An Investigation into the Mediators of Talent in Field Hockey: Factors that Affect Successful Talent Identification and Development

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Abstract

This investigation was conducted to gain an understanding of the career pathways of current international female field hockey performers, and their experiences of talent identification and development. There is limited specific research within field hockey and so often development programmes have been based upon findings in other sports. 12 female senior international field hockey players were interviewed for the investigation.

The major influences on achieving elite performance in field hockey were identified as support from families, schools and clubs, with an overriding influence from luck at all stages. It is suggested that the type of school attended by the individual will have an impact upon the direction that their career will take.

Literature suggested that school, club (Bailey and Morely 2006,) and family support (Kay, 2000) was a vital factor in achieving elite performance as well as luck (Bailey, 2006). Overall it was found that the influence of school is dominant for private school pupils (Priv-kids), whereas clubs are more important for grammar school (Gram-kids) and state school pupils (Stat-kids). Family and talent development programmes were found to be vitally important for all types of youth performers and so emphasises the need to make these as affective as possible and also to make them as accessible as possible for the talented youth performers, rather than just the lucky ones.

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1. Introduction

1.1 Chapter Introduction

This chapter will outline the structure of the research project and provide a brief discussion of existing literature with regard to the chosen topic. The methodological processes behind the data collection will also be explained.

1.2 Research Topic

Literature regarding the field of talent identification and talent development is a rapidly emerging area of interest (e.g. Baker, 2003; Elferink-Gemser and Elferink-Gemser, 2006; Bailey, 2007; Vrljic and Mallett, 2008). The importance of nurturing talented individuals in sport has been identified, with governing bodies developing strategies aimed at achieving this goal (DCMS, 2000, p. 15 cited in Green and Oakley, 2001; Green, 2004).

The main focus of field hockey research has been geared towards the physiological requirements of the sport (Jeffreys, 2005; Spencer et al, 2005; Sunderland et al, 2005; Elferink-Gemser et al, 2007), with little investigation into the talent identification and development procedures experienced by the elite performers in the sport.

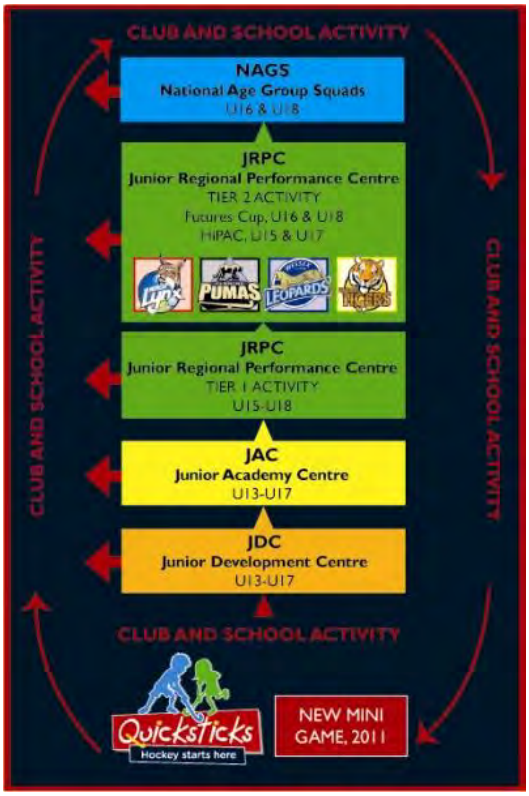
Field hockey is a popular sport, for both men and women in England, played in many schools but with the majority being played at club level (EHB, 2011). The

best individual performers are selected to represent their country at Senior International Level. The pinnacle of which would be to compete at the Olympic Games. This research project focuses on the women who have competed at the senior international level, examining their career pathways in order to gain a better understanding of the talent development model currently in place in English field hockey. This will provide some evidence on how this works and how some players' journeys have developed and may help to highlight weaknesses in the talent identification programs used in the sport in England. Greater consideration is given to the sociological aspects of their careers as opposed to the physiological qualities that they posses.

The Single System Pathway (Fig 3) is the current talent development model used by England Hockey (EHB, 2010a).

Fig. 3

Single System Pathway (EHB, 2011)



It is based on the findings of Balyi (1996; 1999; Balyi and Hamilton, 2003), who proposed the Long Term Athlete Development (LTAD) model. The model gives consideration to the important role played by schools and clubs, as a pool of field hockey participants, which are then funneled through development programs in order to identify the most talented performers. Throughout the program, the aim is to provide appropriate level facilities and coaching to all participants involved in field hockey. There is facilitation for late developing performers who are not picked up during the early years of their involvement in the sport.

1.3 Methodology

As previously mentioned, the majority of existing field hockey literature focuses around the physiological requirements of the sport, which lends itself to the use

of quantitative methods of data collection (Elferink-Gemser et al, 2003; 2004; 2006; Spencer et al, 2004; 2005; Jeffreys, 2005; Sunderland et al, 2005). However, when examining the methods used in similar talent development studies, there is significant support for more qualitative methods, in order to understand not just what is occurring but also why (e.g. Soberlak and Coté, 2003; Morgan and Giacobbi, 2006; Thomas et al, 2008; Vrljic and Mallett, 2008). With this in mind and the focus of the research being talent development in relation to field hockey, qualitative research methods were favored. The research method was tested through a pilot study prior to the main thesis. A smaller, lower performance level sample was chosen for the pilot study. Semi-structured interviews were conducted on a sample of 12 English senior international field hockey players for the final investigation. Questions relating to their experiences of talent development programs and other important influences during their playing careers were asked. Although each player will have varied experience in talent development and identification programmes, their opinions will help to provide vital feedback about the systems. This could then be used to enhance the present day talent development and identification systems in field hockey. These findings were then examined and discussed by the main researcher and a senior supervisor, to draw conclusions on the current state of field hockey talent development, and possible further research areas, that could result in an improved model for the future.

1.4 What is Talent?

In this thesis talent is defined as an individuals' potential ability to perform in a sport at the highest level. Talent identification is the process that aims to

identify the performers with the most potential to be the best at performing a specific task, or more commonly, a specific sport. By observing and selecting current participants, those with the potential to achieve elite performance can be identified (Williams and Reilly, 2000). The younger these individuals can be found, the greater exposure they will have to specialised coaching which in theory should accelerate individual development. Consequently, there is significant pressure to successfully identify these individuals as early as possible (Pearson et al, 2006). Youth development has been regarded as the breeding ground for the next generation of elite performers (Holt, 2002), so successful talent identification programmes are essential for preparing talented youth for elite performance (Vaeyens et al, 2008). The majority of countries worldwide now have some sort of structure in place to identify talented performers at a young age, but the process is highly complex and problematic (Abernethy, 2008; Vaeyens et al, 2009). Pearson et al (2006) suggested that talent identification within team sports is particularly complex and success prediction is imperfect. Elite performers in sport are regarded as individuals who consistently demonstrate superiority in athletic performance over an extended period (Starkes, 1993). The acquisition of expertise in sport is due to complex interactions between biological, psychological and sociological factors (Singer and Janelle, 1999).

The intention of talent development is to shorten the pathway to elite level and lengthen the individuals' performance at the top level (Starkes et al, 2001). It is vitally important that talent identification and development pathways are as effective as possible due to the difficulty in achieving elite performance. Bailey

(2007) reported that only 0.001% of current school pupils could possibly reach the highest level in amateur sports, suggesting the difficulty of becoming an elite performer and the need for effective talent identification and development. Without effective talent identification and development models the career pathway to elite performance may be even more clouded resulting in an overall lower level of elite performance, due to the most talented individuals never negotiating their way to the top.

Career pathways are the routes that individual athletes take throughout their sports participation (Ford et al, 2009). This experience will vary greatly for each individual depending on countless factors, such as financial backing, support systems, available facilities and general opportunities (Abbott et al, 2005). Talent identification and development systems aim to make the available pathways as clear as possible and minimise the external factors previously mentioned, for talented performers but must also be flexible to account for the non-linear nature of career pathways (Vaeyens et al, 2008; Bailey et al, 2010). Different governing bodies have implemented varying programmes as a means of talent identification and development. For the majority of governing bodies in the UK, these programmes have been adaptations of the Long Term Athlete Development model (LTAD) (Balyi et al, (2010). The chosen system, currently implemented by the England Hockey Board (EHB) is known as the Single System Pathway (EHB, 2007), which will be discussed in greater detail later in section 2.5.2.

1.5 Existing Field Hockey Research

There is a limited base of empirical research surrounding field hockey, perhaps due to the amateur nature of the sport. This also means there is limited funding available for research projects within the sport. Of the existing field hockey literature, the majority has been based upon the physiological demands of the sport, often combining the sample with other territory focused sports participants, such as footballers (e.g. Jeffreys, 2005; Spencer et al, 2005; Sunderland et al, 2005; Elferink-Gemser et al, 2007). The study by Nieuwenhuis et al (2002) specifically looked at methods of identifying talented youth field hockey players, with consideration given to psychological factors as well as physiological.

1.6 Thesis Structure

Chapter 2 examines the current literature relating to talent identification, talent development, field hockey and the general factors affecting the achievement of success in sport. Chapter 3 gives an in-depth understanding of the techniques used to obtain the findings in the study. Explanations of data collection and analysis technique are discussed and explained. Chapter 4 provides the findings from the data collection and analysis, highlighting key themes that ultimately influence the current career pathway for an elite field hockey player, from a talented individual to senior international representation in England. The final chapter summarises the overall findings from the study, and proposes further areas of research interest. Limitations of the current study will also be highlighted in an attempt to enhance further research in the subject.

2. Literature Review

2.1 Introduction

Talent identification and talent development is a rapidly expanding field of research that has drawn great interest from sport researchers. The aim of talent identification and development is to design programmes that result in finding and nurturing the best performers within their chosen field (e.g. Baker, 2003;

Elferink-Gemser and Elferink-Gemser, 2006; Bailey, 2007; Vrljic and Mallett, 2008).

2.2 Field Hockey

Field hockey is an 11-a-side territorial ball game, with play conducted using a stick and only the goalkeeper can use their feet (Hughes and Barlett, 2002). The game is played worldwide and is recognised as the second most popular team sport, behind football, according to the England Hockey Board (EHB, 2011). It has been included in the Olympics since 1908 and the women's competition was first introduced in the 1980 Olympics. The biggest success to date in female Great British hockey history is the bronze medal, won in the 1992 Barcelona Olympic Games. In England, it is a family orientated sport played mainly in clubs by both men and women (EHB, 2011). Currently there are 1050 registered clubs in England, with the majority having both male and female teams, and this is the focus of the game in this country. The sport is also popular in schools, particularly in the independent sector (EHB, 2010b).

2.2.1 Talent Identification and Development Models

Within field hockey worldwide various programmes designed to aid talent identification and development have been implemented. The current programme favoured by the English Hockey Association (EHB) is based on the Long Term Athlete Development (LTAD) model designed by Balyi (2002).

Ultimately the LTAD model focuses on the importance of starting sport generally at a young age, and then completing phases that enable you to be at the peak of performance for as long as possible. These stages include:

- Learning to train- Gaining an understanding of how to train
- Training to compete- Training to enhance competitive performance
- Training to win- Training to perform at peak
- Retirement- Learning how to cope without being part of the sport

The research for LTAD was conducted on a small group of Canadian cross-country skiers, which is a very limited study. Consequently some skepticism exists around the LTAD model, mostly due to beliefs that the research it is founded on is too limited to enable the model to be appropriate for all sports, worldwide (MacPhail and Kirk, 2006). Its focus is also based on physiological requirements, and does not consider psychological or sociological factors (Bailey et al, 2010).

The talent development system currently used by the EHB is known as the Single System Pathway. The EHB's aim with the Single System Pathway (SSP) is to create equal opportunities to anyone involved in field hockey; to ensure that a suitable level of coaching and competition is provided to all individuals at the appropriate stage of their development and to maximize each individual's potential. It is hoped that the SSP will enable young athletes to be exposed to a

higher standard of coaching earlier in their career pathways, ultimately resulting in more successful international teams.

Within the system the idea of a 'safety net' to catch late developers is discussed, however a method for identifying these performers is not mentioned (EHB, 2007; 2010a). This is a potential loophole in the system and may result in performers who may have elite potential being overlooked. Gulbin (2006) noted the importance of facilitating late developers when designing models for talent identification. Not all athletes will develop at the same rate, due to differences in physiological and psychological makeup, as well differences between; age of initial engagement in the sport, access to high quality coaching, facilities (Fisher and Borms, 1990).

