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An Examination of Athletes' Experiences of the Talent Transfer Process

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Abstract: Talent transfer is a process occurring when an athlete ceases or reduces their involvement in a sport in which they have invested significant time and concentrates their efforts in a sport that is new to them, but involving similar movement skills and/or physiological/psychological requirements. The process involves athletes who might be able to perform if fast tracked into other sports with sport institutes seeing the benefits of this alternative talent identification (TID) system with very specific examples of success. Therefore, we explored the talent transfer process from the athlete's perspective. Ten athletes were interviewed: 5 from an established talent transfer programme (3 still being supported at the time of the study) and 5 that went through the process of their own accord. Inductive content analysis indicated that support services through a formal program [National Governing bodies (NGB) coaching and sport Institute support] and informal program (families, coaches, team mates), similarities within the sport (physically and transference with psychological skills i.e. perseverance), and degree of success (not achieving selection criteria) were factors that the athletes perceived as important for a successful transfer into another sport and being competitive within their new sport. These findings offer a unique examination into the athlete's experiences through the talent transfer process and could be used for future support by sport Institutes/NGBs.

Keywords:
Talent Transfer, Talent Identification, Transition

"It was the 'Sporting Giants' campaign, spearheaded by rowing, so my brother kind of saw it, I did not know it was going on and he said you can do it; you know these trials to do Great Britain (GB) rowing at 2012. And I was kind of like "you cannot do that!" You know...in five years time! And I laughed it off but between lectures I was bored with my mate and I said, I will sign up to this and see what we can do. And yes, I went through various testing things and I seemed to have what it took. But rowing kind of cut the level at 6ft 5in and we were all invited at 6ft 3in and above but then they said afterwards that it was kind of 6ft 5in they were taking and then canoeing kind of got a hold of me as sort of the dregs."

This event can be described as a turning point or a "talent transition". The transition that is identified above is a non-normative transition where athletes from one sport have been specifically targeted to transit to another sport in the hope of winning medals. This transition has not been identified, defined or examined (in detail) within the arena of sport to date. There is a significant lack of literature within the high performance environment exploring the best way to support athletes through the transition phase from one sport to another. Despite the current lack of evidence, prevalent initiatives such as United Kingdom (UK) Sport's Tall and Talented 2016, the English Institute of Sport (EIS)/UK Sport Pitch to Podium program and **sport**scotland's Institute of Sport Gold for Glasgow 2014 initiative, are indicative of the investment placed within sport institutes with the intention of creating as many chances as possible of medalling within targeted sports for future Commonwealth and Olympic Games. The use of talent transfer is becoming increasingly popular within high performance sport to help support medal-winning potential on the international stage (Vaeyans, Gullich, Warr, & Phillippaerts,

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2009). UK Sport (2012) states that 7 Talent Identification and Development campaigns have unearthed over 180 potential World Class athletes across 17 sports over the past 4 years. In addition, 15% of UK Sport's central funding and approximately 10% on each sport's World Class budget (UK Sport, 2012) are large financial allocations that have been dedicated to talent identification (TID).

Talent identification and development models in sport have typically focused on junior age athletes and involve two basic approaches (Williams & Reilly, 2000): athletes already competing within the sport (talent selection); or an alternative pathway is the introduction of new talent into a sport if the individual demonstrated the desired multi-disciplinary, physical, psychological and skill required for inclusion in that sport (talent detection) (Hahn, 1990; Hoare & Warr, 2000). Thus, targeting athletes who are nearing retirement, or have retired, as well as athletes who feel that they have more to give, are given a 'second chance' to switch sports and directly contribute to the success of an impending 'Games'. Or as Vaeyans and colleagues (2009) suggest, the "structured recycling of talent" (p. 1374) in organized programs (as identified above) would introduce a more proactive, systematic approach to delivering athletes already 'primed' for podium success which, as a result, may turn a non-normative transition to a planned normative transition.

Rebecca Romero transferred from rowing where she had previously won silver at the Athens Olympic Games in 2004, to cycling where she won gold at the 2008 Beijing Olympics (martingough22.wordpress.com, 2011). This athlete had not retired from the sport but chose to 'try something new' as a challenge within her sporting career. One might take inspiration from this individual who had not accepted the conventional wisdom of 'succeeding' within sport (continuing on to another Olympics with the intention of another medal), who risked defeat, rejection and obscurity in order to pursue ideas which she (and perhaps a few followers) believed. Therefore it could be asked: What is distinctive about individuals who attempt to cross sporting domains? What is unique about them and their characteristics? Although she was not the first to transfer her talent, Romero was certainly the most prolific in the UK at winning on the World Stage in two different events. For Pinder, Renshaw and Davids (2013) it remains clear that a number of questions have not received enough attention from sport scientists interested in talent development, including: (i) why is there so much wastage of talent in such programs? And (ii), why are there so few reported examples of successful talent transfer programs?

Therefore, this study is intended to examine the athlete's experiences through the transition of talent transfer. To date, experience suggests that for these opportunities to work it needs a strong idea or interest from the athlete as to what they would like to do and a positive correlation between the previous abilities developed and the talent transfer sport (Australian Sports Commission, 2010). Understanding these areas could provide valuable information/insight to coaches and NGBs in identifying 'talent' and supporting more athletes onto their performance pathway, rather than comparing athletes against 'a model' (using discrete performance and anthropometric measures) which highlights the limitations of traditional attempts to identify talent at early stages of development (see Abbott & Collins, 2004; Helsen, Hodges, van Winckel, & Starkes, 2000; MacNamara, Button, & Collins, 2010a, 2010b; Musch & Grondin, 2001). Thus, this qualitative study aims to offer insight into the athletes' experience of the talent transfer process.

Literature Review

A transition generally results from one or a combination of events (Lavallee & Andersen, 2000; Taylor & Ogilvie, 2001) that are perceived by the athlete to bring personal and social disequilibria and are presumed to be beyond the ongoing changes of everyday

life (Sharf, 1997) and cause "a change in assumptions about oneself" (Schlossberg, 1981, p.5). These transitions are, among others, developmental in nature (Alferman, 1995; Pearson & Petitpas, 1990; Wylleman et al., 2000) and they can be characterized by predictability and developmental context of occurrence (Wylleman & Lavallee, 2001). For example, the transition from adolescence to young adulthood involves the development of, or replacement of, roles and is likely to be accompanied by a re-evaluation of beliefs, which may lead to the adjustment or abandonment of some beliefs (Shulman & Ben-Artzi, 2003).

Two types of transitions can be discerned: normative and non-normative transitions. During a normative transition a primary characteristic is their degree of predictability. Therefore the athlete exits one stage and enters another stage, which makes these normative transitions generally predictable and anticipated (Schlossberg, 1984; Sharf, 1997). Normative transitions are part of a definite sequence of age-related biological, social and emotional events or changes (Baltes, 1987) and are generally related to the socialization process (Wapner & Craig-Bay, 1992) and the organizational nature of the setting in which the individual is involved (e.g., school, family). Transitions that are fairly predictable are generally organizational and/or structural in nature and may be related to changes in athletes' level of athletic achievement or age (e.g., initiation into competitive sport or the transition from junior to senior level). In the athletic domain, normative transitions include, for example, the transition from junior to senior level, from regional to national level competitions, from amateur to professional status, or from active participation to discontinuation from competitive sport. Stambulova (1994; 2000) considered the athletic career as consisting of predictable stages and transitions and that the occurrence of these normative transitions underlines the developmental nature of the athletic career.

Non-normative transitions, on the other hand, do not occur in a set plan or schedule but are the result of important events that take place in an individual's life. Transitions, which have a low degree of predictability, may occur unexpectedly. These latter transitions are called 'non-events' (Schlossberg, 1984) and refer to those changes expected to take place, but which, due to circumstances, do not occur (Petitpas et al., 1997). For athletes, these transitions may include a season-ending injury, the loss of a personal coach, or an unanticipated 'cut' or termination from the team. These idiosyncratic transitions are generally unpredicted, unanticipated, and involuntary (Schlossberg, 1984). Not making the first team although making the final pre-selection, and not being able to participate in a major championship (e.g., the Olympic Games) after years of preparation are two examples of non-events.

Wylleman et al. (1999) identified and described the challenges presented within career transitions. The first transition a young athlete will face is that into organized sport. The second is that into an intensive stage of participation. And the third transition is into high level competition. In identifying these transitions between developmental stages, Wylleman et al. (1999) created the foundations of a model of transition in sport from a lifespan perspective. Wylleman and Lavallee (2004) enhanced the stages of talent development advanced by Bloom (1985) and Cote (1999), through the addition of a discontinuation phase representing the important transition out of competitive sport. In doing so, they offered a model which encompassed the series of normative transitions (expected and planned for transitions) that occur during the athlete's career and which represent a function of the organizational nature of the setting (either in education, vocation or sport), the socialization of the young athlete, and the athlete's psychological development.

The Developmental Model proposed by Wylleman and Lavallee (2004) provides a useful overview of the transitions faced by an athlete during their development and importantly, draws attention to the interdependent nature of these transitions. By situating an athlete within the model, those supporting the athlete will be able to conceptualize the athlete's status, and to consider the other developmental tasks which must be confronted. However, the model is largely descriptive and athletes will experience additional normative and non-normative transitions within a stage. Furthermore, it provides little insight concerning the experience of within-career transition; hence the literature remains deficient in this subject area. Critically, however, transitions within sports should be viewed as a series of events where athletes have to cope with new demands by finding a balance between these demands and the resources available to them (Schlossberg, 1981). Although the theoretical framework proposed by Wylleman and Lavallee (2004) situates the developmental, interactive, and interdependent nature of transitions, the demands of each transition must be linked to the resources made available to athletes. As such, transitional challenges have the potential to be perceived as a crisis, a rite of passage, or another positive step on the ladder, depending on the individual's perception and skills (Pummell, Harwood, & Lavallee, 2008; Sinclair & Orlick, 1993).

In addition, developing a high and exclusive athletic identity can also be dangerous concerning the aging body if at the end of a playing career, and an increased likelihood of injury, is seen as age related (Phoenix, Faulkner, & Sparks, 2005). Athletes then view the aging process as negative, and this will increase the chances of a crisis transition. Moreover, several different athletic career transitions such as being deselected from a team or an injury also pose a threat if encountered by athletes with a high athletic identity (Brewer et al., 1993). Athletes see these kinds of transitions as negative because it could mean the end of their athletic career. This would ultimately result in a disrupted self-definition, and might even end up in a global self-crisis (Stephan & Brewer, 2007). Could this be the reason why an athlete might transfer to another sport?

