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**THE AFFECT OF ANXIETY AND SELF-**

**EFFICACY UPON PERFORMANCE WITHIN**

**REGIONAL LEVEL FEMALE HOCKEY**

**PLAYERS**

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## **ABSTRACT**

This study examined the affect of anxiety and self-efficacy upon performance within regional level female hockey players. Interviews were used to determine individual perceptions of anxiety symptoms, the directional interpretation of self-efficacy and how these affected performance in six regional level hockey players. Casual networks revealed that under high levels of self-efficacy, anxiety was perceived under control and interpreted as facilitative towards performance. Under low levels of self-efficacy, anxiety was perceived not under control and interpreted as deliberative toward performance. Increases or decreases in self-efficacy were perceived to improve or lower performance. Practical implications suggest coaches use psychological strategies to increase performer's self-efficacy. There is still room for further research into this area.

# **CHAPTER I**

## **INTRODUCTION**

## **1.0 INTRODUCTION**

Recent reviews in sport psychology literature have concluded that pre-competition levels of anxiety and self-efficacy are two psychological constructs that have a significant impact on an athletic performance (Feltz, 1988, 1992; Gould & Krane, 1992).

The ability to cope with intense pressure and anxiety is an integral part of all competitive sport. A large number of elite sportsmen and women possess the physical and skill attributes (physical ability) required to compete at the top level, but have lacked the appropriate psychological skills in order to realise their full potential. For example feeling anxiety may be seen as out of performer's control which some elite performers may perceive as having a negative affect on their performance. Possessing appropriate mental strategies in order to control anxiety could help overcome this negative perception (Bull 1991).

In today's society the winning ethos pressures coaches and athletes to be successful. The inability to cope effectively with these pressures in a competitive sport such as hockey can lead to a decrease in performance as well as possible physical illness and mental distress (Weinberg & Gould, 1995).

Although the role of psychology in sport has not always demanded the same attention as aspects such as physical fitness and skill training, it is now widely acknowledged that sport psychologists can have an important role to play in the preparation of athletes. A lot of top sports coaches have reported to rank psychology as one of the most important of the sports disciplines (Gowan 1979). Early researchers leaned heavily on the educational and clinical psychology literatures on anxiety in order to build a theoretical underpinning for research in competitive anxiety.

Sport psychologists aim to assist athletes in developing psychological skills which aid performance enhancement, enjoyment and satisfaction (Bull,

1991). It is critical that mental preparation strategies are based on a sound theoretical understanding of the relationship between anxiety and performance. There has been much research looking into the relationship between anxiety and performance, with considerable time spent on helping athlete's better cope with increased pressures during performance. There is still room for further research into this area by looking at understanding why and how specific symptoms influence performance, giving greater insight for coaches into preparing individual athletes for important competitions.

Self-efficacy refers to people's judgments of their capability to successfully perform a task or activity in a specific situation or context (Bandura A. 1986). The self-efficacy construct is one of the most influential psychological constructs thought to affect achievement striving in sport (Feltz, 1988).

Studies documenting the effects of self-efficacy in sports have typically employed individual sports such as track and field and gymnastics (Mahoney & Avenier, 1977). Due to the lack of research in this area one of the purpose's of this present study is to examine self-efficacy within a team sport (hockey) where little research has been conducted. The present study examines the relationship between self-efficacy, anxiety and its perceived affect on performance which will provide psychologists with greater knowledge into the components of self-efficacy and the factors which change it. With this knowledge coaches would be capable of developing strategies to increase self-efficacy thus increasing athletes' performance.

The literature review will be divided into two main sections, the first will discuss competitive anxiety and the second self-efficacy. Within each of the sections relationships with performance will be discussed together with the relationship between the two aforementioned areas.

## **CHAPTER III**

### **METHODOLOGY**

### **3.0 METHODOLOGY**

#### **3.1 Introduction**

The researcher must define the population when deciding what sample to include for data collection. Purposeful sampling was the preferred method used as the population targeted was small in number allowing quality data to be extracted.

When collecting data from interviews the way in which it is recorded and then processed is important. When attending an interview a Dictaphone, notebook and interview guide would be present. The Dictaphone allows participants opinions expressed about the topic to be recorded which allows the researcher to gather accurate and complete information. It is a more efficient way of collecting information and less time consuming. Transcripts can then be made enabling me to present my data (refer to Appendix C).

#### **3.2 Participants Selection and Criteria**

Qualitative research tends to use small samples of people who are nested in their environment and examined in depth (Miles & Huberman, 1994). Therefore, consistent with qualitative methodologies (Lincoln & Guba, 1985; Patton, (1990) purposive sampling was used to select study participants. Patton (1990) describes this method of sampling as 'getting information rich material from special groups'. Participants were categorized as six regional female hockey players, ranged in age from 19 to 21 years. The criteria for regional were that participants had competed at regional level as well playing BUSA - western conference Women's 1A's (UWIC first team). All six female

regional hockey players were informed of the nature of the study and were invited to take part, all which agreed. Written informed consent was obtained prior to participation in the study, and confidentiality was assured throughout (refer to Appendix B). Criteria must be set in order to identify the relevant candidates.

The participants were interviewed regarding their thoughts and feelings in the build up to competition. More specifically they were asked about the intensity and direction of somatic and cognitive anxiety they experienced prior to the competition and how this affected their performance. Self-efficacy was also examined in its relation to its perceived affect on anxiety and subsequent performance (deliberative/facilitative). To facilitate this process an interview guide was compiled.

### **3.3 Interview Guide**

Following successfully adopted interview procedures implemented by Hanton and Connaughton (2002), an interview guide was developed for the study (refer to appendix A). The interview guide for the present study used both open and closed questions generated from empirical findings examining the anxiety, self-efficacy and performance relationship. The interview schedule was pilot tested on one regional level experienced female hockey player. The pilot test facilitated the interviewer in refining interview techniques. This gave the interviewer an opportunity to practice the interviewing technique, such as asking and probing questions. It also facilitated the interviewer in refining interview questions.

The full interview schedule comprised of five sections. The first section included introductory comments about the purpose of the study, definitions of key terms and a declaration of the individual's rights. Section two started with a few general questions, allowing both the interviewee and the interviewer time to settle into the format and create a relaxed and informal atmosphere. Questions in this section discussed how they first started playing hockey and their commitment levels.

The third and main section of the interview contained specific questions regarding the competitive hockey match representing the University of Wales Institute Cardiff (UWIC) against the University of Bath on the 30<sup>th</sup> January 2008. This section comprised of general and specific questions related to the hockey player's thoughts and feelings (cognitive and somatic anxiety), perceptions of efficacy levels prior to the competition and how these factors were believed to influence/affect performance. Here, participants were asked to identify, describe and explain their cognitive and somatic experiences prior to competition and address issues such as the intensity and direction of these symptoms for performance.

In this section participants were also asked how they rated their level of self efficacy prior to the match and how they feel that affected their performance. They were asked to identify what affected their levels up or down, as well as parts of their game they perceived as good or bad and the reasons for these thoughts. Issues such as past experiences, coach expertise and feedback were discussed. Section four asked participants if they had any recommendations for future athletes. They were asked to give any advice they had for hockey players in terms of anxiety and self efficacy and their affect on performance in competitive matches. Section five discussed the interview experience and any issues that may have been overlooked, important factors we may have failed to discuss, or influence in response to questions. An overview of the interview structure is presented in Figure 6.

**Section 1**

- Introductory comments about the purpose of the study
- Definitions of key terms
- Declaration of the individual's rights.



**Section 2**

- Few general hockey questions to get interviewer and interviewee into the flow of the interview.



**Section 3**

- Specific questions regarding the competitive hockey match played against Bath University on the 23/01/08.
- General and specific questions related to the hockey player's thoughts and feelings prior to the competition.
- How the individual perceived these symptoms affected their performance (facilitative/deliberative).
- Address issues such as the intensity and direction of these symptoms for performance.