Vaeyens et al (2008) also expressed concerns over traditional methods of talent identification such as SSP for, excluding late maturing, promising children from development programs. The influence of varying maturation is problematic and is a major confusing variable in adolescent talent identification (Pearson et al, 2006). Research by Ackland and Bloomfield (1996) demonstrated the highly unstable nature of the effect of varying maturation during adolescence, and the problems associated with relying on these findings. Not all adolescents mature at the same rate and so reinforces this varying factor. Abbott and Collins (2002) reinforced this, suggesting that early developers may benefit from favorable physical characteristics that provide a relative advantage that is not maintained into adulthood as their peers also mature. This is a significant problem of early

talent identification, and confounds the early selection of performers (Williams and Franks, 1998).

Early selection can be a poor predictor of a child's potential to excel in adult elite sport and should be carefully considered within talent identification models (Brustad, 1996). A study by Vaeyens et al (2009) looking at talent identification and promotion programmes for Olympic athletes, found that nearly half of the Athens 2004 Olympians had made competition debuts at youth or junior competitions in their sports. There is plenty of research to support the belief that a good junior does not automatically mean they will be exceptional at senior level (De Koning et al, 1994; Carlson, 1997; Güllich and Emrich, 2006), specifically, Güllich (2007 cited in Vaeyens et al, 2009 p. 1374) found that amongst German Olympians in the 2004 games, athletes who entered sports development programs at later ages were more likely to win medals. There is a growing belief that traditional methods of talent development and identification based on pre-pubescent selection, are likely to exclude late developing, promising performers (Abbott and Collins, 2002, 2004; Martindale et al, 2005; Vaeyens et al, 2008). Hoare and Warr (2000) suggested that team ball sports are complex in nature, and this complicates the talent identification process further, making early selection an even harder process.

In 2008 at the Beijing Olympics, the GB ladies hockey team finished 6th, which was an improvement on previous performances in Olympic competitions in the 21st Century. Last year (2010) they finished 3rd in the Champions Trophy, their best result in the competition to date (FIH, 2010). These improvements in

performances could be due to the implementation of the new talent development system and shows promising signs, but the ultimate test will be the 2012 Olympic Games as it is predicted funding will be cut significantly after the games. This is based upon previous, post Olympic funding cuts in sports internationally (Hogan and Norton, 2000).

2.3 Talent Identification Models Worldwide

Successful talent identification models have become an essential mechanism in the process of attaining national sporting success (Abbott and Collins, 2002; Vaeyens et al, 2009). Over the last 60 years, there have been some significantly effective talent identification models that have been implemented in world sport (Régnier et al, 1993; Hoare and Warr, 2000). The method for selection of elite performers used by the Soviet Bloc countries and German Democratic Republic (GDR), starting in the mid 20th century, has proved to be the template for several subsequent talent identification models (Riecken et al, 1993; Abbott and Collins, 2002). The Soviet Bloc and GDR models were very systematic and focused on extracting young performers with outstanding physiological attributes (Bompa, 1994). This was a significant shift away from more traditional methods of talent identification, such as observation of performance (Burgess, 1996). The success of this technique is demonstrated by the dominance of the Soviet Bloc and GDR in the Olympic Games, between 1952 and the 1980's.

In 1981, Australia decided to establish the Australian Institute of Sport (AIS), which signaled a significant shift towards a more systematically managed

approach to elite sport (Green and Houlihan, 2005; Vaeyens et al, 2009). This move saw Australia steadily increase their medal haul at the Olympic Games, reinforcing this technique as an effective method of talent identification (Green and Oakley, 2001). An incredible amount of funding and effort was invested into a centrally funded 'Talent Search Programme', in Australia. It aimed to identify potential elite performers not currently involved in sport through screening school pupils from 2,000 high schools and testing their physiological abilities. After this extensive testing, the pupils were then inducted into the sport most suitable to their physiological build (Hoare and Warr, 2000; Green and Oakley, 2001; Abbott and Collins, 2002). Funding for talent identification and development programs run by the AIS has reduced greatly since the Sydney Olympic Games in 2000. This has seen the nation start to slide back down the medal table. At the Beijing Olympic Games in 2008, they slipped from 4th to 6th in the overall medal table (IOC, 2010). A similar effect was seen across the Soviet Bloc countries and Germany when funding for their programs was reduced (CIL, 2008). Hogan and Norton (2000) reported a linear relationship between the amount of money provided for funding for sport and the amount of Olympic medals won. Bailey and Toms (2010) have suggested that substantial investment in elite sports performance coincides with increased pressure on that performer. There is an argument that this could have a negative impact on performance. Lewis (2003) commented on the enormous income that can be generated through elite sports performance in Capitalist countries.

Elite sports development has been a key policy concern since the mid 1990s onwards (Green, 2004). International success can be a lucrative source of

income and employment (Lewis, 2003). The success of systems such as the AIS has spurred NGB's in the United Kingdom (UK) to develop a professional system for talent development and talent identification as they announced they could no longer rely on chance to become successful (DCMS, 2000, p. 15 cited in Green and Oakley, 2001). There was a significant shift from mass sports participation to international sports success around the turn of the century, due to the belief it would increase international sporting success (Coghlan and Webb, 1990; Houlihan, 1991, 1997; Henry, 1993; Green, 2004). The system chosen was the previously mentioned, rather contentious, LTAD model (MacPhail and Kirk, 2006). There is significant concern over the validity of the research supporting the LTAD model and therefore fears that the programmes based around it may therefore be limited in their success. The LTAD model was implemented by the majority of sports governing bodies across the UK, including the EHB (Bailey et al, 2010). It is now recognized in the UK, that elite sporting excellence can realistically only be achieved through substantial sustained funding and support (DCMS, 2000, p. 44 cited in Green and Oakley, 2001; Bailey et al, 2011).

2.4 Talent development

Bailey and Morley (2006) explained talent development as a process that occurs when a child experiences a sustained period of structured learning. Specifically within talent development research in sport, there have been some significant recurring theories that should be considered with the construction of any talent development models. Three of these key themes are the Relative Age Effect Theory (RAE), Deliberate Practice, and Early Specialisation. These themes will

be examined further in this investigation due to their prevalence in talent development research. They are also factors that are relevant to field hockey, and each participant in the study will have had different experiences.

2.4.1 Relative Age Effect Theory

The RAE is a well supported theory through a number of academic studies, based on the belief that the date of birth of a performer has a significant impact upon their success in achieving elite performance in sport (Coté et al, 2006; Vrljic and Mallett, 2008; Delorme et al, 2009). The theory suggests that children born shortly before the cut-off date for an age group may suffer, by being promoted to older age groups earlier than their later born peers. These children are then likely to be less developed, both physically and mentally in comparison to their older peers, some of whom may be nearly a year older.

The RAE was first discussed with regards to achievement in sport in the mid 1980's (Barnsley et al, 1985). Coté et al (2006) looked at the RAE in relation to the amount of exposure performers have to a sport at a young age. Much of the research was based on previous studies by Baxter-Jones and Helms (1994), and Helsen et al (2000), who initially helped to develop the RAE theory. They also considered findings from Musch and Grondin (2001) who proposed some reasons behind the findings of RAE, factors such as physiological development, psychological factors and experience. Due to these factors Coté et al (2006) found that the older children in age groups are generally provided with environments that aid the improvement of their skills earlier in their

development than the younger children in their age group. Musch and Grondin (2001) also discussed RAE as a factor in all aspects of child development, highlighting that relatively younger children have more academic problems than their older peers in the same year group. A study by Richardson (1998) provided historical evidence for the RAE amongst English World Cup football squads. A similarly high percentage of players selected for these squads between 1986 and 1998, were born early in the selection year. A worrying long-term effect of RAE will be the overall reduction in potential quality in senior competitive teams due to incorrect selection at the junior level (Musch and Grondin, 2001). Helsen et al (1998) noted that RAE amongst youth performers was not evident before the age of 12. Delorme et al (2009; 2010; 2011) has continued investigations into RAE, with consideration of factors affecting its prevalence. Influences such as type of sport, gender and popularity of the sport have been identified as factors affecting the extent to which RAE is felt in different sports. It may be interesting to investigate what ages current elite female hockey players began participation in the sport and also at what ages they began participation in talent identification processes, this is explored in more detail in section 4.

2.4.2 Deliberate Practice and Early Specialisation

There is a well-established belief that the making of an expert performer begins at a young age where children are exposed regularly to sporting opportunities (e.g of this belief, Monsaas, 1985; Baker, 2003; Baker et al, 2003b; Soberlak and Coté, 2003). However, a major issue of contention amongst sports

developmental researchers (e.g. Ericsson et al, 1993; Baker et al, 2003b) is the amount of single sport participation aspiring expert athletes should be exposed to and at what age. This becomes more relevant when a deliberate focus of training and development in that specific sport is considered (Baker, 2003), if this occurs at a relatively young age it is commonly termed early specialisation. Early specialisation constitutes focusing on a single sport, all year round. Malina (2010) suggested that early specialisation is becoming more prevalent due to pursuits' for scholarships and professional contracts at an early age. He highlighted the risks to youngsters in these positions as social isolation, burnout, overdependence and overuse injuries, and made aware his beliefs that talented performers in these setups are children with the needs of children. There is also positive support for early specialisation, particularly depending on the sport that is chosen, for example women's gymnastics and figure skating, both of which elite performance is often reached before puberty (Côté et al, 2007, pp. 34-36 cited in Holt, 2008). Ford et al (2009) found support in football for early engagement in the sport being required for success, rather than early speicialisation. They found that being involved in the sport at a young age was important for developing skills and techniques, but it was important that this was kept at a recreational level at a young age for future success.

The opposing perspective is early diversification, which encourages involvement in a variety of sporting activities, before later specialisation in a chosen sport (Wiersma, 2000; Baker, 2003). Baker (2003) proposed diversified involvement in a variety of sports at an early age. This was seen as an alternative to early specialisation, as a means of developing participants to becoming elite

performers. Variable sport involvement during early stages of development in sport has been found to be common practice amongst practitioners of a variety of sports (Coté, 1999; Baker et al, 2003b).

Coté (1999) termed this early engagement in a variety of physical activities as deliberate play. Deliberate play shares characteristics with more primitive forms of physical activity such as running, jumping and climbing, (Pellegrini and Smith, 1998) but also demonstrates more structured Behavioural patterns. Deliberate play enabled children to play sports with minimal equipment, in any space with any amount of participants, varying in ability and age. The key to deliberate play is that it is flexible and occurs without forward planning and without the need for adult involvement. It is enjoyable and done for its own sake (Soberlak and Coté, 2003).

Deliberate practice is done to achieve a future goal and is carried out in a serious setting. It generally requires adult involvement, has specific rules and is performed in specialised facilities (Coté et al, 2005 pp. 184-202 cited in Eklund and Tenenbaum, 2007; Ward et al, 2007). It has been suggested that early specialisation and deliberate practice can result in dropout from the specified sport due to burnout and negative feelings associated with the sport and a lack of general enjoyment (Henschen, 1998; Wiersma, 2000; Wall and Coté, 2007). More specifically these negative experiences were commonly noted as lacking playing time and having coach conflicts (Weiss and Williams, 2003), all of which are avoided by deliberate play as an alternative method of sports participation at an early age.

Wall and Coté (2007) went on to express a view that early diversification may in fact be preferable to early specialization and that athletes that specialise in a sport at a later age, remain engaged in their sport for longer. Although the two approaches conflict, it is fair to conclude that early specialisation is not seen as essential on the road to expert performance (Hill, 1993; Coté, 1999; Bailey et al, 2010).

A study by Van Rossum (2000), specifically to field hockey, found that adult international players had spent approximately 4600 to 4100 hours participating in field hockey. This does not provide a true representation of deliberate practice as it is significantly lower than the 10, 000 hours proposed by Ericsson et al (1993). It suggests that less than half this amount of time is required to achieve expert performance in field hockey.

Early specialisation and deliberate practice has been suggested as a key theory by academics (e.g. Ericsson et al, 1993; Bailey et al, 2010) and is often favoured in talent development models to deliberate play. A popular and regularly referenced theory is that of Ericsson et al (1993) who proposed the framework of deliberate practice. They implied that anyone could become an expert performer providing that they complete a minimum of 10 years or 10,000 hours of deliberate practice, which they also suggested that the probability of achieving this is increased through early specialisation (Helsen, et al, 2000; Wiersma, 2000; Gulbin, 2006) and also that the role of parents and coaches is vital (Coté, 1999: Visscher et al, 2004). Clearly to become an expert performer requires time

and dedicated practice, but there should be room for understanding that for some people this will take longer and for others it will come quicker. To generalise the 10 year or 10,000 hour rule may be a risk and could be inconsistent. It is important to note that not everyone will reach the elite level no matter how much time they put into training in that subject (Beashel et al, 1996).

