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**Coaches' expression of pride and shame and its effect
upon football passing performance**

(Dissertation submitted under the psychology area)

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**COACHES' EXPRESSION OF PRIDE AND SHAME AND
ITS EFFECTS UPON FOOTBALL PASSING
PERFORMANCE**

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ABSTRACT

The aim of the study was to investigate how the expression of emotions (specifically pride and shame) by a coach when providing feedback could impact upon the performance of a footballer when completing a passing test. Due to the lack of research into the interpersonal effects of emotional expression on performance, the study was designed to answer the call of Van Kleef (2007) into investigating the effects of coaches' emotional expressions. 18 male football players aged from 18 to 21 (*Mean* = 19) participated in the study by completing a passing test (Loughborough Soccer Passing Test) twice, whilst receiving feedback from their coach in-between each performance. When providing the feedback about their first performance, the coach either expressed pride or shame. Results showed that there was no significant difference in the performance time differences of pride (*Mean* = - 2.9, *SD* = 6.8) and shame (*Mean* = 0.4, *SD* = 4.7) feedback conditions ($t_{15} = -1.136$, $p = 0.274$, $p > 0.05$). Additionally, the results found there to be no significant difference in penalty time differences of pride (*Mean* = - 5.8, *SD* = 8.9) and shame (*Mean* = 2.3, *SD* = 9.3) feedback conditions ($t_{15} = -1.818$, $p = 0.089$, $p > 0.05$). Finally, results identified no significant difference in the average overall performance time differences of pride (*Mean* -6.1, *SD* = 10.3) and shame (*Mean* = 2.8, *SD* = 10.6) feedback conditions ($t_{15} = -1.745$, $p = 0.101$, $p > 0.05$). The findings are discussed in relation to previous research, along with their implications to coaches, sport performers and sport psychologists.

CHAPTER ONE
INTRODUCTION

1.1 Emotion Expressions and Sport

The expression of emotions has been identified as a key contributor to the decisions and choices we make in everyday life (Trampe, Quoidbach, & Taquet, 2015) yet the importance of the role emotion expressions play in relation to modern day sport has insufficiently been highlighted (Botterill & Brown, 2002). The emotionally fuelled roundabout about that is competitive sport provides performers, coaches, spectators and all involved within its construct the opportunity to experience significantly differing emotions (Lavelle, Thatcher & Jones 2011). From viewing newspaper headlines and watching highlights of matches on the television, a difference between the emotional displays of successful and unsuccessful performers is clearly evident (McCarthy, 2011). Emotions which link closely to each other in this respect are pride and shame, with research suggesting that feelings of pride and shame are displayed through nonverbal expression and are predominantly recognised in times of success and failure (Martens, Tracy & Shariff, 2012). Research into emotion expressions has increased recently, with the work of Moll, Jordet and Pepping (2010) suggesting that the expression of emotions can have interpersonal effects on opponents and team mates in football penalty shootouts. Furley, Moll and Memmert (2015) specifically highlighted the potential interpersonal influences of pride and shame expression in football penalty shootouts. Van Kleef (2009) called for research into how coaches can use emotional expressions to influence performance, and with current literature already identifying pride and shame as having potential influences upon performance, this research attempts to provide qualitative data which supports the notion that the expression of pride and shame can influence performance, whilst investigating the role of the coach within the context of emotional expressions.

1.2 What are Emotional Expressions?

Van Kleef (2014, p.1146) described emotions as being formed from an “individual’s conscious or unconscious evaluation of some event as positively or negatively relevant to a particular concern or goal (Frijda, 1986; Lazarus, 1991)”, whereas Lane, Beedie, Jones, Uphill, and Devonport (2012) described emotion in a sporting context as subjective feelings which are experienced within the athletes experience or mind. According to Reis and Collins (2004), emotions are not just felt by individuals, they are also expressed in social interaction. Emotion expression is defined as transmitting ones emotions to another through either verbal or nonverbal forms of communication (Gross, 1999). Nonverbal

forms of communicating emotions include posture, facial expressions, tone of voice and gestures. Verbal forms of conveying emotions include communicating through talk, and describing ones emotions with words. This verbal form of describing emotional states provides confirmatory information about the emotion which is being experienced (Fussell, 2002) Humans express emotions through verbal and nonverbal forms every day of their lives, which has led to humans having a strong ability to recognise the displays of certain emotions (Shariff & Tracy, 2011).

1.3 Research into Emotional Expressions

Research into emotion expressions has identified they play a significant role in social relations (Trampe, Quiodbac & Taquet, 2015). Van Kleef (2009) stated that the expression of emotion in social interaction has the potential to influence others. This is further supported by Lane et al., (2012) who state that “emotions influence people’s goals and motivation” whilst also being supported by various other research (Hatfield, Cacioppo, & Rapson, 1992; Van Kleef, Anastasopoulou & Nijstad, 2010). Van Kleef (2009) identified that until recently, research solely fixated upon intrapersonal effects of emotions, and how an individual may dictate their behaviours, motivations and cognitions based upon emotions, disregarding the interpersonal effects which emotions have upon other individuals.

Van Kleef argued the importance of identifying “when and how emotions expression affect behaviour at the interpersonal level” (Van Kleef, 2009, p.184), and proposed the Emotions as Social Information (EASI) Model. The EASI model is situated within a social-functional approach to emotions, with the basic assumption of the model being that information which can influence the behaviours of others is produced to observers when emotions are expressed (Friesen, Lane, Devonport, Sellars, Stanley & Beedie, 2013). The EASI model identifies two processes which may contribute to the altering of behaviour in individuals, these being: inferential processes and affective reactions.

1.4 Research examining the role of emotion expressions in sport

Research examining the interpersonal effects of emotions has mainly concentrated upon competitive situations outside of the sporting domain (Pruitt & Carnevale, 1993; Van Kleef, Van Dijk, Steinel, & Van Beest, 2008), with there being little research into interpersonal consequences of emotion in sport settings (Hanin, 2000). Research upon emotions in sport settings has primarily focused upon emotional regulation (Lane et al., 2012), anxiety in sport (Humara, 1999) and emotional intelligence (Laborde, Dosseville &

Allen, 2015). Although little research has been placed upon interpersonal consequences of emotions in sport, recent studies have suggested that emotion expressions influence the thoughts, feelings and behaviours of others (Moll et al., 2010; Furley et al., 2015). Moll et al (2010) suggested that emotional contagion influenced positive and negative performances in teammates and opponents in a football penalty shootout. Furley et al (2015) conducted laboratory based experiments which suggested that observations of pride expressions lead to increased negative emotions, cognitions, and lower performance expectations by opponents towards their next performance in comparison with neutral expressions. On the other hand, teammates anticipated more positive emotions, cognitions, and performance expectations towards subsequent performances compared to neutral expressions. Although these studies furthered the knowledge of the role of emotion expressions in sport performance, the findings fail to specify the specific contribution of inferential processing or emotional contagion on the role of others in penalty shootouts (Furley et al., 2015), and thus leaves room for further research which this study looks to investigate.

1.5 Purpose of the study

It is the call of Van Kleef (2009) to investigate whether sports coaches can enhance the performance of their teams by making use of emotional expressions. The aim of the study was to investigate how the expression of emotions by a coach when providing feedback could impact upon the performance of a footballer. The study looked to identify coaches to provide feedback under differing conditions (pride and shame) to participants who take part in a performance based test which could be measured. After completing the test for the first time, coaches provided feedback to the participant and the test was repeated. The difference in performance times amongst each condition which the coach expresses feedback was investigated and results were analysed. Results found from this study will further knowledge on the interpersonal effects of emotional expressions, and may provide potential guidance towards coaches for which emotions to express when providing feedback and seeking performance improvement. The study will provide information to sport psychologists, whose role involves improvement of athletic performance to exceptional levels (Dosil, 2006)

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

As briefly described in the previous chapter, emotions have been shown to have positive effects upon sporting performance (Lazarus, 2000), yet there has yet been an answer to Van Kleef's (2009) call of investigating the effects which emotional expressions by coaches have upon sporting performance. This chapter shall initially provide an introduction to emotion expression and surrounding areas, followed by a review of the current literature associated with emotion expressions. Following sections shall critique Van Kleef's (2009) Emotion as Social Information (EASI) Model and the literature associated with the model in both non-sporting and sporting settings. The role of the coach and the effect which coaches' feedback can have upon performance shall also be reviewed, before a summary of the key issues, a rationale for the study and the study purpose is highlighted.

2.2 Emotions

Since the work of Charles Darwin (1872), emotions have been known to have interpersonal consequences, with research suggesting that the expression of emotions plays a pivotal role towards social functioning (Hanin, 2000). In sport, emotions have been defined as the subjective feelings which athletes experience (Lane et al., 2010), with emotion expressions being the display of these emotions through verbal and nonverbal means (Gross, 1999). Mood is defined as "an individual's psychophysiological condition that is characterized by that individual's subjective and momentary inner sensations" (Ianiro & Kauffeld, 2014, p. 236) and differ from emotions as they tend to be less intense and are not directed towards someone or something (Robbins & Judge, 2016). Research has suggested that the expression of certain emotions can have an impact upon sporting performance in others (Furley et al., 2015; Moll et al., 2010). In addition to research suggesting emotion expressions have interpersonal effects upon performance, research has identified that moods can have similar effects. Research has highlighted how moods have interpersonal effects on others in non-sporting settings (Sy, Cote & Saavedra, 2005) and sporting settings (Totterdell, 2000). Overall, the research suggests that the interpersonal effects of expressing emotions will impact upon performance.

2.3.1 Research into Emotion Expression

Whilst the importance of the interpersonal effects of emotions is known (Vallerand, 1984), research had significantly lacked depth into the topic area until recently. As identified by Van Kleef (2009), research into emotions had predominantly focused upon intrapersonal emotions, with Van Kleef identifying that there was a requirement to increase the research into interpersonal emotional expressions, as the social nature of emotions were not fully appreciated (Van Kleef, 2009). This eventually led Van Kleef to develop the EASI Model.

