

Identifying the Views and Attitudes of Elite Female Athletes to a Formal Talent Transfer Initiative

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Abstract

Purpose: Research has explored the epidemiology and occurrence of the identification of talented performers in sport. However, little is known about a specific facet of talent identification known as talent transfer (TT). This study aimed to investigate the perspectives of athletes who have undergone formal TT with primary topics of research including; 1) The retrospective views of elite female athletes who have undergone TT into track cycling, 2) The characteristics of an organisation led TT initiative and 3) The key features which are indicative of a successful and/or unsuccessful TT programme.

Methods: Five female (Age=24.5 SD=4.3) team sport and individual athletes who have undergone TT into track cycling were selected and subsequently underwent a semi-structured interview process. Data was collected, transcribed and analysed through a content analysis to aid in the identification of core themes. The inductive approach allowed for themes to emerge from the quotations within the dataset. **Results:** Two dimensions, eight higher order themes and 38 lower order themes were identified. The results indicated athletes retrospectively viewed their transition as a journey towards an athletic identity. These athletes characterised formal TT as one that inflicts new challenges on the athlete. Facing these challenges with an adequate support network (family, teammates, coach) was crucial. **Conclusion:** Through these factors we may conclude that successful or unsuccessful TT is largely dependent on the environment in which its delivered. Therefore, it is crucial that practitioners within the TT domain account for each variable outlined and understand the complex nature by which they operate and interlink with one another

Chapter 1: Introduction

Talent transfer (TT) can be defined as seeking to transfer talented, mature individuals from one sport to another (MacNamara & Collins, 2015). TT is used to identify and develop talented athletes who have already excelled in one sport and transfer them into another (Collins, Collins, MacNamara, & Jones, 2014). Rae and Lavalley (2015, p.41) provide a secondary definition in that TT is; “a process occurring when an athlete ceases or reduces their involvement in a sport in which they have invested significant time and concentrated their efforts in a sport that is new to them but involving similar movement skills and/or physiological/psychological requirements”. TT can minimize adolescent maturation issues, reduce development time frames and maximise a return on investment in the development of these athletes (Gulbin & Ackland, 2009; Halson, Martin, Gardner, Fallon, & Gulbin, 2006). It must be noted that TT has been happening in an informal capacity for multiple years where the athlete may initiate the transfer themselves. The mechanism influencing the transfer is often cited as being that of injury, performance plateau, reduced motivation or retirement from the donor sport (Rea & Lavalley, 2015). Formal TT is evident in recent initiatives devised by UK Sport such as “Girls for Gold” (2008) and “Tall and Talented” (2010), yet these initiatives are mainly anecdotal and not prevalent within the academic domain. Pinder, Renshaw & Davids (2013) further emphasised this point by stating several questions remain unanswered within the TT domain one of which being the lack of reported examples of successful TT. This is especially relevant given the development of these athletes is directly influenced by the environment in which it takes place (Garcia-Bengochea, 2002 & Krebs, 2009). Literature on formalised talent transfer programmes is limited, with exception to Bullock et al. (2009) who investigated a formal initiative within winter sports. Studies that focus on this specific facet of talent development tend to focus on coach/athlete initiated transfers (informal) (Collins et al., 2014; Halson, Martin, Gardner, Fallon, & Gulbin, 2006 & MacNamara & Collins, 2015) with Rae & Lavalley (2015) including both informal and formal within their sample. A common theme which seems to present itself amongst the research is the apparent lack of an available framework or basis for TT provision highlighting a lack of empirical evidence for governing organisations to guide future TT initiatives. Exact details on the characteristics of successful TT within the sporting domain are unclear (Collins et al., 2014) highlighting the potential need for further research within the area.

An argument can be made that the transfer of learning may also influence ideas regarding TT in keeping with the definition devised by Schmidt & Wrisberg (2008, p. 193) where there is “a gain or loss of a person’s proficiency on one task as a result of previous practice or experience of another task”. Transfer of learning can take place in multiple contexts and can be subdivided into both near (similar) transfer and far (dissimilar) transfer. These definitions are useful in characterizing some aspects of transfer but are not a defined metric of how close the transfer is (Perkins & Salomon, 1992). The field of motor behaviour and motor learning has apparent links with the area of talent identification specifically in the area of TT. Theories of learning such as Schmidt's (1975) schema theory detail that within the transfer of learning it is important to have previous experience in a similar skill. Baker, Cobley & Fraser-Thomas (2009) suggest that evidence on transfer of knowledge and skills across domains is limited and often contradictory, they suggest further research may be necessary.

Chapter 2: Literature Review

2.1 Schmidt's Schema Theory & The Transfer of Learning:

2.1a Motor Learning & It's Implications in TT.

Schmidt (1975) stated that the idea of each movement needing a motor programme to be in place to perform the action is flawed, it does not account for the sheer volume of information that would need to be stored within the central nervous system and long-term memory system to perform tasks. Schmidt developed Schema Theory on the hypothesis that actions are not stored, rather we base our actions on fundamental ideas about movement. Schmidt based his theory on the idea that every time we perform a movement we gather information about it using this information, in turn, to develop a “schema” or set of rules and guidelines to produce a desired action. This developed schema can be broken into recall and recognition; recall is based on the initial phase and result of the action with recognition based on the sensory aspects of the action (Schmidt, 1975). Schmidt states that when faced with a new skill one may simply select an appropriate schema (similar to the task) to produce the desired outcome. Schmidt's Schema Theory ties in closely with the concept of TT in that one's physical sporting skill can be transferred into another sport. This theory, therefore, aids in the explanation of the transfer of learning theory.

2.1b The Transfer of Learning.

Perkins, & Salomon (1992) in their section regarding the mechanisms of the transfer of learning propose one mechanism being that of “transfer by affordances” by drawing on research by Greeno, Smith & Moore (in press). The authors suggest that during initial learning the learner acquires a schema representative of the affordances needed in that situation. If the transfer situation requires the same or similar affordances, then the opportunity is there for the learner to implement an adapted schema into that skill. In more practical terms Schmidt and Wrisberg (2008, p.193) referred to “the influence of prior experience on people's performances (learning) of new tasks”. In a practical setting when relating this to the implementation of TT an athlete's previous athletic experience in any domain, may contain similar skills to allow the transfer of learning to be taken advantage of. The athlete's learning of a new skill may be rapidly accelerated through pre-existing experience in a similar skill.

