play a team sport. I think we [coaches] actually do kids a disservice if we just think about our own sport and try and hold them in that so they won't get injured playing these [other] sports... If we just try and capture them, as a lot of talent ID happens in NZ, [and] hold them in our sport. It will stop their development. They may be better at another sport. And that would be pretty unfair and pretty selfish. [Coach MA1]

I voiced the rule, so to speak, that when they were at high school, they had to play in a team sport before they could play in what I called a selfish sport. And the reason was because [wife's name] and myself learned so many social skills through playing in a team sport and we'd be able to apply those to everyday life. [Parent FC1]

Population base

We just don't have the population to filter it into rowing, cycling, athletics, and netball. There are a lot of people that play netball, but there's not enough at that level to mean that our young girls are playing at a high competitive level constantly. If I go over and I view what's happening in Australia... so their players that don't make ANZ teams play in... [the] ANL competition, and it's amazing. Some of those team would come over and nearly beat the [name of New Zealand ANZ team]. Their fringe players are playing at a really high level weekly, week in and week out and that's on top of their club level which is also at a higher level. You go down and watch our club netball and it's a million miles down. So some of it's a numbers game, just don't have the numbers of good people. Frustratingly. [FN3]

Progressive/visible pathway

FC1 highlighted the visibility of the pathway in cycling drew her towards it as opposed to athletics. She stated that being selected in the NZ Cycling team for the Oceania Games meant running was put on the backburner because she couldn't do both sports. Along with coach she decided that cycling was a better sport to pursue because you "don't see too many white middle distance runners" winning world titles and Olympic medals. That is what she wanted to achieve so she saw a better pathway in cycling to achieve at the elite level.

With netball, because it was quite organized, having those school competitions... also the local community had sport as well. So you played school then you played Saturday netball and because it was so organized, that's why you went down that path if you were reasonably talented in any sort of aspect I guess. Then it just kind of carried on through, and you get picked up by talent ID squads and representative teams. I went to my first senior nationals when I was 14, which would mean play against people in their early twenties. I think I was the youngest at that nationals and the oldest was in their forties ...I think it was... [an effective development pathway] ...for netball. Had it been there for athletics I wonder if I'd have gone more that pathway... I think netball did well because they identified quite early, and they had programmes in place and once you're in that they kind of kept you in their programmes. [FN4]

In netball athletes also mentioned how you needed to bide your time and wait for your opportunity to make national teams. That is, whilst they were very positive about how much support athletes get once they are in the system and highlighted that once you're in it you

stay in it, the reverse side of this was that it was hard to displace someone and you typically had to wait until someone retired or got injured to take their spot. In this way, one athlete [FN4] highlighted the importance of developing through the system from a young age to be available when the doors opened.

A part of it is just that the opportunity is there, that doors open up at the right time. Like people retire at a time for you to come in, so timing is a bit of a factor. I don't know how you dictate timing, but you have to have done all that. You have to have gone through all the grades and the levels to get to that point to be available when the door does open. [FN4]

FR3 came through system but not everyone in her squad had done so. Nevertheless, increasingly her view was that most rowers would come through juniors.

I think we have a really good system, being able to start at Junior level and work your way up... If you look at our elite team there is now becoming more and more Juniors that have made it right through to elite. But from my Junior 'eight' that I was in, I'm the only one left. Pretty sure. There was maybe three or four of us in 2006... So often you see a lot of Juniors come straight out of school and they'll go to Juniors -- they'll do a couple years Juniors but not quite step up. But then if you could get a few from that -- and Hamish Bond is a good example, who's now 3 times World Champion... And he's probably the only one from his 'eight' still going. There might be one other guy that's a reserve but I guess if you can get one World Champion from that crew that pays dividends. And that's what the whole Junior Under-23 development thing is. ...And then you have the likes of Mahe who didn't row at school at all and came out of University... because he's a big tall guy. And I guess in New Zealand that's down to luck that someone's at university saying 'oh look here's a big tall guy, he could be a rower, come and try rowing'. [FR3]

FR3 also highlighted how Rowing NZ 'had it right' as all the Juniors, Under-23's, and Elites trained amongst one another which created an 'environment', and there was a clear pathway.

MR1 also highlighted how he saw the pathway that was available for him to excel in rowing. He said he was picked in the trials as "a development athlete" and that his erg time got him noticed. Being in the elite group gave him the opportunity to see if he wanted to commit to rowing and get to the Olympics. He saw there was a pathway there "it was up to me to get there".

The majority of athletes developed through a pathway from school, rep teams, age group NZ, Elite NZ. However, there were some exceptions:

FN3: Played netball at High School and trialled for rep teams but never made any of the rep teams through-out high school.

FR2: Progressed through the typical pathway for rowing. However, unusually she opted to return from to the U23 squad from the elite team so that she could focus on the single.

MR1: Didn't get into rowing until university, and got selected straight into elite development squad, missing out juniors and u23s. In addition, this rower decided in

2004 to move from the four to the single boat having only started rowing in 2001. He wasn't a great single sculler and was "written off" by Rowing NZ, the selectors were unhappy with his change because they thought his future was in the four and he was never going to make it in the single so he had no support within Rowing NZ. There was "definitely" a negative feeling about his decision to change boats from the selectors, "very much that I was doing the wrong thing" and that there was no place for him. He said that "it was probably fair enough but it was something that I really wanted".

Fundamental movement skills

I don't think we have... the basic skills taught in the primary school, so when people get to secondary school to get selected into teams they haven't really had the basic skills. I don't know whether that because the kids aren't doing as much running, jumping, everyday climbing, that sort of thing. ...you're not allowed to climb trees, you're not allowed to because you'll fall down and you'll hurt yourself. Whereas we would have climbed every tree, like we went vine climbing, you jumped on these vines that you sprung on and stuff whereas kids don't do that now do they? Playgrounds have all changed, they've all got the matting down, you have to learn to fall. That's the thing like with riding horses, you fell off. Mum used to say you have to fall off 100 times before you become a good rider. So you learn to fall, whereas if you don't know how to fall... its only when you look at your children and think what you did. It's worse when you try to reproduce that with your children, it's quite hard to find it. You have to take them to other outside sporting activities, because we did very little outside of our school aside from out Saturday netball, but the school base was quite strong. [FN4]

Lack of skilled coaches

You've got all these coaches, and even at the high performance coaching and stuff, they are putting in a model that they themselves don't understand. So the coaches have to be supported, you have to support the coaches and up-skill them and get them off overseas to train with the best, learn from the best in the industry themselves. ...But at the moment, all the levels of coaching is substandard or sub-par for what we are trying to achieve. So they don't have the skills I think to identify talent. But then the talent ID process is through luck as well, you can train everyone and wait for the cream to float to the top, and then 'oh that person is showing some potential, we've really got to nurture that'; but that's flawed as well. Because again, the coaches don't have the necessary skills, an environment, and all these other things behind it to get them to the top. That's just my two cents on that. [MS2]

Opportunities to Compete Overseas

Many athletes highlighted the importance of competing overseas to developing an awareness of what it took to excel at the elite level. For instance:

FC2 found that her early four years taught her a lot of important lessons that set her up as an athlete. She came back to NZ after each season in the US thinking that she was learning a lot and there was a lot to strive for. She saw a whole new horizon that she would have never had if she stayed in NZ. She also highlighted how she believed that going to the US was the big difference for her when being compared to others. She said NZ was "small town" and "quite political" and there wasn't the depth in events in women's racing in NZ.

You learn from everyone around you; it's the environment. If people were winning or stronger than me, I tried to learn and see how I could get better... I was grovelling on their wheel and I look and see how they were drinking, what they were eating, what they were doing, and you know, try something new. It was just trying everything and by process of elimination figuring out what was working for me. [FC2]

Every race was a learning opportunity. I had to race, that was me. And I had to work hard. I don't think I was a natural talent... I might have had a bit of talent, but I had to work hard. When I was strong enough and I knew where to stay, I needed to race to see where the standard was and I needed to realize those basic concepts of being honest with myself and those sort of things. Then when I saw where the standard was I had to apply myself, and just applied myself in my training and my racing. I don't know if I ever reached my potential, but that was the goal, to see how good I could be. [FC2]

FR1 discussed her first international competition whilst she was at university and how valuable she found the experience for seeing what international competition was like. She reflected on how this experience was particularly valuable for her as she had not developed through the school system and therefore hadn't competed in the junior worlds and U23s.

FR2 thought that going away to a regatta to race in Australia was good for her. It was a good introduction before rowing at the world level.

Additional quotes regarding competing overseas

[My coach said]... we're going to start traveling, we need to get outside of NZ. We need to look at the rest of the swimming world because NZ just doesn't have the talent and competition... The other thing that I did was I constantly started watching in the world the top 100 times, so they have that online. So my goal initially was to make the top 100 in the world, and I would aim for that time, when I finally broke into it, then I was top 50, top 25, and so on. Just being very aware of what else is going on in the world because you might be the best on NZ, but in NZ that doesn't really mean a hell of a lot. [MS1]

*I think going to the States made **the** difference [to me]... It's a small town NZ and its quite political. I think it's the same in most sports. There just wasn't the depth... In women's racing here there wasn't the number of events, there wasn't the variety of events... When I started it was always men's racing. Women's racing was coming up*

here but suddenly there were 120 women on the line [in the States]... it was more established there. The emphasis was more on women's racing. You had to travel. Not to say that NZ racing was bad, I needed to go there. There were lots of people that helped me, in the club, in the centres, in the national programme. They definitely had lots of very good advice, but when I got to the States, I realized there was a whole world of racing there, for women... If I had just stayed in NZ I just would have never had that horizon. It was a whole new horizon I think. [FC2]

I think that was a key to my success, being able to race in a really good environment where conditions are perfect for sprinting. They have some very talented athletes coming through [in Australia], and track and field is very well known over there so you'd get big crowds, could deal with learning to cope in that environment and they sent over all the top sprinters, people like Asafa Powell, Usain Bolt ... all those people used to race there, so you'd get a chance to see them in real life and also race them outside of a major championship. [MA1]

I think that an important thing... is that to do really well at the Olympics, you have to have done an Olympics beforehand or at least been involved in that Village and in that atmosphere to know what it takes. ...Being in the Village is different than staying somewhere like World Champs, because World Champs you're always staying in motels, you go and race in a pool you come back to the motel, you've got less distractions, there is less going on. So the Village situation can be good and bad. It's a distraction and a lot of the people the first time they ever go into it, the Village has got all these different sites to see... and they take off and they lose that focus. So I think there's some study that shows, I think it's usually the 2nd Olympics when athletes medal, so not their first one. ...I think again it's an individual basis, it can't be one thing works, it doesn't work for everyone. And once you get older you realize what works for you so you can identify that, but it does take a while to realize that, because you've got to have those experiences initially. [MS1]

Funding issues

Our standards for the Olympics and Commonwealths is so ridiculous that we're apart from nearly every other country in the world for some reason. So basically it's based on the top 8 or top 16 you have to be, I mean no other country really does that to the extent we do, and we've got a lot smaller base. I just can't quite understand some of the decisions they've made to promote sport, but it's all about funding. ...They limit the people who go so they don't have to pay, because there is not the money to pay for them... There are this many beds, this many athletes. How do we limit down so we maximize this out. ...They just need to be a bit more realistic. The international sporting bodies put times out for the relative sport, so

track and field is the IWF and they set the standard for the world. Maybe they should stick with those rather than making them harder that sort of thing... I'm all for athletes experiencing it, because I got to experience it and it's something I experienced young and then I just progressed I just kept going once I touched on it, so if you never give an athlete a chance to touch it... And at the moment we are setting standards that don't give you a stepping stone anywhere, you go from a national athlete to somebody trying to be in the top 16 in the world, so where is the middle of the road. [MA1]

One of the things that they've put in process now, I know they've done it with some of the top athletes now, their funding lasts longer, so it's a 4 year thing, from Olympics to Olympics. So someone like... Valerie or Mahe Drysdale have got guaranteed funding for the next 4 years irrespective of how they go at a pinnacle event. So with swimming how it works is that each year they pick a pinnacle event which is like, obviously Commonwealths, Olympics, World Champs, like that, and then how you swim at that determines how much funding you get. So to take that pressure off you from standing up on the block thinking I've got to make this time or this placing just so I've got enough to live on for the next year. They take that away so you don't have to worry about it, you don't have that distraction. So I definitely agree with that, but it is hard, you still have to be assessed, so that you're not mucking around and just wasting the money. But if someone like Valerie, if she goes and changes her technique, and that year she throws really badly because she's changed her technique... If you're still close to her and the source and still know that she's giving absolutely everything... you cannot just look at pure results, the outcome, you still have to look at what's going on. [MS1]

Older athletes as they get older they know more what works and what doesn't and what they need and what they don't. And so that's why some of them tend to travel, they leave the country, they outgrow the coach of the programme or whatever they are in NZ so they travel overseas to get that. And I think that what needs to be done is each athlete needs to be looked at on an individual basis, and funding or their help and support given to them on that relevance. Rather than just saying you have to stay in NZ and if you don't you don't get any money. [MS1]

Highlighting a combination of the above issues, athlete MC1 commented that Cycling NZ had made a lot of positive improvements: better programme, better facilities, better coaches, and better funding. He thought that a few elite New Zealanders had paved the way for New Zealanders in the pro cycling circuit in Europe, whereas in his day they didn't have that pathway/opportunities to go from team pursuit to road riding.

Expectations from sporting body

Four athletes discussed feeling pressure from their Sporting Body and how this had negatively affected their performance:

There's a qualification system for the Olympics... that you had to have so many points allotted to your country to gain so many births for the Olympics. We were at the maximum berth number which was three. So in '97, '98, '99 I had been riding well and I was doing world cups and things like that and I was earmarked by SPARC... as one of the potential athletes that could get a medal in 2000 and I had a professional contract as well, so I was juggling. Basically the sports foundation said well we want you to go to these events to try to get qualifying points, then I was juggling trying to get those events in with my professional team, who were also doing some World Cups... And there were tours and... so I had to essentially finish in the top 10 in most of the World Cups I entered into to get enough points to possibly be in the realm of getting three berths because... [name of teammate] and I were the only ones getting points for NZ. Whereas you had other countries that had quite good depth in their women's cycling, so you might have had 5 or 6 at one World Cup getting points but a lot of the times it was just me there, so that meant that I had to finish high up to get a high number of points to put us in the standings. So by the time I got to World Champs, which had a higher level of points we were teetering on like the 15th spot and I managed, at World Champs, to finish in a high enough place that we got three berths. And in that year... the team that I was riding for, was the #1 ranked team in the world so we did lots of the major tours in Europe and the States. There was a lot of travel and we were winning most things, and we raced hard. I did a lot of races that year and then there was the added pressure of trying to qualify for the road and I continued with the mountain biking when I got back to NZ at the end of the season and did the Oceanic Champs, which got the berth for the Mountain Bike spot. To be honest, I think at the end of that '99 year I was done. [FC2]

I got told at the time, that because we told SPARC that we were going to get a medal and 5 finals, I was the one who was supposed to medal, I knew that, but because I didn't [medal] the funding got cut. So we went from like \$1.8 million to like \$1.3. And so I felt like that was my fault, I got made to feel like it was my fault, too. [MS1]

The impact of this was described by the parents of athlete MS1.

One pressure on [athlete's name], thinking about it now lately in the last 2-3 years, was that the funding rested on [his performances]. He felt that the funding for whole Swimming New Zealand rested on his shoulders. Because he was told that... he basically was the highest ranked swimmer and was the one that was expected to medal at [the Olympics] and at the Worlds... And if you

*don't our funding package is going to go down... So that did weigh on him.
[Parent MS1]*

*You can't have a perfect race, [but] you can have the perfect result, which is the outcome. So you could win a gold medal at the Olympics and break the world record, but there is always something better you can improve in your race, no matter what it is. You can still do a better turn or be slightly quicker... so that's how I look at things. I guess that pressure that I put on myself is never going to be matched, but then I felt I was getting it too from Swimming NZ and just didn't need it really, it's just more distraction... Having that pressure riding on me from Swimming NZ, that was something that I just couldn't block out, like I went up on the blocks at World Champs thinking I've got to make the semi-final so I can have enough funding... to live on for the next year... It just went from focusing on swimming as fast as you could to 'oh, I hope I'm going to do well enough to get enough funding' and all that sort of stuff.
[MS1]*

Structure of sport

Five athletes discussed issues created by the structure of the sport.

Two netballers highlighted the advantages of being immersed in the NZ system from a young age. One of these athletes discussed some of her friends who were "late bloomers" who played other sports until late high school and could have been as good as her but missed out.

Some of my friends have been late bloomers... I went through it [the NZ Netball System] from the under 15's all the way to the 21's and become a Silver Fern. But I know some of my friends that didn't play netball, they played hockey and it wasn't until late secondary school where they started playing netball and actually became really good. But since they didn't come through the ranks, they sort of didn't get identified and sort of slowly missed out where I used to think they could have been just as good as me. ...I went through all... the pathways that Netball New Zealand wanted me to go through. That's probably how I made the Ferns but for someone that didn't go through those pathways that doesn't have those opportunities, I feel that pretty gutted because as a young one if you're not picked up early I reckon that they sort of don't pick you up later on. [FN1]

In contrast, this athlete believed that "once you're in that [Netball NZ] pathway, it's sort of destined". She believed that Netball NZ invest so much time and effort "that they make you the next best thing".

Two other netballers [FN2 & FN4] also highlighted similar issues regarding the benefits of going through all the 'steps' and that you have the support required. FN4 highlighted how having been selected into the provincial team at 14 and being immersed in the netball systems, she was provided with funding to attend camps and advice on nutrition and psychology. She contrasted this to athletics where she had to pay for anything she wanted

and reflected on how you get filtered into those sports where there is some funding and an established programme. FN2 stated that she believed athletes could make it without being in the NZ age group system but that a lot more athletes made it 'because' of the support systems they had available to them when they developed through the age group rep teams.

In fact, one of the Netballers [FN3] interviewed did not get identified as potentially talented until after high school and whilst she trialled for age group representative teams did not get selected for any of these.

At school I remember going along to the [representative] trials and being disappointed that I didn't get in... you kind of went along to a trial and it felt like the selectors knew who they wanted, they kind of had pre-picked their team from who was in the year before or it was often the most successful high schools. The people who were getting in the rep teams were at the schools that were winning the competitions. So... it felt very difficult to be in a mediocre school and actually get [selected]... I don't know if that was correct or not, but that was what it felt like. Certainly a lot of the girls in the team were in the [names of successful high schools], the ones that were winning the competition. So it was a bit of a shock to get selected in this ['A' team, first year out of school] and suddenly the step up was huge. [FN3]

As a result she stated that she now recognised the need to identify that a player might be a late developer. Referring to late identification of her talent she stated that:

I kind of think that it would be harder to be missed today, there seems to be more talent things out there, certainly from a netball point of view. More eyes out there watching, already more systems in place to get those people. I feel like, maybe I wasn't good enough to make those teams, but I think the chances of that [talented athletes being missed] happening now would probably be slimmer. But in saying that, my own experiences probably makes me bat for those that don't make it in situations and I don't just look to the ones that are already in the team. So I'm a bit of a batter for the late developer. And maybe I was a late developer. [FN3]

In rowing one of the athletes [FR1] did not get into rowing until the last two years of high school. She reflected on how juniors were so far out of her reach that she never considered it. She missed those steps of going to Junior Worlds and doing the Under-23's for consecutive years. However, she didn't think it had affected her development. She thought she was lucky that everything had worked out for her and the pathway she took enabled her to have a gap year and time at University before she got stuck into elite level rowing.

In swimming, one athlete [FS1] discussed how she always made the NZ age group teams but was never the talent on the team, never winning any of the races against Australia and Japan but just making up the teams. However, when she was 20 she started to shine a bit more. She reflects that she made the NZ age group teams because she was a hard worker and wanted to do more than anyone else.

MC1 argued that elite cyclists had their best chance of making it once they got into the elite system because of the resources: funding, medical, equipment. To get to the elite level he

got no support, but once he got to elite level he was given all the tools to be successful. All he had to do was get up and train.

In rowing, one athlete discussed how once she was too old for the under-23s but that she was put in a development 'eight' which she was part of for three years. Whilst it was hard to do well in an 'eight' internationally and they didn't have a strong programme right throughout your whole programme at that time it was okay for development. It kept her in the system, kept her training, enabled her to compete overseas and gave her valuable experience.

Sport organisation's support during challenging times

I think when I first had [name of first child], I felt pretty on my own and isolated most of the time and not very well supported. There were times I felt pretty supported here in [name of province] by my coach and stuff like that, but I never felt supported by the NZ side of things because I don't think they ever thought I would come back and I often think it would have been nice to have a little more support there because I'd given a lot to it. For instance, I remember when I got pregnant with [name of second child], I was captain of the Silver Ferns, I had to tell [name of coach] that I was pregnant, I felt like they kind of couldn't kick me out the door quick enough (laughing) to move on to the next thing. Not [name of coach] personally, but just in general, it was kind of, well that's it for her. I think that's changed, like when I came back after [name of third child] for instance, I just felt a lot more that this was OK to come back after kids, and a lot more people had done it by then... I felt like I was almost the first one to test the water and show that it could be done. Now they seem to be a lot more supportive and realize that yeah, people can have kids and come back. [FN3]

Geographical Issues

14 athletes highlighted issues relating to where they lived. These revolved around:

Access to sport/support

FC2 range of sports available at primary school

FN4 - Sport played a big part in the rural community

MC1 commented about how the Invercargill indoor velodrome has led to cycling really taking off in the community and increased the performance of the local track team

MR2 –growing up in a rural province gave him "so many opportunities to try so many different sports". It was a small place where you could try any sport

Difficulty accessing sport/support

FC2 - at boarding school as didn't have parents to transport her

FN3 – not huge choice of sports

FS1 – swimming pool closed in winter

MR2 – coming from a small town, there was no rowing at school so the school didn't own boats (he rowed for his club all year).

FN2 - Because the athlete and her family lived quite far away (half an hour away) she couldn't bike or run to training. She couldn't even catch a bus there, because there was only one bus a day from her home town. If she didn't have her parents then she doesn't believe she would have made it in netball.

FN2 - Athlete couldn't really do club stuff because she lived out in the country and it took too long to get anywhere.

FN2 comes from big city but small area where you don't get 'seen'

MS1 – After returning from Olympics and no longer having that immediate goal he got fed up of training on his own and thought that he would stop swimming if he didn't go somewhere with people his own age doing what I was having to do... So I just came to Auckland.

MS1 – Making the decision to relocate didn't have much support. He stated that because he was in a smaller city he didn't really have the support of ACE advisors as it was only just starting up and in the main centres.

Ease of access to sport wasn't determined by rural vs urban with some athletes living rurally stating that they did not have many sport choices whilst another [FN4] stated they lived in a small rural area where sport played a big part in the rural community.

Travel to training (n=3)

Travelled to sporting academy every weekend once selected [FR3]

Visibility to selectors (n=2)

Netballers highlighted how important it was to have the talent identification processes that Netball NZ currently use, otherwise they wouldn't see the people who are tucked away [in smaller areas]. [FN2 in particular]

Quality of Competition (n=4)

Early on in her career one swimmer was competing at a small private school in the country (primary school), where she said the competition wasn't great [FR1]. But just the fact that she could beat anyone made her want to see how much further she could take it.

Relocating for sport (n=10)

FS1 - always knew that she'd have to move to get a better coach if she wanted to make it to Olympics and ended up relocating with her mum to a different city.

FN4 – Talked about moving schools and private boarding, she didn't want to relocate but it was the best thing she could do for her netball as it opened all the doors. "... because it's quite a small rural area, dad always said you have to get out of [name of province] at some point in your life".

MR2- Relocating to another town for rowing he saw as a big deal and challenge. He felt like he was made to relocate before he was ready in his life:

Having to move to [name of training venue] to row was like a massive shock... And for the first couple of years I was up here all I ever did was look forward to when I got out of here. I didn't see this place as a home and I think that was a major challenge, getting made to relocate before I was ready to locate in my own sort of mind and life. [MR2]

MS1 – he got fed up of training on his own and thought that he would stop swimming if he didn't go somewhere with people his own age doing what he was having to do, so he moved to a bigger city.

School Impact

Looking at the time lines of the individuals, it is apparent that School provided an essential role in providing athletes with opportunities to participate in a range of skills (potentially promoting a range of fundamental movement skills). In addition eight athletes were introduced to their sport through their school. However, the perceived value of this experience varied:

For example, FR2 stated that:

It was just fortunate that one of my teachers at primary school was quite into swimming. So I guess that gave me a little bit of an advantage and he kind of pushed me a little bit. And I guess that's the first time that I thought that I had the potential to have more success or that I could be better than other people. [FR2]

Whilst MR2 highlighted that rowing was not popular at his school, they used the local clubs boats when representing the school. This athlete believed that school rowing and having the Maadi Cup competition played a massive part in his development as he was able to race against the rest of the country. He highlighted that at the national club championships there was no under-19s age group. In this instance, the link between school and club appeared to have been an essential one in providing these age group experiences.

In contrast however, whilst FR1 started rowing in school, she did not consider that her experiences at this time contributed to her long term development:

Our coach there wasn't an amazing coach... and so we really didn't train hard. I left school not really even knowing what rowing was all about. ...I could have completely missed that step and if I got into... my club, then I would be in the same place now I'd say. [FR1]

FN2 highlighted how the lack of success of her school netball team disadvantaged her as she was not being seen as her team were playing in the lower grades. As a result she opted to change schools to a school that had a really good netball team. It's from there that the athlete got to play New Zealand Secondary Schools and New Zealand Under-21's. She believed that without this change of school her talent may not have been recognised. This was reinforced by athlete FN3 who didn't make it into any age group representative teams and believed that this was because those getting selected were at the schools that were winning the competitions.