**Section 4**

- Any advice for hockey players in terms of anxiety and self efficacy and their affect on performance in competitive matches?
- Recommendations for future athletes.



**Section 5**

- Discussed the interview experience.
- Issues that may have been overlooked.
- Important factors we may have failed to discuss.
- Influence in response to questions.

**Figure 6.** An Overview of the Interview Guide.

### **3.4 Procedure**

A copy of the interview guide was given to all six willing participants a week before the decided interview meeting time, participants were asked to look over the questions and reflect on their answers in preparation for the interview. The interviews were conducted within two weeks of the elite hockey player's important competition, representing UWIC against The University of Bath on the 31/01/08. By carrying out the interviews within two weeks, this enhanced participant's accurate recall of the specific event.

Each interview followed an identical schedule in which each participant was taken through the same set of questions and in a similar way. All interviews were conducted face to face and away from the competitive environment in order to minimise situational influences. The interviewer had competed for the South of England and at present still plays high level hockey. Therefore the interviewer possessed the ability to converse at sport specific level and emphasize with the participant. Each interview lasted approximately twenty five to thirty minutes.

### **3.5 Reliability and Validity**

The validity and reliability of qualitative research relies heavily upon the instrumentation and research design, and on the skill, sensitivity, and integrity of the researcher (Patton, 2002). Reliability and validity issues were addressed in the following manner: -

- All interviews were conducted face to face by the same person who remained neutral which avoided potential biasing or encouragement.

All interviews were conducted away from the competitive environment (quiet room) in order to minimise situational influences.

- Having developed a semi-structured interview guide enabled a structured and consistent method of questioning. This maintained the order and depth of the interview. Questions were constructed thoroughly and definitions of important terms read out ensuring all participants fully understood the meaning of the question. If at any time the participant did not understand a question and need clarification they were encouraged to question the interviewer before or during the interview.
- A pilot study prior to the main study enabled the researcher to gain extensive feedback regarding the wording and interpretability of the questions. Allowing refinements to be made to the interview technique and giving the interviewer experience.
- By interviewing the hockey players no later than two weeks after the important event, this kept reliability recall to a maximum. Thoughts and feelings of the participant will be clearer closer to the event.
- Tape recordings and transcripts are a very pure form of data and the personalised nature of the data also adds depth to the study.

### **3.6 Data Analysis**

The hockey player's casual beliefs regarding the anxiety, self-efficacy and performance relationship were displayed via casual networks, defined by Miles and Huberman (1994) as:

*A display of the most important independent and dependant variables in a field study and of the relationships among them (shown by arrows). A casual network, to be useful, must have associated analytic text describing the meaning of connections among factors (p.153).*

Casual networks are visual representations of the data which bring together the variables, with accompanying narrative which explains the emerging

relationships and puts it into a logical picture. The casual networks contain streams, these are unbroken chains of variables and consist of multiple channels. These channels either lead in different directions or end up at the same place via a different route (Miles and Huberman, 1994). The data analysis procedure adopted a four step procedure presented in figure 7.

**Steps**

1. Transcripts were read and re-read to ensure content familiarity.
2. Casual streams were identified, raw data themes were characterised, in list form combining participant's responses, by quotations or paraphrased quotations that captured individual's thoughts within each subsection of the interview.
3. Separate deductive networks for high and low self efficacy were developed.
4. Maps were then sent to participants, whose comments regarding their accuracy were solicited. All participants confirmed networks reflected their pre-competition experiences.

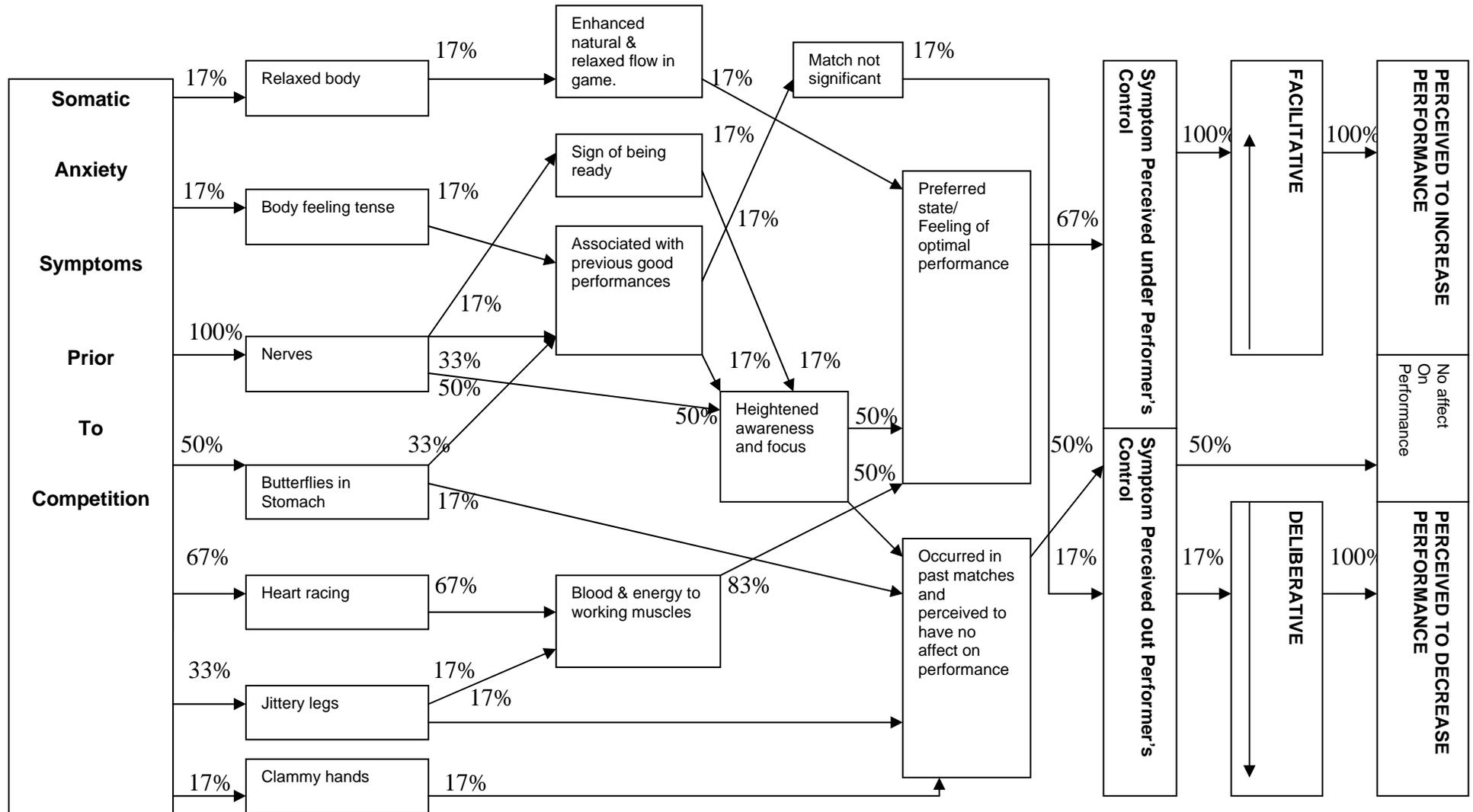
**Figure 7.** Data Analysis Procedure.

An independent researcher who had experience in the procedures, confirmed and verified each stage as the procedure progressed.