Wall and Coté (2007) discussed both early specialisation and diversification, they noted that by specialising at an earlier age, greater amounts of deliberate practice can occur and therefore would provide a significant performance advantage. Wall and Coté (2007) also mentioned that early specialisation often leads to dropout and may not be the only pathway to elite performance. This reinforces findings by Vrljic and Mallett (2008). They recognised that by identifying talented performers at an earlier age, they are exposed to better coaching and resources, and should, therefore, be at an advantage in comparison to their peers of the same age who do not experience this support.

Specifically to field hockey, Elferink–Gemser (2005) explained that reaching excellence in the sport is not linearly related to how many hours are invested by an individual. However, current international level performers have spent extensive amounts of training before reaching the top level. In the Netherlands Elferink-Gemser (2005) explained that most expert performers began playing field hockey at about the age of seven and that, in his opinion, players who want to make it at the top level need to begin sport specific training at an early age. His research was based on findings by a range of sports researchers (Ericsson et

al, 1993; Starkes 2000; Van Rossum, 2000). Elferink-Gemser (2005) suggested that future elite players already excel in tactical skills by the age of 14, reinforcing the requirement to specialise in a sport before this age. However these findings came about through opinions the coaches had of players, which raises questions about the reliability of the data.

2.4.3 Three Stages of Participation

When examining specialisation and development in sport, Coté (1999) developed a theory of the 3 stages of participation:

1. Sampling years
2. Specialising years
3. Investment years

This was later revised to give greater detail (Coté et al, 2007 cited in Eklund and Tenenbaum, 2007). They explained 3 separate routes that individuals experience through involvement in sport, depending on the early experiences they have. The first route describe involves sampling a variety of sports until about age 12, at which age sport continues to be a recreational fun experience rather than specific deliberate practice. The outcome at 18+ years is enhanced physical health and enjoyment and participation at a recreational level. The 2nd route again involved sampling until age 12, at which point deliberate practice begins and fewer sports are played. This leads to investment years at about age 15, where practice is directed towards a specific sport. The outcome is likely to lead elite performance, enhanced physical health and enjoyment of sport. The 3rd route suggests early specialisation at age 7, and this continues through to

adulthood. The likely outcomes are elite performance but with reduced physical health and enjoyment.

The model suggests that early specialisation is not essential until the age of about 13 and again reinforces the belief that a varied sports background may be more important than focusing on a single sport at a young age. Getting a balance between early specialisation in a specific sport and sampling a variety of sports seems to be an important factor in facilitating future success. Throughout the stages, Coté et al (2007) emphasised the important role played by the family on the child's development. It seems that some sort of balance needs to be struck, perhaps incorporating some structured deliberate practice, whilst also encouraging deliberate play, until the teenage years.

2.5 Factors Affecting Success

To achieve at the elite level in sport, it is not only raw natural talent that is required for success (Howe, 2001), as only a small minority of youngsters who demonstrate expert sporting potential will attain international sporting excellence (Abbott et al, 2002; Vaeyens, 2009). In order for athletes to be able to participate in sports at any level, it is strongly believed that they will require a significant amount of support from a variety of sources (Abbott and Collins, 2002). Once a talented performer has been identified, support can be provided to optimise their potential (Abbott and Collins, 2002). The key areas of support, required by developing performers, were identified as:

- Family – Often in the form of moral, financial and transport
- Competent coaching – Without correct advice a performer can only achieve a limited level of success
- Motivation- The individual has to be motivated internally and externally in order to want to perform
- Resources- Performance will be limited without the provision of appropriate resources

(Durand-Bush and Salmela, 2001, pp. 274 & 277)

Ericsson et al (1993) expressed the necessity of support for young aspiring athletes in similar forms, to ensure they are able to achieve the amount of deliberate practice required to reach elite performance. At the most basic level, an unsupported child simply will not be able to attend the required amount of practice as suggested is required by Ericsson et al (1993). This support of this is often made with sacrifices to other parts of family life but is essential for success (Jowett and Lavallee, 2007).

2.5.1 The Family

There has been extensive research into the role of the family in association with talented child performers (Coté, 1999; Kay, 2000; Holt and Morley, 2004). Hellstedt (2005) stated that the family is the most important influence in an athletes' life and is the environment where young athletes first develop skills and

coping mechanisms, required for demanding situations that occur in life and also in competitive sporting situations.

It is not uncommon for successful athletes to attribute their success to their families. Ward et al (2007) suggested that elite players have greater levels of parental support than lower level performers. Kay (2000) also highlighted the pivotal role performed by the family in nurturing the talent of young sports performers. She proposed criteria that would best facilitate the development of talented youth: a child in a two-parent family, whose parents currently participate in sport and have previously performed at an elite level. Rowley (1992) and Yang et al (1996) also produced research that supports the belief that two-parent families, with higher socio-economic status, generally provides the best environment to develop young talented sports performers. Children from lower socio-economic backgrounds may find it harder to achieve elite performance in sport due to the financial constraints that may restrict the support offered by parents in terms of time and finance (Rowley, 1992; Kay, 2000; Zeijl, 2001). Financial and time pressures can also be further aggravated in larger families, due to money and time having to be shared equally amongst off-spring (Cogan and Vidmar, 2000 pp. 660 cited in Dosil, 2006). Therefore, it is understandable that children from larger families are also less likely to achieve at the elite level in sport due to restricted opportunities (English Sports Council, 1997 cited in Kay, 2000).

Having said this, Coté (1999) and Videon (2002) found that a child's participation in sport, can have a significant impact on their siblings initial

participation in that same sport. Coté (1999) found this to be most prevalent with older siblings acting as role models for their younger brother or sister. It may therefore be the case that a child from a larger family has more role models, in their siblings, and so are more likely to become engaged in sport in the fisrt place as opposed to a child with no siblings. It is likely that some of the participants in this study initially began their involvement with field hockey due to other siblings already playing the sport.

Wold and Andersssen (1992) and Raudsepp and Viira (2000), found that peers have a greater influence over participation in a particular sport than any family members, and they should therefore be considered as important factors in sports participation. Zeijl et al. (2000) found that peer influence became more prominent as children get older, generally after the age of 14 possibly as the influence of parents and siblings diminishes. It appears that as performers create their own identities away from their families, they become more influenced by their peers (Brustad, 1996; Bailey and Morley, 2006).

According to Coté's (1999) stages of participation model, at age 14, the performer is in the 2nd stage, the specializing years, this is a vitally important stage for selecting which sports they are most suited to and it is important that a strong influence from peers does not detract from an individuals focus on their best sport. Often during the specialising years, performers can become distracted from their involvement in sport and lose engagement all together, which makes it a vulnerable period for losing potentially highly talented performers (Luftig and Nichols, 1991; Winner, 1996). However, it is also

important to remember that peers are not always a negative influence and can often serve as motivation for participating and achieving.

To summarise, potentially, anyone that a young performer views as a role model, will have an influence over their intellectual, moral, emotional and psychological development (Russell, 1979). The demands that can be placed on a family to provide sole support for an individual can be extremely costly, and involvement from peers and other individuals could reduce the pressure on families (Kirk et al, 1997; Wolfenden and Holt, 2005). Bailey and Morley (2006) expressed that there is no way of knowing how many potentially talented performers have been lost, through that lack of a strong support network behind them.

2.5.2 Competent Coaching

Bailey and Morley (2006) observed the important role that schools and extra curricular clubs, and in particular, Physical Education teachers and coaches, play as providers of opportunities in sport. This is not only in terms of selection opportunities, but also specialised and intense training. In terms of schooling, existing research demonstrates that elite sports performers have extremely positive feelings towards their school experiences, often crediting their school Physical Education teachers with identifying their talent and enabling them to nurture this (Gunnell and Priest, 1995; Redgrave, 2000; Johnson, 2003). Bailey and Morley (2006) went on to express the view that although this support from Physical Education teachers is valuable, often it is insufficient and needs to be supported by specialist coaches. Often Physical Education teachers take the role

of guiding potentially talented performers towards the nearest community sports club, where more specialist coaching would be available. Coté et al (2003) shared this opinion and proposed that specialist coaches can be one of the main sources of influence on young performers, as they develop in sport.

Durand-Bush and Salmela (2001) highlighted the importance of this coaching being of a good standard in order to be successful, and Ericsson et al's (1993) Deliberate Practice theory is reliant upon exposure to competent coaching. Swiatek (2007) suggested that an individual's development can only go so far, without the addition of appropriate expertise coaching. Often it is the role of the club coach to identify talented individuals for whom expertise coaching would be appropriate and provide them with opportunities such as trials for performance team selection (Williams and Reilly, 2000; Nieuwenhuis et al, 2002; Elferink-Gemser et al, 2003). Kirk and MacPhail (2003) acknowledged the central role that clubs play in sport in the UK. This confidence in the importance of clubs and club coaching highlights the vital role they should play in talent development and identification programmes.

It is also important at this stage to understand the variety of schooling available in English society. The 2 main categories are local education authority maintained schools and independent schools. The most obvious difference being that local education authority maintained schools are funded by the government, and Independent schools are funded privately (CAB, 2011). Within the government funded schools, there are what are commonly referred to as Grammar Schools. These require the pupils to pass an entrance exam, the 11

Plus, before they are admitted to the school (Bolton et al, 2009). Field hockey was traditionally played by girls, in both Grammar and Independent schools (Hargreaves, 1994). This is a theme that will be explored by the research project as it could have a significant bearing on an individuals ability to achieve elite performance in the sport.

The talent development model currently used by England Hockey, the Single System Pathway (Fig. 1), acknowledges the role played by clubs and schools, as the primary source for involvement in the sport. Their research (EHB, 2007) estimated that in 2007, 30,000 young people were playing hockey at club level, and so highlighted this as a key area for identifying and nurturing talented individuals. This should therefore be considered in the construction of talent identification and development programmes within the sport, with such a large number of performers being involved at club level, it appears to be a vast pool of potential.

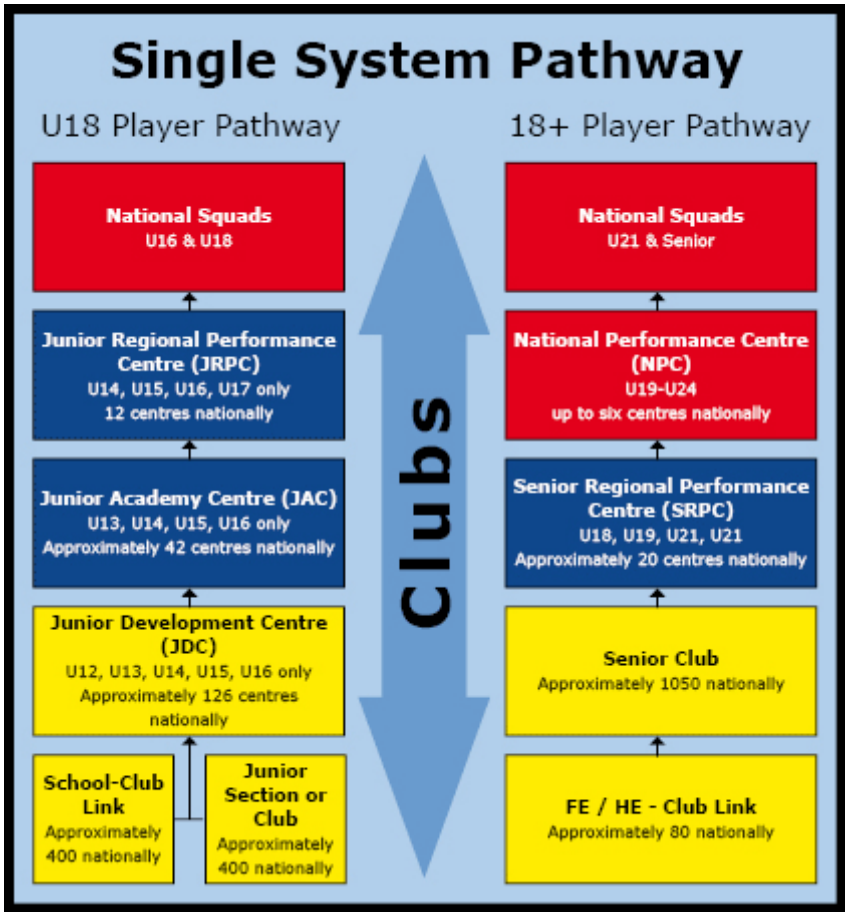


Fig. 1 EHB Single System Pathway (EHB, 2007)

2.5.3 Motivation

Ward et al (2007) stated that elite players possessed higher levels of motivation than sub-elite performers. While this can be seen as important factor in achieving success in sport, it will not be a focus in this study due to its psychological nature.