In order to develop her netball, on the advice of a netball coach FN4 also chose to move to a boarding school in a different city. This decision whilst based on the increased opportunities that would be available within her new school/city compared to the opportunities that were available to her at her local school:

I played [provincial] representative netball, but because I went to school they had a school team which played on Saturday in the

*[name of province] competition so they said 'well, if you don't play for the school, then you can't play any other sport for the school'.
[FN4]*

Role Models

****See also Support of Others 'Peers support through example' and Psycho-Behavioural 'Role Model' sections***

The potential benefit of having an older role model as a mentor is apparent in the quotes presented below:

FN3: Talked about the lack of role models in netball who had become a Mum and then come back into Silver Ferns. After having a child, she thought it might be the end of her netball career:

*I never felt supported by the NZ side of things because I don't think they ever thought I would come back... I think that's changed, when I came back after [my second child] ..., I just felt a lot more that this was OK to come back after kids, and a lot more people had done it by then... I felt like I was almost the first one to test the water and show that it could be done. Now they seem to be a lot more supportive and realize that people can have kids and come back.
[FN3]*

FN1 recognised the influence that role models had and highlighted how she now goes to schools and tries to act as a role model for young people. She believed that Netball NZ did quite a good job promoting this but she felt that more could be done.

FR2: When deciding whether to do hockey or rowing, one rower talked about how rowers had been more successful on the international scene whilst NZ hockey hadn't been World Champions. At the time she was making the decision between hockey and rowing, the Evers-Swindell twins were rowing and had been Olympic Champions. The athlete had seen them in Athens and she remembers watching them, and seeing them being the best in the world, and this was a drawcard for her (made her want to choose rowing).

MR3 talked about his time at university where he rowed with a group of rowers that had done juniors and U23 and had had some success. He found this group of rowers to be "really good role models" that provided him with a vision of where he could go and a comparison for where his ability was at. Later, whilst not directly talking about role models, this athlete stated that:

I talk to a lot of older athletes and we always say 'man, if we could only go back and tell our 21 year old selves what we know now, just give yourself a kick in the butt, then things would have progressed a lot faster'. [MR3]

MR3 also talked about the success of the older students at his school in rowing competitions and how this made the sport appealing:

As a child I loved sport, and thought I was pretty good at sport and this [rowing] was a sport my school was doing well at so I wanted to give it a go. [MR3]

Support of Others

The following section reviews the role of others in the athletes' development and success. It is important to first define each type of support, as well as the individuals who were providing the support. The first part will serve to operationally define each of the terms referred to in this section.

Types of Support Defined:

Competitive - providing the athlete with a competitor (or in the case of coaches a competitive experience or environment) usually resulting in the athlete pushing themselves harder (i.e., going to the next level) in order to compete or keep up with a teammate, peer, sibling, or coach.

Financial/Tangible - providing the athlete with the financial means or resources necessary to train in or compete in their sport across all stages of development. Examples: paying for overseas training trips, transporting athlete to and from practice, paying for equipment.

Emotional - providing the athlete with comfort, reassurance, and/or encouragement. Oftentimes, emotional support was provided by others through listening to the athlete's problems or challenges. Also included in emotional support were others physically attending athlete's competitive events.

Esteem - providing the athlete with positive feedback and reinforcement that enhanced the individual's belief in their ability as an athlete.

Informational/Instructional - providing the athlete with specific information regarding training programs, technique, psychological skills, and/or strategic game plans to promote successful athletic performance.

Social - providing the athlete with a sense of belonging to a group or team; generating interpersonal relationships with others.

Changing Support - transitional support when the athlete was changing environments, coaches, sports, events, etc.

Autonomy Support - providing the athlete with the opportunity to have input or a choice in his or her training programme, athlete pathway, event strategy, etc.

Autocratic Support - limiting the athlete's choices; making decisions for the athlete regarding training programmes, athlete pathway, event selection, etc. Such autocratic direction was not always a bad thing. One teacher made an athlete try a sport, and she ended up being a World Champion!

Opportunity/Chance - providing the athlete with an opportunity or a chance to showcase or improve athletic ability and/or performance. (Athletes often cited that a coach or selector took a chance on them or gave them a shot to show what the athlete could do.)

Preparation - assisting the athlete in their preparation before an event. Also included preparation for future environments, coaches, performances in an event or future situations. Examples such as preparation for a big event, preparation to step up to the next level, preparation for future high performance environment.

Example/Role Model - a specific individual who was already having success in a given sport who served as an example for the athlete to follow. Specific factors that the individual athletes tried to follow varied across performance factors, athlete pathway factors, training programmes, psychological behaviours, etc.

Sources of Support Defined:

Peers - included friends, teammates, other athletes and schoolmates of the athlete.

Sport-Specific Significant Others - High Performance Managers, High Performance Staff, Selectors.

Coaches - Coaches and trainers.

Family - included parents, siblings, grandparents, significant others (partners).

Sport Science Personnel - included sport psychologists or mental trainers, team physicians, nutritionists, exercise physiologists, etc.

School Personnel - Teachers, School Leaders, School Coaches (in some cases).

Non-Sport Significant Others - Sponsors, Mentors (outside the sport).

Peer Support

Competitive support from peers

Sixteen athletes highlighted that their peers (teammates, friends, or school peers) provided competitive support. Athletes found this type of support helped elevate their own performance or training ethic to compete with teammates or peers. Competitive support was seen across all developmental stages (from early participation in sport to elite level). Competitive support from peers was seen in early sport participation in some athletes; however, not particularly in the given sport the athlete would eventually excel in at the elite level. Competitive support at the elite level can be seen in providing a competitive training environment where athletes were surrounded by others of similar or superior abilities.

I think it was huge because not only are you like pushing yourself each day because you're trying to be the best you know within your little group, but you can feed off each other. And so you're playing with good people and that makes you better -- because you're surrounding yourself with people of high abilities as well.
[FC1]

So our defense group is the strongest -- I believe the strongest group because there's all four of us that work our ass off on the court. Where every other group [position] knows exactly who's gonna play and who's the best in their group and what not. We are seen to [have] come a long way and people look to us to do the job. [FN2]

So, it's all about getting in [to the NZ system]. And you'll never know how good you're gonna be until you're surrounded by guys who are as good or better than -- you making you ride fast. [MC1]

I had older club rowers who were about five or six years older than me wanting me in their crews for the club nationals. So sort of rowing with people like probably six or seven years older helped me develop faster because I had to sort of get up to speed with them. And then sort of their influence kept me going and then I started having success with them and it sort of drove it on from there. [MR2]

The importance of a competitive, motivated environment between athletes was also identified by coaches and parents as being influential in the development of talent and enhanced performance.

That's one thing about the elite players, they like to play with elite players, they like to play with the best. And I did have the best, so when she came, she wasn't [in the] first line up, it was like she was just part of it. But there were a few I think injuries that year, ...and she took her chances. So she played in the final I think of the National Bank Cup the last year it was played, she played [athlete position]. She played a most outstanding game, it gave her a real taste for it; the taste of winning and knowing how to win. Being with other players that like winning too, she got really right into it. [Coach FN1]

Well I think she had to experience, I think one of the biggest things was working with the elite for her. Being part of a group that were elite, and she loved it. She told me once that she didn't know how to win until... you just played to win, but when she came here it was knowing how to win. [Coach FN1]

He's had someone who's equal to him in the gym and equal to him in plyometrics if not better than him. It challenges him. Because the only thing that's going to race him on the track is the motor bike. There's nobody here that had the pace to actually match him. [Coach MC2]

We actually think that it was hugely important....that he had that group of young people with him, and they might not have achieved to the levels that they might have liked to have but they certainly helped him. Without them he wouldn't have been there

in the end... Just by being in the pool, by being competitive with him and training with him... just make him work harder. [Parent MSI]

Emotional support from peers

Six athletes mentioned gaining emotional support from their peers. This was seen in teammates, friends, and other athlete peers. Two athletes found this emotional peer support helpful from teammates when going through a transitional period (new team, new environment, etc.). One athlete mentioned that it was nice to have the support of friends because being an elite athlete can be lonely at times.

[At the Olympics] I missed the final by 0.05 of a second which was like minute. And that was probably the lowest point in my career in terms of result, and not achieving what I wanted to achieve. I guess in hearing stories and stuff from other athletes [at the Olympics] that had perhaps been to their first Olympics and not done so well. People around me saying, 'you're young -- it's great that you're even there'. [FR2]

Everyone [teammates] feeds off each other, like we're really good friends, and it doesn't matter who the three are that will ride the Olympics are the other two are still fully supportive of them. On the day, the 3 fastest guys will ride, the other 2 have been integral parts in making them faster. [MC2]

Esteem support from peers

Nine athletes mentioned esteem support from peers. Many of these nine athletes mentioned that friends enjoyed the athlete's success and were supportive of the athlete's participation. Another example of this type of support was when athletes underperformed or missed out on selection, teammates would provide support in saying that the athlete would perform better the next time. Other NZ athletes also displayed support for one another at international competitions.

Well generally people within New Zealand sport like in Olympic sports in New Zealand, well in all sports, people we meet at any function, they've all been really supportive of each other. I find it really good and positive in that everyone's striving for the same success, cause we seem to be a small country but a close-knit country. Say at the Olympics everyone was just so pumped for every other sport to do well. That was sort of great environment to be part and a really supportive environment. [MR2]

Social support from peers

Twelve of the athletes mentioned that they received social support from their peers. Many of these athletes mentioned the importance of their friends, particularly in the early stages of development. Many athletes cited that part of their motivation for participating in sport (at early stages) was for the social aspects. Peers also provided athletes with support as they progressed into high school/university by acknowledging the athlete's goals and ambitions

in sport and thus supporting the athlete's decision to abstain from behaviours that would inhibit performance (partying, etc). Three athletes additionally mentioned the support of a team as being critical when these athletes were training in a new environment or away from their homes.

Once I moved to the [name of ANZ Cup team] with [name of coach] there was probably about four or five new ones that come from the north down south and I suppose we just all stayed together and we slowly grew like that close-knit family. [FN1]

And that's probably my biggest thing from those younger years, hanging with your teammates, and that's one of the reasons why I wanted to be part of sport, as well. Because of the friends you made. [FR2]

When I left school they thought I was too small to continue, and I wasn't going to. But then, it was just by fluke that there was a good group of girls, my age, from all different schools that went to this one club to row Junior level. And so I just got kind of sucked in on the premise of you know some girls that we'd become good friends we had a really good time. We had a really good season, we had a lot of fun more than anything. [FR3]

So we [friends and athlete] tended to do everything together and we got really close because you're training together, you live together, you enjoy each other's company a lot. I mean a lot of them would still go out and enjoy the night, get drunk and do their things, but they were very respectful and wouldn't hassle me to do that. [MA1]

Support by example/role model from peers

Three athletes mentioned that their peers served as examples or role models for their own athletic careers. Athletes would look to other currently or previously successful athletes in their sport to serve as examples or models to follow in terms of training programs, work ethic, etc.

The other thing was having positive role-models and mentors and showing that it can be done. So having that belief that you know if you did everything possibly you could do, you could make it. So I got that from like [name of elite rower] or something like that because he was always active in my development. Just having that made a massive difference for me. [MR2]

Lack of support from peers

Lack of competitive support from peers

Five athletes indicated a lack of competitive peer support at one point or another throughout their careers. One athlete in particular described the lack of competitive peer support and a competitive environment as a possible explanation to underperforming at the Olympic Games.

So [new coach] came in, and it was, he was really good technically and he pushed us hard, but it changed our training environment. We went from training with a group of guys which was quite social, we got on quite well, we were quite competitive. And there was a lot of internal competition to training alongside [names of four elite rowers], And that group was completely different. And [name of coach]... keeps a lot of separation from his athletes, so in terms of a training environment, it was, it just wasn't conducive to us working particularly hard. And we'd got to the point where we started, [Name of teammate] and I had started to tip-toe around each other in terms of how we approached our training, we kind of agreed to disagree on some things and were almost a little too nice to one another and weren't really pushing each other as hard as we had been. [MR3]

Lack of emotional peer support

Lack of emotional support by peers was mentioned by one athlete. The context of the following quote is important in that the athlete was referring to the beginning of his elite career when he was first selected to row with the elite NZ squad.

I suppose there was a couple of people [in NZ team] that helped me, there was a couple of people sort of thought 'what's he doing here'... And then... we're on the water and getting thrashed because you know I was completely out of my depth. You know there was a few people sort of asked me what I was doing there and [they] weren't exactly polite to me. [MR1]

Lack of social peer support

Five athletes mentioned the lack of social support from peers. The lack of social support varied by athlete. Two athletes mentioned the lack of social support came from their friends not really understanding the athlete's specialization and time commitment for the given sport. For both athletes this was reported in the intermediate/high school years. One athlete felt a lack of social support when she had to take time away from sport due to pregnancy. One athlete mentioned the lack of social support (that typically comes from a team environment during and outside of training sessions) when training overseas.

I wouldn't say they [school friends] didn't [want me to be successful] -- they wanted me to be successful. It actually comes quite quickly, and you know you have to move all the time with netball. So I moved around a lot, I moved schools, and I moved towns, and I was away heaps and things like that. And so that's why they didn't like it [my participation in netball] so much. [FN2]

Support from Sport-Specific Significant Others

Financial support from sport-specific significant others

Eight athletes mentioned Sport-Specific Significant Others (High Performance Managers, High Performance Staff, or Selectors) as providing athletes with financial support and/or

resources. When enough financial support was provided it allowed the athletes to focus on their specific athletic pursuits without the need to expend energy in other areas, such as jobs. In rowing, this type of support appeared to be very important to athlete success. Many athletes from each sport commented that an increase in financial assistance increased their motivation to stay in the sport.

With netball, they had systems in place to select and they had money for camps and you didn't have to pay. Whereas with athletics you had to pay whenever you wanted to do anything. So you kind of get filtered into those sports where there is some funding and an established programme. Then you get looked after with your training and you get all the things like nutrition and psychology. Your sport science side and you just kind of end up there in that path. [FN4]

It is a little arse-about-face, because you get no support to get there [into the NZ team], and once you get there you get everything you need. So, you know you've got your best opportunity about succeeding is once you're in the NZ team. Because you get the bikes, you get the carded system, you get medical, you get everything. So all you actually physically need -- and you get funded. All you have to do is get up and train. [MC1]

I guess the three years was really my transitional period, to be honest. And the Sports Foundation helped me with that as well because I was still receiving the funding at the high level even though I wasn't performing at that, so that was good. [MS2]

Sport-specific significant others provide opportunities

Six athletes mentioned that Sport-Specific Significant Others (High Performance Managers, High Performance System, Selectors) provided them with an opportunity or a chance. Some examples included instances when athletes did not meet typical physical characteristics of elite athletes in a given sport or when athletes had just marginally missed a qualifying time for a big event. In these instances, sport-specific significant others provided the athletes with an opportunity to prove themselves.

I finished 6th in the Tour of Southland. Selectors knew that I was back on track, put me back in the team. And they took a bit of a punt on reputation. Which is great, I guess that's something you have up your sleeve. [MC1]

Lack of support from sport-specific significant others

Lack of financial support from sport-specific significant others

Three athletes mentioned specifically a lack of financial support or resources from the High Performance System. Most commonly athletes described lack of funding, lack of proper equipment, lack of knowledge about nutrition, or other sport science components.

And realistically in cycling you've got to have good financial structure too, because equipment is dear and races [are] all around the world. To the point when you're in the elite squad for New Zealand -- she's fully funded. You're fully funded yourself.

So, probably right up to 2000 I was paying [for] a lot of the stuff I was doing. Then [once I made it into NZ team] I didn't have to pay for anything, which was good. [MC2]

Support from Coaches

Emotional support provided by coaches

Twelve athletes mentioned that they had received emotional support from a coach. One athlete identified that the personal relationship she had with her coach was important because it replaced the void of family when training away from home. For another athlete, it was the support of her coach to allow her infant son to accompany the team on a competition tour. Although the previous two examples were of emotional support provided by coaches at the elite level, others described emotional support coming from club or school coaches. One athlete mentioned the special 20 year relationship he had with his coach and attributes much of his success as an athlete to their athlete-coach connection.

I think for me growing up with lots of family around me when I'm away from home, knowing, having known them for so long was sort of a comfort thing and so no matter, if I had problems or anything, I could talk to them openly and willingly and they'd listen and yeah honestly. It was the relationship that we had and the trust I suppose for me, especially when I'd leave home or was away. [FN1]

I think I've been with him [Coach] for 20 something years, and we've spent every day for 20 something years together. I mean he knows me better than my mum and dad pretty much. He's seen me more and he travelled with me. We had a very, very good relationship. He's been, I mean he literally looked after me when I had my achilles operation and things like that. So yeah, I think that bond we had was why I've been successful as well. He was good enough and willing to learn enough to keep me progressing forward. [MA1]

The only other coach I should probably mention, was a club coach [name of coach and name of the rowing club], and his approach was very much about connecting with the athlete and figuring out what's going to make you happy. And technically that meant his focus was about being really effective and moving the boat well and that being more important than just thrashing and pushing yourself hard. So I learned some really quite valuable things from him in terms of thinking about enjoying the process of training and competing. [MR3]

Esteem support provided by coaches

Nine athletes mentioned gaining esteem support from a coach. In these instances coaches provided the athlete with positive feedback and reinforcement that enhanced the athlete's

belief in their own ability as an athlete. Many athletes mentioned examples where coaches had provided esteem support during a challenging time (transitional period, injury, or under-performance). On the other hand, one athlete also mentioned that his coach often served to keep his confidence in check when he began to become too arrogant.

I suppose it's just that I think [my coach] has been a huge influence and it's having that someone that believes in you. Like who actually just pushes you 'no you can do it'... And right back at day one he was sort of like 'I think you'll be an elite cyclist, you know [you could] race for New Zealand, you know you could go to the Olympics'. It's having someone to actually tell you that that you really need because especially as Kiwis, we don't back ourselves. [FC1]

There's probably one coach from my club that made quite a difference to me. Because with my confidence in always being like 'oh I shouldn't go or it shouldn't be in or I can't win this or I shouldn't even be racing these people...' That he would just be like basically 'Fuck it.' Like he'd just tell me I was being stupid. He'd be like 'who fucking cares who they are, just get out there.' And then one day we were talking about another girl in the club and I said, 'ohh do you think she might go to the Olympics one day? She's really good.' And he's like 'don't be fucking stupid, you'll go to the Olympics before her.' And I was like, 'ohh my goodness he said I could go to the Olympics!' And he just would always be ready to just build me up -- but in such a kind of natural way like and he just gave me a lot of confidence because he just gradually taught me that I did belong and that it didn't matter who anybody was, that you could just do what you wanted to do. [FR3]

But, [name of coach], who is my coach now, who wasn't my coach [at the Olympics] I also saw him afterwards [missing out on Olympic Final] and I said to him "what's next?" And he was just like "Oh you're young you know? London or Rio will be your time." And that kind of feedback from someone who I really respect -- ya know has really resonated, and it's something I probably still think about. There's certain things that along the way that you get told by certain people that really stick with you, I guess. [FR2]

Informational/Instructional from coaches

The most common type of support from coaches was informational/instructional support; with 18 (not including FA1) athletes reporting coaches provided informational support. Five athletes mentioned their coach as vital to implementing new training programmes or ideas into their development as an athlete. These included things like changing the structure of the High Performance System (e.g., all athletes train at same training centre), introduction to altitude training, changes in event specialization, and developing strategic game/race plans. Coaches shared their knowledge and experience with athletes. For some athletes trust in their coach was essential. Three athletes mentioned that it was important that their coach

had been ‘proven’ or had been integral in other athletes’ successes. Several athletes also mentioned the importance (although not always realized early in an athlete’s career) of using the knowledge and expertise of the coaches and trainers around them. One athlete, in particular, said it took him several years at the elite level to realize that the coach was only trying to make him better.

I think I had like a better support staff around me. My gym coach, who is also my tutor at [name of tertiary institution], he was always at every session and my track coach has always been there at every session. A lot of people will see their coach once a week and then have to do the rest by themselves. And I think having that person there to push you and tell you what to do, I don’t know, it sort of makes everything a lot more simple and it kept me going kept me getting stronger and faster. [MC2]

I was lucky I had a high school coach who was pretty influential and helped me train and taught me how to train, because you don’t really know when you’re 13 and 14 how to. You know how to go to training, but you don’t know how to do the extra training, so I was lucky I had a fairly influential coach at that stage as well that recognized that things were moving fairly fast so she helped me out and help write training programmes as well. [FN5]

I definitely found that I truly believed in my coach and my coach had had enough experience with enough good swimmers to get it right. He always got it right. [FS1]

The coaches and you’ve got to use [support staff], I’m not an expert, so you know I’ve learned a lot about my back but it’s using the people around you with the skills to be able to help you form your programmes and things like that. So your coaches and physiologists and doctors ...and just talking to them all and getting them all to help you as much as you ca. [MR1]

Autonomy support provided by coaches

Four athletes mentioned that coaches provided autonomy support, or allowed the athlete an opportunity to have input or a choice in his or her training programme, athlete pathway, or event strategy. This was also seen from coaches when athletes wanted to try out other sports. One athlete asked his rugby coach (at secondary level) if he should continue rugby or switch to cycling. His rugby coach told him to go with cycling because he had better odds of making it to the elite level in cycling than in rugby. This was also encouraged at the elite level, when a netballer wanted to compete in the Athletics Nationals.

So I decided I wanted to compete at nationals [in athletics], and coincidentally it fell on the same weekend as the training for the Silver Ferns squad and I remember thinking, shit I’ve done all this hard work, I really want to compete at nationals for athletics, but obviously netball is still my big passion. So I, and it was only a training weekend for netball, it wasn’t trials or anything like that, so remember I rang [name of coach] and explained the situation, look I’ve been training for athletics, I really want to go

and compete at nationals, would I be able to miss this weekend, think god this really could be the nail in the coffin for my netball career here. And she was fine about it, so I did, I went to nationals and I got second, behind [name of opponent] in the 800m and I think we got a gold medal with the 4X400 for the [provincial] region... So it was really successful, then I chose to come and play netball. [FN3]

This idea of autonomy-supportive coaching was also identified by coaches in the sample as they highlighted the need for athletes to have their own input.

I think it does. You've got to be able to [contribute]; you're not just a dummy. You've got to be able to express what you see and what you feel. I mean a coach can only see but he can't feel and a boat especially in a small boat it's about the feel. So you've got to be able to interpret what the athlete tells you about it. You look at it, you look at the way the boat pitches or runs and then you talk to them. How does that feel? Try this. How does this feel? And what they say and what you see can build up what you're trying to achieve. There's got to be a good communication between the athlete and the coach. In particular in the small boats. [Coach FR3]

And I expect them to contribute too, because they're the ones out there that have got to perform. So I give them quite a bit of self-responsibility. Some of them don't take it and others do. She was one that just responded to that sort of thing. [Coach FN1]

Autocratic support provided by coaches

Six athletes mentioned that coaches provided them with autocratic support, in which the athletes did not have very much say in their athlete pathway, training volume or programmes.

And I have no expertise in training programmes or that kind of thing, so it's kind of like, you do what you're told to do. And trust that they eventually are going to get the results out of you, because that's where their expertise lies... Some people would have a lot of input into what that do (coach-athlete)... But I literally, turn up on a daily basis and get told what to do. And you say yes and do it. I guess that's that side of things is different between my coaches as well. I'd probably had more input with my other coaches, as opposed to how it is now. [FR2]

He [coach] had this idea that if you push a horse and ask it to keep pushing it will push itself until it dies. But if you push a person, their brain will stop them before the body breaks down, so his theory I guess was my job is to push that boundary of where the limits of endurance are. You don't know what really you are physically capable of, so it's about just keep testing that

boundary of what your training ethic is. And I know that, like if you go into triathlon or any other sport, they keep a close eye on people being over-trained and 'oh you're not sleeping well, or you've lost your appetite, we'll back off training'. [But with]... rowing they'd say, 'right your pretty much bang on'. I remember complaining about just feeling knackered and I wasn't feeling very good and the physiologist, who worked with [coach] would just say well that's how you're supposed to be feeling. You're feeling that way because [coach] wants you to feel that way. [MR3]

The need for coaches to be autocratic and authoritative in certain situations was also highlighted by the coaches themselves.

He needs a hands-on coach. Otherwise he can be a bit unruly. He can be a bit of a lazy son of a... if you let him. But if you drive him, you'll get the best out of him. And I don't cut him any slack, he's just has to do it. And he's just got no excuse, because I just won't except it. [Coach MC2]

Preparation from coaches

Five athletes mentioned that coaches provided them with preparation before an event. Athletes often mentioned the role of a coach in preparation for a future environment, a future coach, performance in an event, or future situations.

I followed the same paths as what [name of teammate] had followed four years earlier when he had won his two gold medals. He[name of coach] just took me through the steps of exactly what they'd done, not that I was ever going to win gold medals, but if I did the same kind of training process, same programs, yeah, it was just really good. Helped me have a really good understanding of things that were ahead of me, such as Olympic Games environment and in the Village and how people react and what kind of things are there to distract you and that kind of thing. [FS1]

Lack of support from coaches

Lack of emotional support from coaches

Four athletes described a lack of emotional support from coaches. One athlete mentioned the lack of a personal relationship with her coach (which she believed was key for her success as an athlete). Another athlete mentioned the lack of emotional support from her coach during the time of injury.

His coaching style is very sort of hands-off. So once you're injured, that's it. Just go away. Come back when you're not injured, basically no help with rehab or the training programme or technique or anything. Just basically, as soon as you're injured you're no good to me. So I don't even want to see you. Like I'd try to talk to him, and he'd just walk away. Like he -- it's just the type of coach he is. As a 21 year old -- every injury that I had was my

first -- the first time I did my rib, the first time I got tendonitis, the first time I hurt my back, it was the first time for every injury I had. And I had no idea what to do. [FR3]

Lack of esteem support from coaches

Five athletes reported a lack of esteem support from their coaches. One athlete noted that early in her athletic career her coach told her mum to not to expect that she would be any good at the given sport because of her small stature. Another athlete reported that his coach lost interest in him when he started to underperform. In the quote below a rower talks about a tough time when she had a coach who didn't think she had what it took, and wanted someone else in her place in the boat.

But you've also got to keep being reselected, as well. So each year you have to try and get back in the boat and so trials... One of my seasons from the 'eight', I had a coach over the summer and he decided that he didn't think I had what it took -- or whatever. And so he was never putting me in his 'eight' fixture. [FR1]

This was also outlined by one parent in her/his perspective on their son's experiences.

