White Line Fever

An investigation into personality on the sporting field

Contents

Introduction

This Personal Interest Project investigates the way in which people adapt their behaviours and personality while participating in sport through the methodology of focus studies on three different women's hockey teams. The members of each team have been playing hockey for significantly different time periods, denoting a different level of socialisation into hockey and thus a different team culture for each. I selected this area of enquiry as sport, particularly hockey, plays a significant part in my micro world and how I have developed a sense of self and identity. Sport is also a prominent leisure activity for young people in my physical environment, and I am interested to see whether the impact that sport participation has had on me is the same for other women.

Regardless of a person's 'off-field' personality type, when athletes participate in hockey their personality increases in extraversion,[1] psychoticism[2] and concentration[3] and decreases in neuroticism.[4] These changes can occur to different degrees due to the culture of the team in which the athlete is performing.

I have used both Questionnaires and Interviews in order to obtain a balance of both Quantitative and Qualitative data in my results. I also selected individual members of each team to respond multiple times over a ten week period in order to effectively measure continuity and change and ensure the validity of the research. Participant observation enabled me to personally reflect on the impacts which sport participation has had on both myself and other female hockey players. This project centres on the way in which people change their personality to interact with different environments, for this reason I have applied the social theory of interactionism to my research.

This research is based on a Junior hockey team,[5] my own Youth hockey team[6] and a Senior hockey team.[7] Having played sport for different amounts of time has changed

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[1] Extraversion as defined by Eysenck refers to the degree of outgoingness a person exhibits.
[2] Psychoticism as defined by Eysenck refers to the degree of aggressiveness a person exhibits.
[3] Concentration is a separate trait from Eysenck's theory, and refers to the amount of attention fixed onto particular tasks.
[4] Neuroticism as defined by Eysenck refers to the degree of anxiety a person exhibits.
[5] Members of the Junior team have played hockey for an average of 6 years, with a quarter of the team playing their first season.
[6] Members of the Youth team have played hockey for an average of 11 years.

the culture of each team. This means that the different levels of socialisation within each team impact upon their ideology and values in playing hockey, and hence the results and opinions which come from each team. Continuity and change were examined through the differences between the 'on-field' and 'off-field' personalities of individuals in relation to their team culture. Through monitoring the socialisation process of the athletes into the sport my research also examined whether these differences in personality continued or changed over time. This change was measured through the self reporting of the athletes, based on the key traits of Eysenck's Personality Theory,[8] Extraversion, Neuroticism and Psychoticism, as well as Concentration.

The experience of investigating this topic allowed me to examine one of my favourite pastimes through the lens of different cultures, giving me the opportunity to identify with various team cultures and the impacts they have on personality, identity and self. The process of my research allowed me to develop my skills in several research methodologies and to develop an understanding of the way we change our behaviour for different social situations, thus enhancing my socio-cultural literacy.

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[7] Members of the Senior team have played hockey for an average of 34 years.
[8] Hans J Eysenck was a personality theorist, looking at personality in terms of Extraversion, Neuroticism and Psychoticism.

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Upon examining the aspects of society most relevant and interesting to me, along with my connections and participation in these aspects of society, I decided to focus my study on the general area of sports, due to its prominence and influence in my micro world.

Initially I began with the idea of youth officiating sport. As a young coach and umpire of both hockey and baseball I was interested in the way young people in official roles are perceived. Further consideration of this topic heightened my interest in the way people change their behaviour from passive to aggressive when they are playing sport. Because of this I changed my topic to Personality in Sport and the way important character traits can change due to sports involvement.

I started my research into this topic by researching different social theories relating to sport as well as at different theories on personality traits. The examination of these theories on personality traits was most interesting to me and helped me to analyse my own personality and the way personal experience and public knowledge interact in Sport.

I decided to focus my study on the women's hockey club I am associated with, due to the connections I have within this club. I decided that as a cross cultural component I would use team culture, as the level of socialisation between teams strongly affects team culture.

I didn't have too much trouble constructing my original questionnaire, after trialling it on my class and fine tuning it I handed it out to a team of players aged 11-14, my own team of players aged 16-22 and a Senior team of players all aged over 30.

I decided to conduct interviews and three follow up questionnaires on two members of each team, however due to time constraints, coupled with three consecutive weeks where games were cancelled due to the conditions of the grounds, I had to adapt this follow up, with only two follow up questionnaires for each team. I conducted these follow up questionnaires in order to help limit bias and increase the validity of my

research, the interviews also provided a qualitative source of information for me, and I found they were both enjoyable and informative to conduct.

During the analysis of the data I had collected, I was continually finding new trends which both did and did not support my original hypothesis. However analysing my interviews with the different team members helped me to identify with the culture of each team, allowing me to see the differing values on different traits which assisted me in my evaluation of the results for each trait.