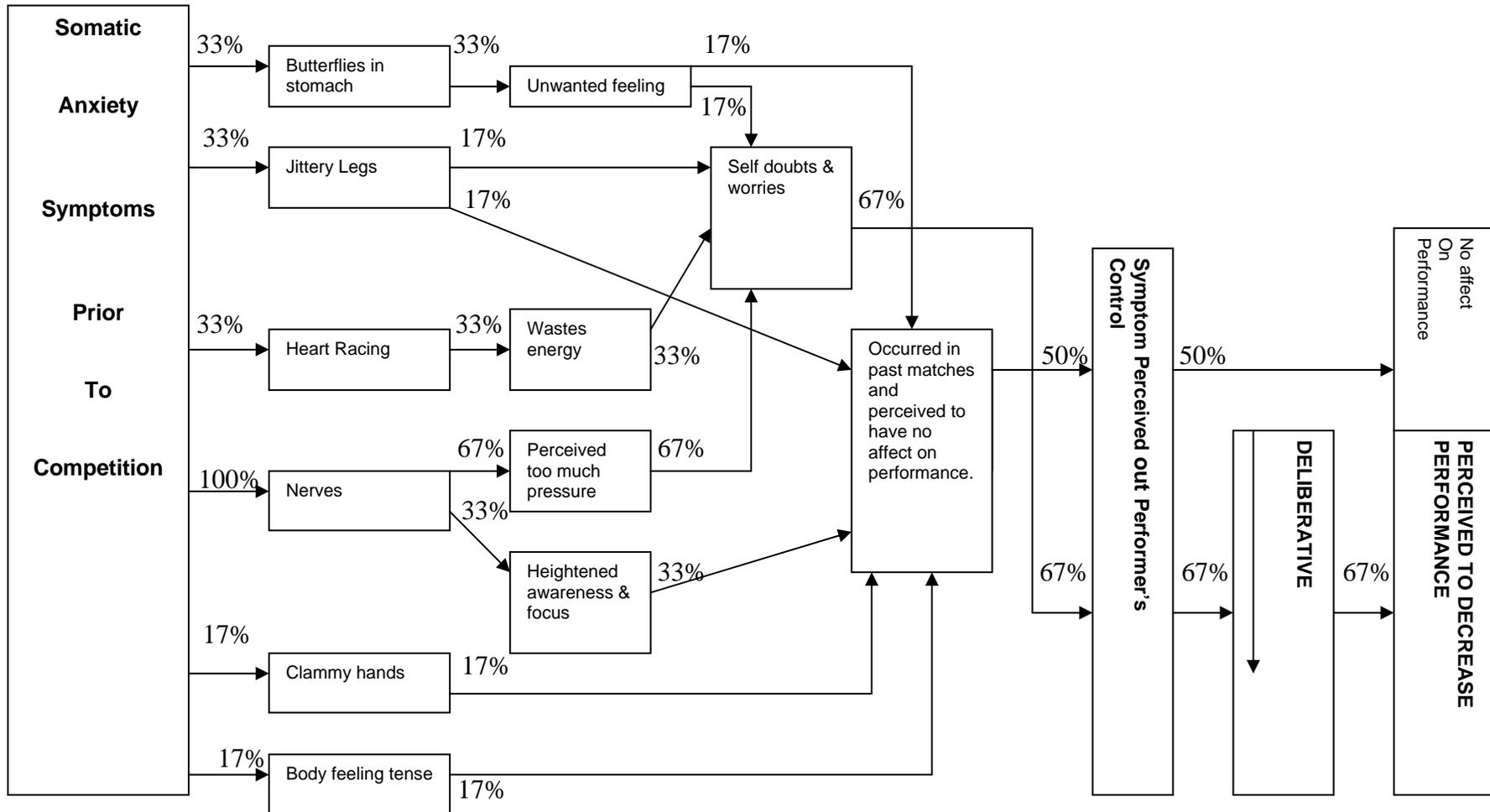
## **CHAPTER IV**

### **RESULTS**

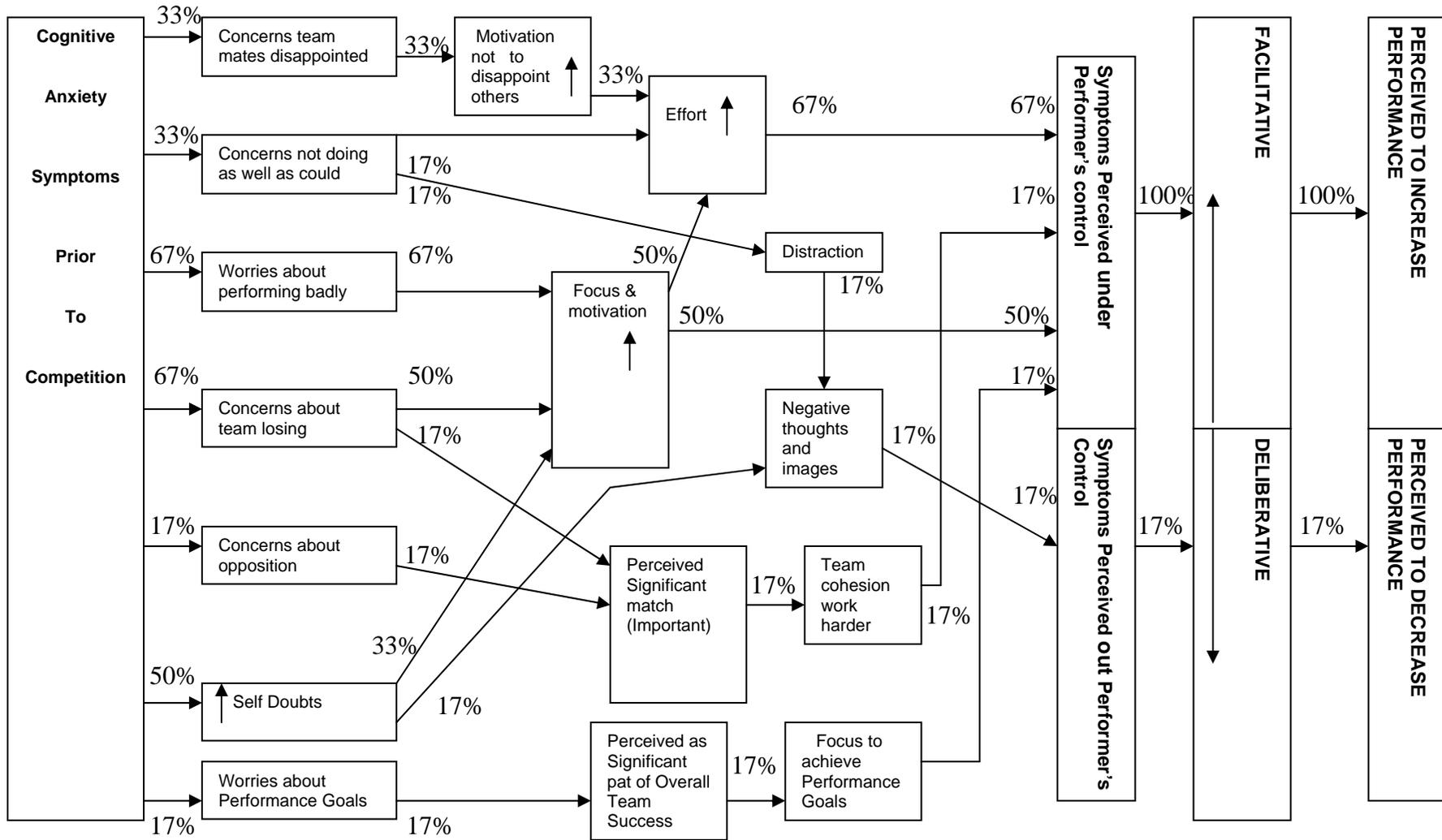
**Figure 8 - Casual Stream A – Under High Self-Efficacy**