2.3.2 Emotions as Social Interaction (EASI) Model

The EASI model (see figure 1 below) was developed by Van Kleef as a framework to better understand the interpersonal effects of emotional expressions in social environments (Van Kleef, 2009). The model assumes that information produced when discrete emotions are expressed has the potential to influence the behaviours of observers (Van Kleef, 2009), adding that “Emotion is not just a feeling. Emotion is for influence”. (Van Kleef et al., 2011, p. 154)

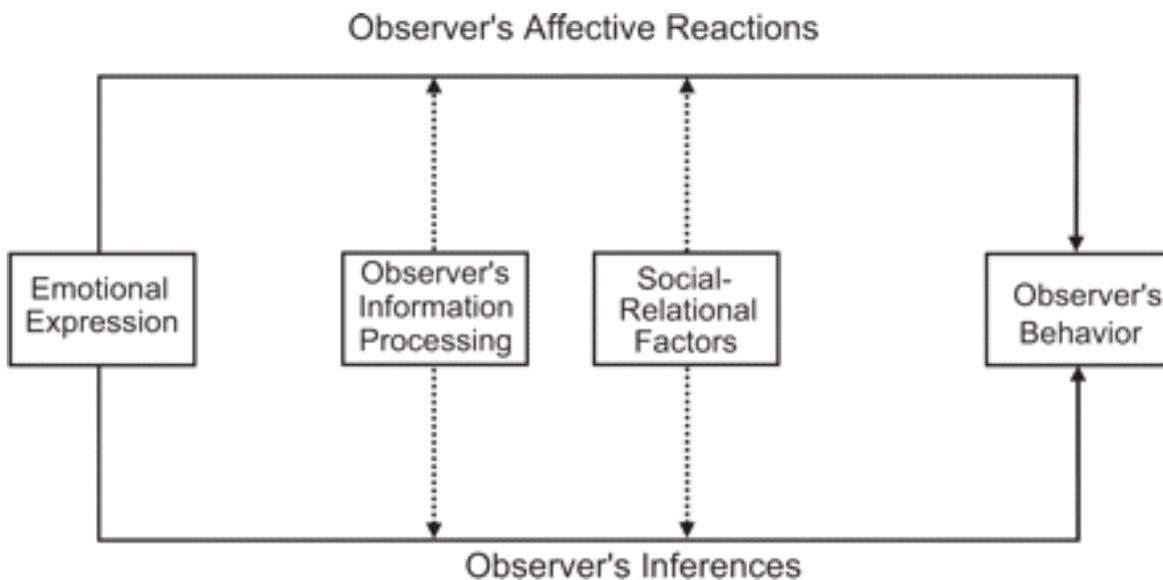


Figure 1: Emotion as Social Information (EASI) Model (Van Kleef, 2009. p, 185)

A key concept of the theory is that the course of action adopted by individuals derives from the emotions of others, which help the individual to understand the situation (Van Kleef, 2009). This in turn led to two processes being identified which may influence individual's behaviours, namely inferential processes and affective reactions. Inferential processes involves individuals being able to infer information relating to the emotion

expressers thoughts, feeling and behavioural intentions from their emotion expression (Van Kleef, Anastasopoulou & Nijstad, 2010). Affective reactions are caused by the emotional contagion process when observing the expression of emotions from an individual. The nonverbal expression of emotions, such as facial expressions, postures and gestures lead to the observer “catching” that specific emotion (Hatfield, Cacioppo, & Rapson, 1992). The information displayed through the expression of emotions is then used by the individual to shape their next behavioural response (Furley et al., 2015).

Consider the scenario when Liverpool were awarded a penalty in the Europa League match against Besiktas in early 2015. Jordan Henderson was the designated penalty taker before the match, yet Mario Balotelli stepped up and took the ball off the Vice-Captain, adamant that he should be the one to take it. Balotelli scored the penalty and Liverpool win 1-0. The Liverpool manager approaches Balotelli after the match and expresses his anger at Balotelli’s actions. The anger of the manager may have made Balotelli aware that he is upset with him; he was disrespectful to the manager and his instructions; and that this action was inappropriate (sequence of interferences) leading to him following the manager’s instructions in the future (behaviour). On the other hand, he may have been upset with the manager (affective reactions) as he did not praise him for scoring the winning penalty and taking it upon himself to take the penalty in a crucial moment of the match, leading him to disregard the manager’s future instructions (behaviour) and losing faith in his managers (affective reactions). Thus, the thoughts (cognition), feelings, (affect) and behaviour has been influenced by the emotional expression of the manager.

The extent to which either process (inferential processes and affective reactions) occurs is moderated by Balotelli’s information processing abilities/motivation and social-relational factors. Continuing the example above, if Balotelli had lost his motivation to succeed at Liverpool (illustrating a low information processing motivation) or if he already had a strained relationship with the manager (social-relational factors), his subsequent behaviours may be influenced by this (Friesen et al., 2013).

2.3.3 Inferential Processes

Numerous studies throughout the field of psychology support Van Kleef’s proposition that when people express emotions, observers infer information about the thoughts, feelings and relational orientation of the expresser, which in turn influences the response of the observer (Van Kleef, 2009). For example, several studies have found that

infant's behaviours are manipulated by how they infer the information displayed by their mother's nonverbal emotion expression (Pelaez, Virues-Ortega, & Gewritz, 2012; Kinnert, Campos, Sorce, Emde, & Svejda, 1983). Kinnert et al (1983) identified that if mothers display a happy expression, infants believed the environment in which they were in to be safe, and thus completed the action of moving across a visual cliff. Precisely, none of the 17 infants cross the cliff when a fearful expression was expressed by the mother, whereas 14 of the 19 infants crossed when happiness was expressed. In addition to this, Pelaez et al (2012) demonstrated how the behaviour of 11 infants, aged four to five months, was influenced by the nonverbal expression of their mothers. With the study including positive (joy) and negative (fear) emotions, and including a mixture of male (n=6) and female (5) infants, the study provides sound support for the assumption that individuals are able to infer information from the nonverbal expression of others. Further support for inferential processes can be found in the literature surrounding conflict and negotiation, with negotiators drawing inferences from the nonverbal expressions of emotions from the opponent (Van Kleef, De Dreu, & Manstead, 2004). The work by Van Kleef et al (2004) investigated the emotional expressions of anger and happiness, whilst further work by Van Kleef et al (2006) introduced the emotions of disappointment, worry, guilt and regret into the negotiation environments. Both studies highlighted that the behavioural response of individuals are influenced by the observed emotions in negotiations. Explicitly, negotiators faced with a happy opponent tended to concede less due to inferring that the opponents limit was low. Also, the demands of participants who were faced with disappointed or worried opponents decreased, as they inferred that the opposition had received too little (Van Kleef, 2009). Support for inferential processes can also be found through the effects of leadership upon performance in the work place (Van Kleef et al., 2009) Leadership is described as the art of manipulating the performance of others to yield beneficial results related to performance (Manion, 2015). Van Kleef et al (2009) investigated the effects of leader's feedback on a work team of four individuals, providing the team with feedback videos in which either anger or happiness was expressed. Although the feedback provided was identical in wording, individuals were able to infer how well they had performed due to the emotion being expressed. Specifically, teams with high motivation performed better after observing a display of anger from their leader, whereas teams with lower motivation performed better when happiness was expressed by the leader. Largely, previous research has put forward findings which suggest that individuals can infer information from the emotion expression of others, thus providing support for inferential processes.

2.3.4 Affective Reactions

Support for Van Kleef's (2009) process of affective reactions can be found in research into relationships. Research has suggested that when happiness is displayed, this increased the happiness of an individual, whereas expressions of irritability lead to decrease liking amongst individuals (Clark & Taraban, 1991). Furthermore, Van Kleef et al (2004) investigated the interpersonal effects of anger and happiness in negotiation negotiators who expressed anger made their opponent feel angry too, leading to dissatisfaction and a lack of interpersonal liking, whereas happy negotiators made counterpart similarly happy (Van Kleef et al., 2004). In the context of leadership, Sy et al (2005) examined the effects of leaders' mood on the mood of individual group members. They found that angry leaders made work teams angry themselves, with happy leaders leading to a happy team. The emotion expressed also lead to positive or negative impressions of the team leader. Furthering this, Johnson (2008) studied the effects of emotional contagion on follower affect at the workplace. Results from an analysis of questionnaires completed by a total of 112 teachers showed that leader positive affect at work was linked to follower positive affect at work, proposed by the process of emotional contagion. Martens and Tracy (2013) specifically investigated how the nonverbal expression of pride influenced observers. They investigated how participants would respond to answering a difficult trivia question after viewing a photograph or video which displayed somebody answering the same question in an emotive way. Findings showed that pride-displaying responses were imitated a significantly greater amount of times compared to other emotions which were expressed. The findings suggest that displays of pride hold a critical role in social learning environment, importantly highlighting that the expression can be used to positively facilitate the behaviours of others through the contagion process. Although these studies have provided sound evidence for the support of affective reactions within the EASI Model, they are not sport performance related.