From a practical perspective of a normative transition, analysis of the lists of junior and adult athletes in many sports evidence a lack of transition from the junior to the senior ranks (Moesch, Elbe, Hauge, & Wikman, 2011). As a consequence, young athletes (and coaches) subscribing to the view that early specialization is good, may 'over commit' years to a particular sporting pathway, when a more informed view would have redirected/transferred them to another, potentially more fruitful, sporting option. Thus, Moesch et al. (2011) supported Bompa and Haff (2009) indicating that in many sports, it is later rather than earlier specialization that leads to adult success. For example, in a major survey of almost 3,000 elite senior athletes in Germany, across a variety of sports, Gullich (2011) demonstrated that early specialization was positively correlated with early success (for example, medals at youth level) as a marker of efficacy for TID programs would seem flawed, especially when such programs are specifically focused on senior elite achievement (UK Sport, 2012).

Therefore, talent transfer occurs when an athlete ceases or reduces their involvement in a sport in which they have invested significant time, hard work and resources, and concentrates their efforts in a sport that is new to them, but involves similar movement skills, physiological requirements, and/or tactical components of their earlier sport (Expert Advantage, 2011). A common example is a switch from gymnastics to diving. Similarity between sports is a key component of talent transfer as the focus is on capitalizing on previously learnt skills to fast track development in the new environment (Expert Advantage, 2011). Talent transfer frequently occurs informally, whereby the athletes initiate and co-ordinate the switch between sports themselves. Often the switch is prompted by an injury, a plateau in performance, a reduction in motivation, or retirement. Talent transfer can also occur through formalized talent identification and

development programs that are coordinated by sporting organizations and/or Institutes of sport. In these structured programs, "existing high performance athletes are targeted and their athletic ability is transferred to another sport" (Expert Advantage, 2011). Programs include(d): Talent 2012 Paralympic Potential; Talent 2012 Fighting Chance; Talent 2016 Tall and Talented; Girls4Gold; Pitch 2 Podium; and, Sporting Giants. In either case (formal or informal), talent transfer athletes have typically experienced some degree of success in their first sport before making the switch to a new sport, and will often also experience quite rapid success in their second sport.

Consequently, talent transfer can occur whereby existing high performance athletes are targeted and their athletic ability is transferred to another sport. Such paradigm shifts in talent identification and development increase the probability of identifying athletes that can attain senior expertise by minimizing adolescent maturational issues, reducing talent development time frames, and maximizing return on the developmental investment already made in these older athletes (Gulbin & Ackland, 2009; Halson, Martin, Gardner, Fallon, & Gulbin, 2006). In support of this accelerated talent transfer approach, a retrospective analysis of Australian senior national athletes shows that 28% reached their elite status within 4 years of starting the sport for the very first time (Oldenziel, Gagne, & Gulbin, 2004). These quick developers started the sport at which they attained senior national status at an age of 17.1+4.5 years, and on average have participated in three sports beforehand (Oldenziel et al., 2004). Thus, it would suggest that Ericsson, Krampe and Tesch-Romer's (1993) much re-iterated theory that 10 years or 10,000 hours of deliberate practice is essential for someone to reach high levels of expertise is critically flawed. One example is the 18-month pathway from novice to world podium reported by Bullock et al. (2009) in their study of Australian Bob Skeleton athletes; in other examples they have reported similar outcomes with as little as 3 years of training. As a result, these examples supported the concept of talent transfer and the aim of achieving excellence through late specialization and rapid development. Bullock et al. (2009) take the examples one step further by arguing that deliberate programming encompasses other planned factors in addition to skill practice by providing high quality strategic planning, access to quality coaching, equipment, the best possible competitions, and technical, financial and sport science and medicine support to ensure athletes fulfill their potential. Could these factors together help successfully support an athlete through a talent transfer process?

Because such little attention has been paid to within-career transitions that occur as athletes move up, down, or horizontally in the sport system (Lavallee, Wylleman, & Sinclair, 2000), researchers have little knowledge of the within-career transition experience on which to base their interventions. By developing a better understanding of the demands facing athletes at particular transitions, stakeholders (such as coaches and national governing bodies) can help to ensure that the necessary resources are available to athletes to support them at times of transition (Wylleman et al., 2004). Pinder, Renshaw and Davids (2013) have recently argued that to understand the nature of talent wastage that might be occurring in high performance programs in sport, future empirical work should seek to follow the career paths of 'successful' and 'unsuccessful' products of TID programs. Thus, the purpose of this study is to examine the athletes' experiences when transiting from one sport to another. It is to 'follow' (in some parts retrospectively) athletes through their journey (whether they are successful or not) to learn about their experiences. However, it should be noted some athletes that were interviewed for this study were still in the throes of trying to "make it" by medalling at the Commonwealth Games in the summer of 2014 or the Olympic Games in 2016.

Method

This research employed qualitative methods using a phenomenological approach. Phenomenology is "the systematic attempt to uncover and describe the structures, the internal meaning structures, of lived experiences" (Van Manen, 1990, as cited in Burton, VanHeest, Rallis, & Reis, 2008). Phenomenology has, as its primary objective, "the direct investigation and description of phenomena as consciously experienced..." (Spiegelberg, 1975, as cited in Burton et al., 2008). The purpose of this research was to examine the talent transfer process by understanding the journey as lived and experienced by a purposeful sample of athletes within the UK. Use of phenomenological research lends itself to this goal by seeking to gain a deeper understanding of the nature and meaning of everyday experiences (Van Manen, 1990, as cited in Burton et al., 2008).

Furthermore, in phenomenological research, language is the key construct that allows people to make meaning of their experiences (Van Manen, 1990, as cited in Burton et al., 2008). The experiences that participants chose to select, remember and describe are meaningful and telling because they have chosen those experiences to share. By allowing the participant to explore those experiences, to begin to understand and make meaning of them, we are given a more complete understanding of the nature of what it means to be an athlete, and can begin to understand the process of talent transfer for each participant. Therefore, using interviews as a tool to elicit this language was paramount to ensure that each athlete's sporting journey was captured and conveyed through their own unique experiences.

One of the main strengths of qualitative research is that it tries to understand and examine participants in their everyday surrounding and hence is more likely to leave the participant's opinions intact. The method types used in qualitative data, such as interviews, normally produce data that are rich in description and personal in nature. However for researchers to achieve this, it is often necessary to use only a small population size, making generalization difficult (Bryman, 2001). For this reason alone, qualitative research is often criticized.

Qualitative research has also been criticized as lacking external validity as it is seen as being too subjective and relying too much on the researcher's often unsystematic views on what is deemed to be important (Bryman, 2001). Furthermore, the researchers themselves are the main instrument of data collection; therefore it is difficult to replicate the findings as well as establish what the researchers actually did and how they came to their conclusions.

Participants

Table 1 illustrates the demographics of the athletes interviewed for this study. All athletes are UK-based. Athletes 1-3 have been tested and were still being supported at the time of the study through a formal full time talent transfer program. Athletes 4 and 5 were not successful through a testing phase, while athletes 6-10 were not tested through a formal talent transfer program and initiated the talent transfer transition of their own accord.

Ten (4 male/6 female) athletes aged 19 to 36 years were purposefully sampled to participate in this study from three different sports because they could offer a meaningful perspective on the topic at hand and they were a homogeneous sample (i.e., athletes specifically targeted from a talent transfer program/process). For inclusion in this study, and to ensure the credibility of the data emerging from the interviews, 5 athletes were chosen who had been tested through a formal talent transfer program. The remaining 5 athletes were chosen because they had not been tested through a formal talent transfer program. At the time of the interviews, all athletes were either preparing for the 2012 Olympic and Paralympic Games or the 2014 Commonwealth Games.

Table 1: Participants

	Original Sport	Age at transition	Transferred Sport	Age at Time of Interview
Athlete 1:	Rugby	19	Canoeing	24
Athlete 2:	Athletics	16	Canoeing	22
Athlete 3:	Athletics	21	Canoeing	22
Athlete 4:	Judo	21	Cycling	24
Athlete 5:	Hockey	19	Cycling	24
Athlete 6:	Judo	20	Wrestling	25
Athlete 7:	Skiing	20	Cycling	22
Athlete 8:	Skiing	35	Cycling	37
Athlete 9:	Athletics	25	Cycling	33
Athlete 10:	Athletics	23	Cycling	28

Procedure

The first author made initial contact (through telephone or email) with the athletes and gave them a brief introduction to the study and what it entailed for time commitments. Convenient times for the interviews were then agreed and informed consent was obtained before data collection. Once permission had been granted for an interview, the athletes were asked to pick a place/time to meet with the researcher which resulted in travelling the breadth of the UK. Athletes were informed of the nature of the study, were assured that their comments and data would be treated confidentially. An initial interview guide was pilot tested with an athlete who had recently undergone the transition of moving from one sport to another. One interview was conducted via Skype because of the international competition demands of the athlete.

Interview guide

Kvale (1983) defines the qualitative research interview as "an interview, whose purpose is to gather descriptions of the life-world of the participant with respect to interpretation of the meaning of the described phenomena" (p. 174). This was gathered from the athletes using a semi-structured interview. The questions were flexible and open ended and the researcher adopted a stance which was facilitative rather than challenging. Cicourel (1964, as cited in Berry, 1999) argues that the participant may well feel uneasy and adopt avoidance tactics if the questioning is too deep or confrontational. Thus, in-depth open-ended interviews allow data to be gathered, with topics and issues specified in advance, in an interview guide employing Rubin and Rubin's (1995) guidelines. That is, three types of questions were used in the interview guide: main questions, probe questions, and follow up questions. This helped to ensure depth and authenticity of the participant's responses. Thus, a degree of flexibility was available within the interview structure which reflected one of the major strengths of the interview as a tool for social research and one of the principal reasons for its usage in this study (Kvale, 1996). A semi-structured interview guide ensured all athletes were asked the same set of major questions. However, as participants were asked to elaborate, the researcher let the natural flow of conversation direct the discussion and explored athletes' unique experiences in greater depth as they arose (Patton, 2002). Although, some writers have attempted to show how interviewer effects on participants can be minimized, usually in attempt to provide 'objective' data within the context of scientific methodologies (Paterson, 1997), the assumption made here is that the researcher will always affect the interview interaction in some way, if not through conscious or unconscious verbal communication then through body language, social 'position', race of gender. Indeed, research by Cannell, Fisher and Marquis (1986, as cited in Paterson, 1997) indicates that up to 50% of everything said by interviewers is something other than a specified question or probe.