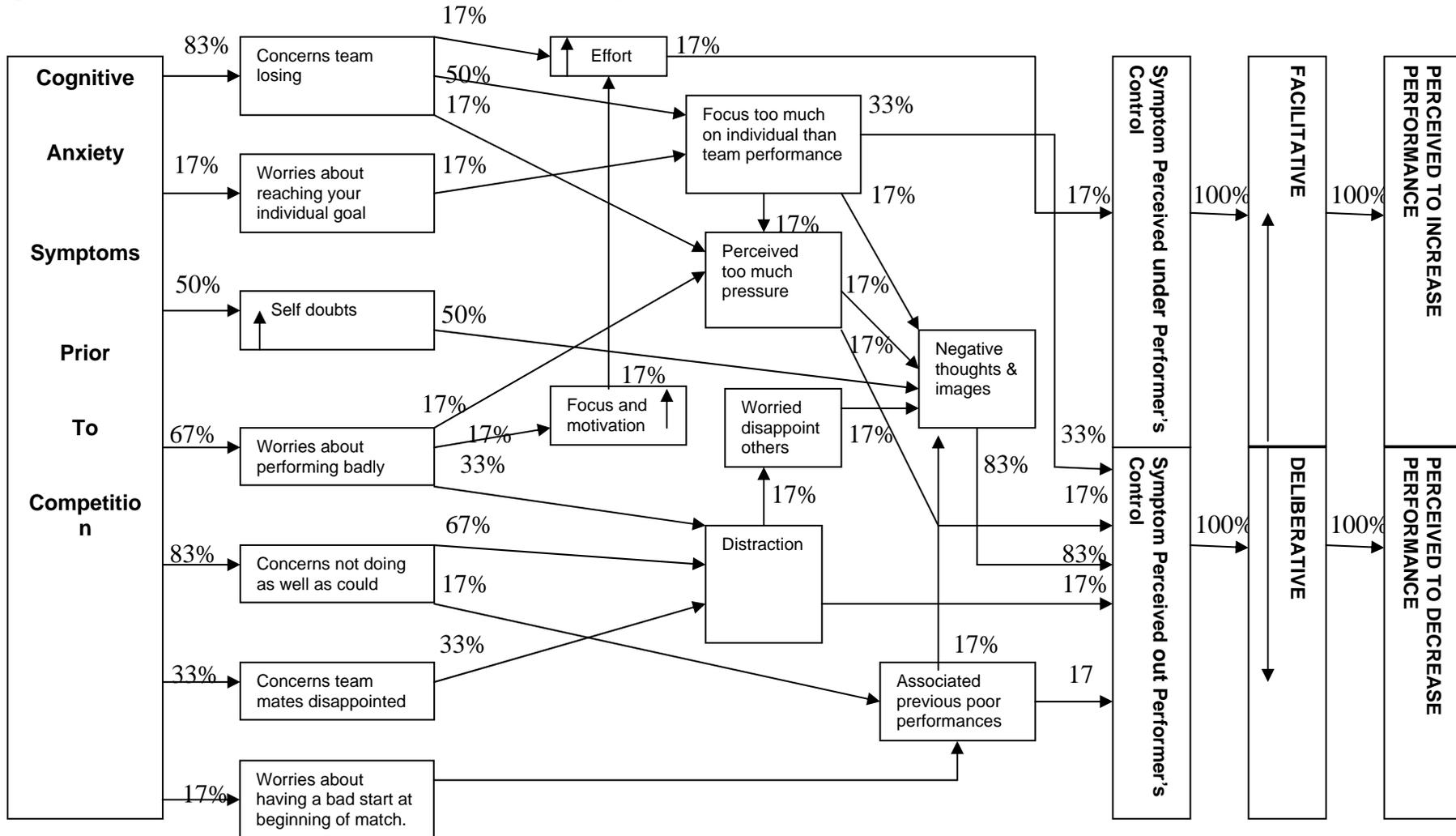
**Figure 9 - Causal Stream B – Under Low Self-Efficacy**



**Figure 10 - Casual Stream C – Under High Self-Efficacy**



**Figure 11 - Casual Stream D – Under Low Self-Efficacy**



## **4.0 RESULTS**

The results shown in the four casual networks were constructed from the transcripts. The networks were presented by simultaneously examining the responses of all six regional hockey players under both high and low self-efficacy for cognitive and somatic anxiety symptoms (see figures 8-11 Streams A, B, C and D). This resulted in four conceptual frameworks which show the reported perceived affects of anxiety symptoms on performance. The flow diagrams are best interpreted from left to right, this shows the relationship direction. The frameworks for the diagrams consisted of a set of variables which were connected together by a series of arrows. The arrows represent the direction of causation between the variables. For each of the variables a percentage rating shows the number of participants who expressed having these somatic/cognitive symptoms. All six participants expressed that they experienced both somatic and cognitive anxiety symptoms prior to the competition (morning of the competition up to just before start of match).

Casual stream A shows participants perceived somatic anxiety symptoms under high levels of self-efficacy, in contrast stream B shows these somatic symptoms under low levels of self-efficacy. Casual stream C shows participants perceived cognitive anxiety symptoms under high levels of self-efficacy, in contrast stream D shows these cognitive symptoms under low levels of self-efficacy.

### **4.1 Casual stream A**

Figure 8 displays Stream A, it reports that somatic anxiety symptoms under high levels of self-efficacy were perceived by 67% of participants as being under performers control. This control was interpreted as facilitative (100%) thus increasing performance (100%). Two main streams emerged from the perceived increase in performance. First was "heart racing" (67%) which was interpreted as increasing blood and energy to working muscles (67%), which lead to a preferred feeling/state of optimal performance (67%). Secondly, "nerves" (100%) and "body feeling tense" (17%) were associated with

previous good performances (67%). This was considered to heighten awareness and focus (33%), or be a sign of being ready (17%). In all cases, this was reported as a preferred feeling/state of optimal performance (67%). Some somatic anxiety symptoms were perceived by participants under high self-efficacy to have no affect on performance. “Butterflies in stomach” (17%), Jittery legs (17%) and clammy hands (17%) were viewed by some participants as having occurred in past performances (50%) and having no affect on performance (50%). Participants didn’t see the symptoms as having neither a facilitative or deliberative affect on their performance. Only one participant felt that somatic anxiety “nerves” under high levels of self-efficacy lead to the match not being significant (17%) and out of performer’s control. Participant perceived this symptom as having a deliberative affect causing decreased performance.

#### **4.2 Casual Stream B**

Figure 9 displays Stream B, reports that somatic anxiety symptoms were perceived by 67% of participants as being out of performers control. No control was interpreted as deliberative (67%) thus perceived to decrease performance (67%). Nerves (100%), “Heart racing” (33%) and “butterflies in stomach” (33%) were perceived as either an unwanted feeling (33%), waste of energy (33%) or seen as causing too much pressure (67%). In all cases participants felt this led them to increase self doubts and worries (67%). As in Stream A some somatic symptoms were perceived as having no affect on performance. “Jittery legs” (17%), “Clammy hands” (17%) and “Body feeling tense” were all viewed as having occurred in past performances (50%) and having no affect on performance (50%). Participants didn’t see the symptoms as having neither a facilitative or deliberative affect on their performance.

### **4.3 Casual Stream C**

Figure 10 displays Stream C, it reports that cognitive anxiety symptoms were perceived by 100% of participants as being under performer's control. This control was interpreted as facilitative (100%) thus perceived to increase performance (100%). Three main explanations emerged. "Concerns about losing" (67%) and "Worries about performing badly" (67%) were both perceived to increase focus and motivation (67%) thus viewed as under control. "Concerns team mates would be disappointed with your individual performance" (33%) was perceived to increase motivation not to disappoint others (33%) leading to increased effort during the match (33%) viewed as under performer's control. One participant (17%) viewed "self doubts" under high levels of self-efficacy as causing negative thoughts and images (17%). These negative thoughts and images were seen as out of the performer's control and perceived as deliberative (17%) thus decreasing performance (100%).