And he did feel that the coach at that time also removed some of the support from him... He felt that she had, well he didn't get a medal there so she was moving on... Whether they felt that he'd reached the pinnacle of his career and that he was on a downward spiral... [I'm not sure, but] that was certainly the feeling that we had. [Parent MS1]

Lack of instructional/informational support from coaches

Seven athletes reported a lack of informational/instructional support from their coaches. Two athletes mentioned a lack of information or assistance from their coaches during times of injury. Two athletes mentioned a lack of knowledgeable coaches at the high school level and the inability of coaches to explain the rationale behind training. Additionally, one athlete mentioned that his coach lacked information on how best to transition out of elite sport.

I rowed [in secondary school] but our coach there wasn't an amazing coach. I think she had rowed at an elite level and she had been good years before but she got sort of lazy and wasn't really interested in getting us really going and so we really didn't train hard. I left school not really even knowing what rowing was all about. [FR1]

I always want to know why I'm doing something, like why am I doing this, and I think some coaches are better at giving you that why than others. And I've found it frustrating if a coach couldn't explain why I'm doing something and that's sort of the source of a lot of my disagreements at the start with different coaches. [MR2]

Support from Family

Competitive support from family

Eight athletes mentioned that their family (parents, siblings, significant others, etc.) provided competitive support. Most of these eight athletes mentioned competing with siblings in sports or in daily activities around the family home. One athlete mentioned that her (now) husband provided competitive support when the two would train together and motivate one another to stay fit. Several other athletes and parents mentioned that the athletes came from highly driven or successful families.

I suppose my husband because we've both grown up playing sports, like he's rugby and touch, he played touch for New Zealand and I've had netball and touch. We're really competitive and we used to train together and I suppose the days when I didn't want to train he'll be like 'nah come on lets go, we've got to go for a run'. [FN1]

I've got one older sister who was relatively sporty at school, but then gave it away when she finished. Probably not quite as competitive as me, but it was good for me... I had this theory one time that having an older sibling, it was one time in the Ferns we did a little survey and all of us were younger, like we all had older siblings, so I don't know if that's any... I do always remember having to try harder in anything I was doing. Playing netball, doing passes, shooting for goal, sprinting round the back garden, I had to be chasing her, and she was obviously 2 years older so that much better. I remember going I can't wait till I'm as big as you and I can be as fast as you. So that's my theory that it pays not to be the oldest. [FN3]

[Husband's name], I felt he had an influence, pushed her along a bit. They would feed off each other or whatever along the way. You know he wouldn't have been out in front waving a flag but in her training, he used to train... because you do need all that support. [Parent FN4]

Financial/Resource support from family

Seventeen athletes mentioned that their families (mostly parents and occasionally grandparents) provided them with financial and resource support. This financial support came in the form of paying fees to participate in events/clubs, paying for equipment necessary for sport participation, and paying for international competition expenses. Families also provided transportation to and from training and competitions, oftentimes sacrificing weekends and evenings. One athlete mentioned the role of her family in taking care of her child while she was away training or competing in her sport. Parents also arranged for the athlete (and one instance the parent and the athlete) to relocate to be closer to better training facilities or coaches. Most athletes cited that without the support of their families, they wouldn't have been able to achieve high levels in their sport.

They didn't really... push me. Like they didn't force me to do anything, but they still supported me in everything I did. I guess early on, the early morning training sessions, mum and dad drove me to training a lot. As soon as I could get my license, they made me get my license so they didn't have to take me anymore... I'd come home and dinner would be ready to eat. And they'd always come to the swim meets and watch me, and drive me wherever I needed to go. Just the support, having that support structure around you and network. [MS2]

We'd drive 40km to go to athletics every week and drive all over [name of province], so probably with me, having a very supportive family was quite a big part of it too because they just took us everywhere. Now that I have a family of my own I realize how much time mum and dad committed to us, they took us everywhere. [FN3]

So just things like, for me to do all the activities that I did they [my parents] basically used their savings -- so we could do that. We had the economic crash here in the 80s and Dad was mowing the neighbour's lawns next door to get money. Like things were pretty tough. But we kept up with all our sports and our music lessons and everything. And I think they always saw it as the most important thing. And Mum always wanted us to take every opportunity and try everything. And then we could choose what we liked. But she never ever stopped us from doing anything. In fact, she put different things in front of us for us to try. And that was always sort of her main thing. ...And they always, my parents always taught my brother and I to try our best, and like that was enough. So it didn't matter if you won or lost but just that you tried your best, that was about as simple as it was. [FR3]

Emotional support from family

Eighteen athletes mentioned the emotional support they received from their families as being very important to their success as athletes. Emotional support was provided through comfort, reassurance, and/or encouragement. Oftentimes, emotional support was provided by family through listening to the athlete's problems or challenges. Also included in emotional support were family members physically attending the athlete's competitions or events.

You know the support of family and friends. I think that's something that is also very important. Because it can be quite a lonely existence being an athlete and it's having them along for the ride and having them support you has certainly been a huge help. [MR1]

I can't imagine how you could be an elite sports person without good family structure. [MC1]

They [mother and stepfather] would come everywhere with me, it just made it easier, more comfortable. I remember one time, I had an Under-15 tournament and I was so scared of my coach, and I left my skirt at our hotel room. And thank God my mum was there, because she drove back, got my skirt and came back and gave it to me without my coach ever noticing. So I would have been in a lot of trouble -- I wouldn't have played if my mum wasn't there. [FN2]

They [parents] always supported everything I did but they weren't, they were never pushy, never actively you know wanted me to do anything. They just enjoyed coming along to watch, and then when rowing started to get more successful they started coming to Europe to watch and were just happy to be there and didn't expect any results from me. They just enjoyed watching me racing, I never felt any pressure. ...I think it was good to have family that was interested in your sport but not expecting anything from you in that sport. So that's why I enjoyed it so much because I knew they... just enjoyed going out watching and they socialised and that sort of thing. So for me knowing that no matter what my result was, always coming back to happy parents was always quite satisfying. ...I could have the shittiest day out rowing or whatever, or lose a race whatever, and to them it wouldn't worry them at all. I could see the big picture of sport a lot better. [MR2]

All of the parents discussed the role they played in providing emotional support for athletes.

We took the attitude as parents that we took a step quite back from [name of athlete] and that certainly from the coaching/swim thing. We were just there, we're here if you want to ring us, we knew that he wanted to see us a couple of days before a big meet, so we were there for that. And I know some parents are there in your face for their son or daughter; and I know that's negative for [athlete's name], that wouldn't have worked. [Parent MS1]

Esteem support from family

Eight athletes mentioned that they received esteem support from their families. Family provided athletes with positive encouragement during times of self doubt or challenging experiences.

It helps to have a supportive family, supportive husband, supportive parents and stuff as well to get you through those times. And kids, I certainly coped a lot better, once I had children, I feel like I had a better view on getting it in perspective. [FN3]

[Athlete received encouraging words from her cousin, a former elite athlete, while at a trials where the athlete had not been preselected and thought her athletic career could be over]. I remember just from my cousin who had rowed at the elite level. And she was around at trials at that time and had been watching

things. So I remember she had said a couple of positive comments to me regarding my rowing and so I kind of stood a little bit taller and thought 'yeah I can actually do this'. [FR1]

Introductory support from family

Thirteen athletes mentioned their families as introducing them to sport. Parents generally provided the athlete's initial introduction into participation in sport, in general (i.e., the athlete's first sport). Siblings were also influential in the athlete's sport choices early in development with several athletes saying they became interested in playing sports their older siblings participated in. One athlete mentioned the role of his father in his initial interest in watching sport on TV, and it became something that they would do together. Early in their development, a number of athletes also mentioned watching their parents participate in sport.

Our mum had played lots of netball, so she also had coached, played for [name of province], then coached [name of province] at a senior level. So I guess thinking back, I started playing very young, being at the netball courts with mum. So basically we'd all be there and I had an older sister, I was striving to be like my older sister, so I started playing much earlier than people would start playing now, so I was at the courts when I was five, probably started playing when I was five and half or six against people that were standard 4 [9-10yrs]. [FN4]

Well just was following my family. Dad and my brother were going to races on Saturday just thought it'd be cool to do. So I just started racing. I did my first race when I was 8. [MC1]

It's important to note from a practical standpoint that parents most often provided the introduction to sport. Also that most parents provided emotional, esteem, and financial support but not necessarily autocratic or instructional support. Although some parents did provide instructional support, for the most part athletes' parents were not largely involved in their athletic instruction. This is outlined by the following quote from a parent of FR2.

[Early in development] you provide the financial support and the emotional support sometimes because you see them at rock bottom. Well, I've seen her at rock bottom, and support them when they do do well... But it reached a point when it was all down to her now, I mean we still give her emotional support and stuff, but it's her. But when she was getting those opportunities [early in development], it was probably us helping her towards those opportunities. [Parent FR2]

Support provided by Sport Science Personnel

Informational support provided by sport science personnel

Nine athletes reported that they received informational or instructional help from sport science personnel which included psychologists or mental trainers, team physicians,

nutritionists, and exercise physiologists. Athletes often cited that one of the benefits to being in the high performance system was the access they received to sport science services.

No one had really well people had heard of SRM's and so that's like the computers on the bike that measure like the power and everything that you're putting out. People had heard of them but no one really knew how to use that data and actually transform that into something meaningful that could then change the way you train or like tell you how you're going. And so a big thing for us as well was [coach] got a set of the SRMs from [name of tertiary institution]. [We] borrowed a set [of SRMs] pretty much from, I don't know, like the first week that I jumped on a bike we had data. [FC1]

The older you get and the higher you get you have more support roles. Like you start out with a coach contact you every now and then, and some people sending you some skills that you need to work on or you do well, and what not. And then sending you wee training programmes, and the higher you go up then you get a trainer and a nutritionist and all that kind of carry on. And that is important I think to see you getting better and helping you get better. [FN2]

I did actually speak to someone, a sport psychologist, about my issues with rowing a pair. So we kind of worked through what my issues were and why I had such a problem with it, and how I was going to move past it, and what I actually wanted to do long term. Like, I had to kind of have some kind of plan. [FR3]

I had some very good medical staff around me, that really helped me maintain and keep going and limit my time off which was a necessity for me. [MA1]

[I worked with a sport psychologist]. She taught me the technique [centering] and I practiced it, and I actually did it in training, it was part of my routine on the line. Self talk, it's crazy to think that you'd start doubting yourself in the final throws of it all, wouldn't you? But that's very common, I would say. [MC1]

Support from School Personnel

Informational/Instructional support from school personnel

Three athletes mentioned that school personnel had provided them with informational or instructional support throughout their school years. This was seen in teachers who doubled as coaches. One athlete recalled a sports coordinator who was influential in her finding a new school that had better offerings for sport.

I had a sports coordinator at my first school... he was awesome. And he knew I wanted to play sport... and he even wrote me the letter to go to my new school... I don't think the principal knows that, but he was pretty cool. [FN2]

They were an awesome sporting school and I got really into the athletics sports days there and we had a real competitive relay team and we used to get up and train in the mornings and we were only like at primary school. Our house was above the school top field so the teachers would come in early and they would have this big training session, it was great! [FC1]

Emotional support from school personnel

One athlete mentioned that she had emotional support provided to her by school personnel in that the teachers understood her commitment to excelling in sport. They knew when to push her and when to allow her some time off.

[The school staff] understood more of what was needed and even the teachers... Because they were involved and they had played at a high level so they understood and let you kind of have time off if you needed to, or pushed you. I don't know it was a sports school that I went to – [but] they definitely understood what I was doing. [FC2]

Support from Non-Sport Significant Others

Financial support provided by non-sport significant others

Five athletes mentioned that they received financial support from non-sport significant others. These others included community members, government scholarships, and second families away from home during international competition. Communities, at times, provided financial assistance to athletes for travel to international competitions. A Prime Minister's Scholarship helped an athlete remain at university at a time which his primary goals were training for his sport. Another athlete mentioned the support of a 'second family' when she was competing in a Pro circuit in the US.

Like when I made the Olympics, they [home town community] fundraised like 14 grand for me and [coach], because there is a lady in [name of home town] who was really good friends with my coach as well and they did like a door knock appeal one Sunday and knocked on people's doors asking for money. [FS1]

We'd [athlete and husband] actually lived with family in Northern California... and they were, [name of second dad] he enjoyed cycling. He was like my second dad, I'd go home and we'd call it home, and cycling wasn't, it was like we were back in a normal family everyday environment and they had a little girl that often we looked after. [FC2]

Psychological Development

Psycho-Social Influences

Role Models

The athletes identified a number of different individuals that they looked up to and were inspired by in some way. The influence of role models was not limited to any one developmental period as they were identified in playing a role in childhood, adolescence and at the elite level. These individuals came from many different walks of life, including:

- Current athletes who participated in the same sport
- Current athletes who participated in a different sport in New Zealand
- Parents who were involved in elite level sport
- Former athletes who participated in the same sport
- Former athletes who participated in a different sport in New Zealand
- Coaches the athlete had played for at the elite level
- Coaches the athlete had played for at the high school level
- Elite military forces who act in high performance environments

One athlete described her experiences of talking with a former New Zealand Olympic gold medallist to help structure training and gain an understanding of the elite environment.

Like I followed the same paths as what [name of teammate] had followed four years earlier when he had won his 2 gold medals. He [my coach] just took me through the steps of exactly what they'd done, not that I was ever going to win gold medals, but if I did the same kind of training process, same programmes, yeah, it was just really good. Helped me have a really good understanding of things that were ahead of me, such as Olympic Game environments and in the Village and how people react and what kind of things are there to distract you and that kind of thing. [FS1]

Another athlete discussed an occasion where he was inspired by the words of a former New Zealand athlete

And if you talk to Murray Halberg, he tells a good story about when he won in Rome... He told it to us at the Olympics, everybody had goose bumps but he was standing in the underground with the 10 people in the final and he said he just looked around, and no one would look him in the eye. They were all looking down. And he said, "oh, he knew he was going to win then, because he was facing 10 scared people". Everybody in the room was scared to death about what they were going to do, and he was the only one who had confidence in his ability and would look everybody in the eye, and no one would look at him. And I thought that was pretty amazing -- even back in the 60s he knew he was going to win, because in his mind he had done the work, he was calm, he was

under control, knew what he was going to do, and everybody else was petrified -- which is true. That's pretty amazing. [MCI]

Elite military forces inspired one athlete and helped him put his sporting endeavours in perspective

I was reading a lot of books, military books and things like that at the time and that would put sport into perspective. So in the elite forces and stuff if you fuck up, or if you muck up, you could pay the ultimate price of dying or your friend could die, for a mistake that you made. Put it into sporting, if you muck up, oh OK, no big deal in my opinion. [MS2]

Thirteen of the athletes identified a role model that they viewed as being inspirational at some point in their athletic career and parents also identified it as being important in athlete development.

At the intermediate, they were so pro sport, [name of athlete] was really lucky that there were teachers that were interested and yeah wanted her to do well. There was a huge amount of encouragement for kids who wanted to do it... That was perhaps one of the big things for [name of athlete] that Anna Rowberry she did a posting at [name of high school] and came and taught and coached the team. And [name of athlete] thought she was wonderful... When Anna was coaching, [name of athlete] realized well here's this Silver Fern who is just an ordinary person, and it was sort of an "ah ha" moment for her. Well if she can do it so can I. [Parent FC1]

Childhood Dreams

Eight athletes recounted vivid childhood aspirations of competing for New Zealand in elite level sport. These athletes reflected on vivid aspirations they had in their childhood that related to representing New Zealand in sport at the international level. These aspirations were played out in the athlete's childhood through memories including:

Athletes described role playing a performance on a New Zealand team

I always wanted to be a Silver Fern. Like I remember me and my sisters always out the back playing and we'd always be Australia verses New Zealand and I'd always be the Silver Ferns and whoever came around was always the Australians. ...From a young age I always wanted to be a Silver Fern. I always remember shooting and practicing shooting the winning goal like with 2 seconds to go. [FN1]

Athletes also remembered verbally or physically communicating the desire to represent New Zealand in a specific sport or at a specific event (e.g. Olympics):

When I was actually 11, I was in school and we had to do a picture or poster. ...We had these different areas and one of them was goals, and at the age 11 I wrote two [goals]; I said make the

*Olympics in swimming and learn to single ski, like water ski.
[MS1]*

Athletes also remembered watching New Zealand athletes or teams on television and believing that they would one day fulfil the same achievement:

Well my most vivid sporting memory ever getting into sport was when I was 6 years old... I've always loved the Olympics and I remember the opening ceremony of the 1984 Los Angeles Olympics probably...and a guy jumped off the stadium with a rocket pack and flew into the middle... And I just knew I was going to be an Olympian from there. [MC1]

Athlete Identity

Being defined by their life as an athlete or by their life within a particular sport was something many athletes discussed. This was perceived in both positive and negative ways.

Perceived as positive

Involvement in elite level sport positively enhanced some athletes' self-esteem as it provided them with purpose and motivation. This was highlighted by the following athlete and parent quotes.

I mean my whole life was just every day, ...I was so committed to it, 7 days a week, everyday all I ever did was work out what I was going to do the next day. I mean I'd turn up to training early because I just couldn't wait any longer. That's just how it became my whole life and you know everything from massage to physio to doctors, it was just everyday all day to make sure I was in the best shape I could be in. [MA1]

It [being a rower] was a predominant thing in her; she really, really wanted it. That's what she was going to do, it was focal to her life; maybe other people get things coming in the way. [Parent FR2]

Perceived as negative

Having an identity wrapped in sport troubled some athletes as they struggled through times of change. Changes included injuries and transitions out of a sport.

That's still kind of ongoing I suppose and realizing what it's like to be an ex-rower and retired and not to be part of that group anymore. That's probably the thing I miss the most because you're a big fish in a small pond and basically having to start at the bottom again and work out where I fit and what I enjoy. [MR3]

Six athletes talked explicitly about their 'identity' as an athlete. Two viewed having an athlete identity as a good thing and three viewed it as a negative. One athlete discussed both positive and negative aspects of identifying himself as an athlete.

Coaching Preferences

Athletes discussed the different preferences they had for coaching styles and coaching behaviours. These ranged from preferring a close personal and professional relationship with the coach to having a coach who was tough and autocratic in the way he or she communicated with an athlete. There were no common themes or preferences for coaching styles. Three athletes discussed the coaching behaviours that they preferred.

Team Dynamics

The athletes explained the important influence of the team environment. The need for the promotion of a positive team dynamic between team members was highlighted as being an important factor in the development of athletes, and something they could control themselves.

There's really a good social aspect, so even within the provincial teams you had friends that you made are really close friends that you keep for the rest of your life. But you had a lot of fun together too, so that kept you playing at provincial level even if you didn't make national level. So a lot of players that may not have made that next level, but love the social side, ...which I enjoyed but it wasn't my main factor for playing. [FN4]

We had a poor young goal shooter who wanted to pack up and go home [one day after practice] and sulk about it because she couldn't get the goals in or something. But [athlete's name] would make her stay while she did 20 or 30 more throw ins from [her]... [Athlete's name] was trying to make it right for her as well as the kid. She likes to perfect things. She would stay for ages afterwards to do it. And I said to [name of sulky goal shoot] 'you're jolly lucky you've got someone on the team that will do it for you, so get the look off your face'. [Coach FN1]

Psycho-Behavioral

Psychological Skills and Characteristics

Self-Belief

Reinforced by others

Significant others were found to be influential in building athlete self-esteem through their actions and behaviours. Feedback and reinforcement communicated from coaches gave athletes confidence in their ability and future performance, as did being selected in teams or in squads.

If I actually stepped back and probably looked at myself it's like well yeah you've got, your physical ability is amazing, but it's having someone to actually tell you that -- you really need that; because especially as Kiwis, we don't back ourselves. [FC1]

Confidence appeared to be facilitated effectively when it was reinforced by respected individuals and when this feedback was communicated with feeling and meaning.

There's probably one coach from my club that made quite a difference to me. Because with my confidence always being like 'oh I shouldn't go or I shouldn't be in or I can't win this or I shouldn't even be racing these people...' -- he would just be like basically 'Fuck it.' Like he'd just tell me I was being stupid. He'd be like 'who fucking cares who they are, just get out there.' And then one day we were talking about another girl in the club and I said, 'ohh do you think she might go to the Olympics one day? She's really good.' And he's like 'don't be fucking stupid, you'll go to the Olympics before her.' And I was like, 'ohh my goodness he said I could go to the Olympics!' [FR3]

Athlete self-belief was also facilitated by the relationship the athlete had with their coach. One athlete discussed the belief he gained from the confidence his coach had in him as an athlete and the commitment his coach showed to their relationship.

What I remember was [that my coach emphasised], before a race or whatever, get out there and try your best, don't worry if you drown because I'll jump in and save you. So leave it all in there... It broke the tension, but it also honed the idea that it doesn't matter where you get [result] as long as you put your best effort in and I will support you if you do -- that's him jumping in and saving me from drowning! [MS2]

Reinforced by performance

Seventeen athletes described ways in which their self-belief was enhanced by some form of performance measure within their sport.

Confidence was gained from success early on in athletes' development.

I was very fast as a child... A lot of parents would get a little bit upset, this is what mum told me, because they thought I was a lot older than I was. Because I was quite good at what I did so a lot of parents used to get quite pissed off and mum would get asked for birth certificates and things to see if I was the right age because I was a bit better than most kids. I'm not trying to say that I'm amazing, but I was. [MA1]

The growth of self-belief was identified through both practice and performance, and often through preparation for an event or competition.

That belief in yourself you know... you build those from the training and for example you build that from going to those sort of limits... You suddenly have a belief that you can go further and I remember that was a big thing in my first year in the single... Suddenly I thought seven minutes you know in a race was 'easy as', because there was some of the stuff I'd done during the year [where I was]... hanging out at that kind of level for an hour and a

half. And [I was just thinking that]... seven minutes seems like a walk in the park. [MR1]

This was seen as a gradual, modest development of confidence based on successful performances:

I was fortunate because I had two years at juniors whereas a lot of people only get one, I actually went back for a second year and actually got another silver medal but it was sort of like okay the first year wasn't a fluke, second year I was consistently right up and fully competitive near the front again, I was kind of like you know well maybe I do have a bit of potential to sort of keep developing. [MR2]

Athletes gained confidence from the experiences they had with other athletes who had high ability:

Then I got to play against the likes of [names of Silver Fern players] and stuff like that... This one game I was playing against [name of Silver Fern player] and I actually got three intercepts off her and [I thought] 'okay, yeah I really want to play, like I can play against these players'. You know I think I was 17, I was playing against these big stars and so from then on I was like 'yeah lets go, let's play'. [FN1]

Overall, this self-belief appeared to be critical for continued development and success, and something that was not necessarily easy to achieve. This was highlighted by one of the athletes coaches.

Believing in herself I think that was the biggest thing she was able to achieve. To believe that once she got there to know that it was possible; and just being able to stand up for herself. Saying 'hey I'm here and I'm doing it'. [Coach FR3]

Lack of self-belief

Seven of the athletes explained a time in which they had experienced a lack of self-belief and not fully believing in yourself until you reach the top level:

I think you need to believe in yourself and you need to be doing stuff and pushing yourself in training etc. But until you win... even if you've got 99% self belief, until you've actually won, you still don't have that 100% of I can actually do it. And like you know going into that first World Championship that I won I remember going into the final and I honestly, I went in there with an aim of just winning a medal, knowing that that was just a pretty good result... I remember just rowing away from the field in that second half and I suddenly thought 'man I'm going to win this'. You know it was something that I hadn't really [believed I could do], you know I'd dreamed about but I hadn't really thought I was going to be able to do it. And you know I remember that was a pretty awesome feeling and yeah it's certainly gives you [confidence... you're 100% believing. [MR1]

One athlete described her general lack of self-belief in her sporting ability but explains how she was able to overcome this through her perceptions that she was smarter and wanted it more than other athletes:

I felt like I was just smarter than them...I could have just wanted it more and therefore figured out more. But I kind of, I was still quite unconfident and I was for a long time. Quite unconfident...I was quite shy and everything but I sort of knew that I knew how to race. [FR3]

Another athlete described the challenge of having teammates doubt his ability, this had a negative influence on his confidence levels.

I guess in particular with [name of teammate], he was so focused on winning gold, it wasn't about being a part of the team. He really would have said, and I think he seriously considered, trying to kick me out of the crew so he could get someone else in who was better. And it definitely creates doubt about whether you're good enough when your partner is basically telling you you're not. So that was pretty challenging. [MR3]

Competitiveness

Fourteen athletes identified themselves as being competitive, this appeared to be more emphasized by the females ($n=9$) than the males.

Athletes identified having a competitive nature as young kids.

We also kept a training log from probably 7 years old... Just because my sister was, so I'd copy her and I'd do the same thing that she would. And I'd always run a wee bit further than she did, I'd have to check her thing and I'd have to go a bit longer. It was pretty bad, I was quite competitive. [FN4]

One athlete described her 'mongrel attitude' and her dislike to losing.

I just hate losing, like oh hate losing... I like to be cheeky but dogged at the same time yeah... I just hate losing and so when that starts happening I just turn to angry, evil no, but... anything to do to win you know. [FN1]

The influence of family in creating competitiveness was regularly identified by both athletes and parents in the study.

I've got one older sister who was relatively sporty at school, but then gave it away when she finished. Probably not quite as competitive as me. ...I had this theory one time that having an older sibling, it was one time in the Ferns we did a little survey and all of us were younger, like we all had older siblings... I do always remember having to try harder in anything I was doing, playing netball, doing passes, shooting for goal, sprinting round the back garden. I had to be chasing her, and she was obviously two years older so that much better. I remember going 'I can't wait till I'm as big as you and I can be as fast as you', so that's my theory that it pays not to be the oldest. [FN3]

Competition within team was also identified as being important, this was mentioned specifically by all of the rowers in the sample.