2.1c Variable Practice.

The variable practice concept derived from Schmidt's Schema theory aids in the understanding of how a TT initiative can be facilitated and also provides a counter argument to the deliberate practice theory (Ericsson, Krampe, & Tesch-Römer, 1993) in that learning can be rapidly accelerated through a pre-existing level of learned sporting skills (Schmidt & Wrisberg, 2008). In theory this would suggest skills learned through varied practice could be applied to actions that the learner has not undertaken before (Schmidt & Wrisberg, 2008). This has also been shown in research by Catalano & Kleiner (1984) whereby subjects practiced an open task through both varied and constant practice. The subjects who experienced varied practice performed better in the subsequent retention test in which skills that lay outside the range of the subjects' previous experiences were presented. When relating this back to TT and athlete development this follows similar statements from Baker, Cote, & Abernethy (2003) who suggested that experts receive exposure to a broad range of sports in their developing years. The authors summarised that this experience in related sports may reduce the amount of sport-specific training needed to become an expert.

2.1d Deliberate Practice and TT

The deliberate practice theory is contested within the TT domain, instead, the process of TT sets out to rapidly accelerate the learning of specific skills by drawing on previous skills which may have been learned through the deliberate practice model (Baker, 2007; Coleman, 2007; Runco, 2007). This is similar to Schmidt's concept of employing a schema when transferring talent from one skill to another. This is also shown in research by Baker (2007) & Coleman (2007) which states that deliberate practice within another sport may be an alternative path to expertise. Issurin (2017) suggested the deliberate practice theory may in fact be applicable, but only in those sports which require a high degree of coordinative skill and not to general preparation trends in endurance, power, and combat sports. It is difficult to reach a conclusion in this regard, with Baker, Cobley & Fraser-Thomas (2009) suggesting that evidence on transfer of knowledge and skills across domains is limited and often contradictory, suggesting grounds for further research.

2.2 Understanding TT

2.2a What is TT?

As noted previously by MacNamra & Collins (2015), TT can be defined as seeking to transfer talented, mature individuals from one sport to another. There are multiple

methods of discovering talent performers; talent identification, selection, development and detection as discussed by Du Randt et al. (1992). Talent identification and development mainly focuses on those youth athletes who show potential for their sport at an early age (William & Reilly, 2000). Talent selection occurs whereby high performing athletes in their sport may be selected and receive additional support within that sport (Bullock et al., 2009). Talent detection, proposes to introduce talented performers into a sport if they possess the desired skills required for inclusion in that sport (Hahn, 1990; Hoare & Warr, 2000). TT can be referred to in the same light as talent detection (Bullock et al. 2009).

2.2b Arguments for & against TT

The mechanisms of TT and uses of this specific talent detection approach have been supported in the literature, for example, facilitating a program and fast tracking skill development in skeleton bob which is discussed in detail by Bullock et al. (2009). This research underpins one of the fundamental ideas regarding talent transfer which is “aiming to select talented, mature individuals and transfer them from one sport to another (MacNamara & Collins, 2015). This method of rapidly accelerating mature athlete’s learning can be linked to the literature on late specialisation as an indicator of senior success rather than early specialisation. This argument has also been made by Moesch, Elbe, Hauge, & Wikman (2011) who revealed that of the elite athletes sampled, there was a significant correlation between later specialization and membership of an “elite” grouping. This seems to be a common occurrence in other such research (Baker, 2003; Baker et al. 2003 & Cote, Baker, & Abernethy, 2003). This indicates the possibility for TT athletes to experience a varied practice approach to their early development with specialization occurring in their transfer sport. TT has also received criticism in that the foundations on which these initiatives or in-career transitions are based on are lacking in the literature (Lavallee, Wylleman & Sinclair, 2000). Subsequently several researchers (Collins et al. 2014; MacNamara & Collins, 2015 & Rae & Lavallee, 2015) have aimed to gain a deeper understanding into the mechanisms which support TT. These studies employed varied semi-structured interview methodologies to explore and expand on the occurrence of TT and athlete’s individual experiences of the process, both informal and formal.

2.2c Athlete’s Perceptions of TT

There is a dearth of research exploring the specific perceptions possessed by athletes and the broader population (coaches, sports scientists, governing bodies etc.) involved in TT.

Bullock et al. (2009) facilitated a programme to TT into the skeleton event at the 2006 winter Olympic Games. This study detailed the exact programming, recruitment, physiological testing among other measurable components the authors believed facilitative to TT into Skeleton. The authors provided a highly specific example of TT while discounting the possible benefit of retrospectively asking those involved about the possible advantages, benefits and facilitative factors within the TT program provided. Collins et al. (2014) aimed to gain a deeper understanding of the effectiveness and underlying mechanisms of TT, stating that TT is becoming more popular among national organisations. The authors employed a two-part study; stage one consisted of analysis into the incidence and epidemiology of TT at the 2010 and 2012 winter and summer Olympic Games. Stage two explored the perceptions of four sport science specialists with experience in TT settings. The four overarching themes identified were skill transfer, psychological assets, previous experiences and physical mechanisms. Although consulting with the sport scientist specialists in this regard was beneficial to the understanding of TT an argument can be made for the omittance of the athlete in this case.

This limitation was built on in subsequent research by MacNamara & Collins (2015) and Rae & Lavallee (2015) who investigated athletes experiences of the TT process. MacNamara & Collins (2015) referred to a successful transfer as reaching the equivalent level in their transfer sport as in their donor sport. Rae & Lavallee (2015) argue that success for TT athletes may be observed differently suggesting grounds for future research in what degree of success it would take for the athlete to identify themselves with their new sport. Key themes derived from MacNamara & Collins (2015) work included the TT environment (a positive learning environment and the time frame in which TT took place) along with specific factors underpinning their TT (previous sporting experience, physical characteristics and psychological factors). This data was gathered from a cohort that had not experienced TT as part of a formal process, suggesting a possible limitation in that formal TT athletes who have experience with pre-determined support structures are not accounted for. Within their sample; Rea & Lavallee (2015) included three athletes who had undergone TT as part of a formal process with the remaining seven being part of an informal process. Their results indicated that support services through a formal program (National Governing bodies (NGB), coaching and sport Institute support) and informal program (families, coaches, team mates), physical and psychological similarities and degrees of success were factors that the athletes perceived as important for a successful TT. The influence of families in talent

development has been discussed by Cote (1999). Teammates may facilitate a social learning effect in line with that discussed by Bandura (1975) through an element of identification with fellow learners. There was an evident difference in attitudes between both the informal and formally supported athletes with the main difference being in the support structures that the athletes perceived as important. There was an alignment on views regarding the physical and psychological similarities.