At the first interview, specific questions were included to elicit information about why the athlete chose to transition from one sport to another, about the transferable skills and behaviors the athletes thought were needed to undertake the transition, support services that successfully helped the athletes make the transition, and how each athlete described what 'success' would look like in their new sport. Athletes were also asked to describe their experiences before, during and after the sporting transfer giving detail about why they made the transition (e.g., whether it was a career ending injury) and how they coped with the new demands. In addition to a change in identity, support structure variance (what supported/hindered the athlete to succeed, i.e., funding) and what skills/ behaviors they employed to cope with these challenges through guided discussion.

Three broad areas were given to the athletes during the second meeting to help construct an individual 'story board' based on themes within a talent transfer definition: 1 – Similarities between the sports; 2 – Informal/Formal program of support; and 3 – Degrees of Success. Each paragraph of the transcribed interview was given to the athlete and discussed with the interviewer before being placed on the story board against any one of the broad themes above. This enabled an in-depth understanding of the athlete's thoughts and feelings as well as constructing additional themes under the headings above. A collaborative interview board placed in front of the athlete and interviewer facilitated the identification and organization of talent transfer by providing a visual display of the athlete's experiences through this process (Scanlan, Russell, Wilson, & Scanlan, 2003).

Data Analysis

The Scanlan Collaborative Interview method (SCIM) was the analytical technique used on the interview responses to identify the main themes that emerged from the interviews. SCIM evolved to satisfy a need for a method capable of testing and extending existing theory with sufficient robustness to assess the hypothesized relationships while also revealing the underlying mechanisms at work (Scanlan et al., 2003). This method provides experimental rigor and generalizability combined with richness of detail, insight and personal meaning (Scanlan et al., 2003). It is an alternative to grounded theory (Strauss & Corbin, 1990). The authors chose SCIM because we wanted to give more attention to the procedural account of the analysis, in other words "how we got to the what" rather than qualitative research just focusing on presenting the findings: that is, the what (Miles & Huberman, 1994). In their words, "we rarely see data displays – only the conclusions" (p. 262). Once a raw set of descriptors was generated, the interviewer and participant worked collaboratively to create inductive dimension 'themes' to form a preliminary 'picture' of that athlete's unique talent transfer experience (Lonsdale, Hodge, & Raedeke, 2007). There are limited studies/methods using SCIM (Kerr & Mackenzie, 2012; Klug, 2006) especially within the sporting domain thus, further research is needed to understand the benefits this tool brings to understanding a participant's individual experiences.

The average interview was 54 minutes in length and was tape recorded and transcribed verbatim by the interviewer. In preparation for the second interview, the researcher cut up the transcription of the athlete and placed them in order for the athlete to sort into themes on the story board. Therefore, actively using the board, the athlete comprehensively summarized their journey through the talent transfer process and gave confirmation or correction of any discrepancies after all the quotes had been placed.

To ensure trustworthiness of the data [as recommended by Sparkes (1998) and Lincoln and Guba (1985)], and because we needed to create the analysis procedures to accompany the SCIM method, it was critical to use consensus validation with another researcher. Therefore an interview transpired and a story board created not only for

validity and reliability but to help the thinking process. Also, athletes were given their transcripts in advance of the second interview to be given the opportunity to add or delete any data they felt did not accurately reflect their intended meaning (Miles & Huberman, 1994).

The analysis was inductive in that the overall areas of study were delineated by the interview guide. However, lower- and higher-order themes within each section emerged via inductive content analysis of the data, which Patton (1990) has suggested is a suitable method when analyzing qualitative data. Inductive content analysis involves the organizing of "the selected quotes into interpretable and meaningful categories that emerge directly from the participant's own words" (Scanlan et al., 1991, p. 106). Indeed, as the inductive approach evolved through the athlete, the themes and categories emerged out of the data rather than being imposed before data collection and analysis. As a result, the raw data (the transcribed interviews) were divided into meaningful units, which would be a word, phrase or paragraph containing one idea (Tesch, 1990), and which would result in 'common themes'. The inductive process would then continue by comparing and contrasting emergent raw data themes to create higher order themes. This process would continue until it was no longer possible to create any further theme levels (Scanlan et al., 1989).

It has been suggested that the prior experience and knowledge of the researcher might bias the emerging themes (e.g., Pidgeon & Henwood, 1997). However, as this was being led by the athlete to construct their own lower- and higher-order themes, the concern of minimizing this potential influence on the interpretation of the data was dealt with. Therefore, this phase of analysis involved the athlete grouping raw data themes with similar meanings into first order categories that captured the substance of the cluster of raw data themes (Miles & Huberman, 1994). This stage of data analysis was flexible and continued until theoretical saturation was met (Patton, 2002). For example, raw data responses such as "Learning new skills", "Identification/Markers", and "Physiology", were grouped to create the higher-order theme "Physical" under the general theme of "Similarities".

Results

The results are presented in three sections as per the following definition of talent transfer: a process occurring when an athlete ceases or reduces their involvement in a sport in which they have invested significant time and concentrates their efforts in a sport that is new to them, but involving similar movement skills and/or physiological/ psychological requirements. The first section included athletes' responses regarding whether there are similarities between the two sports they have transitioned between (see Table 2). These are followed by data pertaining to whether they have made this transition through a formal support program, such as UK Sport/NGB or home country Institute of Sport/Sport Governing Body), or informally of their own accord (see Table 3). The final section entailed the degree of success which the athlete felt they had achieved within their previous sport or what they feel they must achieve within their new sport to 'make it' (see Table 4). While the frequency of athletes' responses does not necessarily equate to the importance of the theme, it has been suggested that the most cited themes are more likely to be transferable to other samples (Weinberg et al., 2001). As such, all high-order themes are discussed, with the most cited lower-order themes generally being explored in detail. There are a number of quotes used within the results which were necessary to explore the key areas discussed within the interview by the athletes however little explanation has been given within this section to explain the quotes because of the wording limitation.