Sternberg (2000) stated that motivation is key to attaining expertise. Simply lacking the motivation to continue to train and perform will result in failure to perform at the elite level. Is it a case that enough intrinsic motivation will enable a participant to overcome any barrier to achieve expertise and elite

performance? Hoare and Warr (2000) suggested that more talented performers possess greater motivation and so are more willing to train harder. There remains a debate as to whether these individuals are more motivated because they are good, or if they are good because they are more motivated.

2.5.4 Resources

Access to available resources is a major factor in attaining expertise in sport. The resources range from equipment and facilities to competent coaching (Durand-Bush and Salmela, 2001). The ten years or 10,000 hours of deliberate practice proposed by Ericsson et al (1993), is heavily dependant on the performers exposure to appropriate equipment and resources. For a child who demonstrates natural ability in skiing, if they do not own their own skis or live close to a ski slope, then they will struggle to gain the practice time required to attain expertise in their sport. A lack of local facilities for this child will mean an increase in financial and time costs, creating a barrier to participation that not all families would be able to overcome. This problem is further exacerbated if the family is from a low socio-economic background, as their disposable income is less and so cannot stretch as far (Estabrooks et al, 2003). Several studies reinforce the belief that middle class children receive more family support than children from lower socio-economic families (e.g. Zeijl et al 2000; Kay 2003). It is vital to understand socio-economic factors that can influence participation and these should be considered in talent development and identification programmes (Bailey et al 2010).

Swiatek (2007) found that an individual can only perform to a certain level, and expertise can only be achieved with the support of appropriate coaching. Again access to competent coaching can be affected by socio-economic status due to a lower disposable income (Csikszentmihalyi, 1998). If a performer from a low socio-economic background has to travel to receive this competent coaching, they may be unable to afford the expense and, therefore, do not receive the coaching, so their potential development is limited. The Single System Pathway introduced by England Hockey aims to reduce the problem of travel and access to competent coaching by opening academy centres strategically placed around the country (EHB, 2007; 2010a). It remains to be seen how accessible these centres are to all athletes as it is a new system, its effectiveness is yet to be determined.

2.6 Luck

One aspect of success that has received limited exposure within talent identification and talent development is that of luck (Bailey and Toms, 2010). There have been various attempts to distinguish between types of luck (Cohen, 1989; Statman, 1993; Loland, 2002; Bailey and Toms, 2010). Bailey and Toms (2010) argued that ultimately luck affects every aspect of ability to succeed and develop talent, and therefore it was evident luck must receive attention in this study.

With regard to luck and talent, Loland (2002) suggested that the distribution of talent is a random process. A few scholars have broken luck down into 'types' of

luck. Hurley (2003) discussed the notion of 'thin' and 'thick' luck, which investigated the idea of responsibility for your own luck. Ultimately she proposes that luck can be influenced by your actions to some extent. An example of this within field hockey talent development would be a performer deliberately choosing to play at a club with an international coach, to enable them to greater exposure to this coach. This may then lead to the coach having a preference for this performer during a selection process, due to the prior knowledge they have of the player from club level.

Bailey and Toms (2010) developed a breakdown of luck, to decipher between luck that can be influenced and luck that cannot. They termed this 'soft' or 'hard' luck. Soft luck, refers to luck that can be influenced, such as which school a performer attends, whereas hard luck cannot be modified, such as the genetic make-up of a performer. Ability to influence soft luck becomes dependent on factors previously discussed; family, competent coaching, resources and motivation. Bailey and Toms (2010) concluded that success will not be achieved without practice and dedication, but this becomes easier if you come from a certain background. They also suggested that through every stage of selection, luck will be involved, and so doubt is cast as to whether the 'selected' are actually the most talented; more likely they are the survivors of social and financial obstacles. Not every individual receives the same level of support, resulting in differing exposure to opportunities (Heller et al, 2000) and ultimately this is down to luck (Bailey, 2007).

2.7 Conclusion

There is limited existing literature in area of field hockey and therefore the current models of talent identification and development have to rely on research carried out on similar sports such as field hockey. This suggests that there are modifications that could be made to make these models more field hockey specific. There are several key factors that have been highlighted that affect success in sport, family, coaching, resources and luck. These provide the basis to the questions posed to the participants in the study in order to try and develop a field hockey specific talent identification and development model.

3. Methodology

3.1 Chapter Introduction

This study examines the career pathways of elite female field hockey players, with particular consideration of talent identification and talent development

programmes within the sport. The research was collected through qualitative methods; conducting interviews with current elite, English female field hockey players. Issues of ethics, validity and reliability are discussed, as well as issues with ontology and epistemology and how they may affect findings in the study. Many of the methods chosen for the study have been selected through the trial of a pilot study, which is also discussed.

3.2 Research Topic

As previously discussed the area of talent development and talent identification has received significant attention from the academic community (e.g. Baker, 2003; Elferink-Gemser and Elferink-Gemser, 2006; Bailey, 2007; Vrljic and Mallett, 2008). Currently there are no published studies specifically relating to English field hockey talent development and identification. However there are studies relating to other team games similar in nature to field hockey, such as football, which examine talent development and identification.

The majority of field hockey related literature has been conducted in the Netherlands and Australia, two of the major forces in world field hockey and a large majority of this literature is based around the fitness components required for the sport (Jeffreys, 2005; Spencer et al, 2005; Sunderland et al, 2005; Elferink-Gemser et al, 2007).

In tennis however, a study by Wolfenden and Holt (2005) examined talent development systems, utilising the perceptions of the players, parents and coaches. Wolfenden and Holt (2005) used a qualitative, semi-structured interview process to collect their findings, which enabled the researchers to gain an understanding of why the participants had certain views, as opposed to just what their views were. By gaining an understanding of the feelings that the people involved in the development system had, a greater knowledge of the setup was achieved. Rather than a simple description of the situation, causes for circumstances could be explained by the research.

It has been suggested by Bailey et al (2010) that participant development in sport cannot be fully understood without consideration of the role of society. There is a significant lack of discussion regarding sociology of talent development in sport in general, despite its obvious situation within society (Bailey and Toms, 2010). In society there is often a view that people high up in organisations make decisions affecting the people participating at base level, without a true reflective understanding of what is best for them (Simons et al, 1999). Given the issues raised in Simons et al (1999) and the lack of any field hockey study compared to Wolfenden and Holt (2005) means that such a study is of paramount importance for field hockey development.

3.3 Qualitative Research

Qualitative research has been described as a type of research that produces results which have not come about through statistical procedures. It has been suggested that qualitative data analysis allows room for greater creativity and flexibility than quantitative research (Krane et al, 1997; Strauss and Corbin, 1998). It refers to research about lives, experiences, behaviours, emotions and feelings (Strauss and Corbin, 1998; Malterud, 2001). Hesse-Bibber and Leavy (2004) suggested that qualitative research incorporates historical, comparative, structural, observational and interactional ways of knowing, which requires interaction between the researcher and the participants.

The main benefit of using qualitative research is that it allows the researcher to gain an understanding of what people are doing and think, not simply what has happened. Quantitative research methods make understanding why things happen, or simply human emotions, far harder (Strauss and Corbin, 1998). Qualitative research allows the researcher to understand a topic from the participants point of view (Gillham, 2000). This project was not simply an investigation into the process that the participants had been through to get to where they are today, but to understand their feelings as to why they believe they have achieved so much.

As discussed in section 3.2, it can often seem that systems, such as the talent identification and development programmes used in field hockey, are implemented and designed by individuals who have not experienced them themselves, and so may have an unrealistic understanding of what may be the most effective methods.

Silverman (2005) proposed that if the research is concerned with exploring individuals' life histories or everyday behaviour, then qualitative methods would be a favourable approach due to its ability to investigate causes, not just outcomes. Silverman (2005) and Biddle et al (2001) also observed that qualitative research tends to work well with small sample groups. This is because it can be a difficult and lengthy process to analyse and so a small sample is good. Qualitative data collection is a suitable method for this project, as the sample was relatively small, and is concerned with life histories of the participants, their feelings and experiences.

3.4 Interviews

Interviews provide an environment where the researcher can provide an opportunity for complete and accurate communication between themselves and the interviewee (Berg, 1995; Cohen et al, 2000).

Adopting a semi-structured format, enables the interviewer to adjust the questions accordingly in order to attain the required information (Creswell, 1994; Blaikie, 2000; Bell, 2005). In other words the questions are open-ended, so are planned, with adjustments could be during the interview process (Hesse-Biber and Leavy, 2004). Holloway (1997) observed a shortcoming to this method, suggesting semi-structured interviews result in the greatest amount of irrelevant information. Therefore the time taken for results analysis will be

greatly extended as opposed to interviews with a solid structure (Cohen et al, 2000; Bell, 2005). It has also been observed that the interview process can take a significant amount of time, which could have an impact on the responses given by participants, particularly if they are under time pressure or simply become bored of the interview (Duncan, 1997).

It was observed that several previous studies on talent development opted for semi-structured interviews as their primary form of data collection, thus re-enforcing the belief that they were the most appropriate form of data collection for this research (Gould et al, 2002; Jones et al, 2003; Holt and Dunn, 2004; Wolfenden and Holt, 2005). An open-ended questioning format was important so that the participants were free to discuss any topics that they were particularly passionate about or affected by. Methods such as questionnaires may have limited the participants ability to portray these feelings, thereby never bringing them to the attention of the researcher.

3.5 About the Interviewer

The researcher for this study has played field hockey for 13 years. The last six years of which participating in the women's National League, with the last two seasons in the Premier Division. She has also been involved in coaching at school, club and regional level during this time, attaining a level 2 coaching qualification, accredited by the England Hockey Board (2009). She also conducted an undergraduate dissertation into the use of power by coaches in a

field hockey environment. During her youth she had some participatory involvement at a regional representative level with talent development and identification systems in field hockey but never to international representation.

3.5.1 Ontology and Epistemology

As previously mentioned, involvement in the subject area in question can aid the researcher in building rapport with the participants (Wolfenden and Holt, 2005). However awareness has to be given to the hindrance this can also have on analysis of findings and the possible effects of bias towards preconceived ideas. This process is known as ontology, and is concerned with the views a researcher has developed towards a subject area (Munn and Smith, 2008). These preconceived beliefs will have a bearing on the way they interpret results and ultimately could ascertain a set of findings, completely different to another individual viewing the same results. To minimise the risk of this, the data analysis was performed in consultation with another researcher. It was recognised that the main researcher had been involved with previous EHB talent development systems on a personal performance level and so her views may be affected by her experiences. Although this experience enhances her understanding of the processes, negative involvements during her own field hockey career may have a bearing on the findings. Again the use of a second researcher as a consultant should help to minimise this bias.

Another important variable to consider is the relationship of the interviewer to the participants. This philosophy is known as epistemology, and is concerned with the relationship between the participants and the researcher (Krane and Baird, 2005). The interviewer in this study was most commonly an opponent of the participants, however some of the athletes were members of the same team as the interviewer or had been in a previous team earlier in their careers. A benefit of the contact the interviewer had with the participants was improved access to them, with all the interviews being performed after league matches. Given that the interviews were performed after a competitive match, a significant period of time was left post match before commencing the interview to allow any frustrations from the game to subside.

It is also important to note that the variation between relationships between the interviewer and participants, may have affected the results provided by the participants. Some examples of how the different relationships may have affected the interview are that the teammates of the interviewer may have provided answers they believed the interviewer wanted to hear, whereas players from opposing teams to the interviewer may have answered to deliberately create problems for the interviewer (Sands, 2002).

It was important to note that an investigator will always enter a field of research with preconceived ideas about their subject. When research is conducted these preconceptions must be kept to a minimum in order to attain the most accurate

and realistic results (Malterud, 2001; Bell, 2005; Barbour, 2007). Due to the heavy involvement the researcher in this study has in field hockey, it was extremely important that they tried to remain as neutral as possible throughout the research process.

3.6 Pilot Study

The use of a pilot study is highly recommended for any type of research project (Thomas et al, 2005). By conducting a pilot study, fundamental issues in research design can be highlighted, which may not have been considered prior to the main research body (Teijlingen et al, 2001). The pilot study can provide vital information regarding sample size and feasibility of questions (Wolfenden and Holt, 2005; Rubin and Babbie, 2010). Encountering these issues prior to the commencement of the main study, enables changes to be implemented in order to achieve greater validity and accuracy in results (Cohen et al, 2000; Teijlingen et al, 2001).