Rae & Lavalley's (2015) research also highlighted the role of athletic identity within the transition process. Brewer, Boin, and Petitpas (1993) identified three factors of athletic identity; social identity, exclusivity and negative affectivity. Social identity and elements of exclusivity were apparent within Rae & Lavalley's (2015) sample. Elements of social identity may have also been used as an outlet to overcome negative affectivity. The athletes referred to not seeing themselves as an athlete "yet" in their sport, these athletes did not strongly identify with their role. Exclusivity accounts for the degree in which external influences in their lives are discounted in favour of their athletic career (Martin, Eklund, & Mushett, 1997). Exclusivity was experienced by athletes within Rae & Lavalley's (2015) sample whereby the athletes experienced this as the opportunity to excel in another sport to fill the gap that was left with their donor sport.

2.3 Conclusion:

As presented above the various theories of learning, such as Schmidt's (1975) schema theory and the domain of the transfer of learning have an apparent linkage into the realm of TT. Researchers such as Baker (2003) & Coleman (2007) have contested the deliberate practice theory (Ericsson et al., 1993) suggesting skills may in fact transfer from one sport to another, providing the argument for TT. Yet, Baker, Cobley & Fraser-Thomas (2009) suggest that evidence on transfer of knowledge and skills is often contradictory, they suggest further research may be necessary. The work by Abbott & Collins (2004); Bullock et al. (2009); Collins et al. (2014); MacNamara & Collins (2015) & Rae & Lavalley (2015) has highlighted gaps within the current field of TT research. A common theme which seems to present itself amongst the research shown here is the apparent lack of an available framework or basis for TT provision. This highlights a lack of empirical evidence for governing organisations to guide future TT initiatives. Psychological aspects of TT have also been identified as being omitted from current TT research. Formal talent transfer initiatives have not been widely investigated with researchers opting for informal transfers. This literature review has presented evidence on the foundations and theories that may link into TT while also providing research into various TT initiatives and

programs. From this we can identify potential gaps in previous research which may include the investigation formal initiatives, investigating certain psychological mechanisms apparent in the TT process and identifying first hand athlete experiences to provide a framework to direct future TT practices. This study, therefore, aimed to investigate the subjective perspectives of athletes who have undergone formal TT with most still being supported by the governing body in question. The main research questions included:

2.4 Research Questions

- 1) What are the retrospective views of elite female athletes who have undergone talent transfer into track cycling?
- 2) What are the characteristics of an organisation lead talent transfer initiative?
- 3) What are the key features which are indicative of a successful and/or unsuccessful talent transfer programme?

Chapter 3: Methodology

3.1 Research Design

The aim of this study was to conduct qualitative research, in the form of semi-structured interviews, to assess; the views of athletes who have undergone formal TT, the key characteristics of organisation led TT and subjective reports of what these athletes believe as facilitative to a successful or unsuccessful TT. An inductive framework was employed to facilitate this study. This approach aided in identifying commonalities and differences within qualitative data before focusing on relationships between different parts of the data. Lastly descriptive and/or explanatory conclusions were drawn and clustered around themes (Gale, Heath, Cameron, Rashid, & Redwood, 2013).

3.2 Participants

Data was collected from five (N=5) individual and team sport athletes (5 Female) who have undergone a formal TT initiative, transferring from donor sports (field hockey, camogie, triathlon, multi-sport, athletics and rowing) into track cycling (Table 1). The mean age of the participants was 24.8 years (SD=4.1years). All participants met the final selection criteria (devised by Cycling Ireland) which involved initial selection through physiological testing. Testing included assessment of maximum power output (Wmax), three-minute critical power (CP3), weight, age and training history (via questionnaire and verbal communication). This was followed by the provision of a six-week training programme, followed by a re-test to assess the improvement in each of the variables mentioned along with their engagement and participation in the programme. From this re-test the final five athletes sampled were selected. The participants have been part of a high performance (HP) development squad for a minimum of six months. Participants on the squad were provided with access to equipment, daily contact with a coach, exposure to national and international competition and attendance at international training camps. This was all provided to accelerate their learning curve and skill acquisition. Within the participants donor sport one of the five sampled had no previous experience with national competition while the remainder of the group had previous experience at a national level. Regarding competitive success within the transfer sport, four of the five athletes have experienced competition on an international stage (UCI Track World Cup) with all athletes experiencing competition on a national level. All athletes have experienced national success in the transferred sport of track cycling. Exact details of individual success have not been acknowledged in the research design to maintain confidentiality of

the athletes involved. All participants completed their TT as part of a formal initiative facilitated by the national governing body involved (Cycling Ireland).

Table 1: Participant Details

| Participant No. | Donor Sport | Highest Level | |
|-----------------|----------------------------------|-------------------------|-----------------|
| | | Achieved in Donor Sport | Age at Transfer |
| 1 | Athletics (5,000M, 10,000M & XC) | National | 23 |
| 2 | Multi-Sport | Recreational | 27 |
| 3 | Camogie | National | 19 |
| 4 | Triathlon | National | 30 |
| 5 | Rowing | National | 25 |

3.3 Procedure

The author contacted the participants through email and/ or telephone with the athletes given a brief introduction to the study and a synopsis of what it contained to ensure adequate time was allocated, a mutually convenient time was then agreed upon. A semi-structured interview methodology was employed for this research, with the interviewer drawing on a question guide (Appendix A) to inform the direction of questioning with each participant. The semi-structured interview method was deemed appropriate as it allows the researcher the flexibility to probe respondents for a deeper understanding of the research questions. It also allows the respondents an opportunity to respond in their own words rather than a “yes or no” type approach (Longhurst, 2003). The interview protocol began with a brief introduction regarding the purpose of the study and reassurance of anonymity for each participant. The interview commenced with a brief synopsis of prior sporting experience and the reasoning for their involvement within the TT process. This portion of the interview introduced the participants to the process and is in line with guidelines developed by the Harvard Department of Sociology (2017) whom suggested the importance of a “warm-up” question to aid in building rapport and making the following questions flow more smoothly. Following this the main portion of the interview was carried out to identify views and attitudes towards the TT process. Key question topics (derived from the research questions) of the interview can be seen in Table 2. A full transcription of the interview guide used in this research can be seen in Appendix 1.