Table 2: Similarities Inductive Diagram

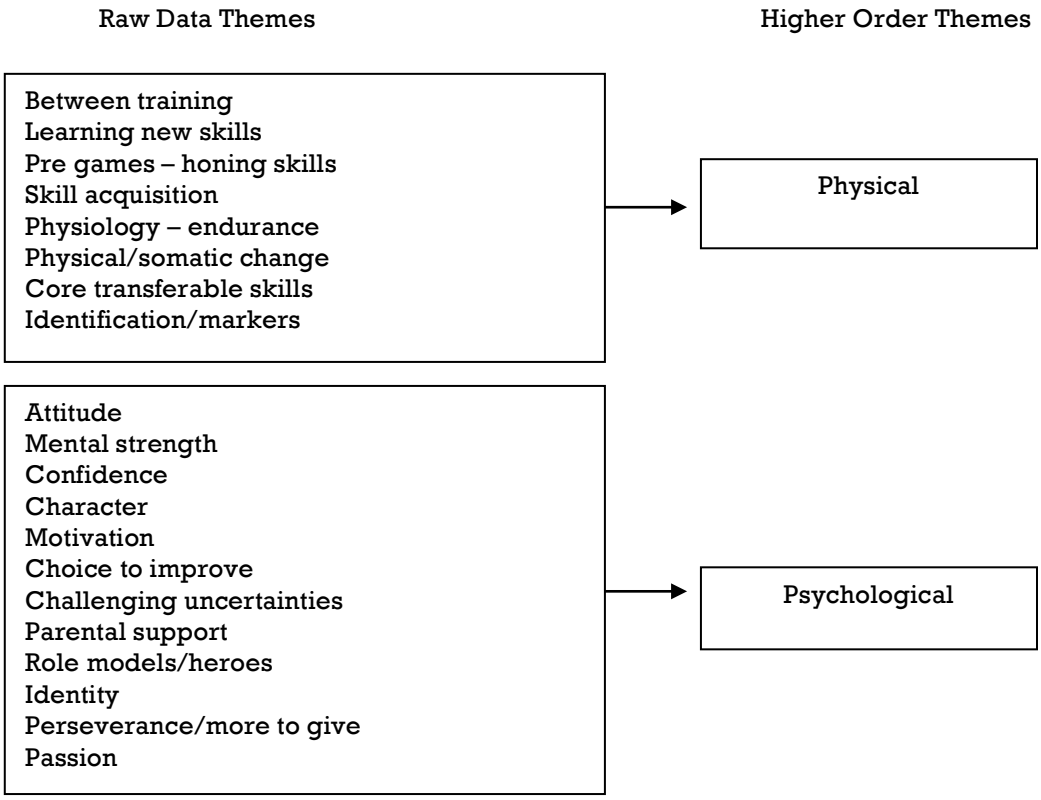


Table 3: Formal/Informal Support Structures Inductive Diagram

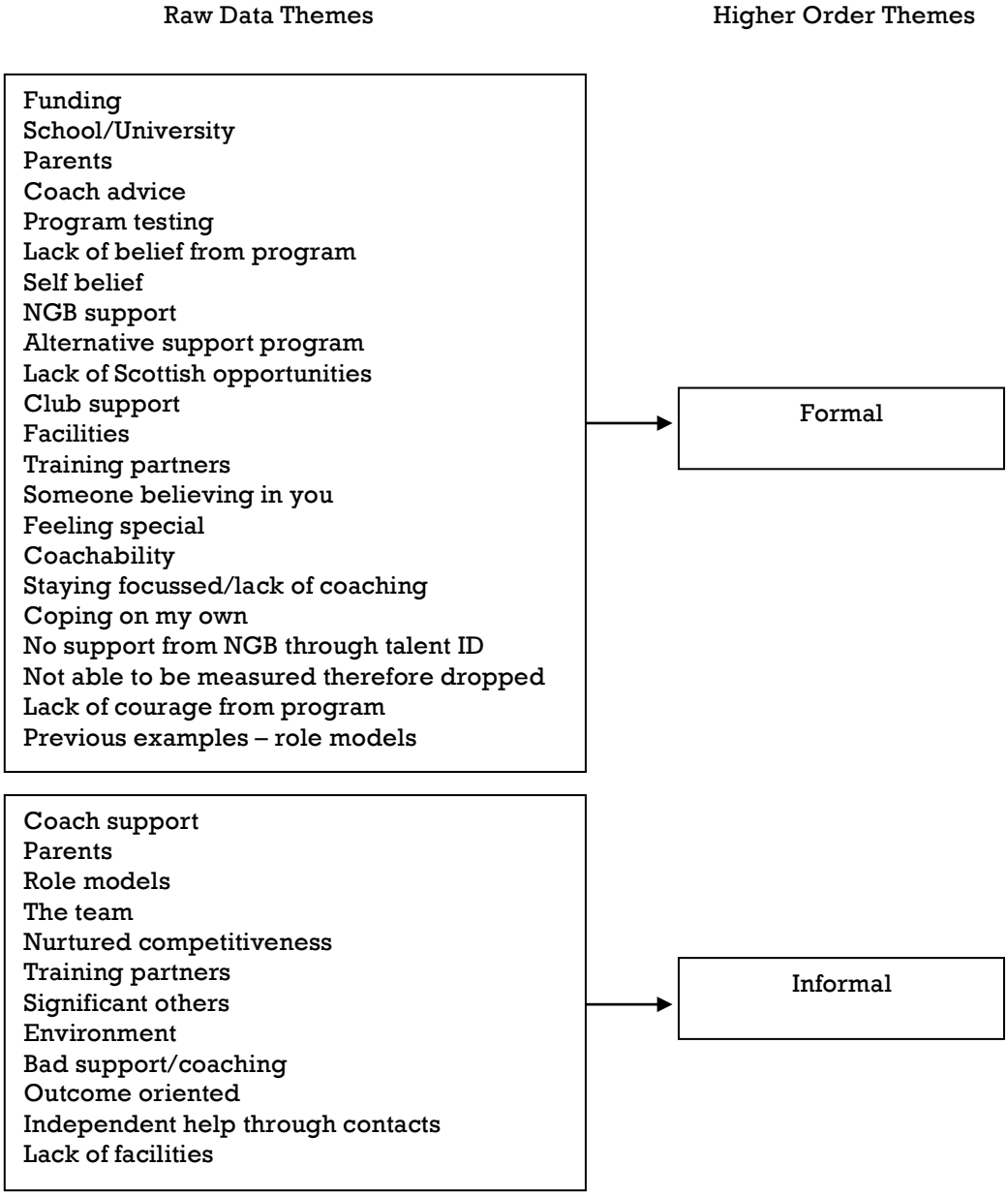
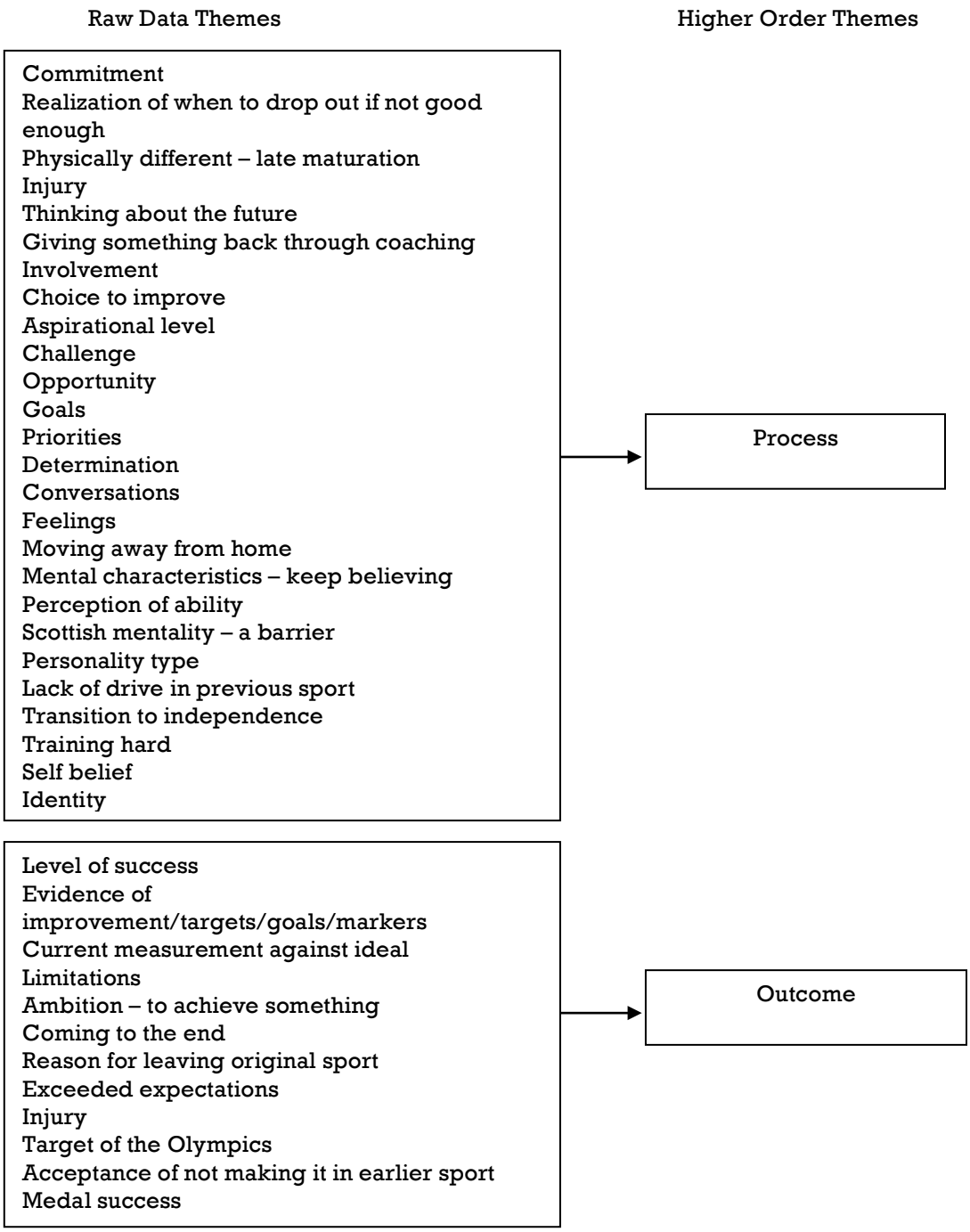


Table 4: Degrees of Success Inductive Diagram



Similarities

Physical Similarities between the Two Sports
All 10 of the athletes interviewed stated that they had something that they could physically transfer between the sports, whether that was for example, power or endurance.

> *"But also I – my body shape for example, I had this huge upper leg. In ski racing I was always sitting back so the strength required to do that is extreme, it is ridiculous. And if you go on to a bike, this long lever, it is already extremely strong. So, because what I feel like held me back from my sort of engineering point of view in ski racing helps on the bike. So for me in particular, swapping over from ski racing to cycling is a perfect fit." Athlete 7.*

In contrast, there was acknowledgement from three athletes that there are differences to "the norm" (what a NGB might examine through anthropometric testing) or athletes that might get tested and not get into a program like Tall & Talented but still have something special.

> *"...but I also think that what is great in this sport (canoeing) is that the physiological aspect is so broad. Because if we look at the 200 metre final, you have got some, you know, 6 ft 5 in massive beast and then the World Champion is kind of, you know, 5 ft 7 in and just quite a small little elf. So it is kind of turning." Athlete 1.*

This athlete argues that an individual can change their physiological capabilities to suit the technique of the sport and that organizations should be more open minded in their testing requirements when considering athletes for initiatives/programs. However, these examples are probably few in comparison to the testing norms and it would be difficult to predict which athletes might be successful if they do not sit within an expected range.

Psychological Similarities
The same was attributable to something that could be transferred psychologically by the athlete. Every athlete clearly articulated that this was a key ingredient to successfully making the transition between two sports. This was described by athletes using varying words: mental strength, confidence, attitude, character, motivation.

> *"So I had always, kind of had that confidence that you know transferring into something else I would probably be able to pick it up....I did not know why I could do that but it is just a trait that I have seen in myself over time." Athlete 1.*

Psychological similarities would be challenging to compare within any environment, be it sport or business. However, it could be argued that the speed with which a person develops a skill is a psychological requirement and coaching an athlete within a short space of time could be measured to ascertain whether they are able to synthesize information or not. The confidence that an athlete has developed as a result of already mastering a skill would support them within their new sport and through the transfer process.

Perseverance/More to Give
There were several athletes who clearly articulated that they had something more to give in terms of achieving success and working towards specific goals. They were clearly not ready to give up their aspirations of achieving success on an international stage and had not "reached their peak yet".

> *"...because I don't feel as though I have reached my peak yet. I am a big one for striving for the very best out of yourself, physically or mentally or whatever the task is that you are doing and pushing past the boundaries..." Athlete 4.*

Evidently, this clear focus that a person is "not quite finished yet" is a determining factor as to why athletes might choose to stay within the field of sport. This athlete stated that she had not reached her potential within her previous sport and therefore strived to better herself by continuing into older age the task of achieving her goals. This athlete firmly believed she could do it and wanted to prove others wrong that told her she couldn't:

> *"If I can channel the emotions properly and do something constructive with my efforts then that will thank the people who have supported me in a positive way. And it will also be a big motivation for me because I am not quite finished yet and it is a good time to be in this sport with the Commonwealth Games around the corner." Athlete 4.*

A number of athletes articulated that they had something more to give/prove within sport and that they did not feel it was the right time to retire. In this athlete's case, it was a dual feeling of wanting to thank people who had supported them as well as their motivation to continue within sport because of a big opportunity/competition being hosted within the UK. This kind of motivation could be fuel for a number of athletes who thought that there was an opportunity that came along at the "right time" for them.

Identity

The athletes viewed sport to be a very important part of their lives and the athletes had a clear athletic identity, which also showed a positive relationship with continuing within a high performance sporting environment and still wishing to achieve goals/aspire to something more. However there was a lack of consistency with the time frame it took for athletes to identify themselves with their new sport:

> *"Five years on and I still didn't feel like a cyclist. When I rode in [a major international competition], I was a proficient cyclist, but if one of the journalists had asked me are you a judo player or are you a cyclist, I would have said both. It has only been in the last eighteen months that I felt I am now a cyclist." Athlete 4.*

With such strong and powerful emotions attached to an athlete's identity, the quote below typifies how an athlete perceives/labels themselves within the context of their new sport. The fact that these two athletes had won a medal at a major international competition still did not solidify their identity within their new sport.