### **4.4 Casual Stream D**

Figure 11 displays Stream D, which presents cognitive symptoms that participants deemed outside of their personal control, these were interpreted as deliberative thus resulting in decreased performance. The differing reasons for these events included "concerns about losing" (83%) which was perceived as putting too much focus on individual rather than team performance (50%) and perceived too much pressure (17%). In both cases this lead to increased negative thoughts and images (33%). Another reason for these events suggested that "self doubts" (50%) was perceived to increase negative thoughts and images (50%) and seen as out of performers control. "Concerns not doing as well as could" (83%) was seen by participants as a distraction (67%) which led to increased negative thoughts and images (67%). One participant (17%) saw one of the cognitive symptoms under low self-efficacy as under performer's control, perceiving this as facilitative thus increasing performance. The symptom "worries about performing badly" was perceived to increase performers focus and motivation (17%) which lead to increased effort during the match (17%). This

increased effort, focus and motivation was perceived to increase the individual's performance.

#### **4.5 Main Findings**

The four casual networks revealed two major relationships between self-efficacy, anxiety and performance. The first relationship shows that participants under high levels of self-efficacy, anxiety was perceived as under control and interpreted as facilitative towards performance. The second relationship shows that under low levels of self-efficacy, anxiety was perceived not under control and interpreted as deliberative toward performance. Increases or decreases in self-efficacy were perceived to improve or lower performance

## **CHAPTER VI**

## **CONCLUSION**

## **6 CONCLUSION**

From the present study two major relationships have emerged from the results. The first relationship shows that when participants are under high levels of self-efficacy they perceive pre-competition anxiety (somatic and cognitive) as under performer's control. This control is interpreted as facilitative and having a positive affect on performance. Participants associated somatic (feelings) anxiety symptoms with previous good performances and saw them as a sign of being ready for the important competition. Participants attributed cognitive anxiety to increase focus and motivation prior to the match, participant perceived this to increase effort during the match. They recognised their own high levels of ability and skill through training and past experiences which decreased anxiety prior to the match.

The second relationship shows that when participants are under low levels of self-efficacy they perceive pre-competition anxiety (somatic and cognitive) as out of performer's control. This control is interpreted as deliberative and having a negative affect on performance. Participants associated somatic (feelings) anxiety symptoms as unwanted feelings which cause self doubts and worries. Participants associated cognitive anxiety to previous bad performances and saw anxiety symptoms as a distraction interpreting these as negative thoughts and images. Participant's reasons for feeling low self-efficacy were associated with lack of fitness, tactical awareness, skill level and not knowing their role on the pitch.

Every participant who viewed anxiety symptoms as under performers control interpreted them as facilitative, having a positive affect on performance. Participants who viewed anxiety symptoms as out of performers control interpreted them as deliberative, having a negative affect on performance. However a small majority of participants who viewed anxiety as out of performers control interpreted them as having no affect on performance. Participants had experienced these anxiety symptoms in previous matches

and viewed them as neither facilitative nor deliberative toward performance. Although participants perceived these symptoms as not under control, unknowingly these emotions were individually managed.

Findings suggest it is important performers learn to control their pre-competition states through the use of psychological strategies or interventions. Using such strategies allows performers to precisely manipulate cognitive and somatic symptoms to individually preferred pre-competition states. This would maintain high levels of control, leading to facilitative directional interpretations and enhanced self-efficacy.

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## **CHAPTER VII**

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## **APPENDICES**

**APPENDIX A**

**My Interview Guide  
For Study**

**The Affect of Anxiety and Self-Efficacy upon  
Performance within Regional Level Female Hockey  
Players**

Name: \_\_\_\_\_

Subject #: \_\_\_\_\_

Age: \_\_\_\_\_

Position (def, mid, att) \_\_\_\_\_

Address: \_\_\_\_\_

Tel No: \_\_\_\_\_

Interview Date: \_\_\_\_\_

Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_

## **SECTION 1**

### **Introduction** (Not Recorded)

Hello, I'm Hannah Stone, a third year student studying Sport and P.E. at the University of Wales Institute, Cardiff, UK. Thank you for agreeing to participate in this interview study. In this project I am talking to regional level female hockey players, and looking at the relationship between an individual's perceived anxiety and self-efficacy, and their affect on hockey performance. More specifically the means by which anxiety and self-efficacy affects performance in either a facilitative or debilitating manner.

Therefore, the purpose of this study is to better understand how anxiety and self-efficacy influence competitive performance. Previous studies in these areas have used statistics and failed to reveal meaningful explanations regarding their affects on performance. I want to try and understand a little more about this area by using qualitative methods, specifically interviews, so that the findings can help hockey players and coaches to understand how to cope with and use anxiety symptoms and self efficacy in competitions.

I would like to emphasise that your interview information will remain **completely confidential**. I may want to use selected quotes from the interviews in order to illustrate certain findings. These quotes will remain strictly anonymous and I will ensure your **identity will be protected**. I am going to use a tape recorder during the interview, as this is a more efficient way of collecting information and enables me to gather accurate and complete information. The tape will be used to make a typed transcript for later analysis and reference.

It is important for you as a participant to know that you have several definite rights: first, your participation is voluntary and you are free at any time to leave or decline to answer any question you are not happy to answer. You also have the right to stop the interview at any point. There are no right or wrong answers to the questions; I want to learn from your experience as an elite hockey player in order to gain a complete understanding of the relationship between anxiety and self-efficacy, and performance. Therefore, I hope that you answer the questions honestly and to the best of your ability. Any questions you do not feel comfortable answering I would much rather you declined to comment than you tell me what you think others or I may like to hear. If you decide you do not want to answer a question simply state 'no comment' and I will not ask you any further questions on that topic. If at any time you do not understand a question and need clarification, please do not hesitate to question me before or during the interview.

The questions relate to the match you played against the University of Bath on the 31st January 2008. This match is now in the past so you may not remember things immediately. Take your time as you recall the match and your feelings and thoughts before and during the game; pauses are fine. If you can not remember after trying to think back, then just let me know, but please do not guess. At the end of the interview there will be an opportunity

for you to add anything that you felt was important and not covered or felt you missed in the interview.

Do you have any questions about any of the things I have discussed so far?

Definitions of somatic anxiety, cognitive anxiety and self-efficacy: -

**Somatic Anxiety:** - Refers to your perception of your physical symptoms and is characterised by symptoms such as physical nervousness, butterflies in the stomach, tense muscles, and increases in heart rate.

**Cognitive Anxiety:** - Refers to the mental component of anxiety and is characterised by the symptoms such as concerns and worries about your upcoming competition such as losing and performing poorly.

**Self efficacy:** - refers to people's judgments of their capability to successfully perform a task or activity in a specific situation or context.

## **SECTION 2**

We will start with a few general questions to get you into the flow of the interview, by discussing how you first started playing hockey and how committed you are: -

1. How old were you when you first started playing hockey?
2. What hockey team do you play for at present?
3. What is a typical week for you in terms of training (e.g. amount & time involved)?  
*Probe: Do you train outside of club training (individual – gym etc.)*
4. How often and at what level have you competed at?
5. Do you enjoy competing at this level?

*Probe: if yes/no, why*

### SECTION 3

This next section of the interview is regarding your competitive hockey match representing the University of Wales Institute Cardiff (UWIC) against the University of Bath played on the 31st January 2007.

1. Can you try and explain your typical thoughts & feelings that you experienced before this competition? (From morning of the competition up to 1hr before)

Looking at this list of both somatic and cognitive symptoms tick which ones you did experience.

#### SOMATIC ANXIETY:

Nerves:

Jittery Legs:

Body feeling tense:

Heart racing:

Stomach sinking:

Tense in the stomach:

Relaxed body:

Pins and needles in hands

Butterflies in stomach

Clammy hands:

#### COGNITIVE ANXIETY:

Concerns about the competition:

Self doubts:

Concerns about not doing as well as you could:

Concerns about choking under pressure:

Worries about performing badly:

Concerns about losing the important game (affects):

Worries about reaching a set goal:

Concerns that other team mates will be disappointed with your performance:

Concerns that you will not be able to concentrate:

Other:

2. You have just said that you experienced Somatic Anxiety before the match and your symptoms were ..... Overall can you tell me how you perceived these Somatic anxiety symptoms in terms of intensity and direction?