Table 2: Key question topics to be explored in the interview process

-
- Opinions toward the assessment and selection methods employed
 - The effectiveness and importance of communication within the programme?
 - Importance of newly appointed coach in the facilitation of your transfer?
 - How could the programme be altered to ensure any areas that you personally struggled could be better addressed?
 - The importance of group dynamics in helping/ hindering TT?
-

3.4 Data Analysis

Responses to interviews were recorded and transcribed in the participants own words by the author of this study, interviews were digitally recorded for comparison and error checking before data was entered for analysis. Data was analysed through the following methods suggested by Côté, Salmela, Baria, & Russell (1993). A content analysis was undertaken to aid in the identification of core themes through an inductive approach which allowed for themes to emerge from the quotations within the dataset. Data was compiled and analysed using the qualitative data analysis (QDA) software NVIVO (produced by QSR International). QDA software has been used widely in previous literature, examples including MacNamara & Collins (2015) & Jones, Bezodis, & Thompson (2009). Text segments were grouped into themes containing similar ideas, for this research they were referred to as lower order themes or “emerging themes”. These lower order themes were identified and grouped under individual categories referred to as higher order themes. Each higher order theme was subsequently grouped under a dimension; quotations provided substance/ examples for each theme presented.

3.5 Ethical Considerations

Ethical Approval was provided by the Department of Sport and Exercise Science (DSES). Informed consent was obtained from each participant before each interview regarding the data disclosed and anonymity involved in the research. Each participant was recruited by personal contact (e-mail/ telephone) regarding their involvement in the study. The interviews, performed by researcher, were conducted via Skype to facilitate logistical problems incurred by these athlete’s travel schedules. Access to the athletes was granted by the high-performance co-ordinator and the programme co-ordinator for this TT

initiative undertaken by Cycling Ireland, the national body for cycling in Ireland. Bias was avoided with strict confidentiality clauses and agreement on collection of responses with immunity involved. Participants had full autonomy over their participation in this study and reserved the right to withdraw from the research at any stage if they so wished.

Chapter 4 Results

Data analysis of interview transcripts resulted in the formation of two overarching dimensions, eight higher order themes and 38 lower order themes. Each of these sections are reported on in direct relation to the aims of the research. Dimensions, high and low order themes are presented in Table three. The numbers in parentheses within the table illustrate the numbers of incidences coded within each of these domains. Results were discussed under several sub headings to aid in the exploration of the research questions; new challenges, personal experiences of formal TT, facilitating the transition and the environment.

Table 3: Dimensions, high and low order themes identified.

| <i>Dimension</i> | <i>High Order Themes</i> | <i>Low Order Themes</i> |
|---|---------------------------------|---|
| The Athlete (146) | Identity (70) | Journey to becoming an Athlete (42) |
| | | An “All Round Athlete” (5) |
| | | External Comparison (19) |
| | | Putting Sport Before Everything Else (6) |
| | | Getting to the Next Level (13) |
| | | Commitment (12) |
| | Donor Sport (49) | Foundations & Similarities (32) |
| | | Achievement (6) |
| | | A Generic Experience of Performance Expectations (14) |
| | | Type (11) |
| | | Not Achieving the Desired Level (5) |
| | Transfer Sport (49) | Becoming an Athlete (23) |
| | | New Experiences (24) |
| | | Measures of Success (10) |
| | | Motivation for Change (15) |
| | Support Network (41) | Family (12) |
| Relationships (3) | | |
| Teammates (27) | | |
| Role Models (16) | Previous TT Examples (7) | |
| | Proximity (9) | |
| | Importance (6) | |
| The Coach & the Coaching Environment (124) | Feedback (36) | Intrinsic (5) |
| | | Extrinsic (19) |
| | | Individualized (16) |
| | | Timing of the feedback (12) |
| | Program Delivery (85) | Future Directions (53) |
| | | Goal Setting (21) |

| | | |
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| | | Service Providers (8) |
| | | Structured Pathway (28) |
| | | Scepticism (14) |
| | | Facilities (9) |
| | Coaching Delivery (68) | Communication (34) |
| | | Journey of competence (19) |
| | | Autonomy (17) |
| | | Guidance (5) |
| | | Coach - Athlete Relationship (20) |
| | | Specific to Level & Individual (29) |
| | | Coached as a Process, Not Outcome (15) |

4.1 New challenges

4.1a Athletic Identity

All five of the athletes sampled expressed issues in relation to their identity as an athlete in both their donor and transfer sports. Six lower order themes emerged from the data forming the basis for the athlete's self-perception of athletic identity as shown in Table three.

Athletic identity can be linked to the motivation for transfer in that four of the five athletes interviewed expressed a desire of wanting to get to the next level in sport, that is, they were not satisfied with their current situation or performance and had a self-belief that they were capable of more. This was expressed by Athlete 1; "you know I wanted guidance and I've always wanted to get to another level in sport you know even with running I was never happy because all I wanted was to get the Irish vest." This quest for a new challenge was apparent in Athlete 3 also;

I was sick of camogie as well because I was sick of the whole set up and how am... it worked kind of. The politics involved and stuff like that and I wanted a proper challenge, I wanted like to come out of training and feel like I was after putting everything into it! That consistency (of training) as well!

Acceptance into the programme was a major turning point in these athlete's transitions. Athlete 5 stated that the acceptance was, in fact, "a bit surreal for a good while" referring to the achievement of making the final selection in the program. Athlete 2 expressed her doubts of being accepted into the program at the beginning; "my initial reaction was OK that's great but like there's not a hope in hell I'm going to (get in), me?" Once this athlete was accepted into the program she began to set goals and her expectations grew progressively;

“I didn’t think I was going to get picked like it’s funny how my mindset changed like I didn’t think I was going to get picked and then I did get picked. So, then my goal and their goals were complete your training plan to get tested again so ok I know what they want from me!”