I found the process of researching and writing my PIP to be a challenging and rewarding experience, leaving me with a sense of pride in my finished product.

The Extraverted Athlete

Before the teams head out onto the field, they form a huddle for a final team talk. They walk out onto the centre of the hockey field where they shake hands with the other team and the umpires before taking up their positions. This pre-game ritual is indicative of the interactive nature of team sports such as hockey, and is one of the reasons that it is commonly perceived that the sporting field is an environment suited to those who display higher levels of extraversion. Extraversion is the degree to which a person is outgoing and interactive with other people.[9] High extraversion is characterised by behavioural traits such as impulsiveness, talkativeness and confidence, whereas low extraversion, or introversion, is seen in the observance of traits such as quietness, shyness or caution. Due to the interactive nature of team sports, I hypothesised that the level of extraversion in athletes would increase from 'off-field' levels when in an 'on-field' environment.

There are currently two main theories pertaining to the personality of athletes. The gravitational theory, which states that those with high levels of 'off-field' extraversion are naturally drawn towards sport and the developmental theory, which states that socialisation into sports fosters specific personality traits into athletes. An American study[10] which looked at differences in personality between contact sport athletes, non-contact sport athletes and non athletes in an American University found that both contact and non-contact sport athletes had higher levels of 'off-field' extraversion than those who did not participate in Sport. This result was consistent over time, supporting the gravitational hypothesis that persons with higher extraversion are naturally drawn towards sport.

Rather than exploring the presence of a distinct and unchanging 'athlete personality' in my research, as previous studies have done, I examined the short term changes athletes

[9] Eysenck, H. J., D. K. B. Nias, and D. N. Cox. *Sport and Personality*. Oxford: Pergamon, 1994.
[10] Extraversion and Neuroticism in Contact Athletes, No Contact Athletes and Non-athletes: A Research Note. Stuart J. McKelvie, Patrice Lemieux, and Dale Stout, Department of Psychology, Bishop's University. http://www.athleticinsight.com/Vol5Iss3/ExtraversionNeuroticism.htm

exhibit in their personality and behaviour for the duration of their 'on-field' performance. The overall results of my respondents showed that approximately one third of respondents experienced an increase in extraversion whilst one third experienced no change and one third experienced a decrease in extraversion. Despite the seemingly inconclusive nature of these results, it is clear that two thirds of the respondents did experience some kind of change in extraversion whilst participating in sport, thus it became clear that extraversion as a personality trait does not solely influence participation in sport, but it is an important aspect of the adaptation process from the 'off-field' to 'on-field' environment.

My research data from the three teams was derived from a questionnaire wherein a ten-point range was provided for respondents to self assess both their 'off-field' and 'on-field' levels of extraversion, neuroticism, psychoticism and concentration. For extraversion, the range of 'off-field' responses encompassed the full range of possible responses. In comparison, the 'on-field' range of responses constricted to only the highest half of possible responses.[11] Further examination revealed that it was only those athletes with higher than average 'off-field' levels of extraversion that experienced decreases when in the 'on-field' environment. This decrease was also generally quite small, suggesting that rather than the 'on-field' environment supporting an increase in Extraversion; it instead supports an optimum level of extraversion, in line with the 'inverted U hypothesis'.[12]

The Junior Team had the largest range of responses for 'on-field' extraversion. To an extent some of the lower responses for 'on-field' extraversion can be accounted for by the fact that I conducted my survey after the first game of hockey for the season, and for some of the players in the team this was their first ever game of hockey. When queried about her low level of extraversion in this first hockey game the response from Respondent A[13] was *"I'm not sure what normal behaviour is on the field yet, so I just kept quiet and did what the others said. I didn't want to do anything wrong."* This comment shows how the attitude of team camaraderie results in those with limited

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[11] Responses ranged from '5' to '10', with two outliers of response '2' from completely new players. The outliers were removed to help the validity of the analysis for overall range trends, but are still used in the analysis of the Junior Team.
[12] The theory of arousal that suggests that for the best performance to occur an individual must attain an optimal level of arousal. Get Smart Study Guide HSC PDHPE, D Clarke & K Lambert, 2004
[13] 13 year old female, first season of hockey

experience having less power within the team and exhibiting lower levels of extraversion. In order to best understand the socialisation process into hockey, I assessed Respondent A's personality both on and off field on two subsequent occasions in a ten week period, according to her responses to a questionnaire, and found that her 'off-field' personality remained consistent, but her 'on-field' level of extraversion increased each time she played. This shows that over time, the changes that she made to her personality for the 'on-field' environment adapted to suit the team culture of a high level of extraversion.