I came back from the Worlds and [name of teammate] came back into the squad, then that was really a tough Summer and so that was quite stressful. I mean I knew I had the edge and I knew I was a bit ahead of the other girl but it's always close and you just never want to slip up. Like it wouldn't take much to like muck it up and so those were pretty challenging times. But I think that's important because that what makes you move on. If you didn't have that competition I don't think [you would succeed], I mean I think that's the whole basis of the Rowing NZ structure and why rowing does really well internationally -- because we are here each day competing against each other and we make it really tough for ourselves. [FRI]

This was also emphasised as an important psychological characteristic by parents.

He's always been a true competitor, he must win at everything he does! He's got to be better than the next person. I think that's really important for an elite athlete [Parent MS1]

Independence/Autonomy

Seven athletes discussed the development of autonomy and independence as a psychological characteristic. Some athletes reported using their athletic career to develop an independent life away from family – wanting to develop it early and do it even if it was difficult.

I think I developed independence early on as well because I remember two situations. And everyone can understand this, where, you know like being dropped off at school...you know you don't want to walk all the way to school, but then you want also that independence, some semblance of independence by walking the last two [blocks], 'ok you've got me to school type of thing, now I'm here and I can walk the rest of the way'. That happened at swimming as well, I didn't need the parents in the stands waiting, I could've just, just get me there and I'll do what I need to do. (MS2)

I never moved back home, which has been great...You've always got your family to lean back on you can always move home if you need to and stuff. Like not having that luxury, you know, and you've got to do it yourself. [FN1]

Self-Promotion

Two athletes discussed how they have promoted themselves as athletes. The ability to promote oneself was identified as being necessary by one athlete as she described changing sports:

Going from that team sport environment to an individual sport you just learned that you had to stand up and be like 'look at me, I can do this'; because otherwise you get left behind and no one notices you. [FC1]

This same athlete also discussed self-promotion as being a business decision as well as sporting.

Once I achieved some good results it was [like] standing up and saying 'look at me' was more of a business decision. Like business influence as well and you have to be able to make a living out of what I do; and that took a long time to be comfortable with. To sort of talk about yourself and like write about yourself and sort of go to sponsors or whatever or just tell people 'yeah look this is my gold medal that I won'; because it ended up having financial implications. [FC1]

Self-promotion was also described as a technique used to help athletes show that they are 'normal people' in order to gain more public acceptance.

Everyone thinks netballers are stuck up, you know don't talk to anyone. And it's like we're the total opposite, only thing we probably don't talk to you because we don't know if people want us to... We might be just as shy as you guys are and so I think it's good for us to be able to talk openly about our lives and stuff. Just so that everyone knows that we're normal people you know, just with certain human abilities. [FN1]

Personal responsibility

Seventeen athletes discussed the importance of personal responsibility in their development. A number of these athletes identified taking control of their behaviours and taking responsibility for their practice, performance and personal well-being. A lack of personal responsibility was highlighted as one of the reasons why some athletes got left behind and did not make it to the elite level.

I see athletes getting left behind or you know not quite making it generally. I look at it being, in a lot of ways, their own fault... Because they haven't adjusted or haven't taken on board something -- you know a lesson that they should've learned or they haven't changed. If you continually fail, well you've got to take a step back and have a pretty hard look at yourself and... work out [what] it is that you've got to change in order to succeed. [MR1]

Personal responsibility was identified as an important characteristic to move forward following non-selection, to seek services to help improve performance and well-being. One athlete explained the importance of personal responsibility in being able to improve both individual and team performance.

I guess it's more girls just being a bit of bitchiness and that sort of thing. And like blaming... You really put the blame on other people, that the boat's not going right or whatever. But it's the worst thing you can do because you should always first look at what you can do. [FR1]

Both individual and team sport athletes described the positive influence that participation in an individual sport, at some point in development had on personal responsibility. This was outlined in the following quote from a netball player.

Athletics helped me there because that middle distance training is just bloody hard and I think the fact you can't hide, you can't hide

on a team with athletics was probably a good thing for me as well. Like if you have a shit day, well everyone can see it when you race, so you can't cross the line and say its someone else's fault. Sometimes in a team you can actually hide and get away with not having done the work because someone will cover up for you. [FN3]

Realistic Performance Evaluation

Sixteen athletes outlined examples of the use of realistic performance evaluation in their athletic careers. These athletes outlined the importance of continued evaluation of their development and performance in sport. This evaluation was measured realistically in relation to their specific point in development and specific goals at various stages of careers. This was exemplified by an athlete who missed on selection on a team but was realistic in the evaluation of his performance.

I had to go faster than I had. I still swam my best time, but I missed out by .3 of a second. So even though I didn't make the team, it was still the fastest I had swum. So I was happy with that. [MS1]

Although performance was evaluated relative to development, the elite international level was kept in consideration as highlighted by an athlete in the following quote.

I got picked in the junior team and went away to the world juniors which was a big unknown because you always hear other countries being so much better than New Zealand. And then first year over there I got a silver medal, and sort of went okay so what I'm doing is actually working. And if I develop at the same rate as all these other juniors then hopefully I'll be able carry on to get to the Worlds. [MR2]

An important component of this evaluation was honesty and objectivity as highlighted by another athlete and a coach.

Being honest with myself, knowing when I had performed, when I had put out a true effort, when I hadn't, because I could translate those all to my training. Just that ability to be honest with who you are, in sport and in everyday life... I think those were big things that I needed. [FC2]

They're pretty objective about their own performance. They [elite athletes] definitely don't think they're the best all the time.[Coach FN1]

Analytical Approach

Fifteen athletes described the analytical approach they took to their athletic development and performance. Athletes discussed the importance of analysing personal performance and the environment in order to find ways to get better. This analytical approach was seen to be something the athletes participated in constantly in attempting to enhance their performance. One of the athletes regularly referred to himself as a “thinking athlete” and this concept is highlighted by the following quotes from other athletes.

I mean it was always just interesting to learn and... I was always quite analytical I suppose of things. I'd try to recount and analyze things, not feverishly, but I'd try to understand how things were and how I could apply it and whether that would work. [FC2]

That was probably a big part of my game, that I was very analytical and would analyze the opposition, would look at everything, probably too much, but that was just me. [FN4]

This analytical approach was highlighted by one cyclist who, along with her coach, questioned training and performance methods in her sport.

I think we came in and said I'm going to be just a pursuiter, because we knew I didn't have the technical skills to ride like the bunch races on the track and to sort of fast track all that. We could leave all those technical skills and just focus on the pursuing which was more physical and you could actually control that side of things. It didn't have to be like learned over years and years and so that was sort of one reason we said look you're going to be a pursuiter... That was sort of totally out of the norm because you'd be a 'cyclist'. [FC1]

Another athlete discussed the need to adapt this analytical approach to his training and performance when dealing with the challenge of an injury.

You know it's a learning thing, it's taking those situations and trying to learn from them and trying to adapt so those were some of the obstacles. I fractured my back in 2005... [So for] the last year I've pretty much been out of the boat with back injuries; so you know it's something that you've just got to try and manage. And you've got to try and learn from them, you've got to try to, I suppose, take the positives and try to change... And for me... this last year's been hell... I haven't been doing what I want to do, I haven't been able to train how I want to train. But you can take some positives, you know last year I managed to take a silver medal out of you know pretty much doing no training. So there's some positives there, but it's a matter of trying to stay as positive as you can and just trying to find as much information and find ways around these obstacles so you can still achieve your goals. [MRI]

Along, with continued analysis in the pursuit of excellence, athletes also appeared to be creative and willing to try new things to achieve success. This is highlighted by the following coach statement.

[Athlete's name] will come up with things different, she's got this move. She goes to the depths of the court and she's got the ball and instead of throwing it into the circle, she throws it around behind the post and the player on the other side has to catch it out of court and you can't defend it. (laughing) You reckon every time it works, I said, 'If you put that on the court and it doesn't work -- you're in big trouble, I'm gonna get you.' Then it worked the first time, the

thumb went up. But they [elite athletes] will do things that are different; they're creative. She's creative. [Coach FN1]

Mastery Orientation

Nineteen athletes discussed ways in which they employed the mastery orientation in training and performance. Athletes discussed a 'mastery' approach to performance that focused on the process of personal improvement rather than the outcome of success or failure. It was a focus on being the best athlete the individual could be and based on controlling what the athlete could control themselves.

If I'm racing, I'm always going through the process, not just trying to beat that person. So if I do everything I set up to do right, and he still beats me, it's not a bad ride. But a lot of people will go, 'oh he beat me, that ride was shit'. And you don't ever learn anything from it. [MC2]

This approach was seen to be fostered through training and practice where athletes had specific objectives and focuses.

I look at girls in the national team now, we've got a squad of seven and you know they haven't probably progressed or you know bettered their pursuit times for the last three years and you sort of question 'well why?'. And surely they'd have to ask questions of themselves like 'what am I doing?, why am I not getting better because I'm training every single day?' And I suppose it's almost that kind of mentality, that reasoning... There was always an objective to training. [FC1]

The maintenance of this mastery orientation in athletic performance was emphasized when athletes were trying to stay on top in their sport.

And then for me staying there well nothing really changed. It was I still wanted to get better, I knew I could get better and each year just always found a way to try to improve and step that next level. [MR1]

Another athlete outlined the process he went through in learning the importance and value of the mastery orientation.

Instead of focusing on believing in myself I focused more on you know just getting the actual result. And I found I never actually got the result I wanted even though I was so focused on it. ...I remember at the start of 2010, it was like the worst result of my life...and like it was something for me that just kicked in. I'm so focused on the results I forgot what I was actually doing about it. So pretty much on the next day after that I focused on, everyday I'm just going to try and make myself better and I only care about what I'm doing. I don't care about my results, my other crew, whatever. All I care about is sort of personal goals. [MR2]

Coaches also identified this mastery orientation as being important in the development of athletes.

We've just kept focusing on not just goals, but [the process]... People think 'oh I want to run 10 seconds'. Ya know that's great. But it's more important to think 'well how are you going to do that'. So those kinds of goals we've talked about. From my point of view about the technique and the kind of things at each stage of the race to get that happening. And likewise in the gym working power work to be able to support that type of running. [Coach MA1]

High Work Ethic

A high work ethic was a psychological characteristic that was identified by all athletes as being important throughout their athletic development. This commitment to working hard was seen to be evident at an early age in many of the athletes and maintained throughout development as outlined in the following quote.

I was just quite shy and just kind of took it all in, but was very competitive and keen and eager and wanted to be in there and do well. I just think my training ethic and my willingness to do the hard yards...I can still remember probably being aged 8 and a little bit older, I used to set up obstacle courses in the back yard and sprint around them, like jump over that run down to that tree, jump over that, weave in and out and I'd time myself. I'd set myself targets for it, like right if I can get under 3 mins I've got the gold medal and 3:00 to 3:20 its silver and I could set myself and push myself. [FN3]

The importance of a high work ethic at the elite level was emphasized by a rower who explained his changing perspective of natural talent and hard work and how this influenced his training throughout his development.

Rowing was a sport that I found that when you're younger it's probably 90% natural talent and you know 10% hard training. But I started to learn that as you got older you know it was probably 10% natural talent and 90% hard training. [MR2]

I think as you got round that 16 to sort of 19-20 year old bracket, that really starts changing...I was younger (than club teammates) and everything so I thought I had to train more so I started training more than them and then I beat one of them once and I thought 'oh that's pretty good'. And then the next time you try to beat the guy that was next ahead and then sort of work your way up so that was probably the major influence. [I] was sort of getting made to train harder to keep up with people that were above you but then at the same time you started picking them off and I aimed the results that way so I thought it just encouraged me to train harder and harder. [MR2]

The high work ethic was something athletes believed they possessed or obtained early and also something they believed that could be trained and developed. Another of the rowers described how influential coaches can be in promoting and maintaining this hard work to help performance.

I think one is sort of hard work but being pushed beyond your limits. You know getting out of your comfort zone. And that's in training because you know there's things that we do and that we're forced to do by our coaches that you don't think are really possible. And those are the things that make you realise well actually what I thought I was my max is not actually my maximum. I can actually go more than that and that has certainly had a big effect on me over the years. [MR1]

A number of the athletes ($n=10$) defined themselves as athletes who did not have the 'ideal' physical characteristics for the sport they were involved in at the elite level. These athletes described how they were able to combat this with a high work ethic.

I was never someone that would have been picked as a really good swimmer because of how I looked, but I was certainly someone that was a really hard worker. [FS1]

Growing up I wasn't the most talented kid, but I was just prepared to work really hard. [MS1]

Similar thoughts on the high work ethic were also raised by parents in their discussion on their son or daughters development.

He trained really hard, yeah 110% when he was training, he didn't skip things when he was training, he really liked to make sure he was doing everything right, certainly the training...he enjoyed training [MS1]

Open to Guidance

A lot of athletes are pretty bloody arrogant people, and they would think well I'm not going to use it [advice/guidance] because I don't need to. Because I don't need to ask for help... I'm good anyway. But you can always be better. [MC1]

Eighteen athletes discussed and provided examples explaining the need to be open to guidance to develop as an athlete. Although it may be perceived by some athletes as unnecessary, the ability to be open to guidance and use support networks to help athletic performance was identified as being important throughout development.

Yeah the coaches and you've got to use [support staff], I'm not an expert. So you know I've learned a lot about my back [injury] but it's using the people around you with the skills to be able to help you form your programmes and things like that. So your coaches and physiologists and doctors -- just talking to them all and getting them all to help you as much as you can. [MR1]

This openness to guidance was not something that happened automatically for some athletes, as highlighted by one athlete.

I always want to know why I'm doing something, like why am I doing this. And I think some coaches are better at giving you that than others. And I've found it frustrating if a coach couldn't explain why I'm doing something and that's sort of the source of a

lot of my disagreements... Once I sort of got my head around that and that they could all offer me something, probably had a better effect on me so I found as I changed as an athlete. What I got out of the coaches changed as well and I think as I took on a more positive role that a coach is here to help me row faster, not tell me what I'm doing wrong, was probably the biggest stage. [MR2]

This trait was also identified by family members of the elite athletes.

[Another athlete] got dropped and he didn't... And that was probably to do with a willingness to work with coaches or just fit in with the structure of things, I think [athlete's name] was quite receptive to what was being laid down by coaches... [Athlete's name] was quite willing to sort of listen to the coaches and listen to advice. [Brother MR3]

Commitment

Nine athletes discussed occasions in which their focus and commitment was influenced throughout development. Athletes described situations in their development where they benefited from an enhanced commitment to their sport. These situations appeared to be important events in the athletes' careers such as making a temporary or permanent geographic move for their sport as highlighted by one athlete.

So like before the Olympics, [name of coach] and I went and lived in Australia for about three or for weeks and just did training. So I didn't have anything else around me and could just focus on training. [FS1]

One athlete described his choice to take some time out of his sport and how this enhanced his focus and performance upon returning to his sport.

I'd had this break and you know I started realising that yeah the grass isn't greener on the other side. Yeah it's good to have a few nights out but you know being hungover all the time and everything like that wasn't as enjoyable as what I thought it was going to be. So that's pretty much the main thing, so you know I enjoyed training so I started training again. ...I thought it was going to take a while to get back up to speed because you know I had this year off but I actually found that because I was so motivated and I actually really enjoyed rowing again I realised that this is what I really wanted to carry on with and had it set in my mind. I wasn't 50-50, I was going to carry on or I was going to study or I was going to get into the business world or whatever. I was going 'no actually I want to row' and I think having that definite set in my mind that this is career, well not so much career, but this is you know 'I want to get to the Olympics, I want to have that success'. Having that year off really cleared that up and like I said I came back more motivated, enjoyed training a lot more knowing that I was training for something that I actually really wanted to do. And deciding I wanted to do so sort of it almost made me train harder from having that better focus and enjoying it

more. ...I actually got up to speed and way past where I ever had been the year before. [MR2]

Another athlete described the positive impact discontinuing one sport to specialise in another sport had on her focus and commitment.

You know you can actually concentrate and train for netball, you know the things that you aren't so good at, we can actually put time and effort into it instead of me coming from touch to training or not even being able to train and touch was my training and stuff like that so no I suppose it was a good step. [FN1]

Athletes highlighted the characteristic of commitment as being critical in their development and success. One athlete describes his high level of commitment as a factor that helped him distinguish himself above others.

I think I just wanted it more. I don't know, a lot of guys would just do enough training to get by or whatever, but I would be in the gym twice as much as they would be. I'd be lifting twice as much, training twice as hard, going out when its freezing because I have to train. [MC2]

Another athlete explained the commitment and perseverance she had and how this reflected in her approach to her sport.

I think with me a kind of perseverance, a dogged attitude, to always [do well]. Like if I thought I didn't do something well then I'd go back home and do it and do it probably too much and then they'd say 'oh you're overtraining'. But that was just me, and I'd over analyze and say this is what I think I need to do...That was just, I thrived on that, where as other people would have just been to overwhelmed. [FN4]

This commitment to training and a focus in training was also highlighted by coaches and parents as a positive trait of the athletes.

When somebody didn't turn up for a training session he was upstairs, grabbed a single, and gone. No pissing around. He was in his mind, he was here to train and he had the time because he had homework. So he'd do that, do the program that we'd set out, up the river and then back again, and then anything you wanted to say afterwards he would say it and then he'd be gone. That was his organizational thing coming out and time management. Where as the other ones would come, talk and stuff like that. [Coach MR2]

He's one of these people that have got these focuses and you're totally focused on this and then you're totally focused on that. You cant do 2 things at once because you cant do them to the ultimate standard that he wants to do it to... and this (his sport) is where he had this total focus. He wanted to do the best. He'd say he cant do anything half pie, he's got to do everything to the best that he can do it. [MC1]

Leadership

Five athletes talked about the influence a leadership role had on their psychological development. Leadership roles were discussed by some athletes as being influential in understanding how to learn to take more responsibility, how to learn from mistakes, and how to get a better in-depth knowledge of the other people (athletes and coaches). Some of these ideas are highlighted by the following quote from a netball player.

I was captain of [name of province] quite young as well, I would have been 1st or 2nd University and that leadership experience, at a young age, even if you're not ready for it, you look back and think gosh it was a big call to do that. And you make a lot of mistakes, but you learn from those mistakes, and I think you develop other leadership skills other than what you'd have as a senior player... For example, you lead by example or you begin to learn how people tick and how you make people work well. So certain people will respond better than others and how are you going to get the best out of them. Like any coach would now, but you have to learn that young as a player. [FN4]

Discipline

Eight athletes talked specifically about the importance of their discipline at some stage of their development. Athletes identified discipline as an important psychological characteristic that helped them reach the elite level in their sport. This discipline was identified early in development as highlighted by one athlete.

But just being disciplined from the age of 16, training everyday, racing, watching your diet, doing everything for a long period of time. It just becomes part of your psyche. [MC1]

Being disciplined was a factor that continued to arise throughout athlete development and was identified as a necessary characteristic in order for the athletes to reach their ultimate goals. This is discussed by one netball player in the following quote.

I was prepared to miss the 21st's and miss the weddings and those sacrifices because I really wanted to be in the Silver Ferns and really wanted to win the World Cup or really wanted to win Commonwealth Games. I think you just have to, I always say you have to be kind of a little bit selfish, because you have to miss out on things that athletes think, 'oh god I can't believe I missed out on that', but you know that you have to go train or you know that you need to be there or you can't eat that or you can't go out of a big night because you've got to be up for training the next day and you've got a game coming up. So I suppose a lot of it is that stuff that's the difference between someone that can be good or great. Just in your head, being prepared to make sacrifices and having that desire that you just really want to be a Silver Fern or whatever it is. [FN5]

This idea of selfish or self-focused was also identified by parents who viewed it as a component of the determination that an elite athlete needs.

To a degree she's, this is probably most athletes who are really really successful, have a degree of selfishness, I think [athlete's name] always knew what she was going to do and she was going to do it... So sometimes people might have seen that as arrogant... She's also quite self-centered in what she's doing and what she's going to achieve [Parent FR2]

Motivational Issues and Orientations

Impress Others through Performance

Five athletes talked about the motivation they had to impress a coach at some point in their development. The motivation to impress a coach was identified by athletes as something that helped them perform to the best of their ability. This was outlined by the following quotes which refer enhanced performance through showing the coach how good the athlete is and not wanting to let the coach down.

I just wanted to be the best... and it was almost a wanting to impress the coach, it wasn't even like to beat the others. Well I mean that was part of it, beating the other team mates but it was like I wanted to show the coach like how good I could be, like I'm going to do it the best. [FC1]

I suppose they have so much respect, as well. That if you do let them down, you do feel bad about it. [FN2]

One parent also highlighted the athlete's desire to impress others through their performance.

It is important to [athlete's name] to have approval from people, the recognition that he has done well... He liked to see a good write up in the paper, the emails that come through. That's important to him, he didn't like to let people down. [Parent MS1]

Ambitions and Goals

Sixteen athletes talked about the goals they set and how those goals facilitated motivation. The athletes discussed the many goals that they set early in their development, and throughout their development. These goals were a combination of small process and performance goals and outcome goals that focused on the athlete's ultimate aims. Athletes focused on their smaller goals during practice and performance and had the bigger, ultimate goals as guiding motivations throughout.

I had a process. I also started a training diary. And so I made sure each day that I had my goals for the day. And then each night I would sort of reflect on those goals and what I had achieved and I think that was quite a good way of making it all a bit more tangible. And so instead of concentrating on my one big goal of making the team, it was more just the little steps. And so I could make some more progressions like every day. I think some people miss that they just forget that you really got to just focus on the tiny little things and that's going to add up to the end result. [FR1]

And that part of the environment, that's why swimmers are a different breed apart, we always talk about personal bests. So striving to improve on your personal best time, regardless of where you're at....Personal bests, that was always reinforced at all the competitions and stuff like that because regardless of how you feel you might surprise yourself ...races can be won from lane 8; but you've got to dig deep, or you just think about the process to get there. [MS2]

Athletes highlighted the common notion that reaching the top is the goal and this idea was also relayed through the thoughts of the parents interviewed.

I'm not going to the Olympics if I'm just going to be there. If I'm not in good shape and I'm not going faster than I've ever gone before, then I probably won't go because I don't want to just be there to just to be another number, like just to get top 15 or 10. Same view as the rest of my team. [MC2]

[Athlete's name] said one of the deciding factors [in moving to a new place] was when he asked [name of current coach] ...'what do you expect from me?'; and he said 'I want you to medal at the next Games'.... And he asked [name of new coach] 'what can you offer me?'; she said you should be getting a gold medal. And the fact that she said gold... that was quite a deciding factor [in moving to a new place and coach]. That someone thought he was capable of getting a gold medal, rather than just a medal. [Parent MS1]

Another athlete explained how his ultimate goal to be on top of the world provided him with continued motivation.

I never got to the top, in my eyes, the top for me was Olympic gold or the world record. And some people think that was ridiculous, but that was my ultimate goal and if you don't set goals like that then,... why do it? It just took one race in my eyes, just the perfect race, then it was there, and I really never doubted myself that I wouldn't achieve it. And I didn't and god I probably wouldn't of, but I always had that peak. So for me I was always striving. [MA1]

The importance of setting these goals and continuing to monitor them was also outlined by coaches in the study. The following quote also highlights the use of training diaries which a number of athletes identified as being beneficial in the pursuit of achieving these goals.

They have a mental attitude for it, they are never late for training, they set their goals... [Athlete's name] has a notebook, did she show you her diary? She has a diary and everything is in it. Daily. What they do and what their training is. Like sometimes I'll see her after training writing what we've been doing or something. There is a difference in them [elite sportspeople]. But all of them are different too. [Coach FN1]

Seeking Challenges to Learn and Excel

Seven athletes explained times when they challenged themselves to enhance their learning and increase their chances of success. Athletes discussed a motivation to excel and the need to continue to learn in order for them to be successful in their own sporting realm. This motivation led athletes to seek various challenges that would facilitate their development as athletes. One athlete outlines how the challenge of geographic move helped her learn as an athlete and a person.

I think going to the States made the difference. ...I was learning so much and I had that opportunity with [name of teammate and name of pro team], that felt like the right thing to stay in. I was learning. I think I came back to NZ at the end of the season and thinking wow, there is just so much to strive for and achieve, and there is so much on offer. Whereas if I had just stayed in NZ I just would have never had that horizon. [FC2]

Another athlete discussed the tough decisions he made to create challenges that allowed him to maintain motivation and be in the best position to excel.

It was tough, I suppose, because we were a new combination. But I suppose what I saw from that crew was that I felt like I was being held back in a way, that in a crew boat every single person has to be the same and if you're not all prepared to try to achieve the same things then it's very hard to succeed. And I sort of felt that I wanted some things more than some of the other guys on that crew. So that's why I decided well the single is perfect because it's up to me. [MR1]

Motivation

Athletes discussed many different ways in which they were motivated in their sport throughout their development and their careers. Athletes appeared to seek motivation from many different sources and use this to enhance their performance and enjoyment in their sport.

Motivation from Self:

The athletes talked a lot about the inner drive they had for participation in their sport and the motivation they got from the fun and enjoyment they experienced in participating in their sport. This motivation from internal sources was something the athletes and parents identified as being necessary in contributing to success in elite sport.

The most important thing was that I actually enjoyed doing it. Like I didn't see training as a chore, I don't see it as a problem, I don't see it as something I had to do, it's always something I want to do. And I think having that enjoyment factor at top level sport, you know if you can enjoy top level sport and I can just see it as a sport I think it's for me it's been really good having that. [MR2]

You just got to have that intrinsic motivation, got to have that drive from inside. Because if you're doing it... for your parents or whoever, [then it] won't work. You can't hurt yourself for anybody else, [just] yourself. [MC1]

You just got to have that intrinsic motivation, got to have that drive from inside. Because if you're doing it... for your parents or whoever, [then it] won't work. You can't hurt yourself for anybody else, [just] yourself. [Parent MC1]

This intrinsic motivation was seen to be the foundation for the positive development of athletes.

I think that [athlete's name] has had a passion from both sport and to succeed and she just put the two together. And she couldn't do what she has done without that passion. And it's from that passion that you have that work ethic and the determination and all the other things that go on. It's that real hunger, that desire, that passion. [Parent FC1]

Motivation from Others:

Athletes also described the role significant others played in providing the motivation for them to participate and excel in their sport. The motivation to continue with a career, and reach the top level in the sport of netball was facilitated by family members, as shown in the following quote.