2.3.5 Inferential Processes and Affective Reactions within Sports Settings

Totterdell (2000) studied emotional contagion within the sporting context by investigating the effects of individual moods of cricket players throughout the match. The moods of players from two professional cricket teams were recorded using pocket computers three times a day, over a period of four days. Their findings revealed significant associations between the happy mood of the team, individuals own mood and performances. The linkage between the overall team's mood and individual mood was

greatest when happier moods were displayed. This highlights how the expression of moods can influence the behaviour of others. Moll et al (2010) conducted research into the role of emotional contagion in football penalty shootouts, specifically investigating the effects of emotion expressions by players upon the teams overall success. An analysis of 151 post penalty celebrations was conducted, with results revealing that individuals who displayed pride following a successful penalty were more likely to be involved in the winning team compared to individuals who did not show pride. In addition to this finding, trends suggested that individuals who engaged within nonverbal signs of shame following their penalty had a significantly decreased chance of being on the winning side. Moll et al (2010) suggested that through emotional contagion, the pride expressions “a) caused teammates to feel more confident in taking their own penalty kick; (b) helped to enhance expectancy levels of winning the penalty shootout in teammates; or (c) generally resulted in a more positive approach toward the shootout” (Moll et al, 2010. p. 988). Furthermore, It was also suggested that the negative effects of pride upon opponents performance were most likely the result of inferential processing (Van Kleef et al., 2010). A follow up study by Furley et al (2015) investigated the post-performance nonverbal expressions of pride and shame and how they influenced cooperative and competitive observers in a penalty shootout, looking to provide evidence for the speculative claims of Moll et al (2010). This research added additional evidence for the potential interpersonal influence of nonverbal expressions of pride and shame in sporting performance, whilst supporting evidence of the relative influence of inferential and affective processes being dependent on social contextual factors, as predicted by the EASI model (Van Kleef, 2009; Van Kleef et al., 2010). Whilst these findings highlight how teammates can specifically influence the performance of observers through nonverbal expression, it does not note how coaches can impact upon performance.

2.4 Coaches Feedback and Performance

Coaches hold a significant role in the improvement of sporting performance by athletes (Ianiro & Kauffeld, 2014), with research suggesting that the coach is effective in supporting athlete’s attainment of their goals (Grant, Passmore, Cavanagh, & Parker, 2010; Smither, 2011). Coaches’ feedback has long been used in sports to provide athletes with tactical information, information regarding the opponents and to increase arousal amongst the team (Vargas-Tonsing, 2009). It’s been put forward that feedback is an adequate method of increasing self-efficacy in athletes (Vargas-Tonsing & Guan, 2007), as feedback which involved an “emotional plea” from the coach led to increased team

efficacy compared to athletes which received information about the game or game strategy (Vargas-Tonsing & Bartholomew, 2006). The role of positive feedback and its influence on performance has been highlighted within previous literature.

2.5 Positive Feedback and Emotions

Positive feedback has been suggested to invoke emotional pleas, with the emotionally charged coach using comments and providing feedback which seek to encourage positive emotions within the athletes such as happiness and excitement (Hanin, 2000). Research into the relationship between coaches and athletes have found that when the coach offers positive feedback, athlete's motivation and confidence grow in relation to performance (Black & Weiss, 1992). Smoll and Smith (2006) analysed over 70 coaches, coding their behaviours and surveying nearly 1,000 athletes. Results showed that following a good performance, positive feedback encouraged a greater positive response from the athlete compared to less positive feedback. Additionally, Vargas-Tonsing and Bartholomew (2006) demonstrated that feedback which involves an emotionally persuasive plea reported significantly increased efficacy beliefs compared to feedback which involved information such as clothing, hydration and feedback which involved strategic information such as teams strengths and weaknesses (Vargas & Short, 2011). This research suggests that positive feedback from a coach can lead to greater excitement amongst players, pushing them to a higher level of performance (Kuchenbecer, 2003). However, research into the effects which discrete emotions have upon performance is significantly limited. Thus, research into the specific effects of discrete positive emotions is required in order to aid sporting performance and performer's well-being (McCarthy, 2011).

2.6 Negative Feedback and Emotions

Whilst there has been a range investigating positive feedback and its effects, little attention has been directed to the effects of negative team talks and more specifically, negative expressions. Clark (2013) did analyse the effect of coach's pre-performance feedback on perceived cognitive and somatic anxiety, with the results finding that positive feedback had a beneficial effect upon anxiety symptoms, whereas critically constructive feedback had poor effects upon performance due to its effect upon anxiety symptoms and direction. More research into discrete negative emotions is required, specifically upon their effects on performance. Additionally, much research into emotions and sport performance has focused upon the effects of state anxiety and performance, thus leaving room for other negative emotions to be investigated (Hanin, 2000).

2.7 Rationale

The findings of previous studies (Furley et al., 2015; Moll et al., 2010) have suggested that sport performers should be encouraged to display pride, as it could lead to positive influences upon teammates and negative impacts on opposition. On the other hand, they suggest that performers should not display shame as it would lead to positive influences upon opponents and negative impacts upon teammates. Although the importance of the coach is evident, literature into the potential impact coaches' nonverbal expressions of emotions can have upon performance in sport has been limited. Research has clearly highlighted how coaches hold an influential role within sport development of individuals and specifically performance, due to the helping relationship they share with the client (Ianiro & Kauffeld, 2014). Research has focused on how the moods and feedback of coaches can influence performance in observers (Totterdell, 2000; Vargas-Tonsing & Bartholomew, 2006) yet the call of Van Kleef (2009) to investigate how coaches can influence the performance of individuals through their own nonverbal expression of emotions has yet to be answered.

2.8 Purpose of the Study

To answer the call of Van Kleef (2009), this study will produce an experimental design which investigates how the nonverbal expression of pride and shame influences the performance of a footballer. Pride and shame conditions will be used for the test as the research of Moll et al (2010) and Furley et al (2015) suggests that they influence the performance of individuals when expressed by teammates and opponents. An appropriate test for measuring performance in football will be chosen, and participants will complete the test multiple times. After completing the test for the first time and then subsequently completing it for a final time, participants will receive feedback from their coach in regards to their performance in the first test. During this feedback, the coach will either express pride or shame. This will allow for differences in pre and post-feedback to be identified, and any potential effects of the feedback and condition to be noted.

Based upon the findings of previous research, it is hypothesised that the participants who receive feedback in the pride condition will significantly improve in performance during the second test compared to participants who receive feedback under the shame condition. Difference in post and pre-feedback performances will be calculated, with means produced for all variables of performance for the participants. An independent t-test will then be conducted to analyse whether the average difference in performances

in the pride conditions are significantly different to the difference in performances in the shame condition.

It is considered that the findings of this study will provide greater information to coaches in all sports, but most significantly football, about how the manner in which their nonverbal expressions of feedback influence the performance of players. If the results indicate that the condition in which feedback is expressed does have an impact upon performance, it is then possible to control the expression of emotions by the coach, in turn optimising the performance of sport players.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

The aim of the present study is to investigate whether coaches' use of emotional expressions can be used to improve player performance. In order for this to be successful, several key notions need to be considered. In order to measure the emotion against performance, quantitative data must be collected. Quantitative data involves the collection of numeric data through a systematic process. The data collected attempts to provide an answer to a hypothesis and to find relationships, differences or causalities (Flick, 2014). The quantifiable data collected in this study allows for factual data to be developed and potential differences to be identified amongst the differing conditions. In order for performance to be measured, an appropriate method must be identified which is valid and reliable in assessing footballing performance.

3.2 Participants

Ethical approval for the conduction of research was provided by Cardiff School of Sports Research Ethics Committee (CSSREM), allowing for the contact of participants and a coach to take place. Once a coach had been identified for the procedure, Participant Information Sheets (see Appendices A) providing information in regards to the structure of the research were fed through to the players which the coach had lined up for the study. They were made fully aware of their rights as participants to remove themselves from the study, along with the purpose for the completion of the research. Furthermore, a participant consent form (see Appendices B) was signed by all participants on the day of testing, stating that they understood the information presented to them. In total, 18 male students aged 18 to 21 (*Mean* = 19) from Cardiff Metropolitan University were acquired using the convenience sampling method, due to their easy accessibility to the research site and researchers, with their relationship with the coach also proving useful

3.3 Pilot testing

A pilot test of the entire procedure was conducted with both coaches, who provided feedback to one participant each. The pilot test had many purposes. Firstly, the clarity of the test for participants was required, ensuring they understood how to complete the test and to follow the instructions accurately. The pilot study validated Ali, Williams, Hulse, Strudwick, Reddin, Howarth, et al, (2007) Loughborough Soccer Passing Test (LSPT) as a valid test for measuring performance. Additionally, the test allowed the coach to practice their expression of the feedback, and the researcher to ensure they utilised the emotion criteria appropriately, with the expression being genuine and natural. A further purpose of

the study was to analyse how long it took for one individual to complete the entire procedure, from entering the test facility and then leaving. Based upon this, 25 minute time slots for each participant was generated.

3.4 Measures

3.4.1 Demographic Information

Demographic information was obtained through a questionnaire (see Appendices C) which asked for age, years of playing experience, position, level of performance and their beliefs in their current abilities.

3.4.2 Performance – Loughborough Soccer Passing Test

The Loughborough Soccer Passing Test (Ali et al., 2007) was designed in order to measure the performance of footballers. The test was developed in order to “assess speed of skill execution as well as passing accuracy” (Ali et al., 2007, p.1462), and is being used in this study to measure difference in performance as it was found to be a “valid and reliable method of assessing soccer skill performance for research use” (Ali et al., 2007, p.1470). The outcome variables which the test measures include performance time (s), total penalty time (s) and total performance time (s) (performance time plus penalty time). These outcome variables allow for differences to be measured between pre feedback and post feedback performance, and provides data which allows for a potential significant difference between feedback conditions to be calculated by an independent T-test.

3.4.2.1 LSPT layout

Figure 1 illustrates the lay out of the LSPT, with it in accordance to the layout described by Ali et al., (2007). Images of the test layout can be found in Appendices D.