Athlete 1 touched on issues in relation to identity showing how her perception of herself as an athlete has progressed due to her transition into cycling; “having more confidence in what I’m doing which I probably wouldn’t have had so much with running. I was always a bit like, a lot of self-doubt.” Many athletes interviewed reinforced this point stating that there was in fact a journey to becoming an athlete in their transfer sport. This is conveyed by athlete 2, “So, I still need guidance but... am... I understand more so what the workouts are doing now than I would’ve last year. Now I know kind of what the goal of each session probably is.” Athlete 4 explained how she was aware of the first time she referred to herself as an athlete in cycling again reinforcing the journey of athletic identity that is taking place; “I just said I think I’m a better athlete for it and it’s the first time I definitely considered using the word athlete, but it still felt a bit weird to be honest!”

4.2 Personal experiences of formal TT

4.2a Facing Challenges

Challenges faced by the athletes varied and were dependant on the specific situation each athlete was in. Commitment required to the program was introduced by Athlete 4; “you know I tried to keep medicine going for six months and I literally felt like I was on a downward slope as the girls were moving steadily on an upwards... I think that became quite clear especially towards Christmas...”. This athlete expressed that she was aware the program required full time commitment as it became more intense; “I’ve decided to make this my full time focus to try and almost make a... you know, a career out of it...”. Athlete 1 expressed her challenge in dealing with expectations and the intimidation of the goals laid out for the program;

“I guess a lot of self-doubt like that’s really, like obviously when you come into a sport and you’re completely new to it and you know you have these massive goals that have been set out for you it’s kind of hard to not be a bit inside your own head about it maybe.”

4.2b Measuring Success

The athletes believe that success in their transition stems from the commitment they have made to the program and their exposure to competition. The rapid acceleration of learning may also aid them in benchmarking their success.

“I mean you know myself and (athlete’s name) have now raced several international C1 events we’ve done a World Cup am.... Like it’s insane to think that we did a World Cup a couple of weeks after being on the velodrome for the first time!” (Participant 2)

Role models appeared to allow Athlete 4 to benchmark their success. Proximal role models in the shape of an international athlete in other family members meant this athlete's expectations of success were high.

“Like I would've been massively envious of my brothers and sisters getting to wear the Irish kit and to be involved at a high level in sport... am... I think seeing them being coached and being surrounded by excellence am... and getting an opportunity to try at that like I... I would've always really wanted and maybe didn't necessarily think I could do or maybe get the opportunities to do it.”

4.2c The Coach-Athlete Relationship

The athletes have formed dynamic and constructive relationships with the coaches where feedback is encouraged and delivered on a continuous basis, as explained by Athlete 3 “if there was every anything we didn't know you could always ask questions and you could be sure you'd get an answer!” The athletes value everything the coaches say so feedback and instruction need to be clear and precise, it also needs to be targeted to the specific level these athletes are at, “Yeah you knew that there was nothing (given that you couldn't do) ... everything that was given to you knew you should be able to do it!” (Athlete 1). The impact of the coaches even in the use of simple online feedback via the medium of Training Peaks© given to the athletes is outlined by Athlete 4:

“So important like (The Coaching) you know it's kind of funny like even still am... and I know it's the same for the four of us I know any time someone gets a message on training peaks like you have commented or (other coach) has commented or (director) has commented like everyone takes a breath to see what you say... it's actually crazy the impact what ye say and how ye comment on our training has on us, like it's pretty big and I wondered are ye as aware of that... am... you know like a well done like has a huge impact.” (Athlete 4).

The importance of this relationship and the commitment required from both the coach and athlete was again reinforced by Athlete 4; “In fact, the only thing that's shocked me is the amount of support we have gotten and the commitment from you guys... to bring us along.” We see an apparent disbelief in the support received by the athlete in question again bringing up the possibility of the journey of athletic identity and how it is being built, this athlete still doesn't think she is deserving of the support given to her.

4.3 Facilitating the transition

4.3a The Support Network

Reference was made to the broader support network by each of the five athletes on more than 41 occasions spread across each low order theme as shown in Table 3. Family

appeared to be a driving force in supporting the athlete's transition; with Athlete 3 pointing out that families were a major factor in both financial and general moral support; "Because if you look at the girls say on... that have made it as far as we have you'll notice that we all have am... good people behind us family wise that support what we're doing." Athlete 5 expressed the need for coaches to gain more insight into the family situation and general life external to sport;

"What is your life situation right now, how are things like!? I do think home environment really does come into it especially at that age like 18/19 I suppose even after college am... but just to know what's going on in people's lives a little bit more as an athlete not prying or anything like that."

Teammates and their role in supporting each other was mentioned and focused on substantially by these athletes. Teammates were often attributed to the reason as to why these athletes "are like... they're a massive part in how I'm still here." (Athlete 2). The inter group dynamic appeared to be very positive with little conflict as expressed by Athlete 1; "I feel like you've got so many different characters like there's (Teammate) who's like a mum and then there's no two characters... that kind of clash heads". When probed regarding an apparent absence of conflict within the team Athlete 4 admitted that; "There's things that aren't going well that are going to have to be addressed and figured out together... probably not as much calling out on things as maybe needs to be done." This athlete admits that "they don't think it's too late", however, giving the reason for the apparent lack of conflict and ownership, stating; "maybe that's why there wasn't so much conflict because there wasn't room for that as it was kind of survival mode and the best way to survive was keep that positive attitude...". Athlete 1 summarised the thoughts of the group;

"I don't think I could've stuck with it if I didn't have that group of girls around me like because you're all coming in at the same level and you're all kind of every challenge that you're experiencing they're experiencing the same challenge. So, it's not one person having done it before and that was that was so helpful."

Here the reason given for the teammates being such an integral part of the transition is that the athletes' experiences of the transition process were taking place at the exact same rate.

4.3b Coaches facilitating the transition

Communication appeared to be an aspect of coaching delivery that athletes deemed important in the formal initiative. Due to the formal nature of the programme it was possible to have specific coaches in place to provide continuous feedback, guidance and

technical coaching. Feedback produced 36 codes and was integral in how the program was communicated.

“I think it was so important to have coaches like yourself and (coach) who were just... there was such good feedback I mean there was so many questions I’m sure you were getting ... but it was so good to have people who you could just ping a quick message to you know even if it was just a quick question about training or something.”