A pilot study was conducted for this research in order to assess the methodologies, to attain an enhanced overall final study. The pilot study was conducted at the start of the 2009/10 field hockey season. The specifications for the sample were elite female field hockey players, currently participating in the National Slazenger England Hockey Premier league. Four participants took part in the study and all had a pre-existing relationship with the interviewer. It was acknowledged that this may have an impact on the validity of the findings. The

interviews were approximately 20 minutes in duration and were conducted in a segregated meeting room to avoid interruptions. The interviews were arranged at a time to suit each athlete in order to encourage participation. By recording and later transcribing the findings, the interviewer was able to maintain eye contact throughout the data collection, thereby demonstrating interest in the participants responses, the importance of which was discussed by Bell (2005). A senior researcher was also consulted as to the relevance of the questions and the structure of the interview. It was decided that a semi-structured interview format would be most appropriate for the research.

The pilot study provided important information regarding methodological research approaches. It was decided that a substantially larger sample would be required for the main study to enhance the validity and reliability of results. However this would still be restricted to an extent due to the time required to conduct and analyse each interview, again information on this was gained through the pilot study. The researcher felt the interview schedule was successful and accurate in attaining correct understanding of the questions, by the participants. The pilot study provided a good opportunity for the interviewer to practice and enhance their interview technique, with particular consideration to probe questions used to gain greater informed responses. The decision to conduct interviews in a quiet environment proved key when transcribing responses, as any external noise caused data loss, which could cause confusion during analysis as supported by Easton et al (2000).

3.7 Research Design

3.7.1 Ethics

As with any research, this study encountered a variety of ethical dilemmas that needed to be addressed before the data collection could begin. Ethics refer to what is morally right and wrong, which are grounded in the beliefs of the researcher (Silverman, 2000). Previous research has highlighted 3 main ethical areas of consideration in qualitative research; protection, confidentiality and anonymity of the participant (Berg, 1995; Wengraf, 2001; Mauthner et al, 2002). In this research project, these areas of ethical consideration were addressed through:

- Participant information sheets (See Appendix, 7.2)
- Informed consent from each participant prior to the study (See Appendix 7.1)
- Each participant being made aware that they may withdraw at any time
- Identities of the participants were also kept completely anonymous, through the use of pseudonyms, and they were aware of this before consenting to the project

The University of Birmingham provided ethical approval for the study, before any research commenced. This was granted through application to the ethics board with an outline of the proposed project. Issues around confidentiality

were described and explained. The anonymity of the participants was vital in order to obtain truthful results.

3.7.2 Interview

For the main study, 12 participants were interviewed, and similar questions to those used in the pilot study were asked (See Appendix, 7.3). The interviews lasted for between 20 and 40 minutes, and were recorded, transcribed and analysed as per the pilot study. All the interviews were conducted in a quiet area of a clubhouse, however the clubhouse varied depending on the destination of the fixture prior to interview.

The planning of a qualitative interview is vitally important, and various issues have to be considered. Depending on the subject, situation and participants, different structures will need to be applied to the interview (Wengraf, 2001). Factors such as wording of questions and the order of question must be carefully thought out, and practice is vital to achieve optimal results (Cohen et al, 2000; Bell, 2005). The pilot study was essential for guiding this process and ensuring reliable results were obtained.

Due to the limited time and funding available for this study, the size of the sample had to be carefully considered to allow enough depth of results but also time to conduct and analyse them fully. As mentioned previously, the completion of the pilot study aided decisions regarding sample size and interview schedule.

3.7.3 Access to the Sample

Prior to the research commencing, access to current Senior English female field hockey players had to be obtained. This was achieved through face-to-face verbal enquiries with the players, by the researcher; the interviews were then carried out on the same day. This process was relatively straightforward and successful due to the rapport pre-existing between the researcher and participants, due to mutual respect through involvement in the sport. Malinowski (1922 p. 36 cited in Sands, 2002) recorded the effect of rapport with the participants as an important initial engagement process. Within ethnography, Malinowski suggested the success of research is limited, without rapport between the fieldworker and participants. Although this field hockey study was not ethnographic, the importance of rapport should not be ignored, as it will (in the same way as in ethnography), make the participants feel at ease and capable of being more open with responses.

Lofland (1995) proposed that groups of people within an organisation are likely to have a similar view on an issue, and if the researcher demonstrates the same view, they are more likely to be accepted into the group. With regards to this field hockey study, the group could be viewed as high level field hockey players, of which the researcher qualifies, therefore supposedly gaining acceptance to the group. However if the group is viewed as senior international field hockey players, the researcher is on the outside the participants may have been less willing to disclose information regarding their personal views about the subject in question.

For the purpose of the study the researcher felt it best to remain as neutral as possible on the subject of talent development and talent identification in field hockey, but also to remain engaged and interested in the views expressed by the individuals to encourage their responses.

3.7.4 Sample Selection

All the participants in this study were selected by the researcher, and met the same criteria: female, senior England international field hockey player, still participating in the sport. From the population of possible participants, selection was performed on the basis of access, i.e. who was available to be interviewed.

Berk (1983) highlighted the issue of bias, affecting validity of research when selecting the sample, which should be considered for this study. If the participants are hand picked then they may be selected due to the interviewers prior knowledge of their experiences and views, which may favour the results the interviewer wants to find. This sample may then not provide a true reflection of the situation being investigated. However it is also important to note the limited possible sample size due to the specific criteria, which goes someway to justify the sample selected.

The age range of the participants varied from 19 to 25, with the average age being 22.5. This is a slightly younger average age in comparison to the England

field hockey squad that competed at the 2010 Commonwealth Games, the average age of which was 24.5 (EHB, 2010c).

3.7.5 Research Environment

The research was carried out during the second half of the 2009/2010 English field hockey season between March and July 2010. The interviews were carried out in a variety of destinations, after Saturday National League games, in the clubhouses of the respective clubs that the game was played at. The destination of the interviews varied due to participants playing for different clubs. All interviews were conducted in a quiet area of the respective clubhouse, so as to create a private environment between the interviewer and participant.

The players interviewed were 12 female field hockey players, with senior England international caps. All the participants had a wide variety of experience, in the sport. They were all recruited through contacts that the main researcher had within the English field hockey community. Participants were selected to ensure that there was a large range of experience between the players. Some of the participants were at the start of their senior international careers, whereas other members were long established in the team.

At the start of each interview the participant had an explanation form the interviewer as to the purpose of the research, i.e. to gain an understanding of

talent development and talent identification systems within field hockey through examination of career pathways of elite performers. After the study's purpose had been explained the participants then gave written consent to the study and were made aware of their right to withdraw at any point. The participants were also notified that their identities would be kept anonymous through the use of pseudonyms. The interviews were approximately 30 minutes in duration.

3.7.6 Recording Data

The interviews were all recorded to a digital recorder and later transcribed verbatim by the researcher. Each interview was performed face to face. The use of audio recording of data enabled the interviewer to remain engaged in conversation with the participants as opposed to being concerned with writing notes during the data collection. Easton et al (2000) highlighted the benefits of the interviewer performing both tasks to minimise misunderstanding of participant responses. Dicicco-Bloom and Crabtree (2006) stated the tremendous aid that audiotape recording data, can be for the analysis process, enabling the researcher to document everything other than non-verbal interactions from the interview. DeCicco-Bloom and Crabtree (2006) also discussed the importance of data protection. To meet these demands the collection of audio files from the 12 interviews were stored on the digital recorder and were then transferred to a password protected computer, of which only the researcher had knowledge. The transcribed files were also stored on this secure facility.

3.8 Validity and Reliability

Silverman (2000) described validity as the truth, and so the validity of a study is how truthful that study is. An idea of 4 types of basic validity has been proposed; logical, content, criterion and construct (Thomas et al, 2005). Logical validity relates to the extent to which a parameter actually involves a performance that is measured. Content validity is the extent to which the questions in a test actually relate to what has been previously learnt, or in this instance the extent to which the questions relate to the subject in question. Criterion validity is the degree to which the results from a test relate to a recognisable standard. Construct validity is the way in which scores from a test measure a hypothetical idea; it is often established by relating test results to behaviours.

In addition to defining different types of validity, Tomas et al (2005) expressed the importance of reliability to validity. An unreliable test is not a valid test. They suggested that if successive trials do not result in the same or similar outcomes then the test cannot be trusted and therefore is not reliable. In the instance of this study, an unreliable interview would result in responses to questions that were completely differing topics between participants. Obviously it was not expected or wanted, that participants would give identical responses, but a similar basic understanding of what the question was asking would suggest that the test was reliable.

An aspect of reliability in this study that is questionable is the varying experience level of the different athletes. These varied experiences may mean that individual situations are different, i.e. where they currently live, which may have a huge impact on their views of how the system is currently run. If they live close to the base of the centralised programme they are likely to feel more favourably towards it than someone who has to travel 4 hours every time they have to train.

To improve the validity and reliability of this study as many parameters as possible were kept constant, i.e. all of the interviews were conducted, by the same researcher, at a similar time prior to a competitive game. The interview environment was kept as similar as was feasible given that they were conducted in different clubhouses. All the clubhouses had the same initial questions, however varying probe questions were initiated to gain a greater understanding of the participants feeling and overall response, i.e. a semi-structured format.

Gratton and Jones (2004) noted the importance of the way an interviewer phrases a question, as this can lead a participant to a particular response. With this in mind, the interviewer was aware of the dangers of influencing the participant to a particular response, particularly one that they may have wanted to hear.

The impact of the interviewer being involved in a competitive game with the interviewees prior to the interviews should also have been considered as this can impact on the dynamics of the data collection. If sufficient resources were available validity and reliability of this study could have been further enhanced if, a second researcher analysed the results, and the sets of findings. This would have ensured the findings were realistic and not influenced by either researchers preconceived ideas.

3.9 Data Analysis

All the data analysis is performed concurrently after the data collection had been completed. The interviews were transcribed verbatim and then analysed by the interviewer. The data analysis was performed solely by the main researcher after in-depth discussion with a senior advisor.

Line-by-line micro analysis (Strauss and Corbin, 1998) was generated in order to attain initial categories in the results. Once these similar categories had been identified, they were pasted together to created 12 categories and 11 sub-categories. They were grouped into these classifications through similar themes, in responses. Identifying these themes was aided by the structure of the interviews, which primarily divided questions into 8 themes that were anticipated prior to the data collection.

3.10 Chapter Conclusion

This chapter examined the methods behind the research, explaining why they were appropriate and how the raw information was analysed to produce clear

findings. The chosen method of qualitative data collection and analysis allowed for understanding of experiences and opinions, as well as what the participants had experienced during their careers.

The following chapter will discuss the findings of the research, with consideration of the key themes: luck and support from family, school and clubs.

4. Discussion

4.1 Introduction

This section examines the themes discussed in the literature review, and discusses them in relation to the information obtained through the research methods, as discussed in the methodology. One overriding factor appeared throughout the data analysis, with 3 emerging key themes within this. These themes will be discussed in accordance with previous literature around the subject of talent development and talent identification. The key factors that affect talent development and identification in field hockey are identified.

4.2 Data Analysis Themes

Before the data collection began, key themes were identified, through the prior research in the pilot study and analysis of related literature. These key themes were as follows:

1. Support
2. Luck
3. Facilities/ Resources
4. Talent Development Programmes
5. Talent Identification Programmes
6. Opportunities
7. Deliberate Practice
8. Motivation

Analysis of the interviews identified that within the themes there were the following categories:

1. Early Specialisation
2. Early Diversity
3. Support
    a. Parents
    b. Peers
    c. Coach/ Club
    d. Teacher/ School
    e. Sibling
4. Financial
5. Opportunities
    a. Selection Process
    b. Rest
6. Luck
7. Motivation
    a. From an External Source
    b. Success
    c. Intrinsic
    d. De-selection/ Negative Experience
8. Facilities
9. Transport
10. Bias

11. Late Developers
12. Dropout/ Burnout

The new categories emerged from broader issues than had been considered before data collection. When analysing the categories it was observed that luck had an impact on each aspect. Within these categories, support appeared to be the biggest influence and was identified in three key forms; family, school and club. These were the themes that were then explored in greater depth.

4.3 The Participants

Having collected the data, it was apparent that the type of school attended by the participant had a significant impact upon their experiences and opportunities within field hockey. The participants all either went to a Grammar or Fee Paying Private School, and so based on their schooling 2 groups were identified; The The Gram-kids and Priv-kids. None of the participants went to a state school (Stat-kids), which may be due to the traditional nature of field hockey being a middle to upper class sport.