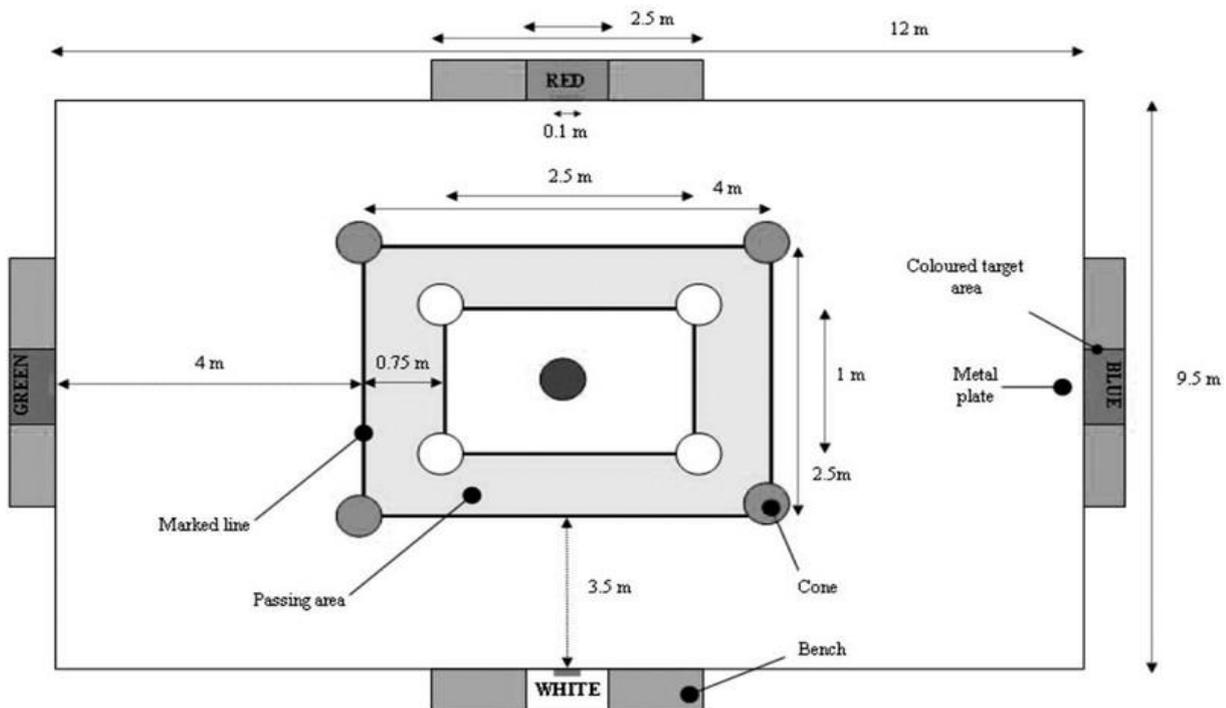


Figure 2: Layout of the Loughborough Soccer Passing Test (LSPT)

3.4.2.2 LSPT instructions

The LSPT instructions followed the work by Ali et al., (2007). The test began with the participants in possession of the size 5 football (Ultimatch, Mitre Sports International, Wakefield, UK) in the inner zone. Timing of the test was recorded with a stopwatch (Fastime, 01, Leicestershire, UK), and initiated the moment the researcher shouted “GO!” after a three second countdown. The researcher named the order of the passes, with each colour called out before the current pass was completed. The colour of the first pass was called before the 3 second countdown, with the successive pass being called once the participant began the test. The passing sequence was randomly generated by the researcher, and comprised of 8 long and 8 short passes. Two differing sequences were generated (see Appendices E), one for the pre feedback test and another for the post feedback test. Passes could only be completed from within the passing area, and upon retrieval of the ball from the previous pass, the participant was instructed to dribble past the two inner marked lines before completing the next pass. Additionally, participants were told to complete the task as quickly and as accurately as possible, with the stopwatch being stopped upon retrieval of the final pass. The performance was recorded with a video recorder (Sony, HDR-CX250E, Surrey, UK). The recording of the performance allowed for the performance to be recorded on performance sheets (see Appendices F) for each participant once the videos had been stacked. The stacking of the videos allowed for

all four targets to be visible in one video, and was conducted by a member of the Cardiff Metropolitan University Performance Analysis team. A second examiner was present to ensure both cameras were working and that the performance could be viewed and penalty points acquired recording. In order to eliminate any inter-experimenter variability, the researcher and second examiner held the same role throughout the entire data collection period (Ali & Williams, 2009).

3.4.2.3 LSPT penalty points

When performing the LSPT, participants were made aware for the potential for penalty points to be given for inaccurate passes and poor performance. Penalty points followed that of Ali et al (2007) and included:

- 5 (s) for missing the bench completely or passing to the wrong target
- 3 (s) for missing the target area (0.6 × 0.3 m)
- 3 (s) for handling the ball
- 2 (s) for passing the ball from outside of the designated area
- 2 (s) for the ball touching any cone
- 1 (s) for every second taken over the allocated 43 s to complete the test

Participants were also made aware that an additional 1 (s) was deducted from their overall performance time if the ball hit the 10cm aluminium strip in the middle of the target area, as it replicated the perfect pass.

3.5 Coaches

The coaches used to provide feedback were male as there is evidence suggesting that negative emotions, for example anger, is seen as more acceptable when displayed by a male than by a female leader (Lewis, 2000). The two coaches who were approached worked with Cardiff Metropolitan Football Club, and were approached as they had a link to the players at the university and were easily accessible. Once the coach agreed to participate and provide assistance within the study, a discussion took place which identified potential dates for testing. Four proposed dates within the week were identified. The coach then used the link with the participants to allocate time slots for the players to attend which suited them best. The coach was able to inform participants of their rights they had within the study and to provide participant information sheets to them. In addition to the participant information sheet, the coach suggested appropriate clothing and footwear which was required for the testing.

3.6 Feedback

The feedback provided to the participants was short and limited to key points. Research has suggested that athlete's retention is prohibited when information is longer, less contextualized with no indication to any specific motor tasks (Rosado, Mesquita, Breia & Januario, 2008). Based upon this, feedback was provided centred on 1 key point of each key feature of the LSPT, these being; Passing; Ball control; and decision making (Ajmol et.,al, 2007). The feedback lasted approximately 2 minutes, as during the half time period of team sports, approximately 2 minutes is spent by the coach providing individual feedback to individual players (Russell et al., 2015). The coaches followed a basic script which can be viewed in Appendices G.

The emotion which the coach expressed when providing feedback was randomly chosen by the additional examiner prior to the participant completing the first passing test, meaning the researcher was unaware of which emotion would be expressed until the feedback was provided.

3.7 Emotion expression criteria

The script which the coach followed included a criteria for the expression of both emotions (see Appendices G). The criteria for pride included nonverbal expressions such as the head being tilted back, a small smile being displayed, arms out from the body, either arm raised or hands placed on hips, hands in fists, chest expanded and the torso being pushed out (Tracy & Matsumoto, 2008; Tracy & Robins, 2007).

Research has identified that the expression of shame is marked by slouched shoulders, head lowered with a forward-leaning posture, and with the hands placed at the sides. No smile is apparent when shame is being expressed (Keltner, 1995).

In order to ensure that the expression of the examiners and the coach before providing feedback had no influence on performance, all involved in the completion of the test maintained a neutral expression until the test was completed. This excluded the coach when providing feedback, as he would express the emotion required. In order to maintain a neutral expression, a relaxed stance with the feet shoulder-width apart was encouraged, with the shoulders hanging. Limbs were required to neither collapse inwards nor outwards, and finally the head was not to deliberately be held up (Furley et al., 2015).

3.8 Procedure

Once arriving at the Cardiff Metropolitan Indoor Gym facility, the participant was thanked by the researcher and was provided with a brief overview of the procedure. Upon completion of the overview, the participant was asked to complete a consent form and fill in their demographic details. The participant would then engage in a 2 minute warm up which consisted of jogging, striding, sprinting and stretching exercises (Ali, Foskett & Grant, 2008), as was the suggestion of the coaches. Once the standardised warm up had been completed the participant was provided with a practical overview of the LSPT and was allowed 4-5 passes to familiarise themselves with the test. The penalty points were then provided to the participant and they were asked if they understood the test. The participant then completed the test for the first time. After completing the LSPT, the participant was then lead over to the coach who had been viewing their performance. The coach followed the pre rehearsed script and provided feedback about their performance whilst expressing either pride or shame, as randomly chosen by the additional examiner beforehand. The participant was then instructed to complete the LSPT for the final time. Finally, the participant completed a manipulation check before being thanked for their cooperation and allowed to leave.

3.9 Manipulation Check

After completing the test for the second time, the participant was asked questions such as “how did you feel when you came into the room”, “how did the way the coach communicated the feedback make you feel?”. The true aim of the study was then revealed, and participants were asked to provide an overall summary of how they thought the test went. In addition to questions being asked at the end of the test, the video recording of the coaches’ expression when providing feedback allowed for further analysis on whether the coach was appropriately expressing the emotion. If the coach had proven to incorrectly express the emotion, that participant could be removed from the overall study.

3.10 Data Analysis

Descriptive statistics were calculated for all performance variables, with means measured for the amount of times the bench was missed, the ball was handled, the target area was missed, the ball touched the cone, the foot touched the cone, the amount of times passes were made outside of the passing zone, and the amount of times a perfect pass was completed for both pre feedback and post feedback tests. Most importantly,

means were calculated for the performance time, penalty time and overall penalty time. The difference between pre feedback performance and post-feedback performance was also calculated. The results of this were separated into emotional expression groups (pride and shame) and independent t-test conducted. This allowed potential significant differences (p) to be identified (p was set at 95% confidence, $p=0.05$) between the difference in performances in the pride or shame conditions.

CHAPTER THREE

RESULTS

4.1 Introduction

Results generated from the data analysis provided an overview of both pre and post feedback performance in both feedback conditions. A comprehensive view of the results is displayed in figures and tables, with SPSS data transferred across to display the analysed data.

4.2 Descriptive Statistics

Means and standard deviations scores for all performance outcome variables of the LSPT are displayed in Table 1, showing participants from both pride (n=9) and shame (n = 9) feedback conditions (total n = 18).