My own hockey team, the Youth team, is comprised fully of members who have played hockey for several seasons and who had played together as a team prior to this season. The team culture is shaped primarily by the value placed on the social aspect of the team, rather than on its performance. This focus on the social rather than competitive aspect of hockey could account for the way in which the Youth team, as a whole, experienced almost no change in its level of extraversion between the 'off-field' and 'on-field' environments. Despite this continuity in the collective social interaction of the Youth team, ten out of eleven respondents from the Youth team experienced some change in their level of extraversion when entering the 'on-field' environment, showing that this environment is conducive to a change in personality. What can be seen from this result is that the team's optimum level of 'on-field' extraversion is close to the average 'off-field' level of the team-members and is low in comparison to the other two teams. When asked about the generally low level of extraversion within the team, Respondent C[14] stated *"It's just this team; it's so relaxed that no one feels the need to have that impulsiveness. I definitely change more when I'm playing for [Team X][15]; I talk more and just really go for it more. "* This emphasises the way in which the collective values and attitudes of the team creates a unique team culture which in turn influences the 'on-field' environment and subsequently the changes which individuals make to their personality when entering that 'on-field' environment.

My research demonstrated that the Senior team was the only team which experienced an increase in the range of responses from 'off-field' to 'on-field' personality for

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[14] 16 year old female, 9th season of hockey
[15] Separate, higher level hockey team

extraversion. Respondent E[16] summarised the reason for this as being *"We aren't as fast or as agile as we used to be, we don't play as impulsively because there is more of a feeling within the team that it's not worth getting injured."* The value which this team places on safety over impulsivity could account for the wide range of extraversion in their 'on-field' personalities, with Respondent F[17] stating that *"Even though we think safety is the most important thing at this point, it's still hard to stop that natural impulse to just go for it."* The value consensus within this team stems from the maturity and the past experiences of the team members and conflicts with the 'natural impulse' to raise extraversion 'on-field' to suit the environment. This results in a unique team culture which is able to value both those with low and high 'on-field' extraversion.

The data gained from the responses of the three teams illustrate that there is an optimum level of extraversion for the 'on-field' environment which changes based on the value placed upon extraverted behaviours by each team. It is also clear that the vast majority of respondents changed their level of extraversion in some way between the 'off-field' and 'on-field' environments. This finding is supported by the interactionist theory of social change, wherein people adapt their personality and behaviour in order to most effectively interact with their social, physical and psychological environment.

Extraversion is concerned mostly with the social aspect of the 'on-field' environment; however the physical and psychological aspects also play an important part in the way we interact with our surroundings. The way in which we adapt to the psychological aspect of our environment can be seen in changes to our level of neuroticism.

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[16] 53 year old female, 35th season of hockey
[17] 45 year old female, 30th season of hockey

The Neurotic Athlete

Having 'butterflies' before entering the sporting environment is commonplace, in the course of my research I sought to find out whether these pre-game nerves carry over onto the field in the form of neuroticism, or whether they decrease while participating in the 'on-field' environment. Neuroticism is seen in the display of high levels of anxiety, obsessive behaviours and dependence. Within a sporting context, many sports psychologists are employed by high level sporting teams in order to attempt to recognise, control and reduce signs of neuroticism.[18] This is because high anxiety on the sporting field can easily lead to more errors. For this reason I hypothesised that neuroticism would decrease during participation in sport.

There have been several studies which have established a link between low levels of neuroticism and athleticism,[19] with research from Bishop's University[20] also finding that this lower level of neuroticism is also consistent over time. These studies parallel my research in the use of self-assessing methodologies to measure the 'off-field' personalities of the respondents; however my research also used this methodology to assess the 'on-field' personality of the athletes with a focus on the change in personality between these two environments.

The overall average levels of neuroticism experienced a clear decrease when in an 'on-field' environment. The size of this decrease varied amongst the three teams, but the actual 'on-field' level of neuroticism was very similar for each team[21], showing that this is an 'optimum' level of neuroticism for interaction with the 'on-field' environment. This shift to an 'optimum' level of neuroticism also exemplifies the influence of collective social interaction on personality.

The Junior team had a significantly lower average level of 'off-field' neuroticism than the other two teams, which decreased to also be the lowest 'on-field' level of

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[18] For example Sports and Performance agency "Condor Performance" www.condorperformance.com
[19] Kirkcaldy, B. D. and Furnham, A., Extraversion, neuroticism, psychoticism and recreational choice. *Personality and Individual Differences*, 1991, 12.7. 737 - 745.
[20] McKelvie, Stuart J., Patrice Lemieux, and Dale Stout. "Extraversion and Neuroticism in Contact Athletes, No Contact Athletes and Non-Athletes: A Research Note." *Athletic Insight* 5.3 (2003). Accessed Nov. 2009. <http://www.athleticinsight.com/Vol5Iss3/ExtraversionNeuroticism.htm>.
[21] 3/10 – 4.5/10