	<u>High</u>	<u>Very Low</u>				<u>Very</u>
Somatic anxiety (intensity):	(1	2	3	4	5	6 7)
	<u>Negative</u>					<u>Positive</u>
Somatic anxiety (direction):	(-3	-2	-1	0	+1	+2
+3)						

*Probe: What affect did this have on your performance?*

3. Let's now go on and talk about the individual physiological (somatic) symptoms that you experienced before the match started. Can you please give the intensity levels for the physiological symptoms you experienced? And the direction of that symptom

- **Nerves** (Intensity) 

<u>Very Low</u>						<u>Very High</u>
( 1	2	3	4	5	6	7 )

  
(Direction): 

<u>Negative</u>						<u>Positive</u>
(-3	-2	-1	0	+1	+2	+3 )

***Probe: Why & How affects performance?***

- **Jittery legs:** (Intensity) 

<u>Very Low</u>						<u>Very High</u>
( 1	2	3	4	5	6	7 )

  
(Direction): 

<u>Negative</u>						<u>Positive</u>
(-3	-2	-1	0	+1	+2	+3 )

***Probe: Why & How affects performance?***

- **Body feeling Tense:** (Intensity) 

<u>Very Low</u>						<u>Very High</u>
( 1	2	3	4	5	6	7 )

  
(Direction): 

<u>Negative</u>						<u>Positive</u>
(-3	-2	-1	0	+1	+2	+3 )

***Probe: Why & How affects performance?***

- **Heart Racing:** (Intensity) 

<u>Very Low</u>						<u>Very High</u>
( 1	2	3	4	5	6	7 )

  
(Direction): 

<u>Negative</u>						<u>Positive</u>
(-3	-2	-1	0	+1	+2	+3 )

***Probe: Why & How affects performance?***

- **Stomach sinking:** (Intensity) 

<u>Very Low</u>						<u>Very High</u>
( 1	2	3	4	5	6	7 )

(Direction):  $\begin{matrix} \text{Negative} \\ (-3 & -2 & -1 & 0 & +1 & +2 & +3) \end{matrix}$

***Probe: Why & How affects performance?***

- **Clammy hands:**  $\begin{matrix} \text{Very Low} \\ (1 & 2 & 3 & 4 & 5 & 6 & 7) \end{matrix}$   
(Intensity)

(Direction):  $\begin{matrix} \text{Negative} \\ (-3 & -2 & -1 & 0 & +1 & +2 & +3) \end{matrix}$

***Probe: Why & How affects performance?***

- **Tense in stomach:**  $\begin{matrix} \text{Very Low} \\ (1 & 2 & 3 & 4 & 5 & 6 & 7) \end{matrix}$   
(Intensity)

(Direction):  $\begin{matrix} \text{Negative} \\ (-3 & -2 & -1 & 0 & +1 & +2 & +3) \end{matrix}$

***Probe: Why & How affects performance?***

- **Relaxed body:**  $\begin{matrix} \text{Very Low} \\ (1 & 2 & 3 & 4 & 5 & 6 & 7) \end{matrix}$   
(Intensity)

(Direction):  $\begin{matrix} \text{Negative} \\ (-3 & -2 & -1 & 0 & +1 & +2 & +3) \end{matrix}$

***Probe: Why & How affects performance?***

- **Pins and needles in hand:**  $\begin{matrix} \text{Very Low} & & & & & & \text{Very} \\ \text{High} & & & & & & \end{matrix}$   
(Intensity) ( 1 2 3 4 5 6 7 )

$\begin{matrix} \text{Negative} & & & & & & \text{Positive} \\ (-3 & -2 & -1 & 0 & +1 & +2 & +3) \end{matrix}$

***Probe: Why & How affects performance?***

- **Butterflies in stomach:**

	<u>Very Low</u>					<u>Very High</u>
(Intensity)	( 1	2	3	4	5	6 7 )
		<u>Negative</u>				<u>Positive</u>
(Direction):	( -3	-2	-1	0	+1	+2 +3 )

***Probe: Why & How affects performance?***

- **Other:**

	<u>Very Low</u>					<u>Very High</u>
(Intensity)	( 1	2	3	4	5	6 7 )
		<u>Negative</u>				<u>Positive</u>
(Direction):	( -3	-2	-1	0	+1	+2 +3 )

***Probe: Why & How affects performance?***

4. You have just said that you experienced Cognitive Anxiety before the match and your symptoms were ..... Overall can you tell me how you perceived these cognitive anxiety symptoms in terms of intensity and direction?

- |                                |                 |                 |    |   |    |                  |
|--------------------------------|-----------------|-----------------|----|---|----|------------------|
|                                | <u>Very Low</u> |                 |    |   |    | <u>Very High</u> |
| Cognitive anxiety (intensity): | ( 1             | 2               | 3  | 4 | 5  | 6 7 )            |
|                                |                 | <u>Negative</u> |    |   |    | <u>Positive</u>  |
| Cognitive anxiety (direction): | (-3             | -2              | -1 | 0 | +1 | +2 +3)           |

***Probe: What affect did this have on your performance?***

5. Let's now go on and talk about the psychological (cognitive) symptoms that you experienced before the match started. Can you please give the intensity levels for the psychological symptoms you experienced? And the direction of that symptom.

- **Concerns about the competition:**

- |              |                 |                 |    |   |    |                  |
|--------------|-----------------|-----------------|----|---|----|------------------|
|              | <u>Very Low</u> |                 |    |   |    | <u>Very High</u> |
| (Intensity)  | ( 1             | 2               | 3  | 4 | 5  | 6 7 )            |
|              |                 | <u>Negative</u> |    |   |    | <u>Positive</u>  |
| (Direction): | ( -3            | -2              | -1 | 0 | +1 | +2 +3 )          |

***Probe: Why& how affects performance?***

- **Self doubts:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**  
*Lack of confidence in own ability*

- **Concerns about not doing as well as you could:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

- **Concerns about choking under pressure:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

- **Worries about performing badly:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

- **Worries about losing the game:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

*Affects of winning/ losing – not progressing to further stage of competition?*

- **Worries about reaching your goal:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

*Unrealistic*

- **Concerns that others will be disappointed with your performance:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

*Are concerns with disappointment higher from coach or team mates?*

- **Concerns that you will not be able to concentrate:**

(Intensity)	<u>Very Low</u>					<u>Very High</u>
	( 1 2	3	4	5	6	7 )
(Direction):	<u>Negative</u>					<u>Positive</u>
	( -3 -2	-1	0	+1	+2	+3 )

**Probe: Why& how affects performance?**

*Other cues – spectators etc.*

- **Other:**

	<u>Very Low</u>					<u>Very High</u>
(Intensity)	( 1 2	3	4	5	6	7 )
	<u>Negative</u>					<u>Positive</u>
(Direction):	( -3 -2	-1	0	+1	+2	+3 )

Why& how affects performance?

6. How would you rate your self-efficacy on the morning of the match up to one hour before?

	<u>Very Low</u>					<u>Very High</u>
(Intensity)	(1 2	3	4	5	6	7)

*Probe - How do you feel self-efficacy affected your performance?*

7. What influenced your Self-efficacy levels, up or down?

*Did it change in that time?*

*Why did it change?*

*How did SE affect your performance?*

*What influenced your SE levels, up & down?*

8. What part of that game do you think you were particularly good at?

*Probe – defending/ attacking, set plays, certain skill – hitting etc.*

– *Why that part of your game?*

Sources of Self-Efficacy – Bandura (1997)

- *Past Performance Accomplishments*
- *Vicarious Experiences*
- *Verbal Persuasion*
- *Physiological States*
- *Emotional States*
- *Imaginal Experiences*

9. Which part of that game do you think you were particularly bad at or performed poorly?

*Probe – defending/attacking, set plays, certain skill – pushing etc.*

- *Why that part of your game?*

Sources of Self Efficacy – Bandura (1997)

- *Past Performance Accomplishments*
- *Vicarious Experiences*
- *Verbal Persuasion*
- *Physiological States*
- *Emotional States*
- *Imaginal Experiences*

10. Do you think an increase in your self efficacy levels would affect Anxiety levels?

*Probe: How? SA & CA? Intensity / direction ?*

*Probe: How does that affect performance*

Do you think a decrease in your self efficacy levels would affect your Anxiety levels?