> *"Even though I had won medals at the Commonwealth Games I still did not feel like that. It still took about a year and a half after that for me to have gone through...I mean when I did the GB trials that I did last year the times that I did, were some of the best in the world, for one of my events, I would still say I wasn't. My identity was not a cyclist at the time even with all those results." Athlete 4.*

It is a worthwhile study for the future to determine how long it takes athletes to identify themselves within their new sport and what degree of success they need to help cement this distinctiveness.

The additional raw data themes that were described by the athlete under psychological similarities (such as attitude, character, choice to improve, rode models) contained some interesting data within the transcripts, however, it was not possible to highlight them all within the result section. These two themes were selected because they were mentioned by every athlete who was interviewed and thus, that they were two of the key ingredients that the athletes would identify in making a successful transition from one sport to another.

Support Structures

Formal Support Structure

From the three athletes who had been through a formal testing program (through UK Sport/NGB) and continued to be supported, there were a number of factors that were prevalent in helping the athletes make a successful transition. They were NGB support through coaching expertise, facilities, Institute support staff (i.e., nutrition/strength and conditioning) and most importantly funding.

> *"I guess, as far as canoeing goes, yes, I would not be here if it was not for, like…supporting (funding) the programme for starters....there is no way I could be canoeing for five years if it was not for the coaching, and support of the physio and nutrition all around me, telling me what to do. I have had enough just trying to focus on paddling my boat, let alone getting fit, strong enough, and whatever....so there is no way I could have done it without their support." Athlete 1.*

When asked whether it was important that the athletes knew of any successful examples of talent transfers and/or whether role models were an important facet, a few athletes acknowledged the existence of Rebecca Romero as being the most highly prolific example but very few athletes could come up with any others.

> *"....I had been aware of Rebecca Romero on Beijing, but to me she was an elite athlete and it was kind of like, of course she can jump from one sport to another because she has just got that, you know that she is that elite and that good. But I think for me it was just a lot of the challenge, of being able to do it....I never really had a role model, it was just kind of I want it, and I thrive for the challenge and wanted to see if I could do it, more than anything." Athlete 1.*

Positive support was noted by every athlete who went through the formal program as being an important element of recognition. They appreciated that someone was noticing their 'talents' and it made them feel 'special'. One athlete felt that it was the belief shown in them from the NGB and UK Sport through letters (from the program) stating that they were impressed with their potential and that they could go to the Olympics. This was an important factor in continuing within the program and being supportive of their progress: "So yes, that belief was really important" Athlete 3.

Informal Talent Transfer Process

For those athletes who made the transition of their own accord there were the following areas that either introduced them to another sport, supported them through the transition, were barriers to helping them achieve their goals, or were motivators to spur them on through rejection and ensuring they faced adversity.

This athlete identified a key person within the training environment as being the catalyst to them undertaking a talent transfer process based on their expertise as strength and conditioning coach and having knowledge of 'key markers' that have been used with other athletes:

> *"We were having a conversation and he kind of just flipped his lid a little bit and he said 'this is just a waste of possible talent, you have got this, this and this, and in terms of results, this track cycling support business and you should be giving this a go and it is time you sorted yourself out'....I am quite a deep thinker so I did not really react to him, just thought yes, OK. But when I went home it really bugged me that they had said that it was a waste (of talent), because I didn't like that so I got in touch with the SGB." Athlete 4.*

Funding was identified as a significant barrier to a number of athletes undertaking a talent transfer process as these athletes typically tend to be older and therefore might already have families, a mortgage and responsibilities. Therefore, financial support was sought from other sources as there was no recompense from any programs as they were not financially being supported through a (UK Sport/NGB) Athlete Personal Award:

"I would probably say yes, my family, my mum and dad. I don't think I could have – yes they were unbelievably supportive, not just kind of mentally at keeping me going, but like financially as well. I would not have been able to have done it without their financial help." Athlete 3.

Family was indicated as playing a significant part within the process of supporting most of these athletes. Athlete 4 felt that they owed family and friends a "big bang kind of thank you" for all the support received and this sentiment was echoed across the majority of interviews.

Degrees of Success

The athletes varied across the programs as to whether their focus was process or outcome oriented. For example, some athletes very clearly had a major international game on their radar for achieving a medal. Others wanted to see how far they could go in the sport and would just enjoy the process in what they could achieve. As a result, the degree of success of what they had achieved in their previous sport, or what they were aspiring to within the sport they had transferred to, was a determining factor as to whether they had 'made it' and were considered a success by themselves or from the programs they were being supported by.

Process

The athletes explained the effort involved in achieving what they defined as a degree of success and the importance they placed on themselves and their achievements as well as their ability to overcome adversity in a variety of endeavors (not necessarily about the winning).

"For me as a latecomer, I feel like I had tons of successes, like everything I had managed was really earned. Like hard earned, like everything was on my own, like training every day at home, on my own. Like not a single help from anybody, so everything that I had managed has seemed a huge success to me." Athlete 7.

The process this athlete used to overcome the physicality of the more mature athletes meant that their mentality was a key factor in achieving success as a youngster:

"Because I had to fight against the more physically matured kids, so I was not winning everything as a kid. But when I did grow and went full time training, it started kicking in, I think that helped a lot. Because those guys eventually were so used to winning, and you are moved up a level and (they) were getting their [tails] kicked. I still had that sort of mentality to keep fighting, which I think helped a lot." Athlete 8.

This athlete supported the notion that it was 'not winning' at an earlier age that helped them succeed at a later stage. They believed that having 'bigger guys' to compete against when they were younger was something to aspire to and overcome. It could be argued that training with older athletes is motivational to achieve more at a younger age. There was more than one athlete who described this within their interview.

Outcome

For some athletes, their degree of success was hindered by a career ending injury that ensured they would never progress within their previous sport. As a result, it was the catalyst for a number of athletes to consider the transition into another sport:

"The year that I broke my leg was my transition year between junior and senior which is when your international is really, really your toughest year so it is tough doing that when you are physically finding stuff hard already….So, part of it was to do with injury, I just did not feel like I was able to move or better my performance in the place that I was mentally, partly because of injury, partly because I had been doing it for a long time and could not really remember when I had breathing space, because it had been well from 12 I had been on GB youth squad and then junior through until you are eighteen or nineteen." Athlete 4.

For other athletes, the acknowledgement that they were not going to progress within their previous sport simply because they were not good enough was evidently a hard lesson and one that was a result of a variety of factors:

> *"I definitely did reflect on my results and things and eventually I didn't need to be told because I already had decided that this is not going to work out and I need a breathing space." Athlete 4.*

Therefore the decision to try another sport was compounded by the realization that one athlete was not going to succeed on an international stage. Once that acceptance had fermented, the suggestion to try another sport by other people was welcomed.

> *"So it was, it did take a bit of kind of like, convincing that I could be good at something else....I was almost kind of accepting that I was not going to be, was not going to make it (at an international level) in athletics. Once I accepted that then I was like right, I am ready for something else now." Athlete 3.*

For some athletes who were not on a formal program of support and therefore had to set their own goals, the idea that they had 'made it' within their new sport resulted in attending the highest level of competition and achieving a medal. The results did not show that all athletes had achieved success (medalling at an Olympics or Commonwealth Games) within their previous sport and therefore wanted to equal this notion of 'making it' within their new sport. There were only three athletes of the ten interviewed who had won a medal within their previous sports.

Two Athletes who were not selected from NGB Testing

Within the results, there are a number of quotes from athletes (who went through a testing phase of a talent transfer process, however, within the final stages were not selected from the program. A number of quotes are useful in highlighting because of the powerful emotions it drew from the athletes and what rejection can do in terms of spurring these athletes to go on and still achieve of their own accord. This athlete felt so strongly that having some form of rationale/justification was important for them not to be taken forward on the program as their results suggested otherwise:

> *"All they did was send out an automatic email to say that we did not get on [the program], and did not give us reasons or anything, so I just think that is not right at all, after everything we have been through. Going through a process, you need a reason, you need to know why. They did not even give me a reason." Athlete 5.*

And as a consequence, some athletes felt very strongly about wanting to do well because of the opportunity of a major competition in their country as well as fuelling their own motivation because of the commitment they had demonstrated to get this far:

> *"Me, it is an opportunity…to do well in front of a home crowd….It is motivation to do well every time you go out and compete because of all the hard work and effort that has been put into getting this far." Athlete 5*

International competitions have been identified as a key area for helping athletes to successfully transition into another sport. However, as there have been limited opportunities in the past, some opportunities are still limited and may not change in the near future:

> *"It is difficult for some sports to find the monies, or even sponsorship, to send a team to international competitions and that is frustrating because we have some really good talent within our sport but some opportunities seem to be limited to us". Athlete 5.*

Nevertheless, particularly relevant for this study, the following quotes identify the need to

specifically help target support at the older athletes who are willing to make the talent transfer transition at a later age and not follow the traditional model of talent development as it not comparable for these athletes:

> *"Like I am of the opinion that it is all about practice, hours, quality of practice and opportunity. And when it is not, when you are not given the chance to do any of that with any backing whatsoever, of course you are not going to get people coming through, and of course you are not going to have success. The only success stories that we have are the ones that get in early so you have got these young, youngsters that are getting into the program really, really early and can stay in the programs and they get all the focus and all the help. I would quite like to see just more help for the ones that start late, like myself, who start later." Athlete 7.*

Further, this athlete argues that the typical 'pyramid model' does not relate to a talent transfer athlete and therefore harder to statistically argue that she can do the job:

> *"They had one guy who has filtered through that came all the way up and who is now an Olympics medallist. I don't know if that pyramid scheme has been in probably officially for maybe six or seven years, so they are only starting to see some of the guys coming through...but pyramid schemes don't work for athletes like me because they are age based, and I was coming in at like level two, from the top and....I mean I did top ten world equivalent and I was not good enough, because they had someone sitting in the top three that they had already invested thousands of pounds in. But as a business man, I have somebody here I have invested thousands of pounds in to sit on the top three and we have already got all her data since she was fourteen or fifteen so we can predict her growth level, her performance currently is going to look like. They can't predict mine." Athlete 4.*

Therefore, talent transfer is seen as a model that should have a holistic perspective. From the descriptions within their interviews, the athletes believe that they are not 'predictable' and therefore alternative testing/measures need to be taken into account for individuals who undertake a talent transfer process, rather than the traditional models of talent identification/development.