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neuroticism. This result contrasts with Hans Eysenck's Theory[22] that neuroticism will decrease in athletes with experience, as the Junior team has the least experience, yet the lowest level of neuroticism. The relatively small sample size could account for the possible invalidity of my findings for this team, however regardless of the impact of experience on neuroticism the Junior team's culture clearly encouraged low levels of neuroticism. This can be seen though the socialisation of Respondent A into the Junior Team. Respondent A's 'off-field' level of neuroticism was quite low, however during her first game of hockey this level increased to be the highest level of neuroticism in the Junior Team while she was in the 'on-field' environment. When Respondent A repeated the questionnaire her 'on-field' level of neuroticism began to more closely mirror the results of the rest of the team, by being slightly lower than her 'off-field' level of neuroticism. When queried about this significant change in her 'on-field' level of neuroticism she responded, *"I was so nervous that first game that I couldn't do anything, I relied on everyone else to tell me every little thing, but now I'm more comfortable in the team so I can do it myself and I'm much more relaxed".* This shows how quickly the team culture influenced Respondent A into adapting her behaviour to best interact with her teammates. The speed of the adaptation Respondent A experienced in her personality is indicative of the importance of adapting our behaviours to most effectively interact with our environment in all facets of life.

The Youth team experienced the most significant change of the three teams in terms of neuroticism, with a clearly lower level of neuroticism in the 'on-field' environment. The Youth team's average 'off-field' level of neuroticism was relatively high; however their 'on-field' level showed a significant decrease. The finding within this team supports my hypothesis that neuroticism will decrease while on the hockey field. Despite this result some individuals within the team still experienced increases in their neuroticism in the 'on-field' environment. Respondent D's[23] level of neuroticism 'off-field' was about average for the team, being relatively high, yet her 'on-field' level saw a decrease, in the same way as the teams did. However I found in a follow up questionnaire her level of neuroticism was significantly higher than both her previous 'on-field' level and her normal 'off-field' level. When asked about this she stated that

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[22] Eysenck, H. J., D. K. B. Nias, and D. N. Cox. *Sport and Personality.* Oxford: Pergamon, 1994.
[23] 19 Year old female, 12th season of Hockey

"I think it was just because of that game, the other team was playing some dangerous balls, so I was thinking about that and couldn't get into the zone" This observation further supports the interactionist social theory that we change our personality and behaviours to interact with our environment. The 'on-field' environment for that game was perceived as more dangerous than previous weeks, causing Respondent D to increase her level of neuroticism in conflict with the normal team culture.

The Senior team also exhibited the trend to a lower level of neuroticism 'on-field'; however as a whole the Senior team had the highest on-field level of neuroticism. This can once again be accounted for due to the value the team places on safety with many of the members of the Senior team being slightly anxious while playing because of the risk of injury. The Senior team also had the widest range of neuroticism within the team, showing that the reduction of neuroticism in an 'on-field' environment is dependent on more factors than just the team culture, including individual personality, past experiences, the specific 'on-field' environment on each day and other internal and external factors.

The level of Neuroticism displayed mainly indicates the interaction with the psychological 'on-field' environment, however the physical 'on-field' environment is the one most clearly seen by observers of any sporting event and an athlete's interaction with this environment can be seen through their exhibition of Psychoticism.

The Psychotic Athlete

Violence and intimidation exhibited by both professional and amateur athletes is viewed by society as both an 'on-field' and 'off-field' social issue. Hans Eysenck observed that acts of violence were more commonly observed in those who exhibited high levels of Psychoticism, a trait characterised by aggressiveness, tough-mindedness, intolerance and disobedience. Many studies have explored the link between psychotic personalities and sporting participation, especially within extreme sports,[24] and the prevalence of displays of violence in many 'on-field' environments, especially within Australia's Rugby League Culture, prompted me to theorise that my respondents would display higher levels of psychoticism in the 'on-field' environment.

The cause of aggression in sports, as well as within wider society, is a question addressed often by sociologists. The gravitational hypothesis would support the argument that athletes by nature display higher levels of psychoticism, leading to both 'on-field' and 'off-field' violence by athletes, as can be seen through the domestic violence charges against several prominent players in the NRL.[25] The developmental hypothesis presents a conflicting view, supporting the idea that athletes are socialised into their violent behaviour, as is presented by Jay Coakley in his text "Sports in Society".[26] Contrary to both of these theories, my research supports my theory that changes to an individual's level of Psychoticism are only temporary, and that the 'off-field' personality of athletes is not a reflection of their 'on-field' persona. Undoubtedly cases of 'off-field' violence from athletes have occurred in the past; however my research would support the theory that it is the individual's psychotic nature causing this aggression, rather than the influence of sport.