The athlete’s valued feedback in their development with Athlete 2 stating “I thrive off of feedback” encompassing the general viewpoint of the group. Feedback was mainly received through an extrinsic source, for example through Training Peaks©, coach input and metrics such as power output. The timing of this feedback was favoured to be immediate, that is, within the first few hours of sessions completion. Feedback and one’s dependence on it is also stated as being individualistic with Athlete 2 suggesting “I’d say some of the girls don’t need feedback as much as I do but I’m the kind of person that needs to know that I’ve done it ok”. Athlete 1 suggests a learning effect through the feedback but may still need guidance at key points in her development; “So, I still need guidance but... am... I understand more so what the workouts are doing now than I would’ve last year. Now I know kind of what the goal of each session probably is.”

The journey of competence from a sole reliance on coaching input and feedback to autonomy has been expressed by all five athletes. The athletes began their journey at a beginner level in both the tactical and technical domains of track cycling. Due to their involvement in their donor sport their physical and psychological characteristics had been developed. This is shown by Athlete 1 who explains while she had the physical and psychological capabilities needed for competition she was effectively out of her depth in certain competitions due to the technical and tactical nature of the sport;

“Then I think things started moving very quick on the coaching side as well because they didn’t know if we’d be ready for certain events all of a sudden I was doing a stage race and then I was doing like it just moved very quickly and I don’t think I was expecting it would move so fast but when it’s TT and its fast track I guess you’ve got to go with it”

The athletes expressed that they progressed in their knowledge in these domains over the course of the TT initiative, but the progress was slow and more of a process rather than a sudden leap in competence. Due to this the athletes, as stated by Athlete 4, experienced a different level of coaching throughout the process:

“I don’t know if I’m a lot more independent yet to be honest with you but we’re definitely more knowledgeable and you know do a certain amount on our own. We can bring ourselves to our own races, can semi setup bikes... I mean we’ve obviously jumped an incredible amount, but I think there’s obviously still a good bit of a reliance in terms of guidance for the team pursuit and how we go about that you know it’s obviously... we definitely still need the support there.”

We see this athlete conveying the general thoughts of the group in that they are more autonomous now than last year, but, crucially there is still a lot to learn especially in the technical side of the sport.

4.4 The Environment

4.4a Support Structures

Due to the formal nature of this initiative, a plan or structured pathway was put in place to facilitate these athlete's TT. This was an important contributing factor mentioned by the athletes interviewed in this process. Athletes felt the progressive and individualised nature of the program delivery aided in their TT due to each mechanism, infrastructure and opportunity being placed along the pathway for them. Online training delivery was touted as key for these athletes in supporting their day to day training prescription as Athlete 5 suggested; "I thought that was really good because I'd never had that before I mean you would be given a training plan but it was never tailored to suit you, to each individual." Athlete 1 expressed how training in the Irish Institute of Sport was a key experience for her; "going to the institute and everything that was just really interesting to be in a place that the professionals go to you know it's cool to be in there"

Athlete 1 expanded further and expressed that in fact a formal initiative may be more beneficial to those athletes who are serious about their interest in TT and furthering their athletic career stating that, "I think it probably works better for athletes who are really serious if they see a formal initiative with Cycling Ireland or any NGB." Again, Athlete 1 portrayed her enjoyment of the structured pathway put forward;

"So, when I saw that there was a clear pathway where if you worked hard enough you had the framework to get to where you wanted to, and I guess I thought I had the traits of an athlete you know because I was... I knew that I was organised and disciplined and everything like that so I kind of knew that I had those traits and I know I could work hard so when I saw it I kind of gave it my full attention."

Breaking down the process into this clear pathway was also expressed by Athlete 2 who felt the process driven nature of the clearly defined pathway aided in the transition.

"They kind of did it you know broke it down it wasn't just like our aim is the Olympics because that's crazy. It was kind of our aim is to narrow down this group of 8 or initially 20 because we're going to test ye, so like I knew my goal was at each section of the process so yeah, I think they relayed what they wanted from us very clearly, am... you know, I knew I wanted to be in the top 4 from the get go! (laughs)."

4.4b Goal Setting

Goals were broken down into process goals by the coaching staff and program director. While the athletes were aware that the Olympics were the primary objective this was never seen as the primary outcome measure. Process goals such as target power outputs, training camps focusing on skill development and competition exposure such as national championships were used.

“Their goal is to see how fast we were on the track how that power translates onto an actual bike on the velodrome so I knew what they wanted from me and it just progressed through each camp, phase and now at this point in time in know what they want I know they want me to hit certain peak power and a certain 8 minute power by the end of May.”

This is not to say that the knowledge of impending competition wasn't overwhelming for certain athletes, one of which expressed feeling “self-doubt” at the fact she was “new to the sport and you know we had these massive goals set out” (Athlete 1). Other athletes were sceptical of the goals laid out during the initial phase of the camp: “I've been through the mill enough with [my donor sport] and coaches telling us how great it is and not that it's going to be easy but making it sound like it was going to be easy.” (Athlete 5).

4.5 Final thoughts on TT

The athletes expressed their TT experiences in a positive light, with all the of the athletes interviewed conveying their reinforcement and enjoyment of it on a whole as a process. The athletes were given opportunities to gain new life and sporting experience. There was also a mention of TT offering a possible “second-chance” to those athletes disillusioned with their donor sport.

“This year has been some of the most exciting times of my life. I've done travelling, living abroad in America and all that stuff, but this is totally different like you're terrified half the time you're exhausted half the time, pushing yourself to yourself to like crazy limits am.... So yeah, I love the rush of this... I mean maybe it's not for everyone, but I like it!” (Athlete 2).

Chapter 5: Discussion

This study aimed to investigate the perspectives of athletes who have undergone formal TT, determine the characteristics of formal TT and identify the factors that may facilitate successful or unsuccessful TT. As shown in Table 1 there is a wide experience base within the donor sport suggesting a range of previous experiences which may aid in their physical, psychological, tactical and technical transition. Overall two dimensions, eight higher order themes and 38 lower order themes were identified in the study. The results indicated strong links with athletic identity, the implications of facing new challenges and an in-depth look at the coach-athlete relationship as factors which facilitated the transition. The importance of the support network (family, teammates, coaches) was highlighted in multiple incidences by these athletes. These results are consistent with that of similar studies (Collins et al. 2014; MacNamara & Collins, 2015 & Rae & Lavallee, 2015) but also provide further information in relation to formal initiatives and athletic identity changes experienced by the athlete throughout their journey. The need for further clarification within the talent transfer domain has been cited in multiple pieces of literature (Abbott & Collins, 2004; Phillips, Keith, Renshaw, & Portus, 2010; Collins et al., 2014; MacNamara & Collins, 2015).