Definitely having [name of child], even though I was young and talented I think just the motivation and I suppose the inspiration she gave me to actually take that next step up. Like I felt, before I was pregnant yes I was talented and I was achieving things but I was at that stage where like... I couldn't have taken that next step up. ...Sometimes that barrier where ...I think I was just going through the motions and once I had [name of child], you know I was like 'nah I'm getting back into training' and you know I want to be a role model for her and for her to be proud. And I suppose for me that's when the drive and the motivation and every time I was away from her was for a purpose and the time I was away had to be quality. [FN1]

Many athletes also discussed the motivation they received from watching teammates and fellow competitors succeed.

I remember at the time, the 2000 Olympics were on, so we kind of looked at the qualifying times. But it wasn't really realistic, I was still way off them. But I remember watching those guys and watching them qualify and being really excited. Watching people like [name of NZ swimmers] qualify, and those guys going off, so I remember thinking that's what I want. [MS2]

Then there was another guy called [name of athlete] who ran for NZ. He was really good; he was my next focus. ...And if I achieved

that goal of beating someone, which some people say you shouldn't focus on, but they were the fastest, then I would do the qualifying times for the Olympics and Commonwealths and the Worlds. So I don't know, I guess that's what I did, I had people pulling me through in many ways. [MA1]

Motivation from Success:

Athletes discussed motivation they gained from success at various levels in their careers. Having success helped the athletes continue to strive for the top and gave them information and recognition that they were developing as athletes. This motivation from achievement at an early age is highlighted in the following quote.

I made my first rep team Under-15's and I was the youngest in the team. And I got a wee award it was nothing to anyone else, but to me because I was young I thought it was awesome. I got this massive chocolate bunny and ...they said that I was you know like, there must have been 100's of girls but they were like 'you stood out to us the most' ...So that's when I thought, if I work my arse off and I want to do this then I can. That's when I started, I thought I'd go for a run around the block every now and then. ...I did try and do extra training, and thinking about it more, and started watching the game more on TV. [FN2]

This motivation from success was highlighted by one athlete whose drive and desire to win was enhanced, even after he gained success at the elite level.

I remember just rowing away from the field in that second half and I suddenly thought 'man I'm going to win this'. You know it was something that I hadn't really, you know I'd dreamed about but I hadn't really thought I was going to be able to do and you know I remember that was a pretty awesome feeling. ...It's certainly gives you [confidence], you're 100% believing and if anything it makes it easier going forward because you know you're capable of doing it. And... it motivates you even more to keep going and that's another point I think a lot of people get wrong. Once you've made it you don't sit there, you've got to keep going; you know as if you were still trying to make it. Because you're trying to make the next level if you sort of feel like you've made and sit back then you're going to get beaten the next year. [MR1]

Motivation from Challenges:

The psychological impact of challenges was regularly mentioned by these athletes. In many cases, athletes used the challenges they were presented with as a source of motivation. One athlete discussed the impact of difficult races and poor performance early in her career and the positive impact that had on her motivation.

My first race I remember because it was horrible. It was the hardest thing I'd done to that point. I just felt sick. My body just reacted -- I had pushed myself so hard, and then I just felt like 'what has just happened to me?' And then when I thought about it, I thought I needed to get fitter and so from then on as a 14 year

old, when I went rowing I thought 'must get fitter so that the racing doesn't hurt.' And that was my motivation. [FR3]

Facing many challenges throughout their careers, the athletes talked about the need to see challenges as motivation in order to continue participation and performing at the top level. This was summarised by the following athlete's comments.

Obviously it wasn't there the first time [motivation], but once it was there, once I'd been dropped, once I'd had the kids, and I suspect once I'd been injured... Knowing what that feeling felt like did really help me. But obviously it wasn't there the first time. I don't think that people have to necessarily lose to know how good it feels to win, but those times I did lose [were] important events [because I was] certainly motivated to not want to experience that again. [FN3]

This motivation from challenges was also recognised by athletes support networks.

There were guys (who thought) athlete was the smallest, he's the one we're going to knock off, like for everyone who is in the development squad, when they're looking for a spot, where's a weakness, we'll take athlete out, so again that probably provided some motivation to say back off I'm still better than you. [Brother MR3]

Motivation from Environment:

Athletes discussed how different sporting environments and lifestyles provided motivation for them to continue involvement in their sport and perform to the best of their ability. Athletes described the positive influence high performance training environments had on their development and performance. This was outlined by one of the rowers.

I started to become excited about a new opportunity like coming back here and being in this environment, but doing something different. And I wanted to scull, be in a sculling boat, be in a double or a quad. And that was sort of my new goal. Because I still loved this environment and what we're striving for. [FN3]

Lack of Motivation:

Although the athletes described many sources of motivation they had throughout their development, it's important to note that some athletes discussed times in which they suffered from a lack of motivation. For some of the former athletes, this provided the reason for discontinuation in their sport, as highlighted by the following athlete quote.

So for the 3 or 4 years afterwards I struggled to find my resolve to get up in the morning. I went over to [international location] to try and find it, I moved to [NZ location] for a different stimuli. I just didn't have any trust in the swim programme that I was doing. I knew that [athlete coach] was the coach to be with, it was just the environment, the same [training location], the same living conditions and everything else, that was just too much for me. I was struggling to find the stimuli to keep me going, so it took me

four years to actually quit, well it took me not qualifying for Olympics to pull the pin. I went to the Commonwealth Games, but I only got a bronze medal so I went out on a low basically, but I was struggling. And because I was struggling I didn't know how to ask the questions to get me what I wanted. I thought [international location] was going to help, but it didn't really help, and in hindsight I should have stayed there just to finish off the degree. That's a regret that I have. In my mind, people are supposed to be looking forward to competition and really hate, or dislike training, in those three years it was sort of the reverse, I was disliking competition, but enjoying training. I disliked the competition because of the, especially in NZ, because there was more of a focus with eyes on me, like a little village here in NZ. [MS2]

Determination

Athletes defined determination as being a critical aspect of their motivation. Determination was often referred to as a psychological characteristic worked with motivation and helped athletes overcome challenges and is summarised by two quotes from an athlete shown below.

I really wanted... that mental thing, if you're just 100% determined, 100% want something, you're more motivated to go out and do it. And you know I'd been frustrated in the fours so it was something that I loved, a new challenge and obviously being made hard for me umm you know made me want it more and made me fight for it more. [MR1]

Well it's all determination to try and get through these [obstacles], you know there's times when you think maybe I should just give it away but for me there's goals that I haven't achieved and I want to achieve and it's trying to find ways and in some ways it's even more of a challenge to try and find new ways to do things and be smarter and more adaptable than the guy next to you. [MR1]

This concept of determination was emphasised as a common trait of elite athletes by both parents and coaches; this is highlighted in the following quote with specific reference to athlete MR1.

He was the strongest willed child that I've ever met. He knew exactly what he wanted from the time he was born... When I look back, he's got an amazing will and he knows what he wants. [Parent MR1]

I just think the determination of the guy [athlete's name]. Being able to push yourself. I think that's one of the things -- he can push himself the whole way. ...I think he's always had it to be honest. He's always had that determination. He plays hard -- he trains hard. [Coach MR1]

Coping Resources

Managing Challenges and Set-Backs

Athletes identified a number of different psychological coping resources that they utilised in order to deal with, and manage challenges, set-backs and criticism they faced.

Blocking out distractions and negative influences

I can read something in the newspaper and not care that [name of journalist] had written someone who had never played netball in his life, and really I'm quite good at knowing that. I do know other players that everything they read in the paper is gospel and they're mortified if someone writes something bad about them. But for me it tomorrow's fish and chip paper. The person's opinion I worry about are the coaches and all my teammates, but some people probably get quite affected by newspapers and media. [FN3]

I think that perception (from the media) that he wasn't actually reaching that level made it quite hard for him but as much as it made it hard, I think that he basically just ignored it as much as possible and just enjoyed the moment [Brother MR3]

Having and maintaining a positive outlook

And I think I'd say ultimately positive. Had to have some positivity in the face of, sort of like the persistence in the face of negative feedback. Being able to find a way through to stay reasonably positive, even if it wasn't about being positive every day. [MR3]

Yeah, when she lost the captaincy of the New Zealand team, it was probably her determination, the only thing she did was come back and say after that was well in the first one, every time there's been a captain removed, they've never stayed in the team, I'll fight for my place, and she did [Parent FN4]

Seeing challenges as learning experience

I was never scared of racing, I was always excited about winning. So a lot of people, they won so much then started to lose, and they couldn't handle it, it started to get too much of an emotional thing. Whereas I was, if I'd lose I'd always think well I want to win the next race. [MA1]

[Athlete name] didn't find it nearly as difficult when [name of opponent] beat him. Because [athlete's name] just went into the [mode of:] 'OK now that's done, what do we learn, what do we do next?'. [Parent MR1]

Seeking support

It's a challenge and it's something that you have to do if you want to make it... In most cases [it is] up to the individual athlete to figure out... Having someone tell you the reasons why certainly

helps you to move on but sometimes that information isn't available you've got to try go to get it. And that's maybe if the selectors won't give it to you, [then] you've got to find a coach or someone who can give you the pointers as to why you're not achieving as you are. [MR1]

Being realistic and honest

I had a little bit too much fun and I got dropped from the academy team which was the first time I'd ever been dropped from anything I think... But that was a real good kick in the bum basically because it reminded me that all those other things do count. Training and nutrition and everything because I put on a whole lot of weight..So that was a really good eye opener and was probably the best thing that happened to me, because it gave me a good kick in the pants and I got fitter and lost a bit of weight again. [FN5]

Being stubborn in the quest for success

The selectors were unhappy with me... It was very much that I was doing the wrong thing and it wasn't the place for me. So that was the feeling and at the time, it probably was fair enough but it was something that I really wanted... [I wanted] a new challenge and obviously being made hard for me, you know it made me want it more and made me fight for it more. [MR1]

Goal-focused response

But I think a lot of it has to do with anxiety, when you're on the line and all that stuff, being in front of all these people, and all this pressure being on you...I just run through all the processes of the race... Maybe I'm doing a kilo, a 1 km time trial, I'll think about how I'm going to come out of the gate, how I'm going to sit down and the line I chose to ride and my head position and stuff like that. Just a couple of small things to get my mind off the fact that I'm racing at a World Champs. To me it just ends up being a training ride with a few people watching. [MC2]

Using psychological Skills

I used centering breathing on the bike in that last minute just to bring everything under control. And self talk, like 'you've done 40,000k's why are you worrying?' That's the thing you've got to tell yourself. [MC1]

Making tough decisions

I got named deputy head girl for school, but then I had to go say to the principal that I'm leaving, the next day, that I'm leaving I'm...changing schools. I didn't want to, I wanted to stay at the school, but it was the best thing I could have done. That opened all the doors. [FN4]

Not Managing Challenge

Athletes also described situations in which they unfortunately did not manage challenges very well. This was seen to have a negative impact on their development and their performance.

There was just a series of events that were unfortunate, not that they were excuses, it just didn't work out. I mean that's the reality. I didn't perform and I crashed and that's the way it panned out. I don't think there's any other way to say it. I didn't realize my own goals, I didn't realize perhaps the goals that the Sports Foundation had set for me. Not through want of trying, that's just the way it was. I tried changing things and I did get injured in that year and just trying to manage that, [but] didn't manage to pull it off. [FC2]

Managing Expectations

Athletes described the many expectations that were placed on them at various times throughout their careers. The athletes highlighted the ability to manage these expectations as an important psychological coping resource.

Expectations from others

Well, going into the Olympics, I didn't look at the media or anything else like that; [or] other people's expectations. So that's why the lockdown, [and] training overseas before a big competition is instrumental as well, because it puts that buffer in. People in the media interests' arise closer to the competition, so [you] remove yourself. [MS2]

Expectations from self

The biggest pressure I ever felt was what I put on myself to perform and just I hated feeling disappointed if I got to a race and I'd done everything I could and then there were opportunities in the race that I didn't take up because of whatever decision you make in that split second. Then you get to the end and you think, that decision was there and I toyed with it for a nanosecond, because timing is everything in sport, and I decided not to, and whether that was the wrong decision to make, those are when I was certainly disappointed with making decisions in the heat of the moment sometimes, but trying to look at them as learning experiences. [FC2]

Expectations in event

I guess you sort of internalize things a lot more and I knew, again I went back to like just the process of racing and we've always been huge on that. Just the process of racing, not focusing on the actual outcome and because with pursuing you can do that. ...You can't influence your competitor really, you can just put out what you've got and if it's fast enough you win... So it was really about completely internalizing it and just focusing on my race. ...I would just completely try to shut out any thoughts of winning and a medal

and you know the national anthem and all that. All the stuff that goes with winning. I almost shut it out, which can seem really bizarre to some people because they think that sportspeople are just like 'I'm gonna win, I'm gonna win' and you've got to focus on the winning. But for me it was like you shut all that out and you just focus on what you're actually got to physically do to get yourself there and then winning will happen. [FC1]

Challenges

Individuals highlighted a number of challenges they have had to deal with as developing athletes including:

- (a) transitioning into a new sport, event or position ($n=8$)
- (b) relocating (for sport or university) ($n=12$)
- (c) financial ($n=12$)
- (d) issues around selection or non-selection ($n=14$)
- (e) staying at the top of one's sport ($n=10$),
- (f) underperforming ($n=15$)
- (g) pressure from self ($n=5$) or others ($n=12$)
- (h) illness/injury ($n=12$)
- (i) healthy sport-life balance ($n=15$)
- (j) specialisation/ dropping other sports ($n=8$)
- (k) inexperience/naivety ($n=11$).

Experiencing these various challenges and athletes experiencing a non-linear athletic development is consistent with previous research (also consider alongside diverse pathways taken by athletes).

Also consistent with recent previous research on the development of experts, athletes across sports highlighted how the challenges they experienced through-out their development provided valuable learning experiences and were ultimately crucial in them becoming an elite athlete.

I think you have to experience and come through some really big obstacles in order to succeed at the top level. [FR3]

You know it's a learning thing, it's taking those situations [challenges] and trying to learn from them and trying to adapt. [MR1]

One athlete stated that coming 4th at the Olympics was an important experience for her and helped her win the World Champs the following year. She learned a lot, being ranked 6th and racing for bronze when she didn't expect to be. She hadn't prepared for that and thinks she was out of her depth and focusing too much on external factors. So that helped her focus at the World Champs. She believed that "you learn so much from the losses, because they hurt". Similarly she mentioned how her tough netball experiences when she was really fit but was still not getting game time as being good for her in the long run. Similar experiences were reported by the following athlete.

I had to experience missing out twice, to make me hard enough to do it [reach my potential]. A big thing for me is getting smacked around and resurfacing and coming back stronger. And that happened to me, missing selection and my ... [illness]... Twice I could have pulled the pin, and thought 'well, I had a good go but didn't make it'. But, that wasn't good enough for me to do that. So, coming back from adversity. When I say adversity, it's not life and death. But, when your sole goal is to do what I did -- that is life and death. So coming back from adversity, or two real major

road blocks ... has made me strong enough to do it [fulfil my potential]. [MC1]

The Challenge of Staying at the Top of One's Sport (n=10)

Previous research has highlighted that athletes experience different challenges when trying to stay at the top of their sport [the maintenance stage] compared to getting to the top with the former often considered to be more difficult. Consistent with this previous research 11 of the athletes highlighted the different challenges experienced when staying at the top of one's sport. Of these nine highlighted challenges that they found more difficult at the maintenance stage of their athletic career. In contrast two athletes highlighted how they found the challenges they faced whilst getting to the top more difficult. One athlete mentioned some challenges that were harder at the 'getting there' stage and others at the 'maintenance' stage.

Staying at the top is a lot harder ... I was world champion in 2009 and then I went back to worlds in 2010 and ... I think because I'd done it before I kind of got this false sense of security that it was going to be easy, I mean I knew it wasn't going to be easy but I did have this false sense of security and I ended up getting 4th ... I think I was already racing the final before I'd even raced the heat ... Which is completely opposite to the year where I actually did win the world title. I was ranked like 5th and we just went there and I knew I had good form and I raced and I didn't ever think that I would be racing for a world title. And made the final and it was like 'oh, this is awesome, my gosh the worst I can do is a silver medal at worlds' and so I just kind of like went into the final and raced it and I ... [can] honestly say I never pictured myself standing on the top step before the race ... I went out there and I just did my race ... There's no pressure to perform that way, whereas going back and you're reigning World Champ and you're like expected to win or expected to perform; and that was a whole different mentality. [FC1]

That's what I struggled with -- staying at the top. Even getting a silver, there is still one step further, gold. I struggled with staying at the top. I had a goal to be the best in the world, and I guess subconsciously getting the gold medals, or these 2 gold medals was the epitome of that. So for the three or four years afterwards I struggled to find my resolve to get up in the morning. [MS2]

I think it's easier aiming for the top, like when you've got people ahead of you to aim for than it is once you're already there. And that's what I found after I won Commonwealth Games gold, I was the target. ... I always thought it was easier aiming up. I guess I looked more at the rest of the world as well, and then Michael Phelps ... he was the target for me, not a lot of other

people. But in the Commonwealths everyone was looking at me. [MS1]

I admire sportspeople who once they get to the top, can stay at the top. Because that's the hardest thing, because you are always looking behind and wondering who's coming up and who's doing what. [FS1]

The next year was actually really hard after having won a world title. To come back and train as hard and be as hungry, having achieved the best you can do, I don't think we did a very good job of assessing what was required to stay there. [MR3]

Two athletes highlighted the importance of continuing to adapt your game to continue improving:

For me I think that remaining at that level at the top was big, because I kept adapting. Like I would play very tight man-to-man defence and then when it was [netball became] very zone-based, I had to completely change my game. [FN4]

To stay on top you've got to think that everyone else is training harder than you. Because everyone else is training as hard as they possibly can and if you're just doing what you've always done then you'll always get what you've always got. You never improve and people will just blow past you. [MC2]

One athlete provided an example of what can happen if this recognition of the need to continue to strive to improve is missing:

I think that because we were World Champions, if it was a hard session we'd say, we're World Champions why do we need to do this hard session. We've already shown that we're the best in the world. So I think we lost some of the drive to train as hard, and as a result we lost a little bit of our rhythm in the boat. [MR2]

One athlete also highlighted how her 'role' as an athlete had to change. Once she achieved some good results she made the business decision to stand up and say 'look at me' because she had to be able to make a living out of what she was doing. Although it took her a while to be comfortable to talk and write about herself she has had to promote herself and her achievements because of the positive financial implications that could result from it.

In contrast, one athlete, whilst recognising that you suddenly become "someone the other people are aiming to beat" rather than one trying to beat them, felt that getting to the top was the biggest challenge as "it's always an unknown". He stated that even though you believe you can get to the top, you don't know if you actually can so there's always a little bit of doubt.

Another athlete also highlighted challenges he experienced when striving to reach the top highlighting how he lost his focus on making himself better as he was worried about making the NZ team every year. Once he was secure within the team, his focus shifted from trying

to make the team to just thinking about making himself better and he likes that focus a lot more as the challenge was about outside factors and what others do (i.e., to make the NZ Team); but now it was about internal factors and focusing on what he could do to improve. Similarly, another athlete highlighted that the crew in her 'eight' boat were more focused on hanging in there and keeping their seats in the crew than thinking about how competitive they were going to be internationally.

Challenges as a Result of Injury

Netball

I was never injured when I was young, so I had no idea what it was like ... But then last year, going into Commonwealth Games, I had a stress fracture in my foot. I had it for like a year because I just couldn't rest it -- because I was too scared that if I rested it I wasn't going to make Commonwealth Games and stuff. It was just horrible. ... Mentally, I've never thought netball was this mentally intense as what it has been whenever you're injured or when issues really aren't quite right. [FN2]

Rowing

Once you're injured, that's it. Just 'go away, come back when you're not injured'. Basically no help with rehab or the training program or technique or anything. Just basically, 'as soon as you're injured you're no good to me so I don't even want to see you'. I'd try to talk to him [my coach], and he'd just walk away ... And every injury that I had was my first -- the first time I did my rib, the first time I got tendonitis, the first time I hurt my back, it was the first time for every injury I had. And I had no idea what to do. [FR3]

This challenge of being injured was also highlighted by a coach of athlete FR3.

I think it was her wrist. She's had the problem when they were in the squad, she had to have a fair bit of time off. And she was told, you know if you don't get back in the boat by the end of the week, 'You're out'. So she pushed the limit a couple a times then and still came back. [Coach FR3]

Another rower also highlighted the support needed to manage injuries and adapt technique accordingly:

You've got to find the information and you know this year I've changed my training around completely... as I've basically realised my back's not going to get better. So you've got to find ways to manage it and still get through and be able to achieve your goals doing it in a different way. ...I've learned a lot about my back but it's using the people around you with the skills to be able to help you form your programmes and things like that. So you're coaches and physiologists and doctors -- and just talking to them all and getting them all to help you as much as you can. [MR1]

Challenges in Attaining a Healthy Sport-Life Balance

When you're in a sporting bubble, and that's all you do, it's really easy to start thinking 'oh, maybe I just want a traditional, normal everyday job'. Because what we do, for us becomes normal. But we always know that it's not normal. So it's quite [difficult], it's hard to get through that stage. [MR2]

I went through a big stage of uncertainty because I wanted to be a top international athlete, but at the time I didn't believe I could do education at the same time ... I was surrounded by people that weren't doing education while they were rowing and I always thought that I had to be fully focused on rowing and that was quite hard ... When I started to believe ... I can fit in Uni ... I found it a bit easier. ... I would have been better off if they told me or outlined it at the start, 'you can get an education at the same time you're furthering your sport'. If I just had that confirmation from someone experienced or someone in the organisation it would have made a massive difference. [MR2]

One athlete talked about the difficulty she had when she took a year off balancing social life with her sporting life. She highlighted how her two goals for her year away contradicted one another. Her main goal was to have fun, do new things and meet new people. But at the same time, she didn't want to 'close the rowing door' and felt the pressure to keep training. It was a week by week thing; some weeks she would think 'I've had far too much fun this week, I need to get back to training' and then she would spend a week working really hard in the boat before thinking 'I'm focusing too much on rowing, I need to go and have fun.'

Once you get selected into the NZ system another athlete highlighted how difficult it was to maintain a sport-life balance as she had dropped everything else in her life. She highlighted how important it was to work in four year cycles so that athlete knows there is a goal and they can see that if they just continue on and it doesn't work out then they can move on.

While another athlete talked about feeling like he had missed his teenage years. He now talks to high performance teens and tells them to avoid temptations because they will have time to catch up later in life. He tells them that they don't want to miss their window of opportunity in their given sport and they can catch up on partying and other things later.

The challenge of gaining a healthy life-sport balancing was regularly discussed by athletes and also identified by one coach as being an important issue in need of continued attention.

I think the big thing that they've got to look at is the balance between rowing and life after. If you have an injury you're out. And if you're not doing some academic work. Years ago, half the guys would be tradesmen or apprentices and a few university people. But now it's the other way. Mostly university, no trades guys But I think rowing is pushing harder for them to do that. A paper or two papers or something. [Name of athlete] had finished, he had his degrees when he started rowing. So he did that part first, which was easy. Today they're trying to do it while rowing. That Prime Minister's thing [scholarship] I think you had to do

two or three papers at a time or maybe even a bit more. Which is pretty hard when you're trying to do it [rowing] three times a day. So I think they've actually adjusted it now, but they are pushing more that way, which is good. You can't just bloody row and row and row. You might turn out a World Champion, but when he's finished what does he do? Become a bum? Because they've got nothing else. [Coach MR1]

This challenge was also important from the parents' perspectives.

Balancing education and sport as well. Like she's done that, she's spread it out over a number of years but she's finally done that. That was a challenge, to have other things in her life other than just rowing. So we thought that was important. She did too actually, she gets a bit bored otherwise. [Parent FR2]

It was also seen to be very influential on an athlete's transition out of sport. Once again the importance of this was highlighted by parents.

This worthlessness sort of thing goes on as well. When you come back [from a pinnacle event], you've been of worth to the team and the country, and you've been in an elated mood, even if you don't win it still an up thing going on there. Then all of the sudden you come back and you don't have to train because you've got nothing to train for and all of the sudden it could be a real downer. Unless you replace it with something else. And ...I was very pleased that [athlete's name] took his focus off cycling. [He focused] out in [his new profession], got his exams, set up his own company, and he was off and racing. It must have been a few downers for him when he came back and wasn't riding, but he had this other focus that got him through. I feel sorry for some of these people, especially these rugby players, who've got quite a lot of money, but what have they got to offer? [Parent MC1]

Challenge of Relocating for One's Sport

Thirteen athletes discuss a stage in their development where they had to relocate in order to have the support and coaching required for their sport ($n=10$) or to go to university ($n=3$). For each athlete this period of relocation was a challenging time for them.

Athletes who relocated for their sport

I remember that having to move to [name of training venue] to row was like a massive shock ... And for the first couple of years I was up here all I ever did was look forward to when I got out of here. And I didn't see this place as a home and I think that was a major challenge. Getting made to relocate before I was ready to relocate in my own sort of mind and life cycle. ...At the time I found it really hard to be content with living here because I'd never saw it as a home, I saw it as a temporary destination you know until I was finished or until I got out of here. [MR2]

When I went to the ... [name of team] ... I really felt that I wasn't part of, oh not part of the team because I just didn't have that relationship with anyone. And I was away from home and stuff like that. And I had a terrible year, well it wasn't terrible but I just found it hard. [FN1]

By making that commitment [to move down to a training venue] I was really committing myself to rowing. ...At the time it was actually quite a hard decision because I'd just started working full time; so effectively I had to give up my job to come down here. [MR1]

Three of the athletes who relocated for university highlighted the additional distractions encountered:

When I went to varsity for the first year I had a little bit too much fun and I got dropped from the academy team which was the first time I'd ever been dropped from anything I think. ...But that was a real good kick in the bum. Basically because it reminded me that all those other things do count, training and nutrition and everything; because I put on a whole lot of weight. Just was unfit because I wasn't playing all those other sports, so I was having to go and train by myself. Huge change in lifestyle, you were cooking for yourself and all those type of things. [FN5]

Physical Training and Attributes

Physical Training

Increased training volume/Extra training

Thirteen athletes mentioned how an increase in training volume or completing extra training sessions advantaged them in some way. One athlete mentioned that because she committed to training through the winter when other athletes in the sport were taking holidays, she gained a significant advantage when the athletes returned. Because the extra training had increased her fitness level, she was able to concentrate on other technique during training sessions.