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[24] Egan, Sean, and Robert M. Stelmack. "A Personality Profile of Mount Everest Climbers."*Personality and Individual Difference* 34.8 (2003): 1491-494.

[25] Balym, Todd. "Greg Inglis Charged with Assault." *NRL.COM.* 10 Aug. 2009. Web. <http://www.nrl.com/NewsViews/LatestNews/NewsArticle/tabid/10874/newsId/56225/Default.aspx>. Balym, Todd. "Laurie Stood down after Assault Charge." *NRL.COM.* 16 Sept. 2009. <http://www.nrl.com/NewsViews/LatestNews/NewsArticle/tabid/10874/newsId/56744/Default.aspx>.

[26] Coakley, Jay J. *Sport in Society: Issues & Controversies.* 6th ed. Boston: McGraw-Hill, 1998.

This theory is supported through the general trend of my results, which found that the levels of 'off-field' psychoticism varied greatly across all respondents, but in general rose for the duration of sporting participation. The average 'off-field' level of Psychoticism was in the lower half of possible responses, with the 'on-field' average moving into the higher half. Despite this upwards shift in the level of Psychoticism, the range of responses remained relatively stable, and a clear majority of respondents experienced an increase in their Psychoticism levels in the 'on-field' environment, showing that the change in Psychoticism is not conditional on an 'optimum' level, but rather that any increase in Psychoticism is positive for interaction with the sporting environment. This increase in Psychoticism in the 'on-field' environment would appear to also support a more violent environment, however the overall attitudes of the respondents, and the relatively placid hockey 'on-field' environment means that the respondents were able to increase their levels of Psychoticism without also moving to violent behaviours.

The Junior team's average results showed a clear increase in Psychoticism when entering the 'on-field' environment, and my follow up questionnaires of Respondent A further supported the idea that socialisation into a team influences interaction with the 'on-field' environment. When she first completed the questionnaire Respondent A exhibited the lowest level of 'on-field' Psychoticism for the Junior team, however when she next completed the questionnaire three weeks later her 'on-field' level of Psychoticism had risen to nearly mirror the team average. Despite this change in her 'on-field' display of Psychoticism, this socialisation process did not appear to also increase Respondent A's likelihood to engage in violence 'on-field' as evidenced by her response when asked what the focus of her aggression was. *"I guess it's focussed on getting the ball, I'm aggressive in my play, but not to other people or anything."*

The Youth team also experienced a clear increase in Psychoticism; however it was not as clear as the other two teams. This could be accounted for by the already higher levels of Psychoticism within the team, meaning that the participants in this team would not have to increase their Psychoticism as much to attain an appropriately high level of Psychoticism. This can be seen through the comments of Respondent D, *"I think I always have those traits [aggressiveness and tough-mindedness] but when I'm playing Hockey it just gives me the opportunity to let them show, you can't really act with the same aggressiveness in day to day life."* This shows that the already present level of

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Psychoticism within the athletes has a stronger influence on their 'on-field' level of Psychoticism than the other traits. This means that, for the Youth team at least, the team culture does not have as strong an influence on the level of Psychoticism as the individuals already existing 'off-field' level of Psychoticism.

The Senior team also experienced a clear change in their Psychoticism levels, which is interesting considering the teams strong value on safety, as a prominent trait within Psychoticism is recklessness. Every member of the Senior team experienced an increase in Psychoticism, and the follow up questionnaires I administered to two of the team members showed that this change was consistent over a ten week period. Despite the consistency amongst team members in increasing levels of Psychoticism, this increase appears to come from personal interaction with the 'on-field' environment rather than from the influence of the team culture, as the Senior team value of safety does not impact on the members' use of aggression *"For most of the time, we're pretty wary, cautious of the other players and everything. But when we get the ball everyone gets this ruthlessness which makes everything else leave your mind"* This comment from Respondent F shows that the influence of personal interaction with the 'on-field' environment can be stronger than the influence of the values of the team culture, in regards to the trait of Psychoticism.

My research conflicted with the idea that socialisation into sport can develop a violent temperament, as the 'off-field' psychoticism levels of the Respondents did not follow a trend of increasing with the team culture's level of socialisation, and the follow up respondents all maintained a consistent 'off-field' level of Psychoticism significantly lower than their 'on-field' levels. This shows that what happens 'on-field' stays 'on-field' and psychoticism displayed in the 'on-field' personality of athletes does not necessarily influence 'off-field' violence.

The interaction with the physical environment clearly causes a temporary increase in Psychoticism, which, according to Eysenck[27], can also result in low levels of concentration. The unique nature of hockey's 'on-field' environment conflicts with this theory on interaction with the psychological environment.