*Probe: How affect levels? Affect both SA & CA? Intensity – how much affect Anxiety / direction – positive or negative?*

*Probe: How does that affect performance?*

#### **SECTION 4**

#### **Recommendations for Future athletes**

Do you have any advice for hockey players in terms of anxiety and self-efficacy and their affect on performance in matches?

#### **SECTION 5**

#### **Conclusion:**

This is the end of the interview. But just before we finish, let me ask you some final questions.

- 1 How did you think the interview went?
- 2 Did I lead you or influence your response in any way?
- 3 Do you think we failed to discuss any important factors?
- 4 Have you any comments or suggestions about the interview itself?  
Thanks for helping out with this interview.

**APPENDIX B**

Tel: 07739314249  
Email: hannah\_stone@hotmail.com  
Address: 57 Shirley Road,  
Roath,  
Cardiff

Dear.....

**CONSENT FORM FOR UNDERGRADUATE RESEARCH – INTERVIEW**

I am a third-year undergraduate student studying Bsc Sport and P.E at the University of Wales Institute, Cardiff (UWIC). The topic for my undergraduate dissertation is ‘The Affect of Anxiety and Self Efficacy upon Performance within elite female hockey players’.

As part of my research, I am contacting six elite female hockey players, all of which represent UWIC Ladies Hockey First Team. My study relates specifically to the match played on the 31<sup>st</sup> January 2008 against the University of Bath.

The interviewee’s participation is strictly voluntary and he/she may withdraw participation at any time before or during the interview. The identity of each interviewee will be kept confidential at all times. With your consent I would like to tape the interview so that the relevant information can be properly extracted and analysed. The content from the interview will only be reviewed by myself and my supervisor. The audio tapes and notes taken from the interview will be destroyed after the completion of my dissertation.

I would appreciate it if you could indicate your consent to be interviewed by signing a copy of this letter and having it available on the day of the interview. If you have further questions about my research, you may contact me via any of the details above. Equally my supervisor would be very happy to discuss the research with you directly and can be reached by emailing him on [D.Connaughton@uwic.ac.uk](mailto:D.Connaughton@uwic.ac.uk)

Thankyou for your cooperation.

Yours Sincerely

Hannah Stone

Participants Name (print): - .....

Signature: -.....

Date: - .....

## **APPENDIX C**

### **Transcript Subject 3**

**Interviewer:** - This is an interview with Participant 3 aged twenty on the 07/02/2008, start time 1.10pm.

#### **Section 2**

**1) Interviewer:** - We will start with a few general questions to get you into the flow of the interview, by discussing how you first started playing hockey and how committed you are. So how old were you when you first started playing hockey?

**Interviewee:** - I was ten.

**2) Interviewer:** - What hockey team did you play for and represent?

**Interviewee:** - Erm I played for Yates Ladies Hockey Club and I also played for my school team as well.

**Interviewer:** - Did you play for your county?

**Interviewee:** - Yeh I played county and West of England and I also went to England trials.

**3) Interviewer:** - What's your typical week in terms of training? Amount of time you do at UWIC?

**Interviewee:** - At UWIC Monday training, Wednesday match, Friday training, Saturday match and maybe a match on Sunday if cup games or anything.

**Interviewer:** - And do you do any training outside of it like gym or something?

**Interviewee:** - Yeh I go to the gym about twice a week and I do palates and things.

**4) Interviewer:** - And how often and at what level have u competed at – highest level?

**Interviewee:** - Erm the highest level is regional which I played for West of England for three years on the trot.

**5) Interviewer:** - Do you enjoy competing at this level?

**Interviewee:** - Yeh I did.

#### **Section 3**

**1) Interviewer:** - This next section of the interview is regarding your competitive hockey match representing UWIC against the University of Bath played on the 31st January. Can you try and explain your typical thoughts and feelings that you experienced before this competition? From the morning of the competition up to one hour before? Any thing you can think of basically.

**Interviewee:** - Yeh before the match erm I had a few nerves because it was a big game which we needed to win. Erm In my sub conscious mind I was worried about my hitting because I haven't been hitting very well. But I spoke

to my coach about that and he erm gave me positive reinforcement and said I can do it and things like that. Once I got, this is before the game right?

**Interviewer:** - Yeh.

**Interviewee:** - Including during warm up?

**Interviewer:** - Yeh.

**Interviewee:** - Cool during the warm up I felt at ease because obviously I managed to hit a few balls however the pitch was a bit bobbly so as soon as I got use to that it was fine. Erm I didn't really as soon as I got on the pitch my anxiety levels somatically decreased and I felt ok.

**2) Interviewer:** - You have just said that you experienced Somatic Anxiety before the match and your symptoms were nerves, heart racing and a relaxed body. Overall can you tell me how you perceived these symptoms in terms of intensity and direction? So what intensity level did you give?

**Interviewee:** - A five.

**Interviewer:** - why do you think you were that nervous before the game, why was that quite high?

**Interviewee:** - I think it was due to previous games my performance was slightly lower so therefore I had a bit more anxiety than normal.

**Interviewer:** - Anything to do with this particular match?

**Interviewee:** - Erm yeh it was of greater importance than any of the others and it was the final match and we needed to win to get to where we are now.

**Interviewer:** - What direction did you give this?

**Interviewee:** - A plus one.

**Interviewer:** - How do you think this affected your performance, this high intensity?

**Interviewee:** - Erm, I think that if I wasn't anxious about it I think this would have given my performance a negative aspect. Erm just because being anxious I think improves my performance personally compared to if it wasn't.

**3) Interviewer:** - Let's now go on and talk about the individual physiological somatic symptoms that you experienced before the match started. Can you please the intensity levels for the physiological symptoms you experienced and the direction of the symptom? So you said you felt nervous before the game, what intensity level did you give this?

**Interviewee:** - Six.

**Interviewer:** - This is relatively high, how come you think you were so nervous before the game?

**Interviewee:** - Erm just mainly because of the importance of the match and due to previous poor performances by me personally I think this was why my nerves were quite high.

**Interviewer:** - And what direction did you give this?

**Interviewee:** - Erm id also give it a plus one because I felt so nervous erm I wanted to do better therefore I think this had a positive affect on my performance.

**Interviewer:** - You also said your heart was racing what intensity level did you give this?

**Interviewee:** - I gave it a five.

**Interviewer:** - How come you think you heart was racing before the game?

**Interviewee:** - Because my nerves were so high that increased my heart rate.

**Interviewer:** - Can you give an example of when it was during the game?

**Interviewee:** - Erm during the game or during warm up?

**Interviewer:** - Either.

**Interviewee:** - During warm up when I first went to hit the ball obviously because I had poor hitting previous to games before I was slightly nervous. Therefore my heart raced just before I went to hit the ball.

**Interviewer:** - How do you think this affected your performance?

**Interviewee:** - Erm I think it was a plus one, positive. Erm because erm with increased heart rate I was worried because of my nerves and erm as soon as hit the ball well the first time my heart rate slowed down.

**Interviewer:** - You also said you had a relaxed body, so what intensity level did you give this?

**Interviewee:** - Relaxed body I gave it a six.

**Interviewer:** - That's relatively high do you think that had a positive or negative affect on the way you played?

**Interviewee:** - Erm I think it had a positive affect but I think my relaxed body only started becoming really relaxed when my nerves had stopped. So after I had hit the ball well then I was really really relaxed just before the match began.

**4) Interviewer:** - You have just said that you experienced cognitive anxiety before the match and your symptoms were self doubts, concerns about not doing as well as you could, worries about performing badly and also concerns about losing the important game and also the affects of this. Overall can you tell me how you perceived these cognitive anxiety symptoms in terms of intensity and direction? So what intensity did you give your overall cognitive anxiety?