Many athletes mentioned that training volume increased greatly once in the high performance system, with a new coach, or prior to a major event (Commonwealth Games, Olympics, etc.). Several male athletes mentioned that at the early stages (secondary school level) natural talent appeared to advantage certain individuals. However, most athletes did not describe themselves as being ‘naturally talented’ and mentioned that at a certain age talent abilities level off. This advantaged the athletes who were already accustomed to training hard (or were already working at a high training volume). They felt that the formerly ‘naturally-talented’ athletes who were not accustomed to this level of training, because they were previously relying on their natural abilities, were more likely to fall behind or drop out of the sport.

Several athletes mentioned doing additional training outside of their training program. At the elite level, most athletes agreed that all of their competitors had done a high amount of training, and training volume was not what made separated first and second place.

We had changed from rowing in the ‘eight’ to rowing in pairs and so I was fit enough. Because you’re out there each day. I mean we train but we compete against each other. So you always want your boat to win no matter what you’re doing -- so training or anything. And because my fitness was better I could allow myself a bit more time to really concentrate on my technique and improve the way you know how to row the boat, which is essentially the best way to get boat speed. [FR1]

I just know I trained more than everybody else. So, whether that’s discipline or a desire to be successful? Because I wasn’t the most natural athlete down here. There’s a guy that I rode with who did half the training I did and could beat me and could keep up, and often beat me. Which frustrated me. But I mean soon as we got to 18-19, you know when natural ability wasn’t a factor anymore -- you know everybody’s ability sort of evens out at about 18-20 -- and you got to train to be better, well then he was gone. [MC1]

I think what happens is later in life, I always say one of the key differences for me that made a difference was its all the little things

that count. So everyone who turns up at the pool trains hard, like you don't get out of it. Anyone everywhere around the world is training hard. You end up making it your lifestyle. So it's what you eat for dinner, it's what time you go to bed, it's all the little things, extra things that you're doing. If you're doing extra stretching session or flexibility or extra weight session or whatever it is. Including the stuff at the pool, at the top level that's what's going to get you above your competitors. Because in the end it only comes down to those little wee margins. [MS1]

This perception of high training volume and potential overtraining was also discussed by coaches and parents.

A bit like the Romanian system, where they thrash them. They just go K K K K K. Until you fall over. And if you don't fall over you'll win and if you do fall over you're stuffed. That seems to be the way it's happening. I believe that's why we have too many injuries in the system. They just keep going and going and going until you're bugged. They don't get that recovery thing. ...Now they are doing up to 200k's, 220, maybe more a week. The body can only take so much. It takes time to recover and if you're thrashing the shit out of them like that; something's gonna break. [Coach MRI]

Overtraining

Five athletes mentioned they had been overtrained at one point in their athletic career. One athlete mentioned that his high training volume caused a blood disorder in which he had to take a year off from training and competing until his hematocrit levels returned to normal. Two athletes mentioned that they may have been overtrained before a major competition. One of these athletes thought that he was listening to too many people and trying to incorporate multiple training programs into his Olympic campaign which lead to overtraining. Another athlete felt as though the amount of training leading up to a major competition was too much and caused a decrement in her performance.

I've trained too hard. And I've put myself [into an over-trained state]; you know, blood disorders and stuff like that. Where I just can't exercise as hard as I can; because I just destroyed myself you know? It's hard. It destroyed my blood. It's all about getting oxygen to the muscles, and when you got no blood to do that. I had a year off between Commonwealth Games and Olympics ...where my blood was, my hematocrit was 30(%), which if you know anything about physiology is no good. [Normal hematocrit would be around 45% for men]. I just know there's only two ways to fix that -- time off or EPO. And EPO is not an option when you're a clean athlete. So time off it was. [MC1]

Implementing new training methods

Seven athletes mentioned they (usually with the assistance of coaches) had incorporated new training techniques such as altitude training or applied new training principles to their

training programmes. One athlete and her coach completely challenged the training model for the sport and implemented a new training approach with much success. Two athletes mentioned making necessary modifications in their training programmes after injuries.

I think what really made us achieve quite quickly was that we came in with these fresh ideas and because neither of us were from true cycling backgrounds, and so his [coach] training mentality was of a running background. So the way he like prescribed training, as well was more of a running model than a cycling model. ...I guess... we were often answering questions of like 'why are you doing it this way?' 'This is not the way to do it; you're doing it this way'. And so, I think it made a difference. Because we came into cycling with a fresh approach and we sort of asked the reasons for doing things. [FC1]

Technique

Ten athletes mentioned the importance of mastering technique in their given sports. One athlete who began her cycling career late mentioned that she selected the event that she would do because it was more physical in nature and less about technique, given that she was entering the sport much later than most competitors. The importance of technique varied across sports. All but one rower interviewed mentioned technique as an important element to success. Some rowers mentioned technique as a reason that others get left behind in the sport, in that they could be the hardest worker in the squad but fail to row properly. Another athlete mentioned that she had to learn a whole new skill set when a lack of height forced her to change positions in netball at the elite level.

Some of the other female rowers might have gone out on the water and just worked really hard, but they weren't thinking about how they were doing it. Also, there is an understanding of how to move a boat and it's a mixture of boat feel and understanding the stroke and knowing what it's meant to feel like. And not everyone can feel that. [FR1]

And the difference between me and those that have made it and those that haven't made it, would be technical. Little technical things, and the ability to be able to change and make your boat go faster. And continually work on technical things. Within rowing, that would be one of the biggest things, is the technical side of things, and rowing better. [FN2]

I suppose it's something that takes quite a long time in rowing, it seems like a pretty simple thing, you just go and do the same thing 220 times. But there's some many little intricacies in the stroke and it takes a long time to sort of learn that and I suppose cement that into your brain. And so it becomes a sort of an automatic kind of thing; and when you've got to try and make changes it's very, very tough. Because you've just got it cemented in and you think that you're doing something dramatically different and you watch a video and you're not, you haven't changed at all. [MR1]

I think we lost some of the drive to train as hard and as a result we lost a little bit of our rhythm in the boat and it was quite obvious when you'd watch it on video what the difference was. But we couldn't change it when we trained, it was really hard to change. ...I guess there is a muscle memory in terms of the way you rowed a stroke and somewhere it changed slightly and it was incredibly hard to change it back. Even though it was such a small thing, it was very hard to change it back. [MR3]

The importance of the technical aspects of rowing was also emphasised by one coach.

You can be the biggest and strongest in the world, but you're not going to go fast. And it shows with some of the girls they race. They are bloody big girls. Big girls! But they go as fast. It's not just your horsepower it comes down to touch. [Coach FR3]

Genetics/Natural Abilities

When asked about what separated athletes from others who weren't successful in their sport the athletes responses were split. Seven athletes mentioned genetics or inheriting good genes as one of the contributing factors to their success as athletes. However, five athletes relayed that they were not genetically gifted or naturally talented, but had other attributes which allowed them to be successful (work ethic, discipline, focus, openness to guidance, etc).

I see [my rowing partner]... even though we're above average in height in terms of the population. [When] we go to international competition and we're a lot smaller than people we race against. Big girls -- big USA girls, big European girls. ...And so we often wonder how we can move a boat better than they can. And purely it just comes down to the mental factor. Physically, we're no more talented. Like I would never say that I'm "talented". I would just say that I have just figured out how to make it work. And how to approach it and how to work it day by day. I think that's just what some people miss, is that they don't quite understand, they don't get the understanding -- the small things that make the boat work. They rely too much, perhaps, the big girls rely too much on their strength to move the boat. Whereas, we can't because we're not big enough. [FR1]

I had to train hard right from the start because I wasn't that big, whereas the big guys never learned how to train hard cause they never had to. So for me it's only natural to train hard, it's what I did every day and I didn't feel like I had to change at all to carry on my success. Whereas a big guy found it harder because he hadn't had to train hard and then he didn't know how to train hard. ...Whereas I got better and better every week, [but] they thought to themselves they were getting worse and worse every week because they were comparatively getting further behind -- because they didn't do the training. [MR2]

When asked what distinguishes her from others without talent in rowing, FR2 responded:

My height. My strength. Just a general athletic ability. So fitness. ...I'd probably say the biggest thing in rowing is your physique. Also, a desire to want to be training. I guess that's probably the difference between me and any Joe Bloggs is that I have a desire to do well and train hard and play sport. Whereas, Joe Bloggs may have rather a career. [FR2]

Flair, it definitely is like you can't teach it -- I suppose you're born with it. Everyone's like what makes you different? How do you describe yourself? And I was like it's hard, you're either born with it [flair] or you're not. You've either got it or you don't, or you either know how to use it or you don't know how to use it. [FN1]

This natural athletic ability and excellent physical skills was also identified by coaches as being important in development; as highlighted by the following coach.

I think in her background with natural athletic ability; she's very fast, very speedy, very agile, quick off the mark, makes good decisions on the court, all of those sort of things. She was a good touch player. Very good hands. [FN1 Coach]

Physical Fitness

Several athletes mentioned the importance of developing (or genetically inheriting) aspects of physical fitness (strength, power, aerobic fitness, speed, agility, etc.). Some athletes began competing at a high level prior to developing these physical fitness components. Others recognized their potential from other factors such as the athlete's physique (height, body-type) or their ability to make good decisions during an event. Other athletes recognized the importance that participating in other sports had played in their development of physical fitness, and how this transferred to their current sport. Additionally, some athletes mentioned the challenge that injury presented in trying to maintain their physical fitness.

I've always definitely been dynamic and powerful, well in my legs anyway, maybe not my upper body. It's how I play touch... the change of directions, the speed. ...I think touch has probably been a huge key factor in my explosiveness and power. [FN1]

I'd been able to read a race and put myself in a situation even when I wasn't physically capable. I was still young, but I knew where to put myself, on a wheel in certain positions. And that's when people saw, OK she actually can read a race. She's not matured probably, but if she develops strength then she might be able to actually deliver. [FC2]

If there was anything [any sport above others that carried over into a rowing career], I'd say it was swimming in that it was an endurance, hard training sport. Whereas the other things—to be honest like running around a netball court is not as hard as being in a pool and swimming for an hour and a half as a ten year old. [FR3]

Suddenly I'm in a position where fitness is just absolute key. You can get away with playing [name of playing position] and probably being a little bit under done, but certainly at a Silver Ferns level and ANZ champs level you can't as a [name of playing position]. That was probably a bonus that I was in a position where fitness really became important. [FN3]

[When I was injured it was hard] seeing everybody out there running and training; because with netball, fitness testing and strength are really important. So, knowing that I'm going to have to go for a swim which is going to be bugger all. You know having to go train before the team training, go to team training, watch everybody you know having fun together, doing it all, and whatnot; while getting stronger. While you feel that you're not able to do that. And you're having to train before their night training, and then go to their night training, watch them all improve their skills while all you've done is been able to go on a bike. [FN2]

Tall Poppy Syndrome (TPS)

Definitions and Perceptions of TPS

The concept of Tall Poppy Syndrome (TPS) refers to apparent attempts to bring a successful high-profile person down to the level of the majority (Jackson, Dover, & Myocchi, 1998). All of the athletes involved in this study understood this social phenomenon and explained it in various ways. This concept was perceived predominately as having a negative influence on athletes, as highlighted in the following coach quote.

We bugger sport [in] NZ. I don't know... people are always looking to see when they [athletes] make mistakes, and knock them. You see that all the time, you see it from a coach's point of view as well, you know, 'how did you lose?' 'Why didn't you put so-and-so on? That would have made the difference.' They just can't help it. The Aussies aren't as bad about it, they're just quite honest with one another, they'll give them another go; but we're not, we're really bad. Tall Poppy Syndrome – [it] hits the players as well, and the players' feel it. [Coach FN1]

One athlete made reference to TPS when discussing others doubting his ability.

I guess people just doubting you. Doubting your ability a little bit, and the Tall Poppy Syndrome in NZ. Doubting, just like your aiming for something like the Olympics and people just doubt you for that. [Doubting] like whether or not you can do it and they question you. [MS1]

Other athletes discussed the idea of TPS as people having the idea that athletes need to be perfect and that it is human nature to be negative and criticise others who are trying to achieve.

Maybe they've got this idea in their head that sportspeople need to be perfect and when they're not. Then they love to [criticize. Maybe it's a deep seated trait that some people just like to criticize other people.[FN3]

It comes from people outside, who just got no balls to do the training. Or have got no mental fortitude or it's easier ...to criticize them rather than understand we train 30 hours a week to be that good. .. I think humans default to being negative. Don't they? It's just the way we are. And we probably all do it. I'm guilty of it. You stereotype people and you criticize them just for who they are, but there's no reason for it. [MC1]

One athlete suggested that the nature of competitiveness may lead to the anger and envy commonly connected to TPS.

I remember getting [abuse]; you'd run a race and people would get angry with you for winning. Other schools would be abusing

you when you walked back and things like that. I guess that was just the nature of just competitiveness. [MA1]

The concept of TPS also included the idea that it is common in New Zealand society to have people trying to cut down those who are trying to achieve. As a consequence New Zealand society often does not celebrate winners.

I suppose our society doesn't [celebrate winners]. That's something that annoys me is the fact that we don't like winners; well we like winners but we don't! We won't sort of celebrate winners as much as maybe we should... [I think] we want an attitude of wanting to back our winners, we want to support our winners and you know I think it's something to be proud of. If you succeed then you should be celebrated and you shouldn't have people all over the place, you know, trying to cut you down. [MR1]

This trait of modesty was identified as seen to be linked the TPS phenomenon.

New Zealanders are really quite modest, they don't even want to say that they are quite good at something... Because I guess you never want to appear that you're trying to be better than someone else; because other New Zealanders don't like that. I don't know, is it jealousy? I'm not really sure what it is, but yeah [it certainly exists]. We obviously find it difficult to be happy for people who are really excelling. [FR1]

Although it was not suggested that TPS was unique to New Zealand, in these athletes' opinions TPS was closely linked to the nation's characteristics of being a small country with high sporting expectations.

Because you go over to Australia and they celebrate! They celebrate their successes. They have a lot [of success] at the Olympics, which is awesome. And but we just smash our guys in the media if they go bad, don't we. ...I don't know why it's like that in New Zealand, but it is. It's like we have got a chip on our shoulder and we're a small country; and yet we expect to be the World Champions at everything. [MC1]

Female Bickering

In defining and explaining the concept of TPS, a number of female athletes ($n=7$) made a connection between with TPS and female bickering or cattiness.

I think it's pretty bad around here, I reckon. Especially people if you're the same age, and you've been competitive with them, and you've been in the same team with someone, and you make it and they haven't. ...I've had experiences where people are making up crap about you. I suppose that's women's, that's what chicks do, being bitches. [FN2]

Responding to TPS

The athletes described a number of different ways in which they attempted to cope with their experiences of TPS.

- **Block it out/Ignore**

Athletes discussed how they would try (or were able) to ignore others trying to cut them down. They would do this by focusing on specific things within their control, as outlined by two athletes.

I don't think about anything else but myself and my team. [FN1]

I think if you want to be good at what you do, you've got to keep things reasonably internal and not worry about people's external perceptions of your ability. [MR3]

Another athlete described the 'hard headed' approach he and other athletes in his sport chose to take to TPS.

A lot of cyclists are quite hard headed, so they just don't care. Like we've been getting picked on ever since we started shaving our legs you know. It's been a lot of years of telling people to piss off, and it doesn't bother me. It doesn't bother my mates, they do it for a living and they do it because they love it and no one will take that away. [MC2]

This technique to block out TPS was also identified by parents as something their son or daughter needed to do.

Whether that's something that is inherent in New Zealand's psyche, you're not doing very well so we're not going to do very well... I know [athlete's name] had true belief in what he was doing and why he was doing it, was to be the best that he could be... Instead of rising above it [TPS], they just switch it off, all that stuff that's happening, that's got nothing to do with what I'm doing in the pool, I've got a job to do. [Parent MS1]

- **Serves as motivation**

Athletes discussed how they would, and did, use TPS as motivation to continue to work hard and succeed in sport. This was highlighted by one rower.

I think that definitely makes me want to try harder, and to have the success so you can turn around and be like "I told you so". So I would definitely say that was a lot of motivation. [FR2]

Another athlete discussed how competitors trying to 'cut him down' helped his motivation and performance.

I really got the feeling that everyone showed up to the race to try and smash me... I sort of thought it was a bit sad because they weren't coming along to race to win the race, or to race to get better. They were just like 'alright let's try to smash [athlete name]), let's team up on [athlete name]'. Which... has made me better. It was good. It instilled my resolve to be better. [MR1]

- **Acting as a Tall Poppy**

One athlete raised the idea that the nature of her sport required her to act like a 'Tall Poppy' and make herself visible when required.

Going from that team sport environment to an individual sport you just learned that you had to stand up and be like 'look at me, I can do this'. Because otherwise you get left behind and no one notices you [FC1]

- **Avoiding being seen as a Tall Poppy**

Other athletes discussed the need to avoid being seen as someone who was over-confident. One athlete stated that it was not in her nature to seek recognition for her performance and how this helped her avoid TPS.

It's not something that's ever worried me... Maybe because I don't really seek recognition, so maybe I just don't care? Like it's for me, what I do is quite personal. And it's just not something I worry about. [FR3]

Another athlete highlighted the fine balance that was required with his displays of confidence.

I think inside you wanted to be confident, you've got to be confident in yourself and what you've done. But from the outside you've got to sort of, especially if you want to be liked in New Zealand, you've got to cover some of that up when you're talking publicly. So you know it's a fine balance [MR1]

This necessity for elite athletes to have confidence and to manage it appropriately was also emphasised by coaches; as shown in the following quote.

They're a bit cocky too, there's always got to be a streak of, you know, arrogance in it. Well we are good. They don't say that, but that's what they have got. And that makes them just that wee bit cut above the rest. [Coach FN1]

- **Struggling to cope with TPS**

The struggles in responding and coping with TPS were highlighted by different athletes. One athlete describes how criticism does hurt, no matter how hard he had tried to ignore it.

I wouldn't say it's not like I didn't care what people think. Because that's a lie. I think everybody to some degree cares what people think. And it's never nice getting criticized and people ridiculing you, or whatever. And you can be 'hard' to a point where you can just rise above it, but it does hurt.[MC1]

Another athlete described her struggles with TPS and how it influenced her development.

I think probably the bit that I struggled the most with Tall Poppy was in high school. Like when I first made those teams and people used to think [I was arrogant], and I was probably the least arrogant person you could meet. But people labeled you with that without even knowing you. And then [when they meet you they say] ..'oh you're quite nice', and you're just like I know I was always nice, but you labeled me. So high school was probably the hardest, especially because I was from a small province. People always, not my close friends, but people that didn't know you had a perception

of what you were like even if that wasn't the case. So I did find it hard; like how can you say I'm a cow, you don't even know me? What have I ever done? I used to be very aware of making sure I wasn't [appearing confident or arrogant]. Even now, people don't know you so much anymore, but you still just smile at everyone, if someone smiles at you, you smile back because you just know that person could go home and go, 'she's such a sour-puss.' You are very aware that you are held to a higher standard and that you have adjust to that. Because I'd hate for people to think that I was better than them for some stupid reason. I think it is something you are very wary of and it is very prevalent. [FN5]

Finally, one athlete suggested that TPS might be linked to a fear of failure.

I wonder if it does ingrain the fear of failure in people? Because you're gonna get slammed. But the fear of failure will never ever make you succeed. You've got to fail [occasionally]. [MC1]

- **Using support networks**

The use of support networks was identified as a positive way to cope with TPS and help to maintain confidence.

I realized actually pretty quickly, one thing [you need is support]. ...I always surrounded myself with good people. People that were, I'm not trying to say that people were trying to inflate my confidence, but just people that were supportive, and just by surrounding myself with good people I felt protected and things like that. And knew that I always I just wouldn't let myself get down with stuff like that. [FC2]

TPS perceived as positive

Although athletes outlined many negative aspects of TPS, some positive outcomes from the social phenomenon were also identified. One athlete described the positive influence TPS had on enhancing her motivation.

I think it occurs in NZ, but in some ways it's good because you have to work harder to stay at the top, because of the people wanting to knock you off. And because we're such a small country and small population we don't have the depth of people. So you kind of need something else to push people. [FN4]

Another athlete described how TPS could function to keep people humble.

Well if you're talking athletes... [then TPS] keeps people down to earth and sort of humble; and that's not a bad thing. [MR1]

Finally, some athletes offered the suggestion that TPS helps provide New Zealanders with a some balance in their character.

I don't think it's a bad thing though... Because I wouldn't want to be like an American and so rah rah. ...I think as Kiwis we actually have that nice medium [level of confidence]; and if we can help some achievers to just stand up and step out a bit more and be like

*'look at me', in our Kiwi type way, then I think it's pretty cool.
[FC1]*

TPS in Youth Sport

The prevalence and effect of TPS was identified as being strong at the youth sport and high school level. Athletes described the influence peers had on them in high school and how this was connected to the idea of TPS. This is highlighted in the following quote.

It's quite funny, when you're younger -- some people really didn't like it too much because they'd rather you do what they were doing. You know, like going out and stuff like that instead of playing sport. So they didn't want you to succeed so much. [FN1]

The negative influence of TPS was identified during high school which created challenges for this athlete in her transition to university and higher level sport.

It was bad in high school I think... Even though I knew I was good in high school you are constantly [expected or encouraged to] just kind of merge in and skulk into the background. Even though deep down I wanted to stand out and be like rah rah rah look at me. [Instead] you kind of knew that in that kind of environment you're better to blend in. And I think that's probably where, once I got to university, ...I needed people just to push me and be like 'you can do this'. Like you're actually a really talented athlete, you know otherwise I'd still be trying to merge in. [FC1]

Finally, one athlete recounted an experience he had with TPS during his youth sport experience.

I remember walking back, winning a South Islands or something, just walking back to my car by myself. And a school bus full of guys just abusing me for winning. Which I thought was [pretty sad], because I beat their guy you know. It didn't really phase me, but that's the sort of thing. It was a lot of that growing up. [MA1]

TPS in Elite Sport

TPS was not seen to be restricted to the youth sport environment. Athletes described different scenarios which suggested that TPS remained at the elite sporting level but also situations which suggested that TPS was not always evident in elite sport.

- **TPS evident**

One athlete described his experiences with TPS in his home town.

Like rugby is a very big thing in (town/city) and any rugby player who knows who I am, is like why is (athletes name) getting all this attention. Like I'm blamed for the [local rugby team's lack of success] or whatever. I don't know, they just hate it with a passion, I don't know why... My Mum talked to me when I was growing up about Tall Poppy Syndrome, and if I became a good cyclist that people just wouldn't like it. That seems to be the case, a lot of rugby players and stuff are just really confused about the fact that they're not these superstars that they're trying to be. ...They're

getting pushed aside for this kid that rides a bike, you know. That's alright, doesn't bother me, you gotta take the good with the bad.[MC2]

Another athlete described her experiences of TPS in her elite sport environment.

I think there's a little bit of negativity comes from the people that you're competing against. I guess other people would probably try to bring you down and make life a little more difficult for you... That's funny [odd] that they would do that because you would think they would want your best interest kind of thing. But I guess it's such a competitive environment that at times people don't want to see you do well. [FR1]

- **TPS not evident**

The idea that TPS was not always evident in the elite sport environment for some athletes is outlined in the following explanation of the New Zealand Olympic environment.

I'm from an environment where now wanting to be the best is the most important thing, and is encouraged... I think that's probably a trait that when you're younger you try and mould it into a team. And in New Zealand especially, there is a kind of thinking that you shouldn't really stand out and break free. It's the whole Tall Poppy thing. ...But as soon as you step away from that kind of school-mediocre environment to a high performance environment it's the complete opposite. [FR2]

Examples of TPS

Athletes described many examples in which TPS was noticeable in all levels of sport throughout their athlete development. One athlete also described the impact TPS had on her and her family, even after her elite sporting career had concluded.

I even got to a point there for a while because of who my husband was, well it could make things even worse, people knew who you are more. In some ways, like for example you stop everyone when you go into a pub, at a pub you are just going to be annoyed it's just not worth it. You're more comfortable at home having a drink with your mates than ever thinking about going out and putting yourself in that situation where people were going to judge you... well that's what I felt like anyway. You kind of just didn't want to draw attention to yourself, you felt like there was already enough being thrown at you anyway. [FN5]

Another athlete described the perceived effect that repeated success had on the occurrence of TPS.