4.2.1 Manipulation check

Upon analysis of video recordings of the test, it was noted that the coach held too much of an open body posture when providing feedback to participant 8, and thus did not appropriately express shame. This led to the participant being removed from the study, and means and standard deviations being calculated from the remaining 17 participants (see Table 1). The data from table 1 was used to identify differences and run an independent t-test. Before the data could be used to run any tests, standardised skewness coefficients and standardised kurtosis coefficients required calculating. With all standardized coefficients being within the range of +/-2, the key performance variable scores for all participants are considered to be normally distributed (see Appendices H) (Greenstein, 1980).

Table 1. Average performance outcome variables (*Means and Standard Deviations (SD)*) of both feedback conditions (pride n = 9, shame n = 8)

	Pre-feedback				Post-feedback			
	Pride		Shame		Pride		Shame	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Bench missed/Wrong Colour hit (+5s)	.89	.93	.13	.35	.22	.44	.25	0.46
Ball handled (+3)	0	0	.13	.35	0	0	0	0
Target missed (+3)	5.56	2.01	4.13	1.73	5.22	2.28	3.88	1.73
Ball touched cone (+2)	1.67	1	.50	.53	1.11	.93	1.38	1.41
Foot touched cone (+2)	.22	.67	.038	.74	.22	.44	.038	.52
Pass made outside passing zone (+2s)	1	1	2	2.03	.78	1.09	1.50	2.62
Perfect pass (-1)	4.11	1.83	5.	2.67	4.33	2.12	5.00	1.77
Performance time (s)	43	23	43	7	41	4	43	4
Penalty time (s)	23	10	12	11	17	7	15	10
Overall time (s)	66	9	55	9	58	5	58	11

4.3 Differences in performance variables

Differences in pre-feedback performance and post-feedback performance can be calculated from the results displayed in Table 2. The table shows that on average the participants within the pride condition improved by two seconds in performance time, six seconds in penalty time and seven seconds in overall time. On the contrary, there was no difference in pre-performance and post-performance time in the shame condition, whereas on average penalty time increased by two seconds and overall time increased by 3 seconds. This suggest that the pride condition had a greater impact upon improving performance, and that expressing shame when providing feedback is detrimental towards performance, with this further supported by figure 1 below and additional figures within the appendices (see Appendices I).

Table 2. Pre-feedback and post-feedback performance mean time (s)

	Pride		Shame	
	Pre-feedback	Post-feedback	Pre-feedback	Post-feedback
Mean performance time (s)	43	41	43	43
Mean penalty time (s)	23	17	12	15
Mean overall time (s)	66	59	55	58

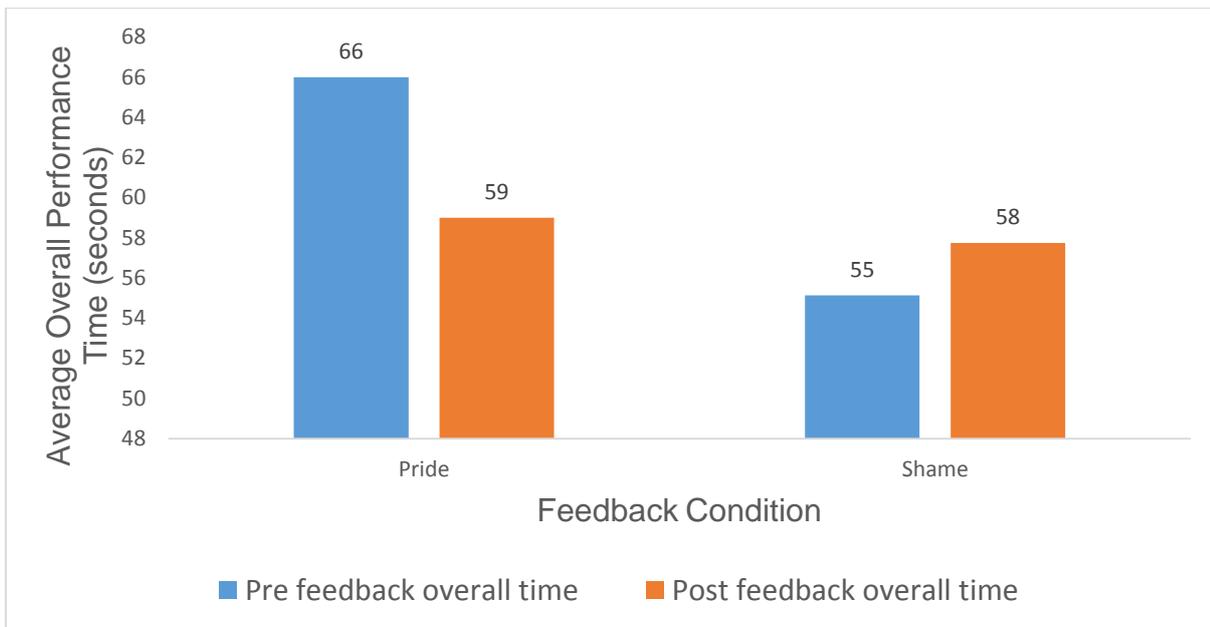


Figure 3. Difference in average overall performance time pre/post feedback (s).

4.4 Independent t-test results

In order to determine whether the difference in performances in the pride and shame feedback conditions were statistically different, an independent t test was conducted, with the p value equal to 0.05.

4.4.1 Mean performance time (s)

An independent t-test was conducted to compare difference in average performance time difference in pride and shame feedback conditions. The assumption of homogeneity of variances was met ($p = 0.4$, $p > 0.05$). There was no significant difference in the performance time differences of pride ($Mean = -2.9$, $SD = 6.8$) and shame ($Mean = 0.4$, $SD = 4.7$) feedback conditions ($t_{15} = -1.136$, $p = 0.274$, $p > 0.05$). This suggests that the condition experienced when receiving feedback does not have an influence upon performance time.

4.4.2 Mean penalty time (s)

A further independent t-test was conducted to compare difference in average penalty times in the pride and shame feedback expressions. The assumption of homogeneity of variances was met ($p = 0.9$, $p > .05$). There was no significant difference in penalty time differences of pride ($Mean = -5.8$, $SD = 8.9$) and shame ($Mean = 2.3$, $SD =$

9.3) feedback conditions ($t_{15} = -1.818$, $p = 0.089$, $p > 0.05$). As the p value equals 0.089, and is close to the p value of 0.05, the results show a trend towards significance.

4.4.3 Overall performance time (s)

A final independent t-test was conducted to compare the average overall performance time differences in pride and shame feedback conditions. The assumption of homogeneity was met ($p = 0.7$, $p > .05$). There was no significant difference in the average overall performance time differences of pride (*Mean* -6.1, *SD* = 10.3) and shame (*Mean* = 2.8, *SD* = 10.6) feedback conditions ($t_{15} = -1.745$, $p = 0.101$, $p > 0.05$). This suggests that the condition experienced when receiving feedback does not influence upon overall performance time

4.5 Summary

This chapter has identified that no significant difference between the average performance time and overall performance time in the pride or shame conditions. However, they illustrate a trend towards significance in the results in the difference in average penalty time. The following discussion shall seek to underpin potential reasons for this finding.

CHAPTER FIVE
DISCUSSION

5.1 Introduction

The purpose of this study was to investigate the interpersonal effects of expressing pride and shame on performance in football. In particular, this study examined the effects of coaches' feedback on performance and how the expression of discrete emotions (pride and shame) from a coach influence performance in a passing test.

5.2 Interpersonal effects of emotions

The study hypothesised that the expression of pride from the coach when providing feedback would lead to a significantly greater improvement in performance than the expression of shame. However, the findings from this study revealed that there was no significant difference in the performance time differences in pride and shame feedback conditions. This suggests that the condition in which feedback is expressed has no interpersonal effect on performance time after receiving feedback. Additionally, the study showed no significant difference in penalty time differences of pride and shame feedback conditions, once again suggesting that the condition in which the feedback was expressed had no interpersonal effect on performance. Although the results were not significant, ($p = 0.089$), the results did show a trend towards being significant. This trend towards significance puts forward that there may have been significantly greater penalty improvement in performance after receiving feedback in the pride condition than the shame, and this could be analysed further by increasing sample size. The trend also highlights that participant's performance became more accurate following the feedback from the coach, suggesting that the expression of pride from a coach when providing feedback increases the performance accuracy of the observer (participant) compared to shame. Finally, the study found no significant difference in the average overall performance time differences of pride and shame feedback conditions. Overall the findings suggest that the condition in which feedback is expressed has no interpersonal effect on performance time and overall performance time in a football passing test, yet shows a trend towards suggesting the expression of pride has a significantly greater effect upon the penalty time points accumulated in the test than shame. The findings found for the performance time difference and overall performance time difference would propose that it does not matter what emotion is expressed when a coach provides feedback, the effects on performance will not be influenced by the coach's emotion expressions. However, the trend towards significance in the penalty time differences suggest that the accuracy of performance may be influenced by the expression of the coach. The results for the

performance time differences and overall time differences are considered surprising and significant for research as it goes against the findings of previous research into the interpersonal effect of emotions, whereas the results for the penalty time differences show potential links to the findings of previous research.