5.1 The retrospective views of elite female athletes who have undergone TT

5.1a Athletic Identity

Athletic identity has strong links with the motivation apparent for these athlete's transitions. Athletes expressed the need to "get to another level in sport" (Athlete one) or wanting a "proper challenge" (Athlete three) suggesting they were unhappy with their success or situation in their donor sport. This specific incidence of motivation for transfer has not been highlighted in previous literature with common reasons cited for TT being that of injury, performance plateau, reduced motivation or retirement from the donor sport (Rea & Lavalle, 2015). In a sense these athletes have experienced a performance plateau in where they saw themselves as athletes. Brewer, Boin, and Petitpas (1993) identified three factors of athletic identity; social identity, exclusivity, and negative affectivity. The concept of social identity and exclusivity links closely with these athlete's experiences of TT. Social identity is the strength in which these athletes identify with their athletic role (Martin, Eklund, & Mushett, 1997) these athletes are beginning to experience a social identity in their transfer sport. This is apparent in Athlete four's remarks; "I just said I think I'm a better athlete for it and it's the first time I definitely considered using the word athlete, but it still felt a bit weird to be honest!". Exclusivity refers to the degree to which

athletes rely on their athletic identity discounting external influences in their lives (Martin, Eklund, & Mushett, 1997). This can be seen in the degree to which these athletes have committed to the process as expressed by each of the athletes in their referral to full time commitment and forgoing external obligations. Negative affectivity links with negative emotions of the athlete to not being able to partake in sport often due to “injury, retirement or other reasons” (Martin, Eklund, & Mushett, 1997, p. 115). This may be apparent in the results which indicated the athletes were predisposed to self-doubt in that they believed they would not be admitted to the program. Getting into a program such as this was a major turning point in these athlete’s athletic identity, this specific facet of the transition has not been discussed in previous literature such as that by Collins et al. (2014) & MacNamara & Collins (2015). Collins et al. (2014) highlighted the need for further research into the psychological aspect of TT. From these findings there appears to be a lack of information to support this transition in the athletes lives. Rae & Lavalley (2015) highlighted the danger of developing a high athletic identity within sport, exploring the identity experienced by those athletes sampled in their study. Their findings aligned to that of this study where athletes expressed that they did not see themselves fully as athletes in their donor sport, it was more of a process.

5.2 The characteristics of organisation lead TT?

5.2a Personal Experiences of formal TT

These athletes needed new challenges in their athletic careers, facing these challenges appeared to be a major factor in these athlete’s responses; “I guess a lot of self-doubt like that’s really, like obviously when you come into a sport and you’re completely new to it and you know you have these massive goals...” Here Athlete one expressed her difficulty in dealing with the pressure of the goals outlined by the program. By the nature of the initiative each athlete experienced their respective challenges. This is consistent with research by Rae & Lavalley (2015) who conveyed the difficulties certain athletes experienced with coaches in supporting their transition. Collins et al. (2014) suggested through understanding the challenges faced by TT athlete’s coaches could then be educated in this area to better facilitate successful TT. Challenges may have also influenced measures and perceptions of success by these athletes in their donor sport. Rae & Lavalley (2015) suggest success has an individualised response being defined differently by each athlete. The authors suggested success, defined by these athletes, may be process or outcome orientated which is consistent with the findings presented here. Athlete four defines success in relation to proximal role models in her life; “I would’ve

been massively envious of my brothers and sisters getting to wear the Irish kit and to be involved at a high level in sport...” whereas athlete two related success in part to the rapid progression of her development; “it’s insane to think that we did a World Cup a couple of weeks after being on the velodrome for the first time!”. MacNamara & Collins (2015) referred to a successful transfer as reaching the equivalent level in their transfer sport as in their donor sport. The issue with this definition in relation to the findings here is that due to the process driven nature of the transition the athletes cannot experience success until, possibly, an extremely high level is reached in the transfer sport. This may suggest grounds for future research in what degree of success it would take for the athlete to identify themselves with their new sport.

5.2b Facilitating the transition

The support network appeared to be a main influence in facilitating these athletes transitions namely the family structure behind each athlete and the teammates with whom the athletes made their transition with. The importance of family in talent development is emphasised by Cote (1999) and appeared in the findings proposed by Rae & Lavalley (2015) identifying it as a potential facilitator of successful TT. Athletes made consistent reference to the family being of influence in their training, travel schedule and financial support. Teammates were also a driving force in why these athletes are still involved in the process. Their role in support and the fact that each challenge had the capability to be faced as a group resonated in each individual athlete’s response. This may have links with Bandura’s (1975) theory of social learning in that there is an identification, that is, all the athletes are alike. There may be an element of vicarious reinforcement due to the observing of others in their proximity being positively or negatively reinforced. This may allow for adaptation and learning to take place. The influence of teammates is not often discussed in the TT literature as is the case in Collins et al. (2014) & MacNamara & Collins (2015). Interestingly teammates appeared to be a support “service” in informal TT as highlighted by Rae and Lavalley (2015).

Coaches appeared to facilitate the transition due to the individualised communication and feedback with the athletes. This approachability and encouragement of dialogue is discussed by Becker (2009) in reference to athlete’s experiences of great coaching. The incidence of adequate coach support is also highlighted by MacNamara & Collins (2015) and Rae & Lavalley (2015). Within this initiative athletes appeared to rely more heavily on extrinsic type feedback mainly relying on the coach as a source of this feedback. This may be due to the level of knowledge that the athletes possess and their ability to reference

adequate performance for intrinsic feedback to exist. In keeping with Schmidt & Wrisberg (2008) and their work within the transfer of learning domain, the athletes may have produced the desired skill through a transfer of learning but due to their limited knowledge of performance in the transfer sport a feedback loop may not be present to benchmark this performance off. This is also evident in research by Bullock et al. (2009) and their work in facilitating TT, it appeared that a high amount of investment and support staff were needed to provide these athletes with adequate feedback and support. One could argue with a more elite cohort of established performers in the transfer sport this level of attention would not be needed possibly suggesting a negative implication of TT.