I've had a few people, you know a few people have sort of questioned how hard rowing is and things like that. And I think in some ways you know, just going back to the Halbergs [it] is almost the success that we've had in rowing [that] makes the achievements seem less [difficult]. And it's something that sort of does grate me, because it's like 'okay, yes rowing does look easy

because we win 4 or 5 gold medals a year so you could say' .. But, you know, 10 years ago we weren't winning anything and was it an easy sport then? [MR1]

Role of Media

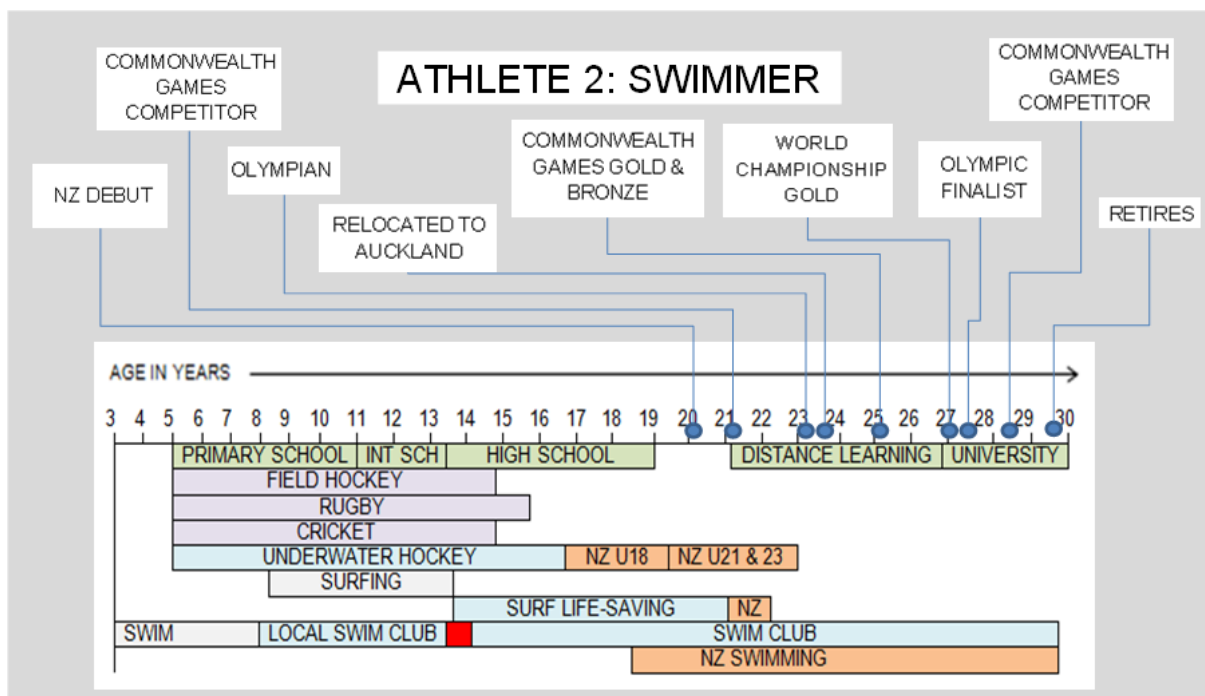
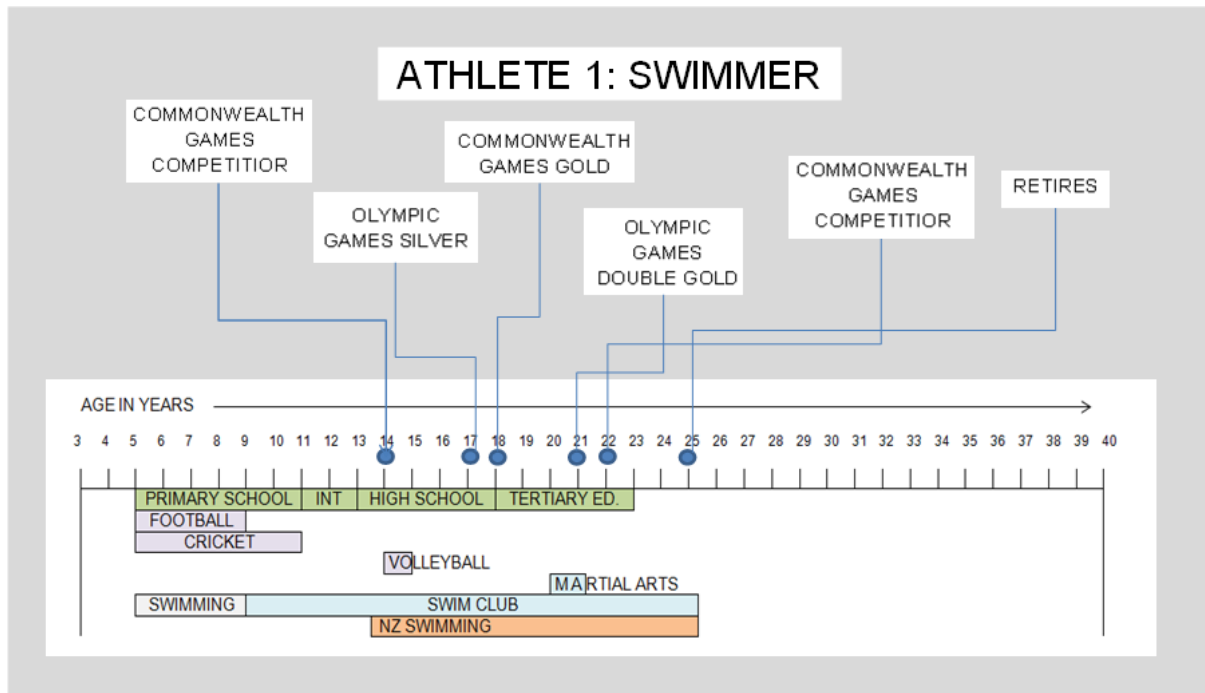
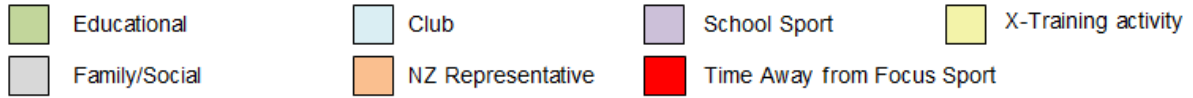
The media were identified in playing a role in the occurrence of TPS. Athletes described the perception that negative publicity may be more attractive to journalists.

Obviously more negative aspects of journalism is more interesting for people to read. Like people don't want to read you know about success after success; and they don't care. You know to them it's just a boring story. They [the media] like when stuff goes wrong or there's conflict; all that sort of stuff so it's more interesting to people [MR2]

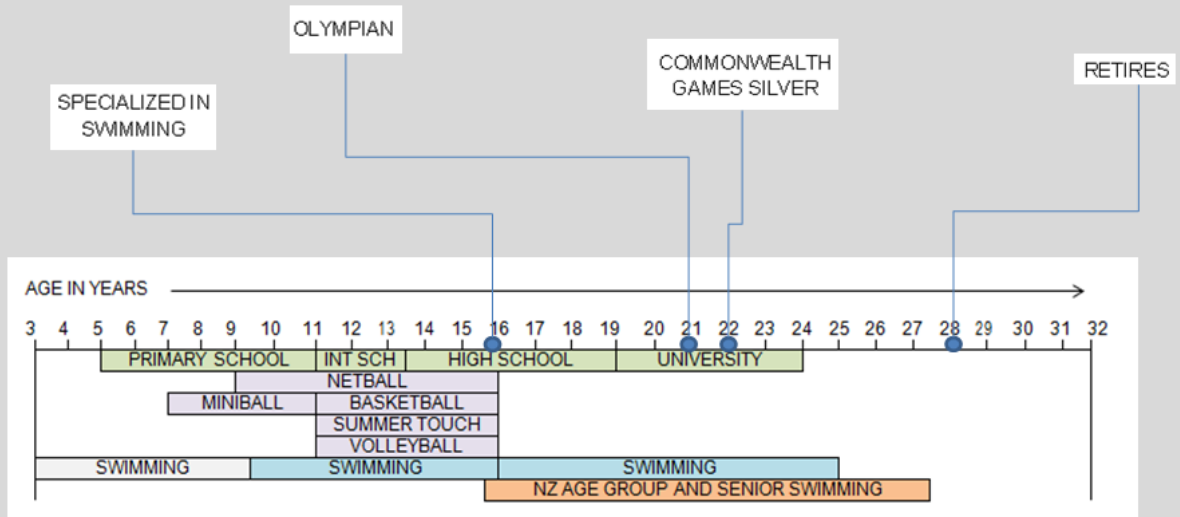
We just smash our guys in the media if they go bad, don't we? Absolutely rip them to bits. People [in the media] who have never done anything in their lives. I don't listen to [radio] "Talk Back" anymore because just for that reason. Radio Sport is just full of whingers. [MC1]

Appendix C: Athlete Pathway Timelines

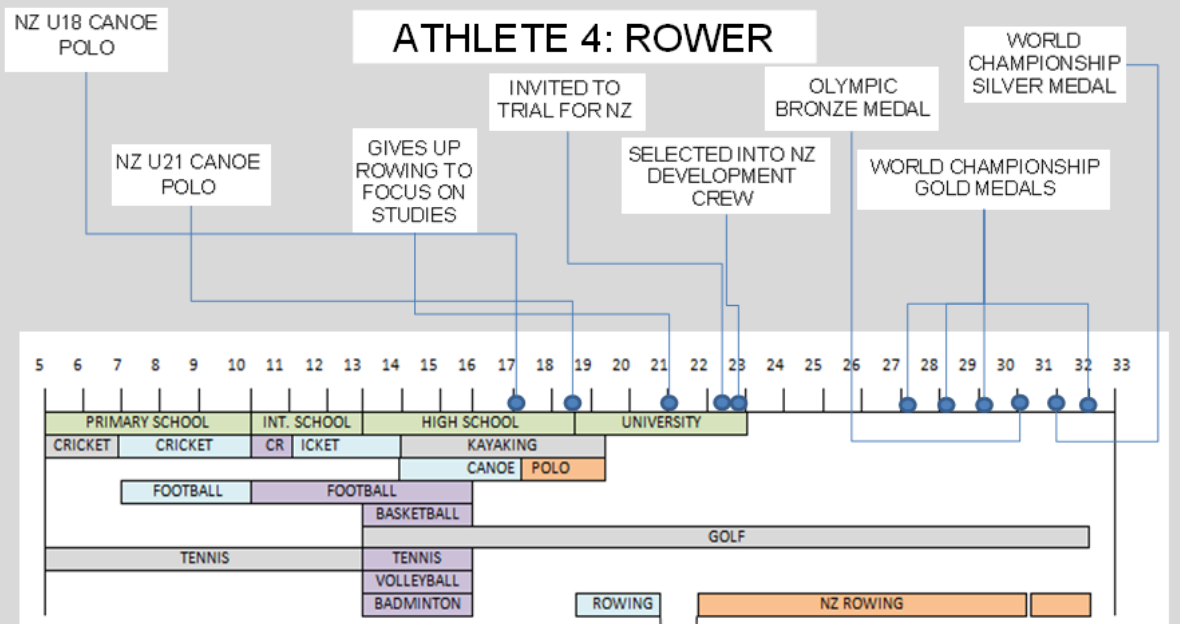
Key:

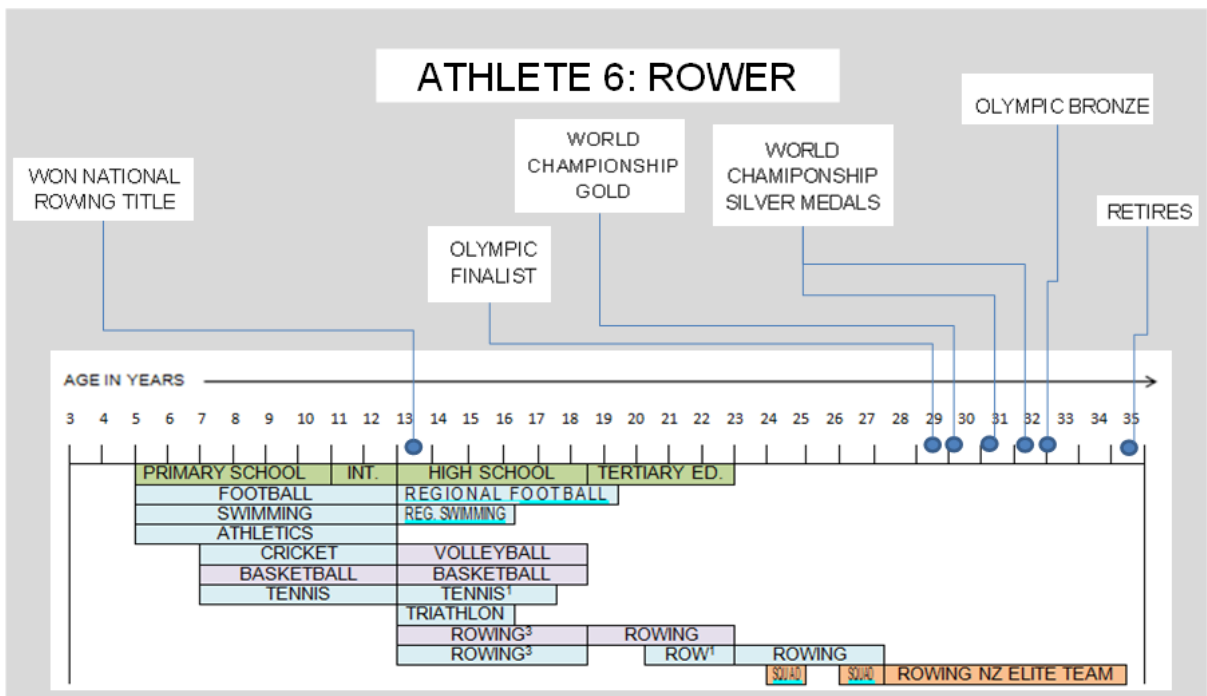
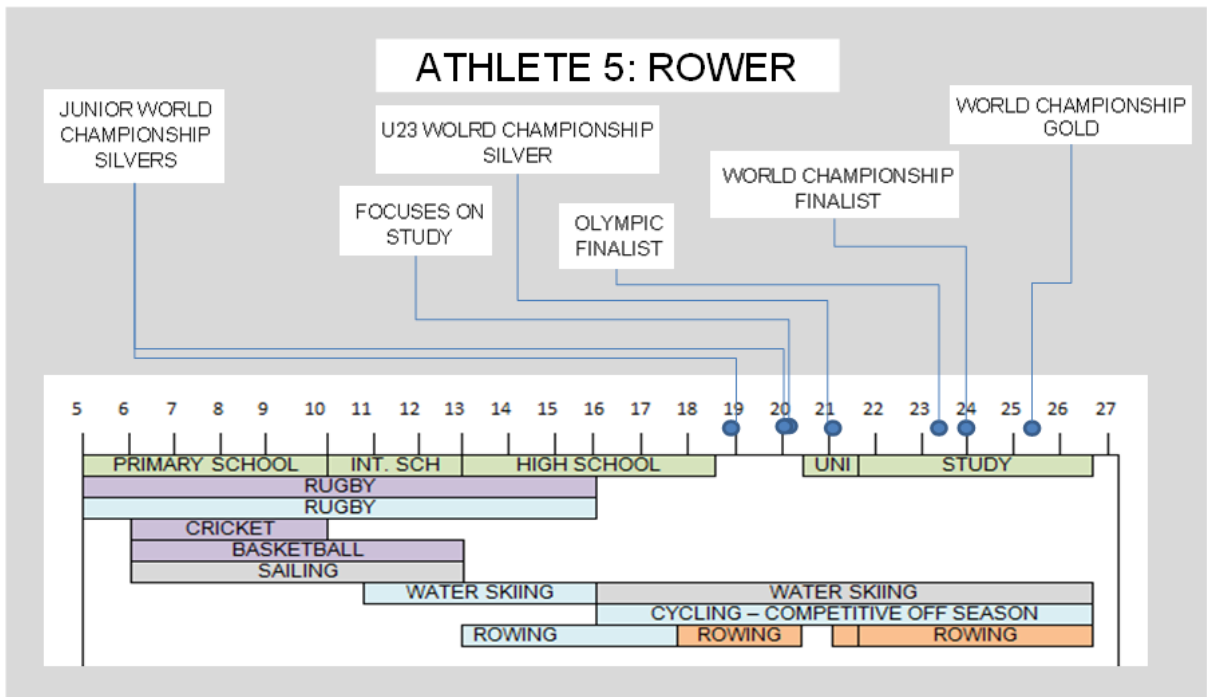


ATHLETE 3: SWIMMER

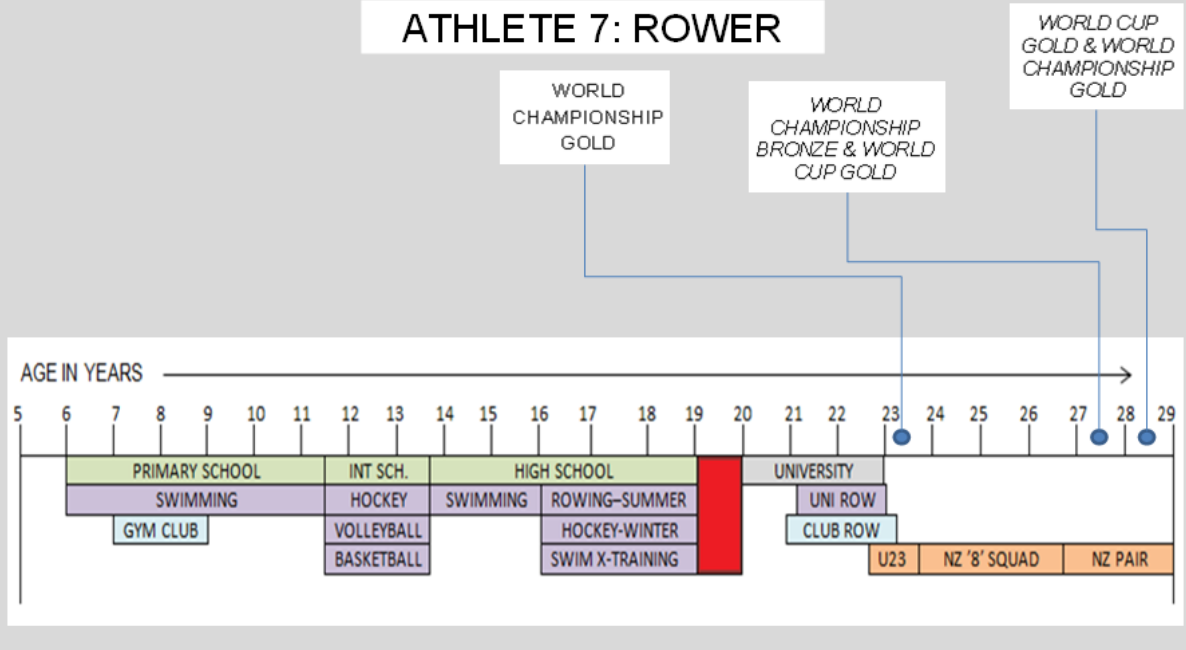


ATHLETE 4: ROWER

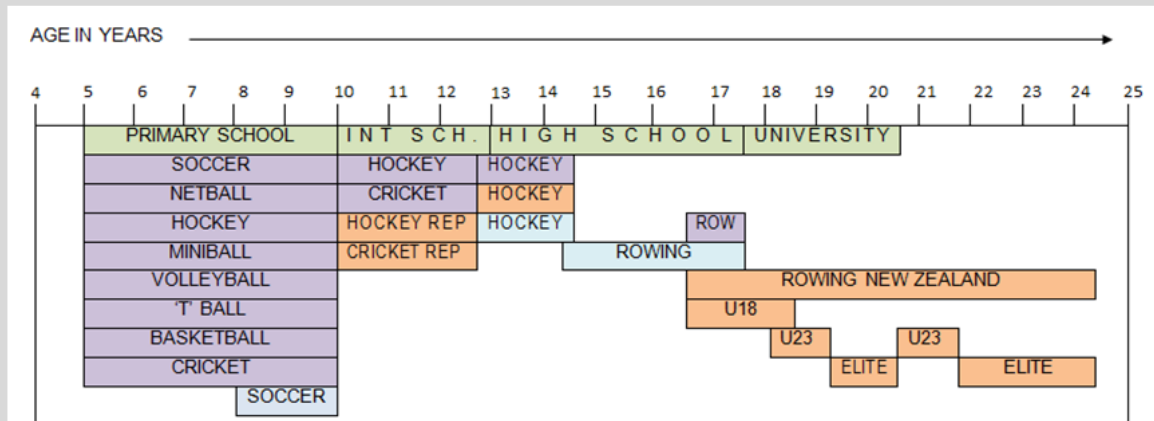




ATHLETE 7: ROWER

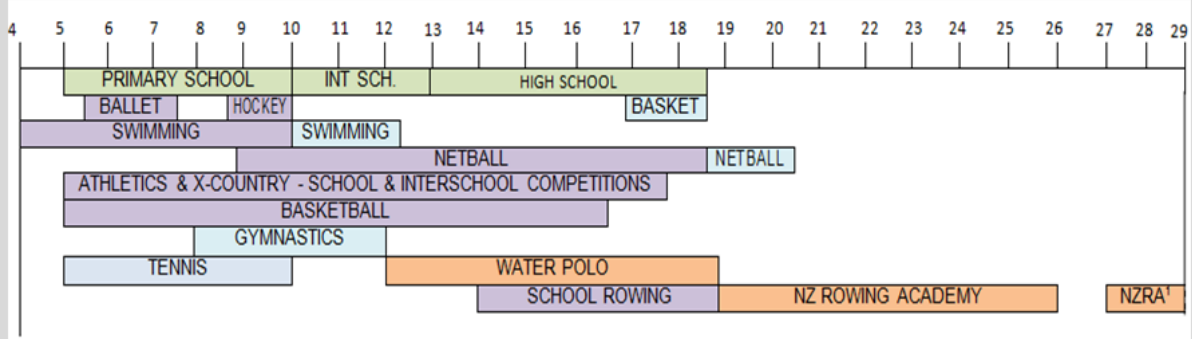


ATHLETE 8: ROWER*



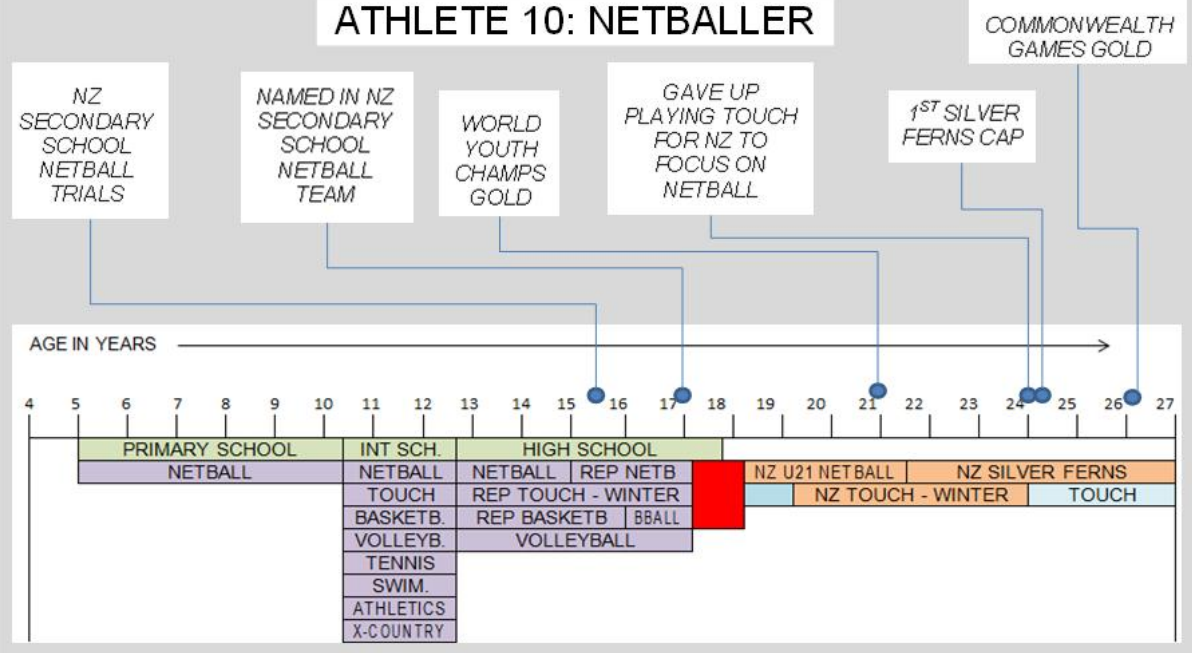
*Athlete requested achievements not be identified