5.3 Comparison with other studies

The findings for the difference in performance time and difference in overall performance time were surprising for research as they went against the suggestions of Furley et al (2015). The results of Furley et al (2015) study proposed that observation of pride could lead to performance improvements in the observer, and observations of shame would lead to performance decline. They generally suggested that athletes should be encouraged to display pride and discouraged to display shame when participating in sport as it would have interpersonal effects on teammates and opponents, something which the findings of this study would dispute. Whilst their study investigated the penalty performance of footballers after observing either a pride, neutral or shame expression from either an opponent or teammate, this study moved away from the expressions of teammates and opponents and focused upon investigating how observing expressions of emotion from a coach may influence performance. Furley et al (2015) specifically had participants observe expressions of pride and shame from other performers. This study provided the expressions of pride and shame through feedback from a coach, with both feedback conditions following the same script. The difference in the source of the emotion expression for the observer (participant) may be a reason for the differing results, although when the findings of Volmer (2012) are considered, this is still considered surprising. Volmer (2012) investigated the the influence of leaders moods upon performance, with results suggesting that leaders mood had a contagious influence upon team performance. Although Volmer (2012) did not investigate the effect of leader's moods on follower's performance in a sporting context, the results would suggest that players (participants) performance would be influenced by the emotions expressed by a coach.

Whilst the difference in performance time and overall performance time findings seemed to go against the findings of current research, the trend towards significance in the penalty point's difference results tend to show a link to the findings of Martens and Tracy (2013). With the p value being close to 0.05 ($p = 0.089$), it suggests that there is a potential influence of expressions of emotion on performance. Martens and Tracy (2013) suggested that displays of pride are functional for observers, potentially playing a critical

role in social learning. Specifically, the findings noted that displays of pride can influence the cultural knowledge transmission – “the process through which individuals learn their culture’s accumulated knowledge about how best to survive and reproduce in their environment” (Martens & Tracy, 2013, p.497). The findings of the present study suggest that there is trend towards this being accurate with the difference in penalty points in the pride and shame conditions close to being significant. This trend could be related to the findings on Martens and Tracy (2013), with the participants in the pride condition being more inclined to acknowledge the feedback of the coach, thus improving their accuracy and overall performance. An additional factor which may provide support for the results leaning towards significance is the influence of the coach and performance relationship. Coach-athlete relationships have important roles in the development of athlete’s performance (Jowett & Cockerill, 2001). Whilst conducting the manipulation check in testing, participants, specifically those who experienced the coach expressing shame, noted how the feedback was not expressed in the way which they had expected of the coach. Specifically, the interpersonal relationship they held with the coach means is a potential reason for a trend being shown in the expression of shame leading to an increase in penalty points on average. With athletes noting that the coach had been submissive in his feedback, this suggest that this may have had an impact upon the amount of penalty points that they accumulated.

Overall, the findings within this study do not concur with the claims of Furley et al (2015) that expressions of pride and shame influence others in regards to coaches, suggesting that the expression of these emotions from a coach has no interpersonal effect on other individuals. However, the trend towards significance in the results of the difference in penalty points shows potential support for Martens and Tracy’s (2013) suggestion that displays of pride are important in learning, specifically impacting upon the improvement in accuracy within the LSPT.

5.4 Theoretical implications

The results of this study have important theoretical implications of the premise of Van Kleef’s EASI model (2009). The results for the difference in performance time and difference in overall performance time go against the basic assumption of the model, stating that information produced when emotions are expressed has the potential to influence the behaviours of others. This is because the way in which the feedback (via pride or shame) was expressed in the study showed no significant difference on

subsequent performance in the passing test, providing no evidence that performance (behaviour) is influenced by interpersonal effects of emotion expression. Even though the results for difference in penalty time showed a trend towards being significant, the fact remains that it was still not significant. This is despite the fact that other studies in sport have shown support for the channel of affective reactions (Furley et al., 2015; Moll et al., 2010). Potential reasons for the differing of results may be due to Moll et al (2010) using a significantly larger sample size in their study. For example, this study used only 17 participants in total, whereas Moll et al. (2010) analysed a total of 151 penalty kicks in their analysis of emotional contagion in penalty shootouts. By referring to the difference in performance scores, penalty points and overall performance time in the results section and appendices (?), it is noted that on average the participants in the pride condition improved in all three scores. On the other hand, the scores in the shame expression either stayed the same or got worse on average. If the sample size for each condition was significantly increased, the potential difference may become more significant, with the margin for error in the data analysis becoming decreased. (MacCallum, Widaman, Zhang, & Hong, 1999). Although research has suggested that the EASI model can be useful within cooperative and competitive sport settings, such as teammates and opposition expressions of pride and shame, based upon the findings of this study, it would be suggested that it cannot be contextualised within a coach feedback setting.

5.5 Applied implications

The findings of the study could prove significant for sports coaches. Whilst research suggests that athletes should be encouraged to display pride in order to positively influence the performance of teammates and to negatively influence the performance of opponents, this study suggests that it does not matter what emotions coaches express, specifically when providing feedback. Knowing this, and if further research supports these findings, coaches must be made aware that the nonverbal expression of their feedback will not influence the performance of the participants. This is despite the fact the difference in penalty time results were close to being significant. Psychologists who work with sports teams, coaches and potentially other fields within society may not recommend certain emotion to express when providing feedback, as the literature does not suggest that it will influence the performance of the feedback observer in a significantly greater manner than if they expressed it through a different nonverbal expression.

5.6 Limitations

One limitation of the study is that the mechanism which led to difference in pre and post feedback performances is not identified. The study had theorised that any impact upon performance would be influenced by the condition in which the feedback is expressed, with participants who received feedback under the pride condition significantly improving their performance more than those who received feedback under the shame condition. This was not the case. A potential reason for there being no significant difference in performance between the two conditions is because of the effect of feedback. An assumption can be made that the feedback received from the coach increased the motivation of the participant to succeed in the second test (Bridgeman, 1971), whereas their motivation may have been lower in the first test. This may have caused an increase in performance levels in the second test. Research has shown that when coaches offer feedback, the motivation and confidence of the athlete grow in regards to performance (Black & Weiss, 1992). Further research has noted how positive feedback from coaches increases excitement in athletes, and thus increases their performance levels (Kuchenbecer, 2003). Additionally, another potential reason for the results showing no significant difference is the effect of a small sample size. The accuracy of results would possibly have increased the statistical power of the sample, had the size had been larger, as small sample sizes can often fail to find significant differences (O'Donoghue, 2012;2013). Furthermore, the emotional state of the participant prior to and after receiving feedback was not measured. This could have been measured through qualitative means, such as a questionnaire, and potential themes could have been identified (Cresswell, 2003) from the constructivist perspectives of the participants, highlighting how their thoughts and feelings towards the test were potentially influenced by the nature of the feedback from the coach and how they differed from the emotions they were experiencing prior to receiving feedback. This would have provided a timeframe of the emotions experienced by participants, starting from the start of the test, to receiving feedback from the coach and after completing the test for the final time. This would have provided information on how the emotion expressed in the feedback by the coach influenced the emotional state of the participant over time, and in turn its possible impact upon performance, potentially recommending an emotion to express which yields greater performance increases.

5.7 Strengths

The main strength of the study is that it was conducted within a competitive sport environment. Whilst Furley et al (2015) found positive relationships between the observations of nonverbal expressions of pride and performance, their results derived from an artificial laboratory situation, an environment which is vastly different to the highly emotive setting of penalty shootouts. The results of this study stem from using a valid and reliable test for football performance (Ali et al., 2007), with participants made aware of the competitive nature of the test by making it known that their results were being recorded and their scores would be made available amongst their teammates. Conducting the research in this way allowed for genuine emotive response of the participants to the expression from the coach, linking the study to competitive performances and thus broadening the field of sport psychology research (Friesen et al., 2013). A further strength of the study was the positive use of the LSPT as a measure of football performance. The methodology for the completion of the test was easy to follow for participants, furthering support for the test as a valid method of measuring performance.

5.8 Future research directions

Taking the limitations of the current study into account, the findings of this study could be greater enhanced if researchers furthered the investigation with the inclusion of greater sample size. In doing so, the validity and the reliability of results found would hold greater stance, and can provide confirmation to the suggestion that the condition in which coaches express feedback does not impact upon feedback. Furthermore, it would allow for greater investigation as to whether the p value of the difference in penalty points would lean closer to being significant. It would also be recommended that along with a quantitative approach to the study, qualitative approach should be included. The use of questionnaires would allow investigations into how participants perceive the feedback from the coach, specifically the expression of the feedback, to affect their performance. Additionally, questionnaires asking about the thoughts and feelings of the participant prior to and post-feedback would allow for the emotions experienced by the participant to be identified, and for the impact of certain emotion expressions (i.e. pride and shame) on their emotions towards the test. Other potential methods for analysing the effect of the feedback upon the participant is by measuring the nonverbal behaviour of the participant prior to and post-feedback using an appropriate coding scheme. The coding scheme would allow for any potential differences in nonverbal behaviour prior to and post-feedback to be

identified. This would also provide more evidence for the findings of other studies which state that expressions of pride and shame influence others through emotional contagion. If doing this highlights potential impacts upon participants emotions, and in turn their performance, then coaches could be encouraged to use certain emotion expressions in order to seek performance improvements in individuals.

5.9 Conclusion

In conclusion, the findings of the current study contribute to the nonverbal effects of emotion expressions in sport, specifically highlighting the impact of coaches' expression of emotions upon performance. Specifically, the overall findings of the study suggest that when a coach provides feedback, the condition in which the feedback is expressed has no impact upon subsequent performances. There was no significant difference in the average difference in performance time and average difference in overall performance time between the pride and shame feedback conditions, and although the difference in penalty time showed a trend to being significant, the fact that it was not significant remains the same. The role of emotion expressions therefore would not be considered important in relation to coaches and providing feedback. Further research into the effects of coaches' expressions of emotion is required to add to the findings of the current study, due to the conflicting nature of the results to previous research.