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[27] Eysenck, H. J., D. K. B. Nias, and D. N. Cox. *Sport and Personality.* Oxford: Pergamon, 1994.

The Focused Athlete

"A lapse in concentration late in the game has cost the Hockeyroos dearly"[28] Even in the highest echelons of the sporting world, the capacity to maintain concentration for the entire duration of the game can be the difference between winning and losing. In my personal experience I have found that the sporting field presents a unique environment, which is conducive to high levels of both psychoticism and concentration, contrary to Eysenck's Theory[29].

A Study at the AIS[30] hypothesised that concentration during sport participation would increase with maturity and development; it found that the athletes who had been training at the AIS for longer had higher levels of concentration. This study looked at the level of concentration as comprising of a number of different factors, most importantly focus and distractibility, with the level of focus being more consistent across time, and distractibility varying more depending on the environment the athlete was in at the time. This finding for distractibility supports my hypothesis that the amount of concentration a person exhibits does not continue over time, but instead changes depending on the environment they are in, and the hockey 'on-field' environment is an environment which requires a high level of concentration.

Concentration was the trait which experienced the most clear and consistent change within my research. I found clear increases in concentration during sporting participation across all three teams, supporting the interactionist social theory that people change their personality to interact with the sporting field as an environment which requires certain behaviour and personality. Within my research, the average 'off-field' level of concentration in each team was different, and the 'on-field' level increased in each team to a differing degree. In line with the AIS study, my research found that the more socialised teams did have slightly higher average concentration

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[28] "Defensive lapse costly for Hockeyroos" ABC Grandstand Sport, July 14 2009.
<http://www.abc.net.au/news/stories/2009/07/14/2625897.htm>
[29] Eysenck, H. J., D. K. B. Nias, and D. N. Cox. *Sport and Personality.* Oxford: Pergamon, 1994.
[30] Changes In The Concentration Skills and Interpersonal Characteristics of Athletes at the Australian Institute for Sport Robert M. Nideffer, Ph.D., and Jeffrey Bond, M.A. Published on: 12/21/2006
http://new.taisdata.com/articles/aussie.php?PHPSESSID=4150f94ee1ce01b8afdc719b3454e123

levels than the less socialised teams, however the difference was very small and the relatively small number of respondents leaves room for invalidity in the finding of these average scores.

The Junior team experienced the least significant increase in concentration of the three teams; however the change in the range of responses shows a clear constriction of the range of concentration levels amongst the team members. The range of responses for 'off-field' concentration levels covered all possible responses, whilst the range of 'on-field' responses was limited to only the highest two thirds of possible responses. This shows a clear shift to higher concentration during sporting participation.

The Youth team experienced the largest increase in concentration whilst in the 'on-field' environment. I didn't expect the Youth team to have as strong an increase as it did because the team is primarily social and places a low value on good performance. The views of Respondent D explain the team culture accurately, *"No one really cares about playing well themselves, or even as a team, it's more about fun and having a good time, but when it comes down to it the team is really competitive and I think that really strong will to win is what brings out aggression and concentration"*. This statement shows that the team culture, while valuing enjoyment very highly, still places the most value on successful results. A high value placed on successful results fosters concentration in the 'on-field' environment, as can be seen through the strong increase in concentration between the 'on-field' and 'off-field' results for this team.

The Senior team experienced a very clear increase in their concentration levels when entering the 'on-field' environment, with the highest 'on-field' concentration levels of all three teams, however the Senior team as a whole also had the highest 'off-field' level of concentration, and so the change in concentration, while being higher than the Junior team, was lower than the increase experienced by the Youth team.

This result means that similar to the AIS study, 'on-field' levels of concentration increased with the level of socialisation and amount of experience within each team. The size of the change to concentration levels did not follow this same trend, showing that the change to the 'on-field' level of concentration is based not on the individual's 'off-field' level, but rather a level of 'on-field' concentration which is most appropriate to the team's culture and level of socialisation.

Conclusion

The process of investigating the way in which people adapt their behaviours and personality while participating in sport for my Personal Interest Project was invaluable. It demonstrated to me the interactive nature of our society, and the way in which people constantly adapt their behaviour and personality in order to most effectively function in whatever environment they find themselves in.

My research proved some aspects of my hypothesis, while disproving other parts. The results of my research reaffirmed my hypothesis about the changing nature of each of the four traits, with extraversion, psychoticism and concentration increasing and neuroticism decreasing as I predicted. Interestingly, my results also showed that not all individual athletes experienced these changes; rather that each of the teams experienced these changes as a collective social unit. This collective social interaction also illustrated to me that rather than 'more being better' there is an 'optimal' level for each personality trait in the 'on-field' environment, and that this ideal level is dictated by a number of social factors. These social factors include: team culture, level of socialisation of the players, as well as specific conditions of the 'on-field' environment.