ATHLETE 9: ROWER*

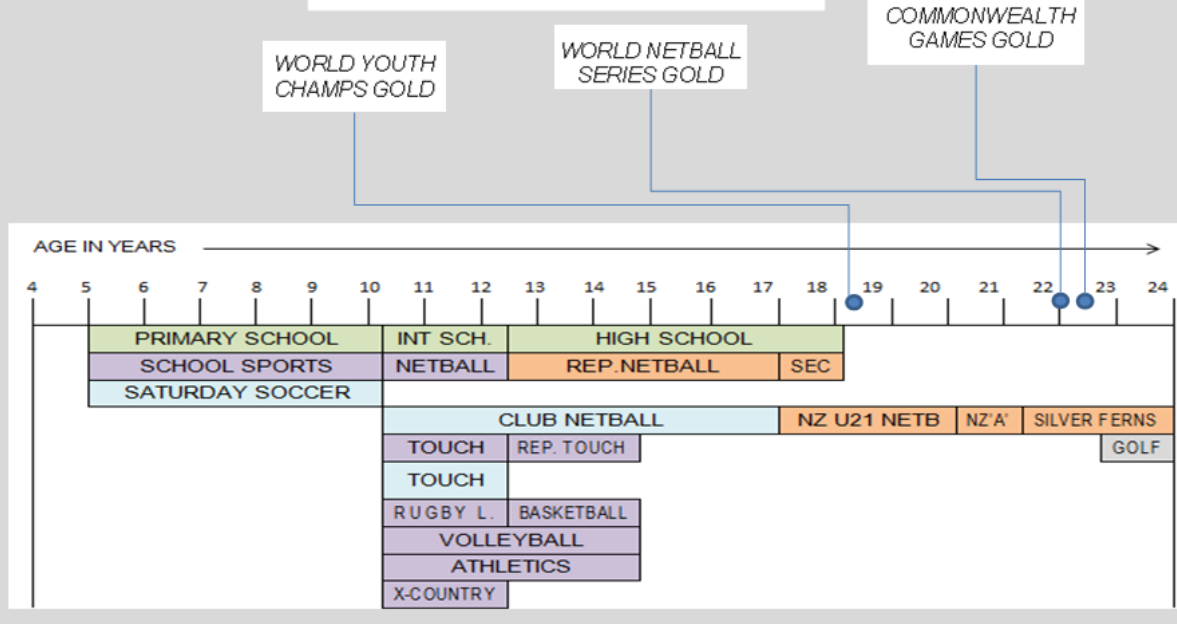


*Athlete requested achievements not be identified

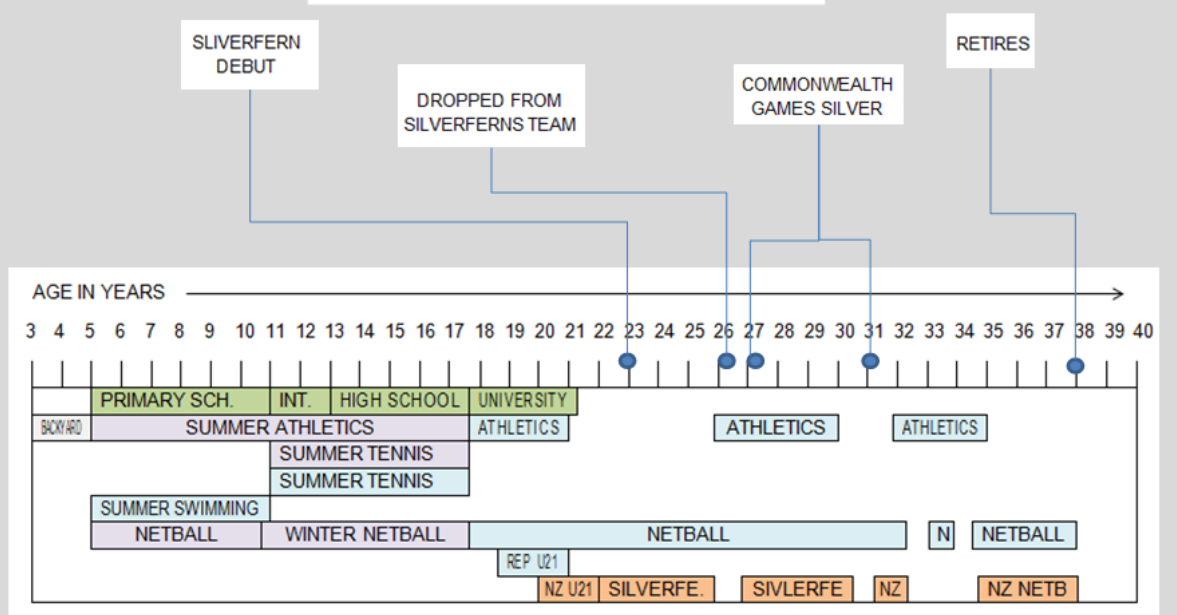
ATHLETE 10: NETBALLER



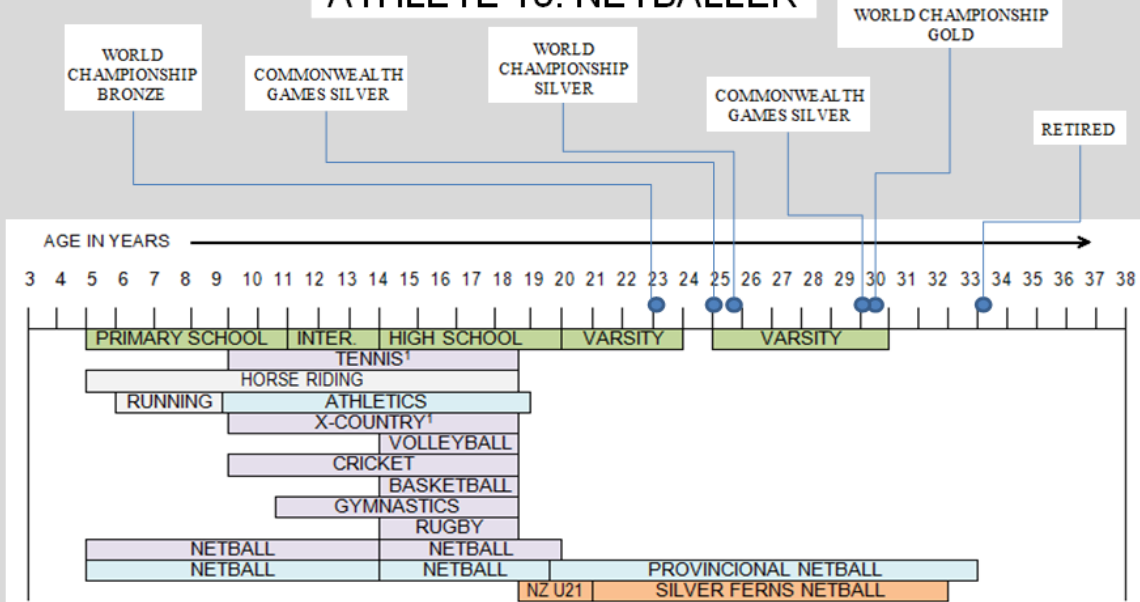
ATHLETE 11: NETBALLER



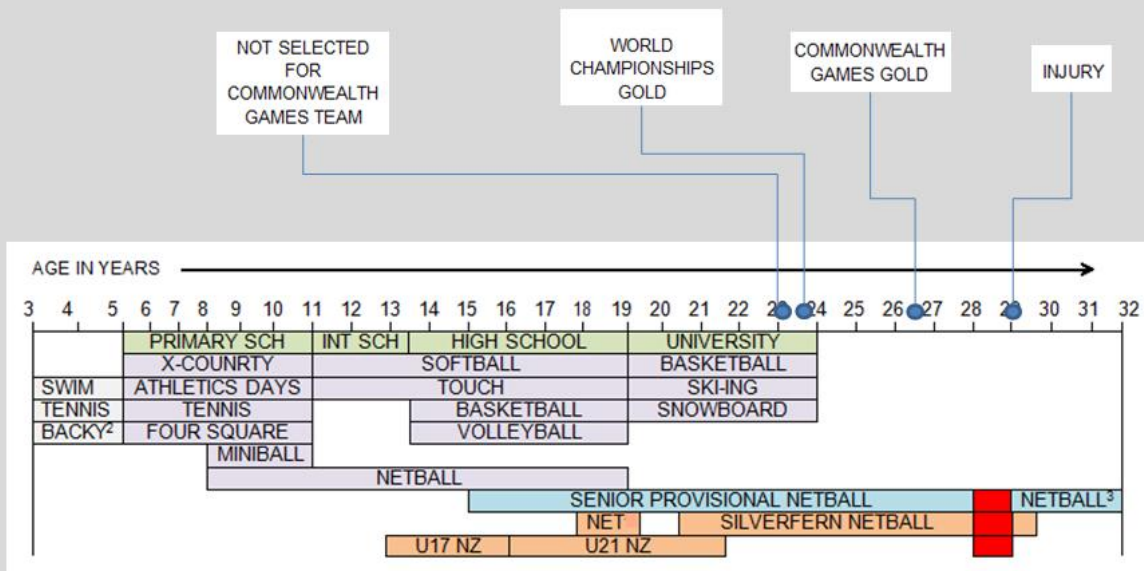
ATHLETE 12: NETBALLER

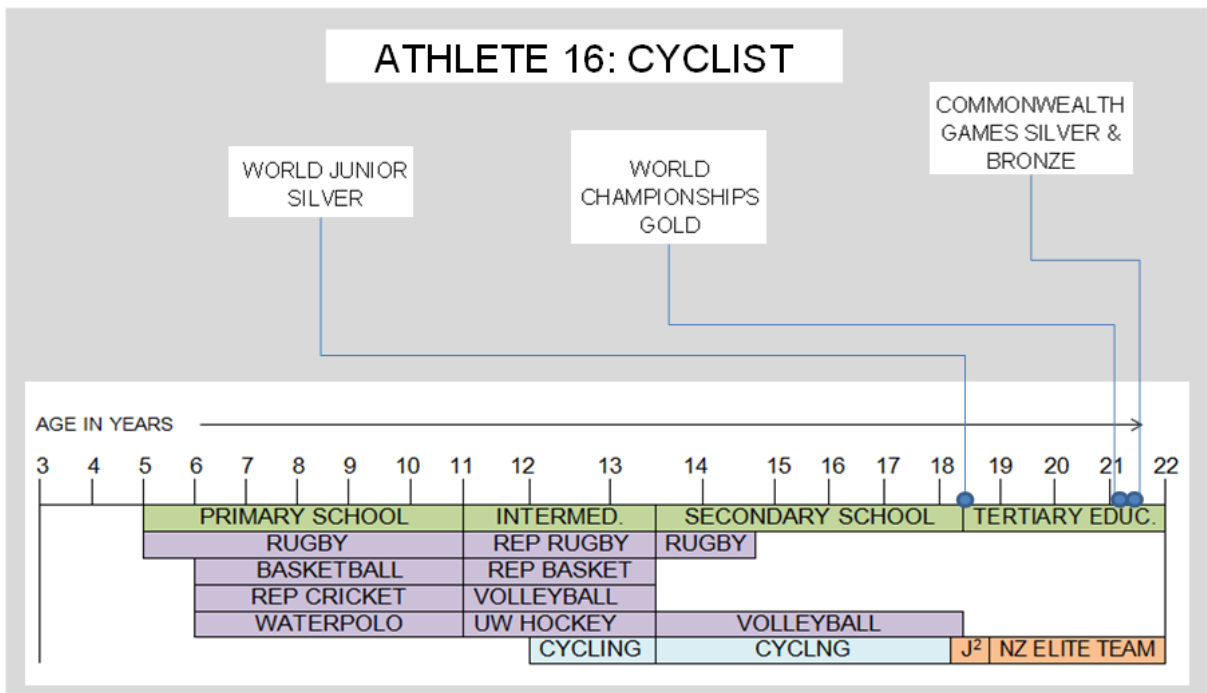
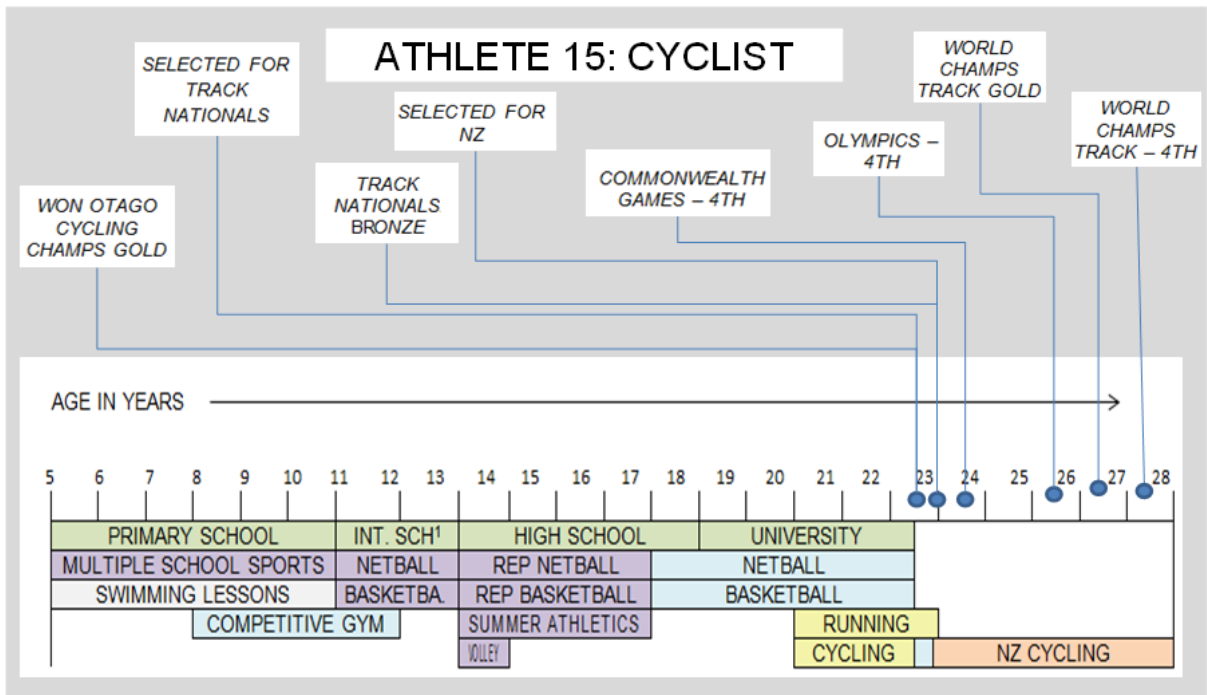


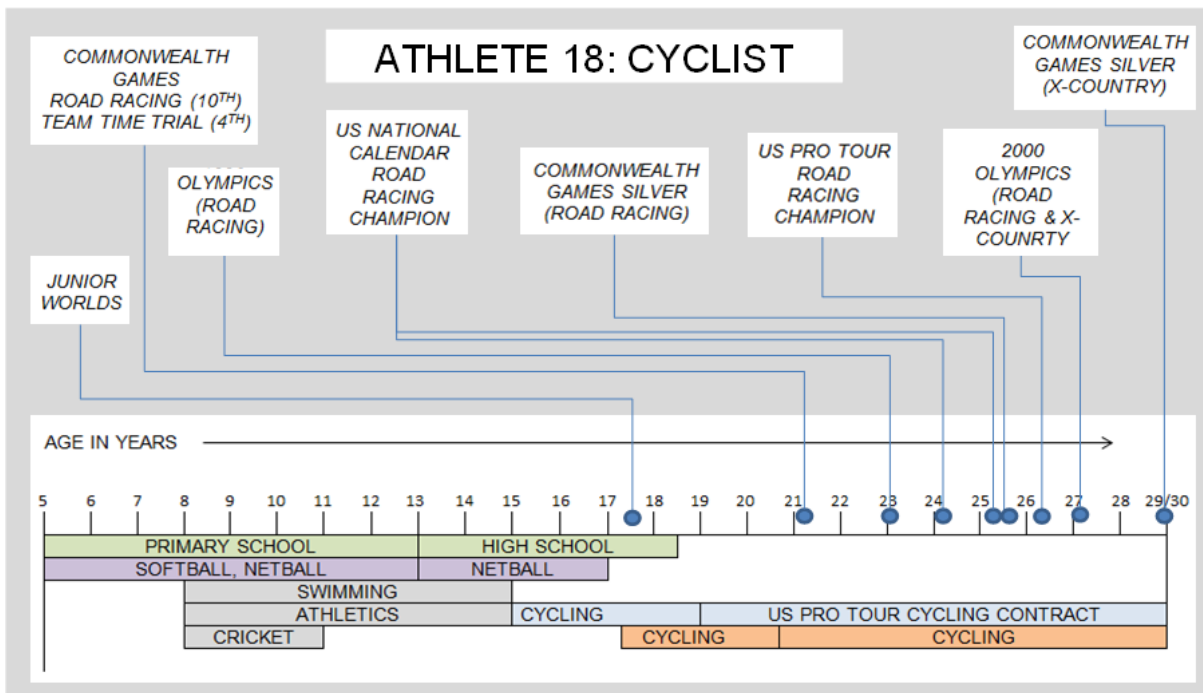
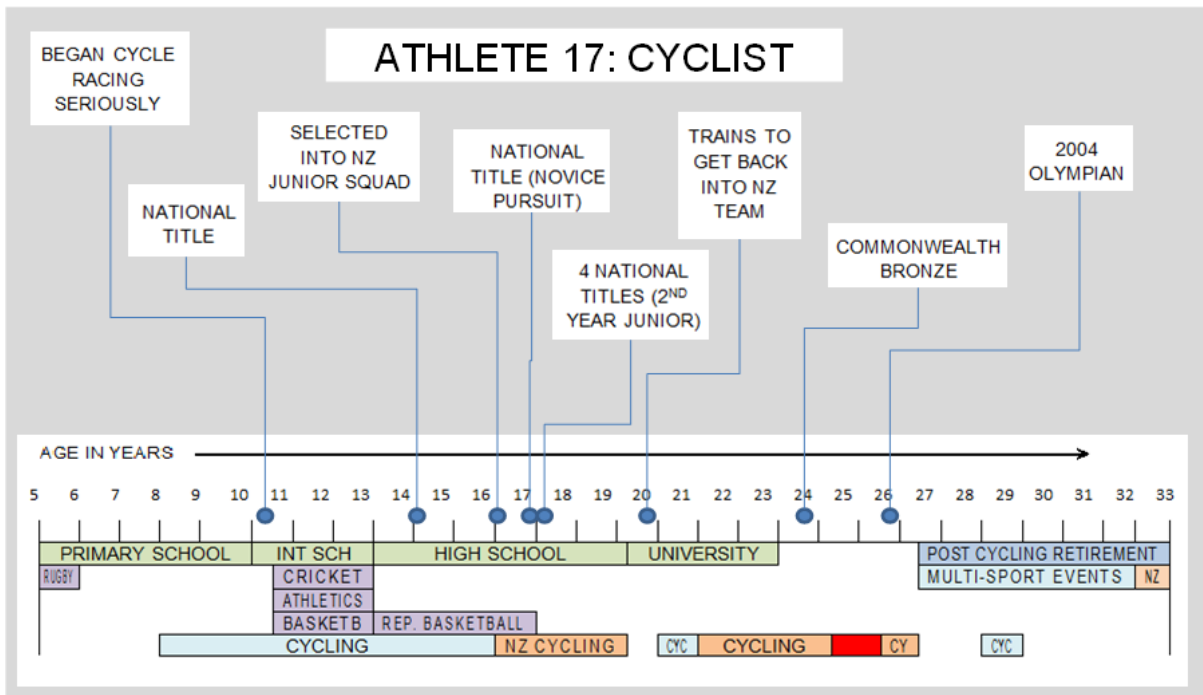
ATHLETE 13: NETBALLER



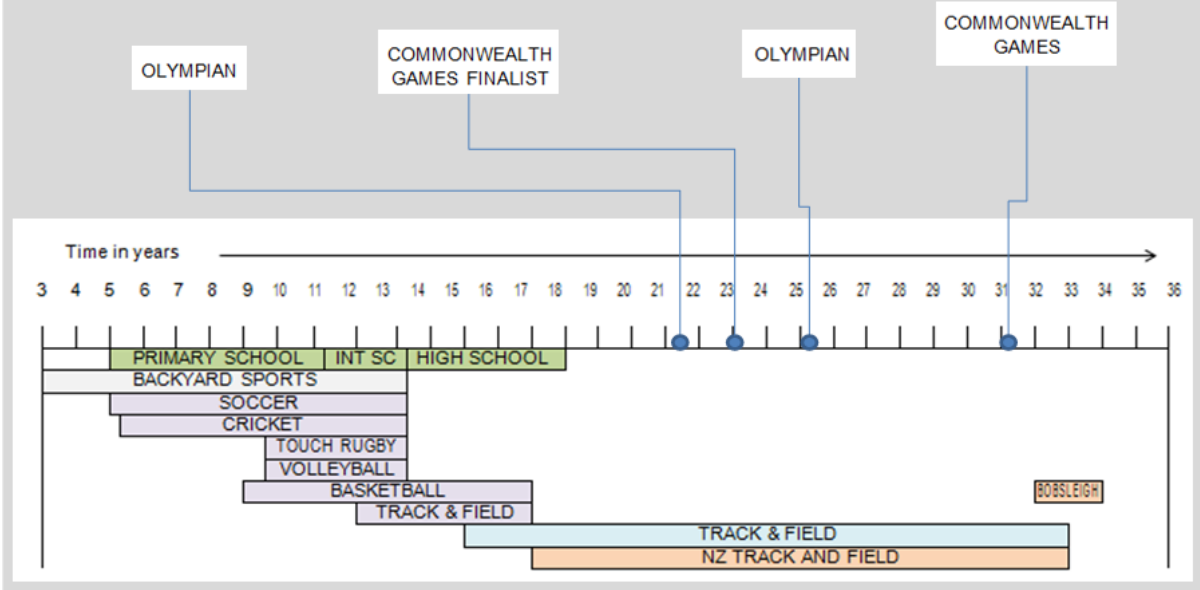
ATHLETE 14: NETBALLER



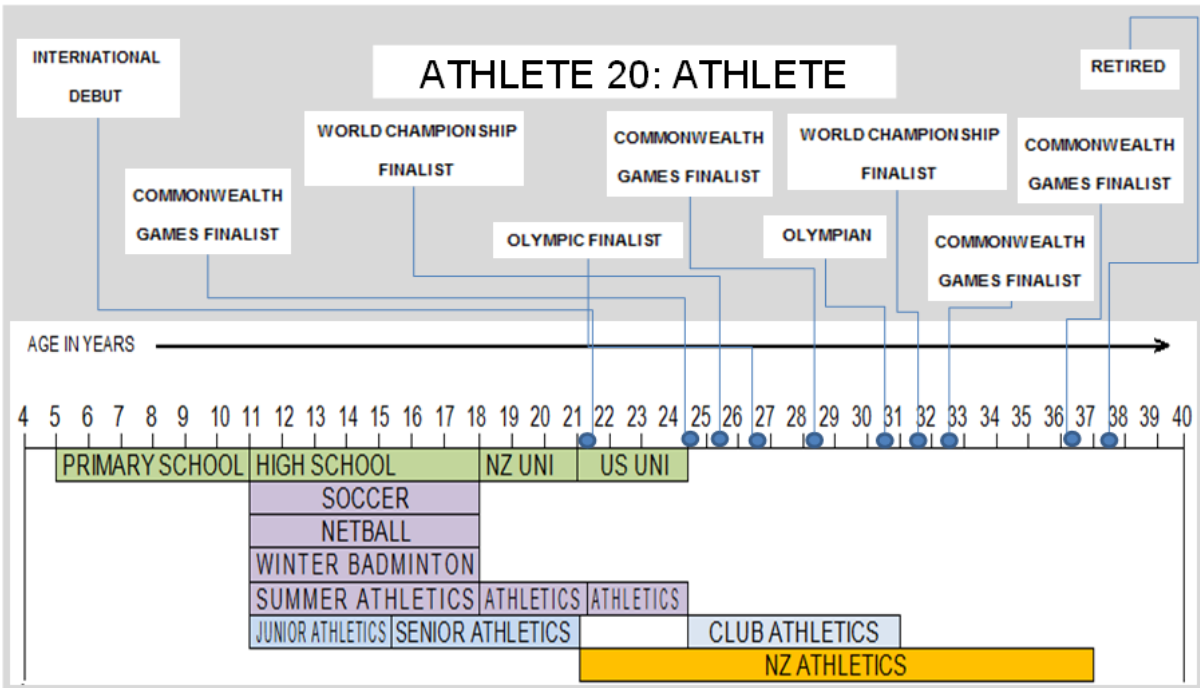




ATHLETE 19: ATHLETE



ATHLETE 20: ATHLETE



Additional Tables/Information

Frequency Tables: Support of Others

Support of Others: Peers

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1	X		X	X		X	X						
FN2	X			X			X						
FN3	X				X								
FN4	X						X		X				
FN5													
FR1	X			X		X							
FR2			X	X			X						
FR3	X		X			X	X						
MR1	X		X			X	X						
MR2	X			X	X		X	X					X
MR3	X				X		X				X		X
FC1	X			X			X						
FC2	X	X			X	X							
MC1	X			X			X						
MC2	X		X										
FS1	X												X
MS1	X			X			X						
MS2			X		X								
FA1													
MA1	X			X			X				X	X	X

Support of Others: Sport-Specific Significant Others
(Support of Others/Sport-Specific Significant Others/Types of Support)

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1				X						X			
FN2													
FN3		X	X		X								
FN4		X									X		
FN5													
FR1		X			X						X		
FR2											X		
FR3													
MR1			X	X	X								
MR2													
MR3		X									X		
FC1													
FC2		X											
MC1	X	X			X						X		
MC2			X										
FS1			X		X	X							X
MS1		X		X	X								
MS2	X	X										X	
FA1													
MA1											X		

Support of Others: Coaches
(Support of Others/Coaches/Types of Support)

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1			X	X	X			X		X			
FN2					X					X		X	
FN3	X		X		X	X	X		X	X	X		X
FN4			X		X		X				X		
FN5					X							X	
FR1	X			X	X								
FR2			X	X	X			X		X			
FR3				X	X						X		
MR1	X		X		X						X		
MR2				X	X	X		X					
MR3	X		X		X	X		X		X			
FC1			X	X	X	X							
FC2			X			X							
MC1					X			X					
MC2	X		X	X	X				X			X	
FS1				X	X			X			X	X	
MS1	X		X		X							X	
MS2	X		X	X	X				X	X	X		
FA1													
MA1			X		X				X		X		

Support of Others: Family
(Support of Others/Family/Types of Support)

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1	X	X	X		X	X				X			
FN2	X	X	X			X							
FN3	X		X	X					X		X		
FN4	X	X	X	X		X						X	X
FN5			X	X	X								
FR1		X	X	X		X			X		X		
FR2		X	X	X		X							
FR3		X	X			X				X	X		
MR1		X	X			X	X		X		X		X
MR2		X	X			X	X		X				
MR3		X	X	X									
FC1	X	X	X		X	X	X						
FC2	X	X	X	X		X			X				
MC1	X	X	X		X	X							X
MC2		X	X		X								
FS1		X	X	X		X			X				
MS1		X	X			X							
MS2		X			X						X		
FA1													
MA1	X	X	X										

Support of Others: Sport Science
(Support of Others/Sport Science/Types of Support)

	Competitive	Financial/ Resources	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/ Model
FN1													
FN2		X			X								
FN3													
FN4					X								
FN5													
FR1													
FR2													
FR3		X	X		X								
MR1		X											
MR2													
MR3					X								
FC1		X			X								
FC2													
MC1		X			X								
MC2													
FS1					X								
MS1													
MS2					X								
FA1													
MA1					X								

Support of Others: School Personnel
(Support of Others/School Personnel/Types of Support)

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1													
FN2			X		X								
FN3										X	X		
FN4													
FN5													
FR1					X								
FR2													
FR3													
MR1													
MR2													
MR3											X		
FC1					X								
FC2													
MC1													
MC2													
FS1													
MS1													
MS2													
FA1													
MA1													

Support of Others: Non-Sport Significant Others
 (Support of Others/Non-Sport Significant Others/Types of Support)

	Competitive	Financial	Emotional	Esteem	Informational	Introductory	Social	Changing Support	Democratic	Autocratic	Opportunity	Preparation	Example/Model
FN1													
FN2													
FN3	X			X									
FN4													
FN5													
FR1													
FR2		X											
FR3													
MR1													
MR2													
MR3													
FC1													
FC2			X										
MC1	X	X											X
MC2		X	X										
FS1		X	X										
MS1													
MS2		X											
FA1													
MA1													