4.3.1 The Participants

Participant	Age Participation Began	Age at 1st International Cap	1st Full Senior International Cap	Age Participation at Club level Began
Sarah	11	17 (U18)	21	11
Hannah	11	13 (U15)	16	12
Claire	11	14 (U15)	20	13
Nicki	11	15 (U18)	20	13
Laura	11	16 (U18)	17	15
Liz	11	17 (U18)	22	12
Becky	10	12 (U15)	19	18
Rachel	7	15 (U18)	18	9
Cat	9	15 (U18)	21	11
Carly	11	16 (U18)	21	13
Jo	12	15 (U18)	21	12
Kirsty	10	16 (U18)	20	13

The Gram-kids (Orange lettering) is the smaller group, with four players, Sarah, Hannah, Claire and Nicki. The grouped is titled the Gram-kids as the members all attended a Grammar school.

Sarah started playing field hockey when she first began Grammar school, and this was the main reason for her initial engagement in the sport. Her involvement at international level came later than many of the participants, at age 17, and she was involved in a number of sports throughout her youth.

Claire also first participated in field hockey when she started Grammar school, and quickly was encouraged to join a local club. She was picked up by England at an early age, 14, but has been dropped from the international setup in recent years, and expressed the difficulty to be re-selected.

Hannah became involved in field hockey through family interest in the sport, but noted the important role that her school provided in terms of offering opportunities. Internationally she started early at the age of 13 and has been heavily involved since.

Nicki, again, began her field hockey involvement at school and recognised that if her school did not focus on the sport, she probably would not have ever played. Her international career began at age 15 and she is verging on the edge of the full senior setup, with a few senior caps.

The Priv-kids (blue lettering) is a group of 8 participants, and is comprised of the participants who attended a Fee Paying Private school; Laura, Liz, Becky, Rachel, Cat, Carly, Jo and Kirsty.

Laura started playing field hockey at school and since age 16 has been heavily involved in the international setup with over 100 caps.

Liz also began field hockey at school and is currently on the edge of the senior squad, having begun her international career fairly late at age 17.

Becky started playing field hockey whilst at prep school, and was initially interested through the involvement of her family in the sport. She is no longer involved in the international setup.

Rachel started at the youngest age of all the participants, at age 7. Again this was through family involvement in the sport and also school support. She is currently heavily involved in the international setup and has been since age 15.

Cat also began at a young age, 9, mostly through the participation of her brother. Internationally she began at age 15 and is currently on the edge of the senior squad.

Carly became involved in field hockey initially through her school, and is currently also on the edge of the senior international squad.

Jo also became engaged in field hockey through her school, and was heavily encouraged by her family to pursue her obvious talent. She has had mixed experiences with selection at international level but is now forging a solid place in the senior squad.

Finally, Kirsty also first played field hockey at school and is currently on the edge of the senior international squad, having begun her involvement at age 15.

All of the participants have had differing experiences within field hockey talent identification and development but their individual experiences contribute to an overall conclusion of their feelings.

4.4 Luck

Through thorough scrutiny of the interview data, the concept of 'luck' appeared to ultimately influence all aspects of success. This is a theory in literature, with ever-growing interest and support, but is still significantly limited when considering talent development (Bailey, 2007; Bailey and Toms, 2010). Bailey and Toms (2010) went on to distinguish between two types of luck, soft and hard. Hard luck cannot be modified, whereas soft luck can. For the purpose of this study, hard luck will relate to genetics and innate ability, while soft luck relates to families and general upbringing, peers, coaches, clubs, school and teachers, all of which ultimately influence exposure to opportunities, which may then lead to success. Breivik (1997) also discussed the influence of luck in sport and suggested implementing class categories may create a more equal environment, for example height divisions in basketball. Still within this there will be someone at either end of the scale and so someone having a lucky advantage.

There appeared to be a varying understanding as to the extent luck had affected each participant within this study. There was a clear awareness amongst participants of opportunities being a key factor in their ultimate success, but this was ambiguously viewed as solely due to luck. There was more evidence and understanding of luck, in terms of living in a convenient location for sports participation, or attending a Fee Paying school with a keen interest in field hockey. This form of luck fits the 'soft luck' category (Bailey and Toms, 2010).

> *"with respect to local facilities, which like, are provided by the Government and stuff, I potentially don't use them or know about them and stuff because I've been so lucky to have the facilities around school"* (Rachel, 15/4/10, Q4)

Participants had differing perceptions of their luck associated with achieving success, ultimately highlighting a variety of sub categories of soft luck; representational level, family, school and club. The idea of support was also present throughout these sub categories, in the form of being lucky to be supported in these differing areas of family, school and club (Côté, 1999; Kay, 2000; 2003; Abernethy et al, 2002; Bailey and Toms, 2010).

4.5 Representative Level

Another area that received significant attention from the participants in terms of luck, was during the selection process for performance teams. Kirk et al (2005) described talent development and selection processes as a means of identifying the best performers and rejecting the rest. However, is it always the best

performers that get selected in reality? Bailey and Toms (2010) suggested that selection processes are only appropriate if opportunities are equal and that perhaps the selected performers are the lucky ones who survived social and financial barriers.

> *"unless you get a lucky break it's quite tough I reckon to kind of get in"* (Becky, 6/4/10, Q8)

Selection processes in field hockey are subjective as they are ultimately due to the coaches and selectors opinions and rarely based on any quantitative measures (Nieuwenhuis et al, 2002). This is not to say that quantitative measures are the way forward for talent identification in field hockey, but it is important to be aware of the validity of current selection methods. Some of the participants expressed their concerns over the selection processes that they had been through themselves, for example:

> *"a lot of it is based on opinion and I think that, and a lot of it is to do with what schools some potential teachers teach at, and which kids they want to see success and I don't agree with that"* (Laura, 28/3/10, Q10)

This clearly demonstrates the awareness players have for the reliability of field hockey selection processes and brings into question the validity of the results of selection. There appeared to be a shared view of nepotism in selection, that often the selectors favoured players that were from a certain school or club, or players that they had a previous knowledge of. Worryingly it was felt that this biased process occurred throughout all levels of field hockey selection, from county to senior international, and this was a view held by both Priv-kids and

Gram-kids. Bailey and Toms (2010) made note that in an ideal development program, participants should not be selected based on factors such as upbringing, accident and geography, and that development programs need to neutralise these influences to generate a valid system. Not all individuals are exposed to the same level of support and therefore experience differing opportunities (Heller et al, 2000). The feasibility of which is somewhat contentious, and allows for understanding that to create such an environment would require significant government funding to enable every individual equal opportunities within the sporting environment.

With this evidence of favourable circumstances at selections, it could be understood that luck can be influenced by circumstances, and supports a theory of 'creating your own luck'. For example, by choosing to play at a club with a top level 1st XI, the individual will have a better opportunity at performing at this level themselves, as opposed to an individual playing at a club with a 1st XI in a lower division.

> "*around the age of 14, moved to ********** 1's to play Premiership"*
>
> (Claire, 21/3/10, Q5)

A common theme in talent development literature is that of support, and the pivotal role it plays in achieving elite sporting success (Zeijl, 2001; Abbott et al, 2005; Bailey and Morely, 2006; Vrljic and Mallett, 2008). Within the role of support, three main providers have been observed through the literature:

Family, school, club (Kirk and MacPhail, 2003; Bailey and Morely, 2006; Bailey and Toms, 2010).

4.6 The Family

There has been extensive research into the influence of the family on elite talent development (Coté, 1999; Carr et al, 2000; Kay, 2000; Holt and Morley, 2004). Hellstedt (2005) went as far as to suggest the family is the most important influence in an athletes' life and it is not uncommon for elite players to attribute their success to their families support. Out of the 12 participants in this study, 10 mentioned the vital role their parents had played in their success. This came about through support in a variety of different forms, most prominently, financial, transport and being interested and involved.

> *"my family sort of influenced it a lot because they helped me with travel and stuff like that and obviously the financial side…my family are really, really important"* (Kirsty, 14/7/10, Q3)

4.6.1 Financial Support

Ford et al (2009) highlighted financial backing as one of the key factors affecting an individuals experience within sports participation. Children from a lower socio economic background may find it harder to achieve elite sports performance due to financial pressures involved with sports participation

(Rowley, 1992; Kay, 2000). Within the UK, to try and counteract the expensive nature of amateur sport, such as field hockey, the government has significantly increased funding over the past 10 years (DCMS, 2000, p. 44 cited in Green and Oakley, 2001).

Traditional field hockey is a middle class sport (EHB, 2011), and this trend has been represented in the sample that participated in the study. 59% of the participants attended independent school, suggesting a well-established, socio-economic status.

For many of the participants, their parents fronted the financial cost involved, especially during the early years of their participation. It was clear that for many of the participants, they understood and were grateful for the financial backing they had received from their parents.

> *'Mum basically driving me aroud the country to play sport and also just being supportive"* (Sarah, 21/3/10, Q2)

It was also highlighted that once a level of elite performance is attained then support through means of sponsorship and funding becomes available, but, before this level can be reached, the financial cost falls directly on the family. Therefore to reach the elite level significant funding must be provided at a younger age and lower level.

> *"hockey's just particularly, it's an expensive sport and you're obviously not funded to travel when you're younger"* (Claire, 21/3/10, Q3)

The importance of funding at the elite level of sport has been observed and acted upon, with the realisation that elite sporting success can realistically only be achieved through substantial and sustained funding and support (DCMS, 2000, p. 44 cited in Green and Oakley, 2001). As young talented performers develop into young adults, the financial burden of support may have to shift from families to themselves. Often the sport becomes a full-time occupation, but with many sports, such as field hockey, it is still an amateur level and so the relevant Governing Bodies are required to provide some financial support. The participants in this study stated how important they had found this support.

> *"Definitely all the TASS funding and stuff…definitely helps"* (Cat, 19/4/10, Q9)

However it appears that this funding support is not felt equally across the board, with some participants finding it a struggle.

> *"I'm not being funded by anything so basically I have to fund it myself"* (Jo, 14/7/10, Q9)

> *"you have to be kind of a professional athlete but hockey doesn't really have the money behind it"* (Cat, 19/4/10, Q10)

It appears from this research that the financial impact required for success in elite sport is significant, and the family is a key provider of this (Masteralexis and Hums, 2011). Swiatek (2007) suggested that an individual can only perform to a certain level without the input from appropriate coaching, and this can only be accessed with sufficient financial support. Obviously not all participants are in

the same family financial situation, and so luck is again an important factor in ultimate success.

4.6.2 Transport and Location

A major burden, both financial and time consuming, is that of transport to and from training and games. This can be further exacerbated by the geographical location of the individuals' home in relation to training facilities, therefore a child from a lower socio-economic background may have greater difficulty in participating than a child from higher socio-economic status, due to more limited disposable income (Estabrooks et al, 2003).

The participants in this study were well aware of the financial expense that travel had incurred for their families.

> *"support like travel, transport, money, you know the amount of money they've spent on petrol and taking me about everywhere"* (Rachel, 15/4/10, Q3)

It was also clear that many of the participants lived close to a hockey pitch and so travel to training and home games at an early age was less of an issue. Perhaps this may have had a large influence on their initial, and then continued, engagement in the sport.

> *"I was close to the hockey pitch…I had the club just down the road"* (Sarah, 21/3/10, Q4)

4.6.3 Parental Interest and Involvement

It is not only financial and access support that the family provides to a young sport's participant. Hellstedt (2005) highlighted the importance of the family as an influence in an athlete's life, and provides the primary environment for young athlete's to first develop skills and coping mechanisms, that can then be transferred into competitive sporting situations. It has been proposed that having parents currently, or previously involved in high performance sport, will have a positive influence on the participation of their children in sport (Wold and Anderssen, 1992; Yang et al, 1996; Jambor, 1999). With girls specifically, The Wilson Report (1988 cited in Giuliano et al, 2000) found that parents' sports participation was the single most influential factor for, affecting a young female athlete's participation and engagement in sport. Studies have shown a positive correlation between amount of parental encouragement, interest or involvement and levels of their children's sports participation (Butcher, 1983; Higginson, 1985; Silva et al, 2009).

It was immediately clear through the interviews in the study how highly the participants rated the importance of the role their family had played in their success, and not only from a financial point of view but also as sources of encouragement and as role models.

"My family are really, really important" (Kirsty, 14/7/10, Q3)

Hannah generalised the support from her family, and then went on to highlight values such as a good work ethic, that she had learnt from her Mum at a young age, and commented how she had taken this value into her commitment to field hockey.