I found that the methodologies of questionnaires and interviews enabled my research to be very effective, because they provided a strong understanding of the quantitative changes my respondents underwent, and the qualitative reasons behind these changes. Unfortunately, time constraints and a series of washed out games diminished the effectiveness of my case studies as follow up questionnaires weren't administered as often as I would have liked. Despite this minor, unforeseeable obstacle in my research process, I found that overall the research methodologies I employed were invaluable in the collection and analysis of the information I needed to construct this PIP.

The experience of undertaking this research project demonstrated to me how significant the role of socialisation is on the formation of personality and identity. In conjunction with this, my research emphasised how socialisation is an important part of the learning process in developing effective means of interacting in a team environment. I also extended my understanding of the influence that socialisation has on the development of culture in the form of the three very different team cultures I interacted with in the

process of my research. The socialisation process has a clear influence on producing a cohesive set of values for the individuals within each team, as well as the collective team values.

These insights into the nature of socialisation, along with my employment of specific research methodologies has helped to strengthen my understanding of my own personality and identity and my potential to change this 'self' in the 'on-field' environment. Moreover, my process of research has given me the opportunity to understand and empathise with the value systems of others, thus enhancing my overall social and cultural literacy.

Resource List

Print:

Coakley, Jay J. *Sport in Society: Issues & Controversies*. 6th ed. Boston: McGraw-Hill, 1998.

This text provided me with a comprehensive introduction to the sociology of sport through its examination of a variety of issues within sport and their implications. It was a valuable source of background knowledge, with the chapter on aggression in sports being essential to shaping some of my own views in "The Psychotic Athlete". Jay Coakley is a Professor of Sociology at the University of Colorado at Colorado Springs, and has published several books on sociology and sports; he is well respected in his field and provides a relatively unbiased and informative source of information.

Egan, Sean, and Robert M. Stelmack. "A Personality Profile of Mount Everest Climbers."*Personality and Individual Difference* 34.8 (2003): 1491-494.

This study looked at the personality of Mount Everest Climbers compared to an American norm in terms of Eysenck's personality theory. I found it interesting, and it supported some of my other reading on the personality of athletes however as it is an American based study, and a study on Mountaineers rather than team sport athletes it does not apply directly to my topic.

Eysenck, H. J., D. K. B. Nias, and D. N. Cox. *Sport and Personality*. Oxford: Pergamon, 1994.

Hans Eysenck's work on personality theories formed the basis of my research. This text contained not only Eysenck's own theories on athlete's personalities, but also the results from other researchers, giving me a broader and more valid understanding of earlier research similar to my topic. The text contained a detailed analysis of the personality traits seen in athletes, which helped me to shape my hypothesis.

Yiannakis, Andrew, and Susan L. Greendorfer, eds. *Applied Sociology of Sport.* **Champaign, IL: Human Kinetics, 1992.**

This text gives a lot of relevant information about the nature of sports sociology, and compiles a range of different papers which use applied sociology of sport. It was a very interesting piece of background reading, however the information it provided me with was only relevant to my knowledge of the sociology of sport, and not to my actual research, in this way it was not a particularly useful text, especially due to the fact it is now outdated. Despite the irrelevancy of this text, it provides sound information and papers on the applied sociology of sport, and I would recommend it as further study to anyone interested in the sociology of sport.

Get Smart Study Guide HSC PDHPE, D Clarke & K Lambert, 2004

I used this text in order to better understand the 'inverted U hypothesis'. It helped to explain the hypothesis in a factual and unbiased manner. This text was not useful for any other purpose than to clarify this theory; however it would be useful as additional reading on more of the physiological changes made during sporting participation.

Web:

Balym, Todd. "Greg Inglis Charged with Assault." *NRL.COM.* **10 Aug. 2009. Accessed Jan. 2010 <http://www.nrl.com/NewsViews/LatestNews/NewsArticle/tabid/10874/newsId/562 25/Default.aspx>.**

This news article articulates claims against Greg Inglis that he assaulted his girlfriend. NRL sports journalist Todd Balym highlights the prominence of domestic violence and assault charges against high profile NRL athletes. The article also details the prevalence of assault charges within the NRL. The article was useful for me in examining the macro culture which can lead to increased psychotic behaviour during sporting participation, however as the article only refers to NRL player's behaviour it is not valid for looking at hockey culture.