Discussion

The purpose of this study was to examine the athletes' experiences through the talent transfer process. This was achieved through interviewing 5 athletes from an established talent transfer program (3 currently still being supported) and 5 who went through the process of their own accord. The results showed common patterns that transcended the grouping of the athletes but there were differences between how successful each athlete had been during the process. It would be unfair to fully summarize whether the athletes had successfully completed the talent transfer process as some were still in the throes of trying to 'make it' in their respective sports at the time of the study.

It was clear from the results that the athletes perceived this key transition as a process rather than an event (Schlossberg, 1981). Seven out of the 10 athletes had started their transition 5 years before a major game (for example, Olympics 2012 or Commonwealth Games 2014) and all athletes transitioned sports within 7 years. The timing of this transition was specifically about aiming for an international competition:

> *"Yes, I think, it was, I suppose it was the draw of 2012. It was the Olympics, I think I've always dreamed of going to the Olympics but I have never been good enough....And you know I love playing basketball, but I was not good enough for the NBA. But you know, 2012 and the home Olympics and then people supporting you on the way there, was just, I could not turn it down." Athlete 1.*

In support of this accelerated talent transfer approach, a retrospective analysis of Australian senior national athletes showed that 28% reached their elite status within 4 years of starting the sport at which they attained senior national status at an age of 17.1 ±

4.5 years (Oldenziel et al., 2004). Also, Bullock et al.'s (2009) findings provide support to an aggressive talent identification and talent transfer approach that identified successful senior athletes who were aged 22.2 ± 5.1 for 4 athletes who represented Australia at World Cup representative competitions within 14 months. Out of the 3 athletes that were supported by UK Sport/British Canoeing and went through the Tall and Talented program, 2 were successful at competing at the Olympics within 4.5 years. Although the athletes were aware of the end target (2012 Olympics), there were smaller competition goals they wanted to achieve first.

> *"I mean I was obviously brought into the programme because they wanted people to medal at the Olympics, which obviously that is still my goal but in my head at the moment my next goal is trying to do, is to compete for Great Britain and then after that, the ultimate would be to win a medal at the Olympics." Athlete 3.*

However, there was not one example within the ten athletes interviewed who achieved international success within their previous sport as well as the sport they had transitioned to, both at a senior level. The closest was a female cyclist (not supported through a program) that achieved international junior success within her previous sport and then had achieved senior success within her new sport. Incidentally, the athlete who achieved World Championship qualification with only 10 weeks sliding experience was crowned a World Champion in her previous sport 5 months earlier (Bullock et al., 2009). Thus, in support of the athletes interviewed within this study, even though they had not all competed at an international level within their previous sports, prior sporting experience is preferential to transfer between sports and be competitive. This is irrespective of whether that is through physiological similarities or psychologically where the transference is about mental toughness and the confidence to compete and train at the level required.

This study supported the proposed talent transfer model in Bullock et al.'s (2009) study as all athletes (bar one) were over 18 years old, which supports late specialization in a sport, but they had accumulated a number of years sporting experience in an array of sports. In line with the development model presented by Wylleman and Lavallee (2004) athletes were in the perfection/mastery stage of their athletic development which could be argued as the most challenging and demanding in terms of their sport's career. According to Wylleman and Lavallee (2004) the transition into this stage occurs at 18-19 years old. Nevertheless, this study shows that the athlete's transition could move back down to the development stage for a period of time before ascending back up to the mastery stage. NGBs need to be aware that making a within-career transition may cause athletes to experience a range of additional, related (and sometimes non-athletic) stressors that add potential barriers to a successful transition (for example, having a family to support, monetary commitments to fund the transition).

> *"And then funding would not have been so much of an issue either, it was the petrol down, the food down there, the hotels down there....you know it was quite tricky. That was, for me the barriers and it was hard coming from, and my age as well, coming from that level to no support....I mean I was aiming at such a high level....I think it should have been there to give me every chance possible. I mean, time was not on my side." Athlete 8.*

It would be a worthwhile study in the future to investigate specific time frames associated with different sports as to how long this transition between the two stages takes. There was a pattern in that all athletes made the talent transfer transition after the age of 18, bar one who was 16 when she made this transition. Whether this could be argued as choosing/mastering a sport rather than a specific talent transfer decision is acknowledged.

For this talent transfer study, the developmental time frame was less than the prescribed 10,000 hours to specialize within a sport. Therefore the 10 year deliberate practice theory is inconsistent with this evidential account of successful late specialization and rapid expertise development. Moreover, it corroborates the current concept that deliberate practice accumulated in many sports may be an alternative pathway to expertise (Baker, 2007; Coleman, 2007; Runco, 2007). For similarities between the two sports and an athlete being able to transfer their skill set, the following example illustrates how the time frame of 10 years or 10,000 hours is not necessarily the key ingredient for an athlete to master their new sport. The athlete came from a multi-sport background but only at a regional level. He played basketball, rugby, and football, but all of those skills, combined with the right sort of 'mindset' is what this athlete argued was needed to successfully transition between his two sports:

> *"For me, to get fit, I think rugby is something I would have focused on to try and get to an elite level, but I didn't have the kind of years of playing the game, so that kind of just match experience was not really there. But, I still think you can do that in a short matter of time, I don't think....there is a thing that people say that you need ten years in order to be an elite athlete, but I completely disagree with that. I think that you just need to have the kind of right mind set and right ways of trying to do that." Athlete 1.*

The Sporting Giants talent identification program concluded that within 12 months, 17 of the rowers and canoeists reached national finals (Vaeyans, 2009). It was just over 4 years of training and competing within his new sport, that it took this athlete to represent Great Britain at the 2012 Olympics. This sentiment was felt by another athlete within cycling who had a similar perspective on the 10 year rule:

> *"There is this chat in the cycling communities that it takes – well there is the whole talent, you know Malcolm Gladwell's book 'Talent is Over-rated' – the 10,000 hour road thing and some people say, depending on the averages that for a cyclist five years is the golden rule! However, that's not how long it took me." Athlete 4.*

This athlete took 3 years to make the transition and achieve a silver medal at a major international competition.

Another common pattern was the career ending injuries and the acknowledgement that the athlete was not good enough within their previous sport. They were both a catalyst for the athletes to make the transition. As identified within the results section these were significant factors as to why the athletes chose (over a period of varying times) to pursue another sport, because they knew they were never going to fully recover from their last injury from their previous sport or improve upon their results any more than they were capable of. It is worth mentioning thanatology (the study of death and dying) within the context of deciding that an athlete will move to another sport as it is also deemed appropriate for application to athletic retirement since, by analogy, the exit from one sport may be deemed a form of 'social death' where the athlete experiences trauma due to a sense of isolation, of segregation from their former life and their identity (Sinclair & Orlick, 1994). Therefore the transition from one sport to another as a result of injury, de-selection or not meeting targets could result in a 'social death' but could also bring about a new identity with hope of progression in another sport. One athlete described their experience:

> *"Moving to another sport keeps you sane. Gives you – you have the – it's like every day you are doing something for a sport. So if you just stopped completely – it's kind of like, it's like if you are a heroin addict and they give you methadone. That kind of thing." Athlete 7.*

Another athlete described the transition:

> *"There was a transition period to not training competitively and it was kind of a little bit like it was*

a loss, or a mourning because it is like the death of something. Not a huge one, but it was a big change for me. Because I had been doing it (my previous sport) for ten or twelve years, but it had meant that I had more mental energy to focus on what was important for me at the time which was to finish my honors degree." Athlete 4.

The severity of how these athletes had experienced such 'loss' was significant enough for them to transition to something else and try to keep their identity associated with sport. Again, it would be worthwhile investigating the extent to which the athlete's identity within their previous sport was a key motivator for them to pursue a different sport.

However, it is worth mentioning the two participants that did not successfully achieve a place within a formally supported program and the fact that they still went on to achieve success (and are still aspiring for more). Collins (2011) argued that a large number of potentially talented performers may have been excluded from talent identification and transfer programs due to "inappropriate identification measures". These high profile athletes had not necessarily failed performance evaluation tests but there were (at that time) athletes who were perhaps marginally better but (they) could perhaps still achieve a top ten placing on the world stage.

"I trained with them for a bit and then came back and they basically gave me a training program. And then the nationals were in September and they said you know if you do well enough in September we will take you onto the Academy program....And I mean I got all PBs at the nationals, did my best and I beat another GB athlete…, who just went to the Olympics and they were like the next best thing and I beat them and they still did not take me on. So I don't know what happened there." Athlete 5.

Pinder, Renshaw and Davids (2013) stated that these measures may have become prevalent because current identification of talent is based on structured and mechanistic attempts to maximize limited resources (e.g., physical, logistical, operational and financial). And as one athlete articulated:

"However we have got this person who has transferred from judo which is not a sport that has a logical pattern of their development because so much of it is individually factored in performance, who has no previous cycling data for us to analyse, who is older and we have not invested any money in and yes, they have done quite well, but we have no prediction model of what is moving forward." Athlete 4.

Furthermore, Phillips, Davids, Renshaw and Portus (2010) argue that it is therefore unsurprising that there are such large numbers of performers that are being unsuccessful in transfer or de-selected during identification because of the 'snapshot' approaches, which are based on minimal factors. NGBs are not able to align with a theoretical model for understanding expertise and talent development (also supported in the literature by Abbott, Button, Pepping, & Collins, 2005). This therefore highlights that the selection of appropriate talent should involve a multi-dimensional approach involving more than just physical performance (Abbot & Collins, 2004; Nieuwenhuis, 2002; Reilly et al., 2000; Staerck, 2003). However Pinder, Renshaw and Davids (2013) argue that caution should be taken in emphasizing some sub-disciplines over others. For examples, attempts to target isolated psychological characteristics in talent identification programs have led to psychologists repeating the same errors as their physiology contemporaries (e.g., Weissensteiner, Abernethy, Farrow, & Gross, 2012). This issue is only exacerbated by the adoption of mono-disciplinary approaches to sport science support work – and strengthens the need for a multidisciplinary and holistic approach (Renshaw, Oldham, Glazier, & Davids, 2004).