5.3 Key features which are indicative of a successful and/or unsuccessful talent transfer programme

It is crucial to mention that the above aspects of this example of TT are indicative of successful and unsuccessful implementation of TT. The role of athletic identity, facing new challenges, the support network and the coach-athlete relationship are all described in relation to these athlete's experience of successful transition. The importance of structured pathways and the process driven nature of the initiative are also discussed which tie into the environment in which the team operates. With regards to Schmidt's (1975) schema theory an adequate environment should provide athletes with the most support possible to apply their previously learned skills into their transfer sport.

5.3a The Environment

Garcia-Bengochea (2002) and Krebs (2009) state that the development of athletes is directly influenced by the context in which said development takes place, that is, the environment. Having adequate support structures was stated as crucial in these athlete's transitions, this is keeping with the findings of Rae & Lavalley (2015) in that athletes undergoing formal initiatives state infrastructure and support structures as crucial in their development. Athlete one stated the importance of having a "clear pathway where if you worked hard enough you had the framework to get there" as essential in her success within the program. Support structures were shown to be omitted from the TT process as discussed by MacNamara & Collins (2015), highlighting it as a prohibiting and negative factor in the TT environment. The structured pathway and in turn the process driven nature of the initiative was emphasised by athlete two; "it wasn't just like our aim is the Olympics because that's crazy", she explained how providing a process was beneficial to her; "like I knew what my goal was at each section of the process...". Although this proposed pathway was met with some criticism by athlete five; "I've been through the

mill enough with [my donor sport] and coaches telling us how great it is and not that it's going to be easy but making it sound like it was going to be easy.”. The process driven nature was apparent in Bullock et. al. (2009) and their description of the transition into skeleton bob. MacNamara & Collins (2015) & Rae & Lavalley (2015) both alluded to the existence of a process for which the athlete could follow within formal initiatives with MacNamara & Collins (2015) suggesting athletes were given sufficient time and attention to readjust to their new sport.

5.4 Conclusion

This study explored the perceptions and characteristics of a specific case involving formal, organisation supported TT. Through analysis and discussion of the athlete's experiences and thoughts involving their TT journey we have gained an in-depth look into the factors which may contribute to successful or unsuccessful TT. Athletes retrospectively viewed their transition as a journey towards an athletic identity within their new sport. This process was highlighted as a primary motivation for the transition. These athletes characterised formal TT as one that inflicts new challenges on the athlete, the implications of which are discussed at length. Facing these challenges with an adequate support network (family, teammates, coaches) was crucial. Through these factors we may conclude that successful or unsuccessful TT is largely dependent on the environment in which its delivered. The athletes here primarily emphasising a structured pathway where the coach-athlete relationship is paramount. It is therefore crucial that practitioners within the TT domain account for each variable outlined above and understand the complex nature by which they operate and interlink with one another.

5.5 Limitations & Future Directions

While the findings of this study contribute to the knowledge within the TT domain and wider talent identification environment it must be noted that the sample size only represents a small demographic of athletes who have undergone formal TT. Only one athlete sampled was no longer receiving support from the NGB and gave a unique account to her transition and future directions to the program. An increased sample size accounting for athletes who have not been selected from NGB testing and athletes who have not progressed through a full initiative may be beneficial. Subsequent research may aid in the proposal of a framework of TT. Increasing sample sizes from a wide variety of sports who have undertaken formal TT may provide a multi-faceted approach through the collection of multiple athlete experiences. It may also be beneficial to investigate coaches, service providers and NGB's perceptions towards TT to further knowledge within the TT

domain. Finally, an in-depth analysis of the coaching process used to facilitate TT, specifically the coach-athlete relationship, may aid in the delivery of future initiatives.

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Appendix

Appendix A: The Semi-Structured Interview Guide

Introduction

Sporting History, degree of transfer overlap & motivation for involvement:

- 1) Briefly explain your sporting history and background.
 - Did you consider yourself an athlete in your donor sport?
 - Do you consider yourself an athlete in your transfer sport?
 - Compared to your donor sport does your transfer sport take up more or less of your time?

- 2) Do you think your history of involvement in sport fed into your athletic development in cycling?
 - Can you score the overlap between your origin sport to donor sport on the below scale?

| | | | | | |
|-------------------|------------------------|-------------------|----------------|---------------------|-------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | | | | | |
| <i>No Overlap</i> | <i>Very Dissimilar</i> | <i>Dissimilar</i> | <i>Similar</i> | <i>Very Similar</i> | <i>Almost Identical</i> |

- 3) What sparked your initial interest in the programme/ Why did you apply?
 - Prompts: *Inquisitiveness, personal satisfaction, challenge*

Main Interview

- 1) Describe your general thoughts on talent transfer as a means of identifying talented athletes.
- 2) In your opinion, how well were the aims of the programme communicated to you?
 - Prompts: *Coach led, Athlete led, Was it crucial in your development*
- 3) What was/ is your opinion of the programme delivery?
 - Prompts: *facilities used, testing protocol employed, organisational structure*
- 4) How important was your newly appointed coaching team in supporting you in your transfer?

A) At the start, B) After 6 months, C) After 1 year, D) Currently

5) Are there any specific areas (Technical, Physical, Tactical, Mental) that you as an individual struggled with?

-based on your experiences how could the programme better facilitate learning in these areas?

6) How important was the group dynamic i.e. your team-mates in facilitating/hindering your development?

Other

Learning from past experiences to guide future programme provision:

1) Based on your own personal experience how do you think a larger cohort could be reached in future TT initiatives? – Would you recommend the process; do you think it would work well in other sports?

Appendix B: Clearance Form

Approval has been granted for the methodology outlined by Jamie Blanchfield (student) and clearance has now been given for the project to proceed.

Signed: _____ (Advisor)

Note: All students who wish to test or measure human subjects should supply the Physiology Lab Technician (Bruce Wardrop) with a signed copy of this form and the approved methodology. Failure to comply with these requirements may result in disciplinary action as well as a failed grade.

Student's signature

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Date.....