> *"Opportunities and having support from my family was massive"* (Hannah, 14/3/10, Q8)

Carly concluded, that without the role her parents had played in her sports participation, she would not have been able to achieve anywhere near what she has, and it seems that the majority of the participants placed a similarly high value on their family support.

> *"my parents… when you're younger like there's no way you could do it without them"* (Carly, 22/5/10, Q7)

4.7 School

The two main types of school in England are State, government funded, and Fee Paying, privately funded. The roots of field hockey are in middle to upper class society, and so are traditionally linked more heavily to the private sector and Fee Paying Schools (EHB, 2010b). From this study, 66% of the elite players interviewed had attended Fee Paying secondary schools in their youth, and this supports the traditional belief of a slant towards an upper class sport. There is also evidence from this study supporting the understanding that field hockey is also traditionally linked to Grammar schools, a sector of government funded schools, with the remaining 33% of the participants attending Grammar schools.

It is significant to note that none of the participants in this study attended a State Comprehensive school. This suggests that there is an over representation of Fee Paying school and Grammar school participants at the elite level of field hockey in England, and raises questions as to the reasons the state comprehensive pupils are not. This is particularly shocking considering that approximately 85% of young people in the UK attend a State school, 12% a Fee Paying school and 4% a Grammar school (Toms and Bridge, 2010).

Investigation into the U18 National Schools Finalist in 2007, 2008 and 2009 supports the theory of field hockey being Fee Paying dominant with all 5 finalists, every year, being Fee Paying Schools.

Laura talked about how the Fee Paying school that she had attended, provided a scholarship for her education, due to her sporting abilities. This kind of funding at a young age can reduce some of the financial burden placed on families as previously discussed in this chapter. It was also clear form the interviews the fantastic facilities that the participants who attended Fee Paying schools had been exposed to during their education, especially if during this time they also resided at the school. Again luck is prevalent in this process and should not be forgotten.

> *"live at school…just had all the facilities and just loved it really"* (Carly, 22/5/10, Q2)

This is not to say that the participants who did not attend Fee Paying schools did not have access to such facilities, but the ease of access may have been more difficult. This brings about the question of how many talented performers did not attend Fee Paying schools, or even Grammar schools and therefore did not have access to these facilities and potentially never realised their talent. The issue of luck is thereby apparent again. Without the access to appropriate facilities, a talented field hockey player may never have even sampled the sport simply due to the lack of luck of attending a school with such facilities. It seems important then, to consider how to provide all young performers with the chance to sample the sport, but the facilitation of this remains an issue without significant financial support.

Becky was very honest in stating that simply by attending the Fee Paying school she had, when it came to county selection trials, she was aware that she and her other school peers were at an immediate advantage due to the good field hockey reputation the school had.

> *"we come from like a good school, like if you get put forward from it then you're like almost going to be in regardless"* (Becky, 6/4/10)

If this is true for all selection processes, then it is a biased method of identifying talent and not the fair method demanded by the SSP model. When discussing selection methods, Laura clearly shared this view, suggesting that talent identification needs to be performed by someone without biased opinions, who genuinely believes in a child's capabilities.

Bailey and Morley (2006) made clear how influential schools and particularly physical education teachers and coaches can be on young performers and the experience they have with sport. Other elite performers, from a variety of sports, prior to this study have made it clear how positively they felt towards the experiences they had had at school and the tremendous support they had provided (Gunnell and Priest, 1995; Redgrave, 2000; Johnson, 2003). There has been a tendency in literature to assume that school staff play a small part in the development of elite performers, and simply guide talented youths towards a local club (Bailey and Morley, 2006) but even if this is the case, without their intervention, these performers may never have joined a club and so could be pivotal in their development. Since the turn of the century there has been a move by the government to improve the provision for talented young sports performers in schools through the 'Gifted and Talented' programme (DfEE, 2000; Bailey, 2007). This was a project implemented by the Government in 2000 in an attempt to get schools to identify and develop gifted and talented pupils in a variety of subject areas, including physical education.

Similarly, to elite performers previously questioned about the role their schooling had taken in their development to the top level (Gunnell and Priest, 1995; Redgrave, 2000; Johnson, 2003), the participants in this study felt that school had been important in their development.

> *"school's a massive influence"* (Rachel, 15/4/10, Q3)

"my school teachers, my P.E. teachers there were really motivational" (Carly, 22/5/10, Q3)

It is clear the significant impact the performers felt school had had on their participation and performance in field hockey, especially at an introductory level.

4.7.1 Initial Engagement

The vast majority of the participants began their involvement in field hockey at secondary school, suggesting that if it had not been offered in the school curriculum then they may have never participated.

"when I got to school…I hadn't played hockey at all in my life" (Jo, 14/7/10, Q2)

This was the case for both Priv-kids and Gram-kids, but the Priv-kids spoke about a more club structured approach to school hockey than the Gram-kids. Gram-kids expressed a greater need for involvement at club level to access high quality coaching and competition.

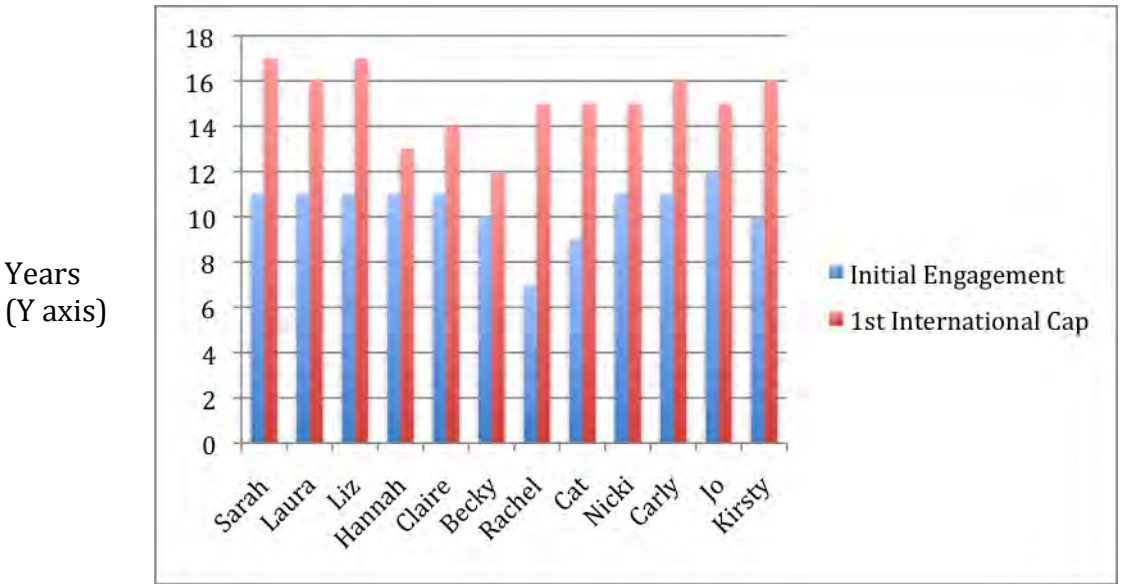
"It was amazing, we scored like hundreds of goals and it was just brilliant…that was where hockey was really good, we were lucky to have some really good international coaches" (Sarah, 21/3/10, Q5)

Becky mentioned that her field hockey involvement at school was when she felt her participation properly began, suggesting that prior to this she may have briefly been involved in the sport, but it was not until she encountered the

structured setup at school, that she felt her participation really began. This may be linked to the theories of deliberate play (Coté, 1999) and deliberate practice (Baker et al, 2003a ; Ward et al, 2007). Prior to school involvement any interest in field hockey may have been deliberate play, but once in a structured environment it developed into deliberate practice. For Becky, she was aged 10 when her involvement in field hockey began at school, but she maintained involvement in a variety of sports until age 14, at which point she began to focus more on field hockey and less on other sports.

Fig. 2

Participant initial engagement in Field Hockey and 1st International Cap



Initial engagement in this study refers to the age at which the participant first participated in deliberate practice, ergo some form of structured participation, primarily either in a school or club environment. It is clear from the graph that the majority of the participants' initial engagement in field hockey was around

11 or 12, the age at which children in England begin Secondary School. This is further support for the belief that school has provided many elite field hockey players with their primary involvement in the sport. Nicki summed up the impact school had had on her involvement as follows;

> *"probably the biggest influence was school, the fact that the school played hockey, I think that if I had gone to a school that didn't play hockey, I don't think that I would have started playing"* (Nicki, 21/4/10, Q3)

4.7.2 Physical Education Teachers and School Coaches

Another positive attribute of Fee Paying schools appears to be the common position of a specialist field hockey coach at the school, as opposed to a generic Physical Education teacher at the majority of State and Grammar schools. With such a coach in place, access to competent coaching is immediately increased, the importance of which has been well documented (Ericsson et al, 1993; Durand-Bush and Salmela, 2001; Bailey and Morley, 2006; Swiatek, 2007). This competent coaching seemed to be easily available outside of P.E. lessons, further providing opportunities for high quality training throughout the schooling period.

> *"school erm. Was really good…they were always helpful, putting on extra coaching sessions"* (Cat, 19/4/10, Q3)

This is not to say that a Physical Education teacher at a State school will not be able to provide a competent level of coaching, and this study has highlighted the importance that some participants placed on their teachers for their success. As previously mentioned, this was often through encouragement to join a local club, the importance of which should not be underestimated. Sarah, Liz, Claire, Hannah, three of which are Gram-kids, all stated that it was their P.E. teachers that had promoted their involvement in the local hockey club. Luck must again be considered, as if a talented individual attended a school with P.E. staff uninterested in field hockey, then this tends to suggest they may not have been pushed towards a club outside of the school environment, thereby inhibiting further involvement in the sport.

4.7.3 School Involvement in Development Programmes

The sample in this study only reported limited direct involvement with school and development programmes. For the majority of the participants, their route to these programmes had come via the club they were representing. The participants that had been put forward from school tended to be Priv-kids, and had not become heavily involved in club hockey until a later stage of their development. It was unclear how several of the participants became involved at county level, but mostly evolved after initial involvement at school, then moving to a club to develop their interest.

4.8 Club Hockey

EHB (2011) have demonstrated clear understanding of the important role that clubs play in English field hockey and it should therefore be a key component in talent development and identification programmes in the sport. Club hockey has played a major part, at some point, for every participant in this study. Details of the age their involvement at club level began can be found in section 4.3.1. The majority of the players joined nearby clubs in the first few years of their involvement, as a natural progression from school involvement, but for a few of the Priv-kid participants, this club hockey involvement developed at a far later stage, as provision during their school years was sufficient. All the participants in the study have viewed the overall role of club hockey as a very positive experience. Sarah had particularly strong feelings towards the first club she had played for, suggesting that it had provided enjoyment and a genuine love for the game.

> *"it was just brilliant and like that was where hockey was really good"*
>
> (Sarah, 21/3/10, Q5)

4.8.1 Club Coaches

As previously mentioned Bailey and Morley (2006) suggested that P.E. teachers often take the role of guiding talented pupils to local sports clubs, and this is with the well founded belief that the quality of coaching will be of a high standard. For talented youths that do not have a specialist field hockey coach based at

school, this can be a key transition into a higher level of training and performance outside of the school environment.

Similarly to the influence that going to a school with a good reputation, Liz mentioned how playing for the club she did, had given her an advantage at the junior international level selection process, as her club coach was also the junior England coach.

> *"My club coach was also England *** coach which I think had a lot to do with it to get selected"* (Liz, 28/3/10, Q8)

The idea of a coach selecting individuals based on favouritism, or prior connections was discussed in relation to football talent identification by Hammond (2001), which he found significant support. Close connections with potential players may cause the coach to make a clouded judgement.

It may have been due to lucky circumstances that Liz played for this club, or it may be that she deliberately chose it because of the coach that was there, and so this action influenced her own luck. Either way, there is a certain amount of luck surrounding the situation that resulted in her selection to international representation.

Similar to the strong emphasis that many of the participants placed on a P.E. teacher as a driving force for their career success, club coaches for the

participants in this study, also appeared to be influential in that respect. Kirsty felt that her club coaches had pushed her abilities at a young age, which dramatically aided her development.