Limitations

Although the findings of the present study advance knowledge by revealing some rich and useful information for the discussion of talent identification, talent development and talent transfer, this only represents a small sample of athletes that have undergone this transition. In order to gain a better understanding of the non-normative transition that athletes experience when transiting from one sport to another, this study included some athletes who had not retired from their 'new sport'. This prevents us determining how successful they have become and making comparisons between their previous sports. As a result, it would be difficult to clearly identify why some talent transfer athletes succeed where others do not without more analysis of other examples that demonstrate trends, that is, between particular sports.

In addition, because there is no (confirmed) definition or theoretical framework of talent transfer, it is difficult to establish a baseline to evaluate against and build on our knowledge of what a successful talent transfer process might look like, therefore informing and educating NGBs to be able to undertake this process for themselves and not lose 'talent' from sport. Until such a framework is constructed, research from independent findings can only be concluded.

Conclusion

The purpose of this study was to examine the athletes' experiences through the talent transfer process. The description given at the start of the literature review (Expert Advantage, 2011) defining talent transfer gives a framework for the results gathered within this study. The first component was the athletes' responses regarding whether there were (physical or psychological) similarities between two sports they have transitioned between. Expert Advantage (2011) argue that similarity between sports is a key component of talent transfer as the focus is on capitalizing on previously learnt skills to fast track development in the new environment. As can be discerned from Table 1, athletes ranged in their sporting experiences from rugby to canoeing as well as judo to cycling. However, there were physical components that could be transferred between sports. For example, Athlete 7 stated: "[In ski-racing] I had this huge upper leg and then if you go on a bike, you have this long lever, it is already extremely strong....So for me, swapping over from ski racing to cycling is a perfect fit". Further research could be conducted within this area to examine Ericsson et al.'s (1993) theory as to whether an athlete has to undertake 10 years of deliberate practice within the same sport to reach the mastery stage before they begin the talent transfer process, or could they culminate their years/hours across sports? Nevertheless, the results from this study show support for Vaeyens et al.'s (2009) argument that rapid expert development takes less than 5 years as 50% of the athletes interviewed were competing at an international level within this time frame.

In addition, research by Bullock et al. (2009) supports the results that an athlete is already over the age of 18 when they are about to undertake a talent transfer process. Nine of the 10 athletes interviewed in this study were over the age of 18. As per the results within the similarities section, the psychological aspect was also identified as important by the athletes. All athletes felt as though they had more to give and this was despite their age at the time of the talent transfer process. Likewise, the results also highlighted that being an athlete was part of their identity and not something they were willing to give up in the near future. According to Wylleman and Lavallee (2004) athletes are in the perfection/ mastery stage of their athletic development, which could be argued as the most challenging and demanding in terms of their sport's career, therefore being integral to their identity and the athlete's desire to continue within another sport.

The second section of the results identify whether the athletes have made their transfer

through a formal support program (i.e., with UK Sport, an Institute of Sport, or a NGB) or informally of their own accord. Within the literature review, Expert Advantage (2011) argued that talent transfer frequently occurs informally, whereby the athletes initiate and coordinate the switch between sports themselves. Out of the 10 athletes interviewed, 7 athletes had undertaken an informal talent transfer process. In addition Expert Advantage (2011) argued that the switch is often prompted by an injury, a plateau in performance, a reduction in motivation, or retirement. However, the results from this study illustrate that the primary three reasons as to why an athlete chose to transition to another sport was because they were: a) not achieving good enough results to compete at an international level within their previous sport; b) had a career ending injury that forced them to reconsider their options; and/or c) that their sporting identity was a challenge to let go of and that for most athletes, they still had 'more to give' or 'aspired for something more'.

In contrast, talent transfer can also occur through formalized talent identification and development programs that are coordinated by sporting organizations and/or Institutes of Sport. In these structured programs, "existing high performance athletes are targeted and their athletic ability is transferred to another sport" (Expert Advantage, 2011). However, from the 3 athletes interviewed that were selected for a supported program, one was from a regional rugby background and the other two from a regional athletics background. Therefore, none of the 3 athletes were "existing high performance athletes" (Expert Advantage, 2011), depending on how high performance is defined. As a result, the definition provided by Expert Advantage (2011) to explain the talent transfer process may need to be revised if the results of future studies show similar trends in athletes' backgrounds.

The final component was the degree of success (process) which the athlete felt they had achieved within their previous sport or what they feel they must achieve within their new sport to 'make it'. There is some overlap here with the similar psychological attributes between the sports and the process involved within the 'degree of success' section as it was about the importance the athletes placed upon themselves as well as their ability to overcome adversity in a variety of endeavors (not necessarily about winning). One athlete identified having to "fight against the more physically matured kids" to achieve a degree of success but that this notion of "not winning at an early age" was something to aspire to and overcome.

Some athletes felt their degree of success (outcome) was hindered by a career ending injury that ensured they would never progress within their previous sport. As a result it was the catalyst for a number of athletes to consider the transition into another sport. For other athletes, the acknowledgement that they were not going to progress within their sport simply because they were not good enough was evidently a hard lesson and one that was a result of either not being selected and/or not achieving times/scores, and so on.

The two athletes who were not selected from NGB testing had very unique experiences of a talent transfer program and it was evident that there were strong feelings associated with how they had been treated as well as the rationale/justification for their lack of selection. Collins (2011) argues that a large number of potentially talented performers may have been excluded from talent identification and transfer programs due to performance evaluation tests with set criteria, even though they could perhaps still achieve a top ten placing on the World stage. In hindsight, if a NGB was to articulate to the athletes the criteria as to what they may (or not) be selected upon, then responses such as the following may be minimised: "…all they did was send out an automatic email to say that we did not get on…did not give us reasons or anything" (Athlete 5).

There are a number of directions for future studies based on the results of this study and where further research can be undertaken. The next study by these authors will take a life history approach to one of the athletes from the 10 interviewed to gain further insight into their talent transfer journey. Every athlete within this study has had a unique talent transfer experience and it is hoped that these authors can share the knowledge from the process undertaken to help inform coaches and NGBs who wish to help support this process for other athletes.

References

Abbott, A. & Collins, D. (2004). Eliminating the dichotomy between theory and practise in talent identification and development: Considering the role of psychology. *Journal of Sports Science*, *22* (5), 395-408.

Alfermann, D. (1995). Career transitions in elite athletes: Drop-out and retirement. In D. Lavallee & P. Wylleman (Eds.), *Career transitions in sport: International perspective* (pp. 143-160). Morgantown, WV: Fitness Information Technology.

Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research*, *1*, (3), 385-405.

Australian Sports Commission (2010). Talent Transfer. Available at http://www.ausport.gov.au/sportscoachmag/development_and_maturation2/talent_transfer (Accessed: 1st October 2013).

Baker, J. (2003). Early specialization in youth sport: A requirement for adult expertise? *High Ability Studies*, *14,* 85-94.

Baltes, P. (1987). Theoretical propositions of life span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, *23,* 611-626.

Berry, R. Y. S. (1999). Collecting data by in-depth interviewing. Paper presented at the British Educational Research Association Annual Conference, University of Sussex at Brighton, September 2 - 5 1999.

Bloom, B. S. (1985). *Developing talent in young people*. New York: Ballantine.

Brewer, B. W., Van Raalte, J. L. & Petitpas, A. J. (1993). Self identity issues in sport career transitions. In D. Lavallee & P. Wylleman (Eds.), *Career transitions in sport: International perspective* (pp. 29-43). Morgantown, WV: Fitness Information Technology.

Bryman, A. (2001). *Social research methods*. Oxford: Oxford University Press.

Bullock, N., Gulbin, J. P., Matin, D. T., Ross, A., Holland, T. & Marino, F. (2009). Talent identification and deliberate programming in skeleton: Ice novice to Winter Olympian in 14 months. *Journal of Sport Sciences*, *27* (40), 397-404.

Burton, L. J., VanHeest, J. L., Rallis, S. F. & Reis, S. M. (2008). Going for Gold: Understanding talent development through the lived experiences of US female Olympians. *Journal of Adult Development*, 13, 124-136.

Bussmann, G & Alfermann, D. (1994). Drop-out and the female athlete: A study with track and field athletes. In D. Hackfort (Ed.), *Psycho-social Issues and Interventions in Elite Sport* (pp. 89-128). Frankfurt: Lang.

Cecic Erpic, S., Wylleman, P. & Zuparicic, M. (2004). The effect of athletic and non-athletic factors on the sports career termination process. *Psychology of Sport and Exercise*, *5,* 1, 45-49.

Coleman, L. J. (2007). Parts do not make a whole: Lumping expertise into one whole. *High Ability Studies*, *18,* 57-58.

Cote, J. (1999). The influence of the family in the developmental of talent in sport. *The Sport Psychologist*, *13,* 395-417.

Durand-Bush, N. & Salmela, J. H. (2001). The development of talent in sport. In N. Singer, H. A. Hausenblas & C. Janelle (Eds.), *Handbook of sport psychology* (pp. 269-289). New York: John Wiley.

Dweck, C. S. (2008). The secret to raising smart kids. *Scientific American*, *18* (6), 37-43.

ExpertAdvantage.com (2011). Pathways to Podium Research Project. Available at http://expertadvantage.wordpress.com/2011/10/10/talent-transfer/ (Accessed: 12th August, 2013).

Giacobbi, P. R., Lynn, T. K., Wetherington, J. M., Jenkins, J., Bodendorf, M. & Langley, B. (2004). Stress and coping during the transition to University for first year female athletes. *The Sport Psychologist, 18,* 1-30.

Gilmore, T., Krantz, J. & Rafael, R. (1986). Action based modes of inquiry and the host-researcher relationship. *Consultation, 5*, 161.

Gould, D. & Dieffenbach, K. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, *14* (3), 172-204.

Halson, S., Martin, D. T., Gardner, A. S., Fallon, K. & Gulbin, J. P. (2006). Persistent fatigue in a female sprint cyclist after a talent transfer initiative. *International Journal of Sport Physiology and Performance*, *1,* 65-69.

Hanks, S. & Morris, T. (2001). *Relocation and the transition into professional sport in Australia*. 10th World Congress of Sport Psychology, Skiathos, Hellas.

Hanton, S., Fletcher, D. & Coughlan, G. (2005). Stress in elite sport performers: A comparative study of competitive and organizational stressors. *Journal of Sports Sciences*, *23* (10), 1129-1141.

Hoare, D. (1998). Talent search: A review and update. *Sports Coach, 21,* 32-33.

Hoare, D. G. & Warr, C. R. (2000). Talent identification and women's soccer: An Australian experience. *Journal of Sports Sciences*, *18,* 751-758.