**Interviewee:** - I gave this four.

**Interviewer:** - How do you think this affected the way you played in the game, whether it was positive or negative?

**Interviewee:** - I think it was positive and I gave it a plus one. Again erm I viewed it as being natural, I normally feel these symptoms before most games therefore I didn't take anything really into it. I saw it as a positive affect erm it didn't have a negative affect on me.

**5) Interviewer:** - Let's now go on and talk about the psychological cognitive symptoms that you experienced before the match started. Can you please give the intensity levels for the psychological symptoms you experienced and the direction of that symptom? So you said you had self doubts about the game against Bath so what intensity did you give this?

**Interviewee:** - A five.

**Interviewer:** - So obviously you had self doubts about your performance, what were your reasons for these?

**Interviewee:** - Mainly just the hitting again, it's such a big aspect of the game erm when I feel that's one of my strongest areas. When I'm not performing that well I think there are going to be self doubts.

**Interviewer:** - Did you put this as positive or negative?

**Interviewee:** - Erm I viewed it as a minus one, its more negative erm being worried about not being able to do something that you're normally quite good at therefore I viewed it as a negative.

**Interviewer:** - You also said you had concerns about not doing as well as you could in the game against Bath. What intensity did you give this?

**Interviewee:** - Erm a five.

**Interviewer:** - What concerns did you have about the competition?

**Interviewee:** - Yeh erm about tackling, not being as good as the opposition. However we have played them before and managed to draw so that was in the back of my mind as well. Erm but if we didn't perform as well as we did last time because the coach influenced and said that we played well, I knew that perhaps we would lose and wouldn't get through.

**Interviewer:** - Do you think these concerns had a positive or negative affect on the way you played?

**Interviewee:** - Erm I think they had a negative, minus one. Erm because they were there they influenced my game slightly.

**Interviewer:** - You also said you had worries about performing badly, what did you give this intensity?

**Interviewee:** - Erm only about a four.

**Interviewer:** - Why this intensity?

**Interviewee:** - I've got really high aspects of my ability I know I can do it. Its just in the back of my mind due to previous performances I'm slightly worried but it wasn't really affecting my game because of a good warm up I knew I could do it.

**Interviewer:** - And what direction did you give this?

**Interviewee:** - Erm probably a plus one because it reinforces the fact that I knew I could do something. Erm so therefore it didn't really have an affect.

**Interviewer:** - You also said you had concerns about losing the important game, what intensity did you give this?

**Interviewee:** - About six.

**Interviewer:** - What would be the affects of you losing the game – why is your intensity so high?

**Interviewee:** - The affects of losing the game we wouldn't have possibly gone through to the next round. Erm therefore there would have been less matches wouldn't be able to see my friends and my social network erm and it would have been really sad.

**Interviewer:** - What direction did you give it?

**Interviewee:** - Plus two because I was so concerned about losing so that I wanted to play well so therefore saw it as positive.

**6) Interviewer:** - We are now going to move on and start talking about self efficacy so how do you rate your self efficacy on the morning of the match up to one hour before you played?

**Interviewee:** - Yeh quite high, I gave it a five.

**Interviewer:** - So how do feel this intensity affected the way you played?

**Interviewee:** - I had self belief in my performance I knew I could do it therefore I feel my self efficacy was quite high. I had previous matches where

different aspects, set plays had gone really well therefore my self efficacy was a lot higher.

**7) Interviewer:** - And what do you think influenced your self efficacy levels up or down? Did it change over time?

**Interviewee:** - Erm I think at the beginning of the match my self efficacy would be slightly lower erm and then once you ease into the game do a few good tackles, do a few good hits then your self efficacy obviously increases.

**Interviewer:** - Do you feel it affected your performance at the level that it was?

**Interviewee:** - Erm yeh I think throughout the game I hope that I got better erm and yeh obviously increased time increased self efficacy.

**8) Interviewer:** - What part of your game do you think you are particularly good at? So this is specific to the Bath game, you being a defender what sort of things do you think went well in the game?

**Interviewee:** - I think I did a few good tackles, I intercepted a few good balls as well which is vital for my role. Erm I felt that our communication was quite good on that day erm something which we needed to improve on and I think err the back four defenders did talk a lot better than normal. I thought the transfers went quite well.

**Interviewer:** - Why do you think that part of your game was particularly good?

**Interviewee:** - I think because we have worked at it during training. Erm I think that's why its particularly better than some of the other aspects.

**9) Interviewer:** - Which part of your game do you think you were particularly bad at? Obviously relate it to the Bath game, what sort of things didn't go as well for you as you had hoped?

**Interviewee:** - Some of my tackling was quite appalling. Erm I think I gave away a few short corners as well, panic defending. Erm I think that was due to a few nerves as well during the game erm.

**Interviewer:** - Also you were involved in set plays how do you think, did they go well?

**Interviewee:** - Yeh set plays went well erm and I'm involved in short corner stopping, we scored two out of short corners. So that was really good so that increased my confidence.

**Interviewer:** - And why do you think some parts of your game didn't go as well as you had hoped?

**Interviewee:** - I think there can sometimes be aspects of the game, a defender could err an attacker may do something you may not anticipate. You could do a bad tackle; the umpires may choose to blow it up in certain ways that could influence it. If you have three or four of those your confidence could decrease.

**10) Interviewer:** - Do you think an increase in your self efficacy levels would affect anxiety levels? So in terms of somatic and cognitive?

**Interviewee:** - Yeh I think increased self efficacy would probably decrease both cognitive and somatic anxiety.

**Interviewer:** - Do you think it would have a positive or negative affect on performance if these both went down?

**Interviewee:** - Erm somatically perhaps a positive affect, erm just because if I didn't have a racing heart and things id feel a bit more relaxed then I'm likely to perform better. However cognitively I think it is quite good to have a few worries before a match because there natural, therefore I think it would have a negative affect if they were low.

**11) Interviewer:** - Do you think a decrease in self efficacy levels would affect your anxiety levels? So also in terms of somatic and cognitive?

**Interviewee:** - Ok yeh I think decrease self efficacy would probably increase my anxiety. I would feel that if I'm not that confident erm I'd be a lot more anxious. Somatic anxiety erm I think if I had loads of confidence in myself my anxiety levels would decrease. Somatic anxiety erm nerves, racing heart rate and all the other symptoms I experienced if I didn't have those erm it would kind of be both positive and negative I think. It's kind of in between both, more so it kind of can be positively forming but then again it can be negative depending on how I perceive the game. So more important games it could be positive, I don't really know it's a bit.

#### **Section 4**

**Interviewer:** - Do you have any advice for hockey players in terms of anxiety and self efficacy and their affect on performance in matches? So any recommendations for future athletes?

**Interviewee:** - Yeh I think the more practice you can get before the match the more confidence you can receive erm by increasing positive experiences during training. I think that will decrease your anxiety during games. Erm it could improve your self efficacy erm and therefore you maybe more likely to give a better performance. However I think that age these performers are does have a greater affect. If you're quite new at the game I think that having more positive experiences will increase your self efficacy. But if you've been in the sport for several years say ten plus then I think that having bad performances can sometimes improve your erm performance as well.

## **Section 5**

**1) Interviewer:** - This is the end of the interview but just before we finish, let me ask you some final questions. How did you think the interview went?

**Interviewee:** - I think the interview went well, I could remember everything.

**2) Interviewer:** - Did I lead or influence your response in any way?

**Interviewee:** - No completely off the top of my head.

**3) Interviewer:** - Do you think we failed to discuss any important factors?

**Interviewee:** - No

**4) Interviewer:** - Do you have any comments or suggestions about the interview itself?

**Interviewee:** - I think it's very good, professional conducted extremely well.

**Interviewer:** - Ok thanks you very much for helping me out with my interview.