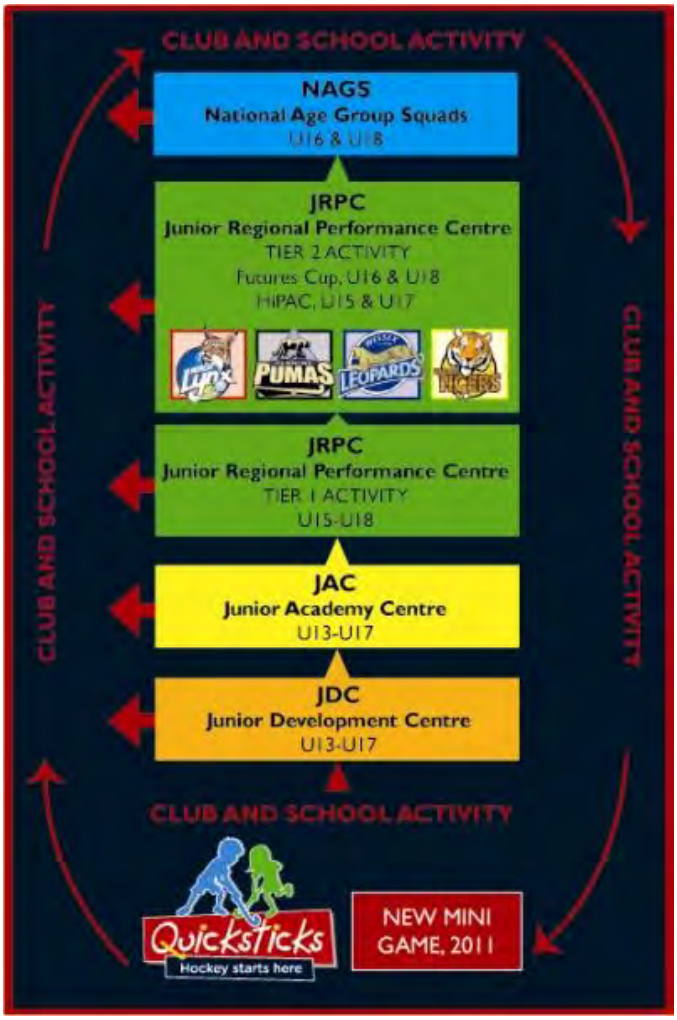
> *"the coaches there they encouraged me to train with the boys rather than the girls at first because, to improve quicker"* (Kirsty, 14/7/10, Q6)

4.8.2 Club Standards

At junior level the EHB (2011) view club and school hockey as a stepping stone towards talent development programs (Fig 4).

Fig. 3

Single System Pathway (EHB, 2011)



However, the participants in this study also highlighted the important role that the club structure in England plays as a means of high quality competition on a regular basis and ultimately playing in the Premier league is a key factor for selection at international level.

> *"it was really important for players who were involved in the international setup to be playing Premiership National League hockey"* (Claire, 21/3/10, Q5)

Many of the participants had at some point during their playing careers, made a move to a club with a top standard 1st XI, to provide them with the best opportunity to play the highest level club hockey in the country. This tends to

suggest that without being involved with a top-level club, the route to elite performance may be more of a struggle. Simply by being a member of a club with a team in the National Premier League, provides an improved opportunity to play at that level as a developing player, than that of a player at a club with a 1st XI in a lower league. Yet again, by choosing a Premier League club you may enhance your own luck.

When questioned about the current talent identification and development processes in field hockey, a common area for improvement was the use of top-level club competition as an environment for observation of performance and selection through such observation. It is a method of selection that has been more regularly implemented over the last few years, but many of the participants felt this observation was too narrow and focused on players already in the system, without consideration of outsiders. When considering Gulbin's (2006) observations of the importance of facilitating an avenue for late developers in talent identification systems, using the high standard of club games, performed on a regular basis, as a stage for promoting these individuals, is an interesting theory that should be developed further.

> *"I just think they need to actually go around and watch, like actually see people play"* (Becky, 6/4/10, Q9)

4.9.2 Mediators of Talent

Through the information gained in this research project several key factors influencing talent identifiaciton and development in field hockey have been identified. These have help identify 2 clear groups within our sample, Gram-kids and Priv-kids. Evidence for Stat-kids could not be constructed due to none of the participants in this study fitting this category.

All the individuals from both groups have followed a pathway, from a talented individual to a successful elite performer. There is consideration for three key support factors; family, school and club. During involvement at club and or school level, development programmes are in place to enable involvement at a representative level. The support provided by school and clubs may differ depending on Priv-kid or Gram-kid grouping, or even with regular State school (Stat-kid) attendance. The evidence demonstrates that it is likely that a Priv-kid will have greater school support and less club support than that of a Gram-kid. It is also thought that a Gram-kid will have greater school support than a Stat-kid, whose club and family support will need to be even greater to compensate for lack of school support, but due to none of the participants in the study being Stat-kids there are no facts to prove this. The overwhelming factor affecting this development however is luck, right from the point of being a 'talented individual'; through to everything that then creates a successful performer. There is a feeling that luck can be influenced through individual actions, but ultimately cannot be controlled.

4.10 Chapter Conclusion

This chapter has examined the opinions and experiences of current elite field hockey players, and related them back to previous literature in field hockey, talent identification and talent development. Three major support networks were highlighted, and a continuing theme of luck was identified (Lolan, 2002; Bailey and Toms, 2010). The effect of type of school attended by the participants was found to have a significant impact upon their career pathways, with 3 groups identified, Priv-kids, Gram-kids and Stat-kids, with Stat-kids not being represented by any individuals in the study. The next chapter will draw further conclusions on the existing pathway and suggest further research questions, within the area of field hockey talent development and talent identification.

5. Conclusion

5.1 Chapter Introduction

This chapter summarises the research findings, drawing conclusions from the information gained on the sample of hockey elite performers career pathways and the talent development programmes they have experienced. Further potential research on field hockey talent development is also discussed, in the hope that current models are enhanced to ensure talented individuals maximise their potential.

5.2 Research Findings

The overwhelming factor apparent in current field hockey career pathways is that of luck (Loland, 2002; Bailey and Toms, 2010). This is from the physiological attributes an individual is born with, through the support they gain and opportunities offered and received throughout their involvement in the sport. The main support providers come in the form of family, school and clubs (Durand-Bush and Salmela, 2001; Abbott and Collins, 2002). Alongside this comes the involvement of development programs, run by the governing body, as an avenue to elite performance. Without a combination of support elements, it appears that achieving elite performance is near impossible, however it is a matter of luck as to the quantity and quality of this support.

All of the players felt their family had had a significant positive impact on their playing careers. This was particularly evident during the younger years of their participation, most notably in the form of financial and access support, but also as a means of encouragement and psychological support (Hellstedt, 2005).

School was often noted as the arena for initial engagement in field hockey, with P.E. teachers or school coaches being pivotal motivators and facilitators for involvement (Bailey and Morely, 2006). Provision and opportunities was varied, most significantly between players from Fee Paying and State schools. Fee Paying school participants, The Priv-kids, appeared to receive more high quality coaching at school, and have easier access to better facilities. There was a huge

over-representation of Gram-kids and Priv-kids within the sample as none of the participants attended standard State schools, suggesting that a large sector of the population may be being excluded from participation in field hockey simply through the type of school they attended.

There was also a clear strong feeling for the importance of clubs in the continuing development of players, throughout their careers (Coté et al, 2003). It not only offers a regular opportunity to play high standard field hockey but was also seen as a sociable and enjoyable arena. One aspect of club hockey that several of the participants felt was not currently being utilised was the opportunity to observe club games as a means of selection for representational squads. They believed that observing players in their regular teams offered a great opportunity to see them perform in a more natural environment, and also provided late developers with an ongoing opportunity to become involved at representative level.

The overwhelming feeling from the participants was that the club and the school attended by the player during their involvement in development programmes had had an impact on their selection into representational squads. Several of the participants were aware of the advantages their relationships with selection coaches before selection processes had had on their inclusion in such squads. Suggesting an unfair advantage for individuals with 'good connections' within the sport, this providing a possibly easier route to elite performance.

5.3 Benefits of the Findings

This study has gathered information from female players at the top-level of the sport about their experiences and feelings about talent development in English field hockey. Through this data collection, a clearer understanding of the current career pathway to elite performance in field hockey has been identified. This has facilitated the design of a model for the current development pathway, and highlighted key support factors that greatly influence achievement of success in the sport. Through developing this clearer understanding of the current process, the opportunity for improvements to the system is notably enhanced.

It is important to note that this study focused on a relatively small sample, due to financial and time restraints (Silverman, 2005). Therefore to improve the validation and reliability of the results, further participants should be interviewed, as the current findings may not be representative of the whole elite field hockey population.

5.4 Limitations of the Study

It is important to note that although this study has been successful in gaining a greater insight into the experiences of current elite female field hockey players, there has to be considerations about the depth and validity of the information obtained. Firstly as previously highlighted the sample was relatively small due

to financial and time constraints, resulting in a somewhat limited depth of opinions. Creating a larger sample group or conducting follow up interviews would enhance the findings (Silverman, 2005). To ensure greater validity in the analysis of results it would be beneficial to allow a second researcher to provide their understanding of the same results. This may bring to light differing themes, opinions and interpretations of results.

5.5 Further Research

The findings from this study provide a strong starting point to further research in the field of talent development in field hockey. We now have a clear understanding of the current route taken by talented individuals to elite performance but through establishing this, pitfalls and possible improvements have also been identified. Further investigation into the beliefs of current elite performers, of their ideas for improvements to the system would be valuable. To further support this and gain a different perspective, to understand top-level coaches opinions would also be beneficial. There would also be scope to investigate development programmes in field hockey in other countries to gain an even wider perspective and understanding of possible options.

A larger sample and perhaps the inclusion of male participants would enhance the findings regarding the current system. It would be beneficial to understand the differences, if there are any, between the male and female programmes

currently in place. The most successful elements of each could be considered in order to achieve the most efficient and accessible development pathway for today's talented individuals.

A major concern highlighted from this research is the problematic issue of late developers, and being able to accommodate them fairly into the elite level of the sport. Wasted potential elite performers is immeasurable and a difficult issue to control. The constant search for emerging talent could be time consuming and expensive, but may provide a constant influx of fresh potential and also constantly push the currently selected elite performers.

The study highlighted that the majority of elite performers in field hockey were priv-kids or gram-kids. It would therefore be interesting to get a better understanding as to why the stat-kids miss out on this opportunity in field hockey, and to facilitate a model that would aid their involvement. The stat-kids is a large proportion of the population, and so seems a waste to not include them if field hockey wants to develop to its full potential.

5.6 Final Comments

The aim of the study was to understand the current career pathway taken by elite female field hockey players in England, from talented individuals to senior international performers. The overwhelming factor affecting their success was

that of luck, however within this factor, key support categories were identified. These were in the form of families, schools and clubs. It was apparent that each of these played an important part in the process of developing talented individuals and without such support success appeared near impossible. The process of designing a successful talent development programme seems to involve a careful juggling act between identifying potential elite performers at all ages, whilst providing them with the most appropriate opportunities. Ideally these opportunities should be equal across the board, however in reality it is difficult to see how this can be a reality. It is the role of talent development to make this as fair and equal as possible, and only then will the most talented performers consistently be identified.

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7. Appendix

7.1 Participant Consent Form

I _____ give consent to participate in this study, investigating the career paths of elite filed hockey players. I understand that I may withdraw from the study at anytime and that my personal details will be kept confidential and pseudonyms will be used. I have read the participant information sheet and have an understanding of what the study is about.

Signed _____ Date _____

Witnessed by:_____ Date:_____

7.2 Participant Information Sheet

My name is Joanna Turnbull and I am a conducting research for my Masters degree in Sports Coaching at the University of Birmingham.

This study is to investigate the career paths of elite field hockey players. Specifically it is to gain a greater understanding of the methods of talent development and identification within the sport. To gain this information I am interviewing elite female players. The interview will be Dictaphone recorded and then transcribed. Participants will be encouraged to talk freely about their experiences within sport and specifically field hockey. The interviews should last between 20 and 60 minutes.

Anyone who takes part in the study will have their identities kept completely confidential. At no stage will the participants identities be made public. Participants are free to withdraw from the study at anytime. This can be done by contacting myself on the contact details provided below.

[redacted]

[redacted]

7.3 Interview schedule

1. Describe all your experiences within the sport of hockey from when you first began until present day. Please give details of teams played for, at what age and for how long.

2. What experiences during your hockey career have had a significant impact upon your continued participation in the sport?

3. Have there been any individuals during your playing career that have significantly impacted upon you? Please explain.

4. What do you think is the reason for your success in field hockey?

5. Explain any involvement and experiences you have had with talent identification or development programmes and how have they affected your playing career.

6. What are your opinions of the current methods of talent identification and development within filed hockey? How would you change it?