Balym, Todd. "Laurie stood down after Assault Charge." *NRL.COM.* **16 Sept. 2009. Accessed Jan. 2010 <http://www.nrl.com/NewsViews/LatestNews/NewsArticle/tabid/10874/newsId/567 44/Default.aspx>.**

This article, also by NRL sports journalist Todd Balym, details the response from the Wests Tigers NRL club and the NRL to charges against Daine Laurie. It shows the no-tolerance approach to violence against women in the NRL; however it also illustrates how this approach has not prevented the prevalence of 'off-field' violence from NRL athletes. This article was once again useful in allowing me to see how the 'on-field' nature of NRL can carry over to 'off-field' violence, however it was only useful in giving me a general view of this process, and is not valid to my own research as it does not apply to female hockey players.

Nideffer, R. M., and J. Bond. Changes in the Concentration Skills and Interpersonal Characteristics of Athletes at the Australian Institute for Sport. Enhanced Performance Systems. 21 Dec. 2006. Accessed Apr. 2010 <http://www.enhanced-performance.ca/articles/article08.pdf>.

This article examines changes and continuities in the concentration and interpersonal characteristics of athletes at the Australian Institute of Sport across time. It uses The Attentional and Interpersonal Style assessment tool in order to measure this, and analyses the results of athletes in different age groups who participate in different sports, including field hockey. Dr Robert Nideffer developed The Attentional and Interpersonal Style assessment tool, which is now used worldwide and is an esteemed researcher of sports psychology. This study was very useful as it looked at Australian athletes, including some field hockey players, so it was valid to my research, and it also enabled me to see the effects socialisation into sport has on concentration for a longer time period than my research allowed.

McKelvie, Stuart J., Patrice Lemieux, and Dale Stout. "Extraversion and Neuroticism in Contact Athletes, No Contact Athletes and Non-Athletes: A Research Note." *Athletic Insight* 5.3 (2003). Accessed Nov. 2009. <http://www.athleticinsight.com/Vol5Iss3/ExtraversionNeuroticism.htm>.

This study helped to shape my hypothesis for the changes in extraversion and neuroticism. It used the Eysenck Personality Questionnaire to measure the levels of extraversion and neuroticism in contact athletes, no contact athletes and non-athletes in an American university. The results regarding no contact athletes were irrelevant to my research, as hockey is a contact sport. The other results contained within this study gave me a better understanding of the inconclusive and variable nature of many results, and the way in which this study was administered helped to shape the way I administered my own methodologies. Unfortunately, this study only looked at the 'off-field' personality traits of the athletes so cannot be directly applied to my own research.

Lemieux, Patrice, Stuart J. McKelvie, and Dale Stout. "Self-reported Hostile Aggression in Contact Athletes, No Contact Athletes and Non-Athletes." *Athletic Insight* 4.3 (2002). Dec. 2002. Accessed Jan. 2010. <http://www.athleticinsight.com/Vol4Iss3/SelfReportedAggression.htm>.

This study examined levels of 'off-field' aggression in contact athletes, non-contact athletes and non-athletes. It also gave an extensive background on prominent theories regarding 'off-field' aggression. The study found that athletes and non-athletes did not have significantly different levels of 'off-field' aggression, and that other factors such as the physical size of the person, have more of an impact on levels of aggression than sporting participation. As this study was conducted on athletes and non-athletes in an American university, the results were not valid to my own findings, however they were useful in developing my hypothesis and the background information and discussion which this research provided was valuable in my understanding of different perceptions of 'off-field' aggression by athletes.

Primary Methodologies:

Questionnaire

The Questionnaires I administered formed the quantitative basis of my results. I was able to distribute them to all players from the three different hockey teams and they provided me with numerical data which I was then able to analyse and interpret. The difficulty with the questionnaire was finding words suitable to measure each trait that didn't have positive or negative connotations, and that could be easily understood by the young players in the Junior team. From my research, I knew that it is possible for people to be inaccurate in their self assessment; however I did not have a way to overcome this bias for every respondent, instead choosing to use further methodologies to try and overcome this bias.

Interview

The Interviews which I administered balanced my questionnaires with some quantitative results, they allowed me to understand the reasons behind the results I had seen in my questionnaire, and make more detailed analysis on the nature of my findings. This process of supporting my quantitative questionnaires with qualitative interviews helped to ensure the validity of my research.

Case Study

By administering interviews and questionnaires repeatedly over time I was able to ensure the validity of my results for two players from each team. I was also able to more easily see the impact of socialisation and the time spent playing the sport on the personality displayed 'on-field'. Seeing the changes in Respondent A was particularly useful to my research, as it showed the changes and continuities experienced from the very beginnings of socialisation into hockey.

Appendix

Questionnaire:

Off Field Traits
In regards to your day to day life, please rate your level of the following:

Self-Confidence:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Anxiety:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Aggression:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Concentration:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

On Field Traits
In regards to your current behaviour on the HOCKEY FIELD, please rate your level of the following:

Self-Confidence:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Anxiety:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Aggression:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest

Concentration:

1	2	3	4	5	6	7	8	9	10

Lowest   Highest