**REFERENCE
LIST**

Ali, A. & Williams, C. 2009, "Carbohydrate ingestion and soccer skill performance during prolonged intermittent exercise", *Journal of Sports Sciences*, vol. 27, no. 14, pp. 1499-1508

Ali, A. Williams, C. Hulse, M. Strudwick, A. Reddin, J. Howarth, L. Eldred, J. Hirst, M & McGregor, S. 2007. Reliability and validity of two tests of soccer skill, *Journal of Sports Sciences*, 25:13, 1461-1470, DOI: 10.1080/02640410601150470

Bridgemen, B. 1971. Effects of feedback on test performance

Black, S.J., & Weiss, M.R. 1992. The relationship among perceived coaching behaviours, perceptions of ability, and motivation in competitive age-group swimmers. *Journal of Sport & Exercise Psychology*, 14, 309-325.

Botterill, C., & Brown, M. 2002. Emotion and Perspective in Sport. *International Journal of Sports Psychologist*, 33, 38-60.

Carnevale, P.J. & Pruitt, D.G. 1992, "Negotiation and Mediation", *Annual Review of Psychology*, vol. 43, no. 1, pp. 531-582.

Cresswell, J.W. 2003. *Research design: qualitative, quantitative, and mixed methods approaches*. 2nd edition. London: sage

Dosil, J. 2006, *The sport psychologist's handbook: a guide for sport-specific performance enhancement*, John Wiley, Chichester.

Hatfield, E., Cacioppo, J., & Rapson, R. L. 1994. *Emotional contagion*. New York: Cambridge University Press

Furley, P., Moll, T. & Memmert, D. 2015, "'Put your Hands up in the Air'? The interpersonal effects of pride and shame expressions on opponents and teammates", *Frontiers in psychology*, vol. 6, pp. 1361.

Fussell, S.R. 2002, *The verbal communication of emotions: interdisciplinary perspectives*, Psychology Press, GB

Friesen, A.P., Lane, A.M., Devonport, T.J., Sellars, C.N., Stanley, D.N. & Beedie, C.J. 2013, "Emotion in sport: considering interpersonal regulation strategies", *International Review of Sport and Exercise Psychology*, vol. 6, no. 1, pp. 139-154.

Grant, A. M., Passmore, J., Cavanagh, M., & Parker, H. 2010. The state of play in coaching today: A comprehensive review of the field. *International Review of Industrial & Organizational Psychology*, 25, 125–167. doi:10.1002/9780470661628.ch4

- Greenstein, L.R. 1980, "Teaching research: an introduction to statistical concepts and research terminology", *The American journal of occupational therapy : official publication of the American Occupational Therapy Association*, vol. 34, no. 5, pp. 320
- Gross, J.J. 1999, "Emotion Regulation: Past, Present, Future", *Cognition & Emotion*, vol. 13, no. 5, pp. 551-573.
- Humara, M. 2002. The relationship between anxiety and performance: A cognitive-behavioral perspective. *Athletic Insight*, 2, 1–11.
- Ianiro, Patrizia M. Kauffeld, Simone. 2014 "Take care what you bring with you: How coaches' mood and interpersonal behavior affect coaching success", *Consulting Psychology Journal: Practice and Research*, vol. 66, no. 3, pp. 231-257.
- Johnson, S. K. 2008. I second that emotion: Effects of emotional contagion and affect at work on leader and follower outcomes. *The Leadership Quarterly*, 19, 1–19.
doi:10.1016/j.leaqua.2007.12.001
- Jowett, S. & Cockerill, I.M. 2003, "Olympic medallists' perspective of the athlete–coach relationship", *Psychology of Sport & Exercise*, vol. 4, no. 4, pp. 313-331.
- Keltner, D. 1995, "Signs of Appeasement: Evidence for the Distinct Displays of Embarrassment, Amusement, and Shame", *Journal of Personality and Social Psychology*, vol. 68, no. 3, pp. 441-454.
- Kuckenbecker, R. 2003. Halftime talk: Use your time wisely. *Success in Soccer*, 6, 24-29.
- Laborde, S., Dosseville, F. & Allen, M.S. 2015, "Emotional intelligence in sport and exercise: A systematic review: Emotional intelligence", *Scandinavian Journal of Medicine & Science in Sports*, , pp. n/a.
- Lane, A.M., Beedie, C.J., Jones, M.V., Uphill, M. & Devonport, T.J. 2012, "The BASES Expert Statement on emotion regulation in sport", *Journal of Sports Sciences*, vol. 30, no. 11, pp. 1189.
- Lavallee, D., Ph. D, Thatcher, J. & Jones, M.V. 2011, *Coping and emotion in sport*, 2nd edn, Routledge, London.
- MacCallum, R.C., Widaman, K.F., Zhang, S. and Hong, S., 1999. Sample size in factor analysis. *Psychological methods*, 4(1), p.84.

- Manion, J. 2015, "The Leader As Coach", *Journal of perianesthesia nursing : official journal of the American Society of PeriAnesthesia Nurses / American Society of PeriAnesthesia Nurses*, vol. 30, no. 6, pp. 548.
- Martens, J.P. & Tracy, J.L. 2013, "The Emotional Origins of a Social Learning Bias: Does the Pride Expression Cue Copying?", *Social Psychological and Personality Science*, vol. 4, no. 4, pp. 492-499.
- Martens, J.P., Tracy, J.L. & Shariff, A.F. 2012, "Status signals: Adaptive benefits of displaying and observing the nonverbal expressions of pride and shame", *Cognition & Emotion*, vol. 26, no. 3, pp. 390.
- McCarthy, P.J. 2011, "Positive emotion in sport performance: current status and future directions", *International Review of Sport and Exercise Psychology*, vol. 4, no. 1, pp. 50-69.
- Moll, T., Jordet, G. & Pepping, G. 2010, "Emotional contagion in soccer penalty shootouts: Celebration of individual success is associated with ultimate team success", *Journal of Sports Sciences*, vol. 28, no. 9, pp. 983-992.
- O'Donoghue, P. 2012;2013;, *Statistics for sport and exercise studies: an introduction*, Routledge, New York;London;
- Pelaez, M., Virues-Ortega, J. & Gewirtz, J.L. 2012, "Acquisition of social referencing via discrimination training in infants", *Journal of applied behavior analysis*, vol. 45, no. 1, pp. 23-36.
- Pruitt, D.G. Carnevale, P.J. 1993. *Negotiation in social conflict*, Open University Press, Buckingham, England
- Reis, H.T., & Collins, W.A. 2004. Relationships, human behavior, and psychological science. *Current Directions in Psychological Science*, 13, 233–237.
- Robbins, S.P. & Judge, T. 2016, *Essentials of organizational behavior*, Thirteenth edition; Globalition.; edn, Pearson, Boston.
- Rosado, A., Mesquita, I., Breia, E. & Januario, N. 2008, "Athlete's Retention of Coach's Instruction on Task Presentation and Feedback", *International Journal of Performance Analysis in Sport*, vol. 8, no. 1, pp. 19-30.

- Russell, M., West, D.J., Harper, L.D., Cook, C.J. & Kilduff, L.P. 2015;2014;, "Half-Time Strategies to Enhance Second-Half Performance in Team-Sports Players: A Review and Recommendations", *Sports Medicine*, vol. 45, no. 3, pp. 353-364.
- Smither, J. W. 2011. Can psychotherapy research serve as a guide for research about executive coaching? An agenda for the next decade. *Journal of Business and Psychology*, 26, 135–145. doi:10.1007/s10869-011- 9216-7
- Smoll, F.L., & Smith, R.E. 2006. Development and implementation of coach-training programs: cognitive behavioural principles and techniques. In J.M. Williams (Ed.), *Applied Sport psychology: personal growth to peak performance* (5th ed., pp 458-480). New York: McGraw-Hill
- Stough, C., Clements, M., Wallish, L. & Downey, L. 2009, "Emotional intelligence in sport: theoretical linkages and preliminary empirical relationships from basketball" in Springer.
- Sy, T., Côté, S., & Saavedra, R. 2005. The contagious leader: Impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology*, 90, 295–305. doi:10.1037/0021-9010.90.2.295
- Totterdell, P. 2000. Catching moods and hitting runs: Mood linkage and subjective performance in professional sport teams. *Journal of Applied Psychology*, 85, 848-859.
- Tracy, J. L., & Matsumoto, D. 2008. The spontaneous expression of pride and shame: Evidence for biologically innate nonverbal displays. *Proceedings of the National Academy of Sciences USA*, 105, 11655–11660.
- Tracy, J.L. & Robins, R.W. 2007, "Emerging Insights into the Nature and Function of Pride", *Current Directions in Psychological Science*, vol. 16, no. 3, pp. 147-150.
- Trampe, D., Quoidbach, J. & Taquet, M. 2015, "Emotions in Everyday Life: e0145450", *PLoS One*, vol. 10, no. 12.
- Vargas-Tonsing, T.M. 2009. An exploratory examination of the effects of coaches' pre-game speeches on athletes' perceptions of self-efficacy and emotion. *Journal of Sport Behaviour*, 32(1), 92-111.
- Vargas-Tonsing, T.M. and Bartholomew, J.B. 2006. An Exploratory Study of the Effects of Pre-Game Speeches on Team Efficacy, *The Journal of Applied Social Psychology*, , 36, 918-933.

Vargas-Tonsing, T. M., & Guan, J. 2007. Athletes' Preferences for Informational and Emotional Pre-Game Speech Content. *International Journal of Sports Sciences and Coaching*, 2, 171-180.

Vargas, T.M., & Short, S.E. 2011. Athletes' perceptions of the psychological, emotional, and performance effects of coaches' pre-game speeches. *International Journal of Coaching Science*, 5(1), 27-43.

Van Kleef, G.A. 2009, "How Emotions Regulate Social Life: The Emotions as Social Information (EASI) Model", *Current Directions in Psychological Science*, vol. 18, no. 3, pp. 184-188.

.Van Kleef, G.A., Anastasopoulou, C. & Nijstad, B.A. 2010, "Can expressions of anger enhance creativity? A test of the emotions as social information (EASI) model", *Journal of Experimental Social Psychology*, vol. 46, no. 6, pp. 1042-1048.