Kerr, J. H & Mackenzie, S. H. (2012). Multiple motives for participating in adventure sports. University of

British Columbia. Available at http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1031& context=rpta_fac (Accessed: 5th January, 2015).

Klug, J. J. (2006). Effects of an Imagery Training Programme on Free Throw Self-Efficacy and Performance of High School Basketball Players. Masters Dissertation: Miami University. Available at https://etd. ohiolink.edu/rws_etd/document/get/miami1156375861/inline (Accessed: 12th October, 2012).

Kvale, S. (1983). The qualitative research interview: A phenomenological and a hermeneutical mode of understanding. *Journal of Phenomenological Psychology*, 14, 171-196.

Kvale, S. (1996). *Interviews: introduction to qualitative research interviewing*. London: Sage Publications.

Lavallee, D. & Andersen, M. B. (2000). Leaving sport: Easing career transitions. In M. B. Andersen. *Doing sport psychology*. Leeds: Human Kinetics.

Lavallee, D., Wylleman, P. & Sinclair, D. A. (2000). An annotated bibliography on career transitions in sport: II. Empirical references. *Australian Journal of Career Development*, *7* (3) Spring.

Lincoln, Y. S. & Guba, E. G. (1983). *Naturalistic inquiry.* Beverly Hills, CA: Sage Publications, Inc.

Lonsdale, C., Hodge, K. & Raedeke, T. D. (2007). Athlete engagement: 1. A qualitative investigation of relevance and dimensions. *International Journal of Sport Psychology*, 38, 451-470.

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* (1), 52-73.

MacNamara, A., Button, A. & Collins, D. (2010b). The role of psychological characteristics in facilitating the pathway to elite performance. Part 2: Examining environmental and stage related differences in skills and behaviours. *The Sport Psychologist*, *24* (1), 74-96.

MacNamara, A. & Collins, D. (2011). Comment on "Talent identification and promotion programmes of Olympic athletes". *Journal of Sports Sciences, 29* (12), 1353-1356.

Martingough22.wordpress.com (2010). What now for Rebecca Romero? Available at https://martingough22. wordpress.com/2011/10/12/what-now-for-rebecca-romero/ (Accessed: 12th August, 2013).

Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey Bass .

Miles, M. & Huberman, A. (1994). *Qualitative data analysis.* Beverly Hills, CA: Sage Publications.

Pankhurst, A. & Collins, D. (2013). Talent identification and development: The need for coherence between research, system and process. *Quest*, *65,* 83-97.

Paterson, A. S. (1997). *A humanistic framework for interviewer skills.* Paper presented at the British Educational Research Association Annual Conference, University of York. In http://www.leeds.ac.uk /educol/documents/000000325.htm Accessed on 12th January, 2015.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. London: Sage Publications.

Patton, M. Q. (2002). *Qualitative research and evaluation methods.* Thousand Oakes, CA: Sage Publications, Inc.

Pearson, R. E. & Petitpas, A. J. (1990). Transitions of athletes – Developmental and preventative perspectives. *Journal of Counselling and Development*, *69* (1), 7-10.

Petitpas, A., Champagne, D., Chartrand, J., Danish, S. & Murphy, S. (1997). *Athlete's Guide to Career Planning: Key to success from the playing field to professional life. Leeds*: Human Kinetics.

Phillips, E., Davids, K., Renshaw, I. & Portus, M. R. (2010). Expert performance in sport and the dynamics of talent development. *Sports Medicine*, *40* (4), 271-283.

Phoenix, C., Faulkner, G. & Sparks, A. C. (2005). Athletic identity and self-aging: the dilemma of exclusivity. *Psychology of Sport and Exercise*, *6* (3), 335-348.

Pidgeon, N. & Henwood, K. (1997). Using grounded theory in psychological research. In N, Hayes (Ed.), *Doing qualitative analysis in psychology.* Hove: Psychology Press.

Pinder, R. A., Renshaw, I. & Davids, K. (2013). The role of representative design in talent development: a comment on "Talent identification and promotion programmes of Olympics athletes". *Journal of Sports Sciences, 31* (8), 803-806.

Pummell, B., Harwood, C. & Lavallee, D. (2008). Jumping to the next level: Examining the within-career transition of the adolescent event riders. *Psychology of Sport and Exercise*, *9,* 427-44.7

Reid, F. (2009). Born identity: The impact of place on athletic performance. *Coaching Edge, 16*, 22-24.

Renshaw, I., Oldham, T., Glazier, P., & Davids, K. (2004). Around the world: Why applied sports scientists need a theoretical model of the performer. *The Sport and Exercise Scientist*, *1*, 24.

Rowley, S. (1992). *TOYA and identification of talent.* London: Sports Council.

Rubin, H. & Rubin, I. (1995). *Qualitative interviewing. The art of hearing data.* Thousand Oaks, CA: Sage.

Runco, M. (2007). Achievement sometimes requires creativity. *High Ability Studies*, *18*, 695-702.

Scanlan, T. K., Russell, D. G., Wilson, N. C. & Scanlan, L. A. (2003). Project on elite athlete commitment (PEAK): 1. Introduction and methodology, *Journal of Sport and Exercise Psychology, 25*, 360-376.

Scanlan, T. K., Ravizza, K. & Stein, G. L. (1989). An in-depth study of former elite figure skaters: II. Sources of Enjoyment. *Journal of Sport and Exercise Psychology*, *11*, 65-83.

Scanlan, T. K., Stein, G. L., & Ravizza, K. (1991 p. 106). An in-depth study of former elite figure skaters: III. Sources of Stress. *Journal of Sport and Exercise Psychology*, *13*, 103-120.

Schlossberg, N. K. (1981). A model for analyzing human adaptation to transition. *The Counselling Psychologist*, *9* (2), 2-18.

Schlossberg, N.K. (1984). *Counselling adults in transition: Linking Practice with Theory.* New York, New York: Springer Publishing Company, Inc.

Schlossberg, N. K., Waters, E. B. & Goodman, J. (1995). *Counselling adults in transition: Linking practice with theory* (2nd ed). New York: Springer Publishing.

Sharf, R. S. (1997). *Applying career development theory to counselling.* Pacific Grove, CA: Brooks.

Shulman, S. & Ben-Artzi, E. (2003). Age-related differences in the transition from adolescence to adulthood and links with family relationships. *Journal of Adult Development, 10* (4), 217-266.

Sinclair, D. A. & Orlick, T. (1994). The effects of transition on high performance sport. In D. Hackfort (Ed.).*Psycho-social issues and interventions in elite sports* (pp. 29-55). Frankfurt: Lang.

Sparkes, A. C. (1998). Validity in qualitative inquiry and the problem of criteria: implications for sport psychology. *The Sport Psychologist*, *12*, 363-386.

Stambulova, N. B. (1994). Developmental sports career investigations in Russia: A post-perestroika analysis. *The Sport Psychologist*, *8*, 221-237.

Stambulova, N. B. (2000). Athlete's crisis: A developmental perspective. *International Journal of Sport Psychology*, *31*, 584-601.

Stephan, Y. & Brewer, B.W. (2007). Perceived determinants of identification with the athlete role among elite competitors. *Journal of Applied Sport Psychology, 19*, 67-79.

Strauss, A. & Corbine, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Newbury Park, CA: Sage Publications, Inc.

Tesch, R. (1990). *Qualitative Research: Analysis, types and software tools.* Basingstoke: Falmer.

UK Sport (2008). London 2012 – it could be you. Talent identification and confirmation – The hunt for London 2012 talent. Available at http://www.eis2win.co.uk/pages/talent_identification.aspx (Accessed: 12th August, 2013).

UK Sport (2012). World class performance programme. Available at http://www.uksport.gov.uk/pages/wc-performance-programme/ (Accessed: 12th August, 2013).

Vaeyans, R., Gullich, A., Warr, C. & Phillippaerts, R. (2009). Talent identification and promotion programmes of Olympic athletes. *Journal of Sports Sciences*, *27*, 1367-1380.

Van Yperen, N. W. (2009). Why some make it and others do not: identifying psychological factors that predict career success in professional adult soccer. *The Sport Psychologist*, *23*, 317-329.

Wapner, S. & Craig-Bay, L. (1992). Person-in-environment transitions: Theoretical and methodological approaches. *Environment and Behaviour*, *24*, 161-188.

Weinberg, R. S., Butt, J. & Knight, B. (2001). High school coaches' perception of the process of goal setting. *The Sport Psychologist*, *15*, 20-47.

Weiss, M. R., Bhalla, J. A. & Price, M. S. (2008). Developing positive self-perceptions through youth sport participation. In H. Hebestreit & O. Bar-Or (Eds.). *The young athlete – the encyclopaedia of sports medicine* (pp. 302-318), Malden, MA: Blackwell.

Weissensteinder, J., Abernethy, B., Farrow, D. & Gross, R. (2012). Distinguishing psychological characteristics of expert cricket batsmen. *Journal of Science and Medicine in Sport*, *15*, 74-79.

Williams, A. M. & Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sports Sciences, 18*, 657-667.

Wylleman, P., De Knop, P., Menkehorst, H., Theeboom, M. & Annarel, J. (1993). Career termination and social integration among elite athletes. In S. Serpa, J. Alves, V. Ferreira & A. Paula-Brito (Eds.), *Proceedings of the VIII World Congress of Sport Psychology (*pp. 902-906). Lisbon: International Society of Sport Psychology.

Wylleman, P., De Knop, P., Ewing, M. (1999). Transitions in youth sport: A developmental perspective on parental involvement. In D. Lavallee & P. Wylleman (Eds.), *Career transitions in sport.* Morgantown, WV: Fitness Information Technology.

Wylleman, P., De Knop, P., Ewing, M. & Cummings, S. P. (2000). Transitions in youth sport: A developmental perspective on parental involvement. In D. Lavallee & P. Wylleman (Eds.), *Career transitions in sport: International perspectives (p*p 143-160). Morgantown, WV: Fitness Information Technology.

Wylleman, P. & Lavallee, D. (2004). A developmental perspective of transitions faced by athletes. In M. Weiss (ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 507-527). Fitness Information Technology: Morgantown, WV.

Wylleman, P., Lavallee, D. & Alferman, D. (Eds.) (1999). *Career transitions in competitive sports.* Biel, Switzerland: European Federation of Sport Psychology Monograph Series.

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