Van Kleef, G.A., De Dreu, C.K.W., & Manstead, A.S.R. 2004. The interpersonal effects of emotions in negotiations: A motivated information processing approach. *Journal of Personality & Social Psychology*, 87, 510528

Van Kleef, G.A., Homan, A.C., Beersma, B., van Knippenberg, D., van Knippenberg, B., & Damen, F. 2009. Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal*.

Van Dijk, E., Van Kleef, G.A., Steinel, W. & Van Beest, I. 2008, "A Social Functional Approach to Emotions in Bargaining: When Communicating Anger Pays and When It Backfires", *Journal of Personality and Social Psychology*, vol. 94, no. 4, pp. 600-614.

Visser, V. 2006-2010 *Leader Affect and Leadership Effectiveness: How leader affective displays influence follower outcomes*, Promotor: prof.dr. Daan Van Knippenberg, <http://hdl.handle.net/1765/40076>

APPENDICES

APPENDIX A

Participant Information Sheet

UREC reference number:

Title of Project: The influence of coaches' feedback upon player's performance

Background

As a third year student at Cardiff Metropolitan University, I am presented with the opportunity to complete a research study for my dissertation. The aim of the study is to further contribute to previous research examining the effect of coaches' feedback on player's performance. The study is being supervised by an experienced member of Cardiff School of Sport psychology team; Dr Tjerk Moll. All testing and examinations will be carried out at Cardiff School of Sport. The evaluation will be presented as a report to Cardiff School of Sport and may possibly be published. Please take your time to read over the information sheet.

Why have you been asked?

You have been invited to take part in this programme because you are a competitive male football player aged older than 18 years.

What happens if you want to change your mind?

If you decide to join the study you can change your mind and withdraw at any time. I will completely respect your decision.

What would happen if you agree to participate?

If you agree to join the study, there are two things that will happen:

1. We will discuss when it is opportune for you to visit Cardiff Met University to conduct the study. From this, a date and time will be agreed. You will be informed to bring appropriate clothing and footwear.
2. We will then meet at the pre-selected destination. Here you will be given an overview of the experiment. You will initially complete a questionnaire which asked about your feelings and thoughts towards the experiment and then perform the first performance task (a passing task). You will then receive feedback from an experienced coach and be asked to complete another questionnaire and performance task. After this, you will complete a final questionnaire and be fully debriefed about the experiment. The time you will spend in the area when conducting the study may vary but the expected duration of the experiment is 30-40min.

Are there any risks?

We do not think there are any significant physical or psychological risks presented to you from taking part in this study. We do ask you to adhere to the instructions given to minimize the occurrence of any injuries. If you are feeling unwell, we'd advise that you don't take part. In any case, you should not do anything that you don't want to. If you experience any problems, simply speak with us.

Your rights

It is completely up to you whether you want to take part. If you decide to, we thank you very much. If you decide you do not want to carry on for any reason you can withdraw. You will not be giving up any of your legal rights and in any very unlikely event of something going wrong Cardiff Metropolitan University fully indemnifies its staff, and participants are covered by its insurance.

What happens to your results of the experiment?

The measurements that are taken will be stored securely in locked filing cabinets at Cardiff Metropolitan University. They will be coded so that we can remove names, but we need to keep a record of the codes to compare each measurement. We will present this information together for all of the subjects, but there will be no description that would identify individuals.

Are there any benefits from taking part?

You will not receive any benefits when partaking in the study. However, the data collected from your participation may contribute to knowledge in how coaches' feedback will influence football performance. We are more than happy to provide you with an overview of the findings.

What to do now?

On the following page is a consent form outlining that you agree to participate in the study. Once that is signed and delivered, you will be contacted in the future to arrange suitable time periods to conduct the study. You are under no obligations to participate.

Further Information:

If you have any questions about the research or how we conduct the study, please don't hesitate to contact:

Mr. Peter Davies

[@cardiffmet.ac.uk](mailto:p.davies@cardiffmet.ac.uk)

or,

Dr. Tjerk Moll

tmoll@cardiffmet.ac.uk

PLEASE NOTE: YOU WILL BE GIVEN A COPY OF THIS SHEET TO KEEP, TOGETHER WITH A COPY OF YOUR CONSENT FORM

APPENDIX C – Demographic Form

THE INFLUENCE OF COACH’S FEEDBACK ON A PASSING TASK

Demographic details

Name:

Nationality:

Age:

Years of football experience:

Dominant foot:

Position:

Highest performance level: (please tick below your highest performance level)

Recreational	Club	County/Regional	National	International
_____	_____	_____	_____	_____

Current performance level: (please tick below your current performance level)

Recreational	Club	County/Regional	National	International
_____	_____	_____	_____	_____

Please rate your current passing ability: (please circle)

0	1	2	3	4	5	6	7	8	9	10
Not skilled									Very skilled	

Please rate your current dribble ability: (please circle)

0	1	2	3	4	5	6	7	8	9	10
Not skilled									Very skilled	

APPENDIX D – Test Layout



Figure 3. Test Layout

APPENDIX E – Passing sequences

Trial 1:

Trial 2:

GREEN	BLUE
WHITE	GREEN
RED	WHITE
BLUE	RED
GREEN	WHITE
BLUE	GREEN
RED	RED
WHITE	BLUE
RED	GREEN
BLUE	WHITE
WHITE	BLUE
GREEN	RED
WHITE	GREEN
GREEN	RED
RED	BLUE
WHITE	WHITE

APPENDIX F- Performance Recording Sheets

BENCH MISSED (+5s)	
TARGET MISSED (+3s)	
BALL HANDLED (+3s)	
BALL TOUCHED CONE (+2s)	
BALL PASSED OUTSIDE DESIGNATED AREA (+2s)	
SECONDS OVER 43 (+1s per second over)	
BALL HIT ALUMINIUM STRIP (-1s)	
PERFORMANCE TIME (s)	
TOTAL PENALTY TIME (s)	
OVERALL TIME (s)	

APPENDIX G – Feedback Script and Emotion Criteria

Table 3. Coach’s expressed feedback in combination with emotional expression

Feedback	Condition	
<u>Decision Making</u> Consider using an open body angle to ‘scan the area’ and foresee your next pass	Pride	Stand up straight with upright posture, should back, expand chest, hold your head up slightly, possibly use arms when expressing feedback
<u>Control</u> Consider the surface area you control and the weight of your touch		
<u>Pass</u> Consider the surface area of your foot and the weight of the ball when passing		Note: be wary to not use too much of an upbeat tone of voice (conveys happiness)
	Shame	Sit down, slump shoulders, lower head, do not smile, and keep your hands at your sides
	Neutral	Stand in a relaxed posture without raising or lowering head; no smiling; shoulders loose; and keep arms loosely at your sides

APPENDIX H – 1. Pre-Feedback Skewness and Kurtosis Coefficients

Table 4. Pre-feedback Skewness and Kurtosis Coefficients.

		Statistics				
		pre_time	post_time	pre_penalty	post_penalty	pre_overall
N	Valid	17	17	17	17	17
	Missing	0	0	0	0	0
Skewness		.319	.871	.089	1.383	-.286
Std. Error of Skewness		.550	.550	.550	.550	.550
Kurtosis		-1.062	.047	-1.169	2.043	-.266
Std. Error of Kurtosis		1.063	1.063	1.063	1.063	1.063

APPENDIX H – 2. Post-Feedback Skewness and Kurtosis Coefficients

Table 5. Post-feedback Skewness and Kurtosis Coefficients.

		Statistics			
		post_overall	diff_time	diff_penalty_time	diff_overall_time
N	Valid	17	17	17	17
	Missing	0	0	0	0
Skewness		1.240	-.756	-.399	-.336
Std. Error of Skewness		.550	.550	.550	.550
Kurtosis		.196	.720	-1.290	-.656
Std. Error of Kurtosis		1.063	1.063	1.063	1.063

APPENDIX I – 1. Average Difference in Performance Time

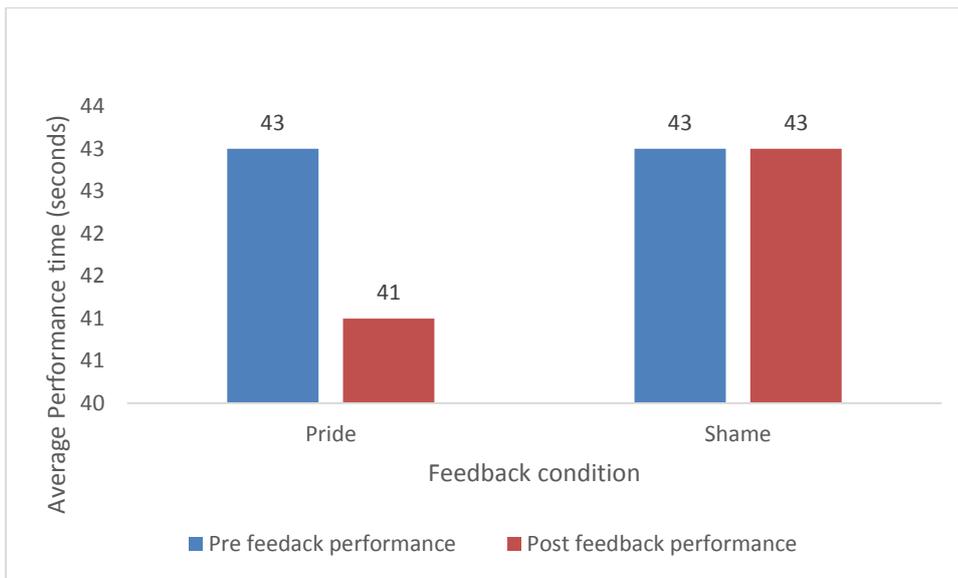


Figure 4. Average difference in performance time pre/post feedback (s)

APPENDICES I – 2. Differences in Penalty Time

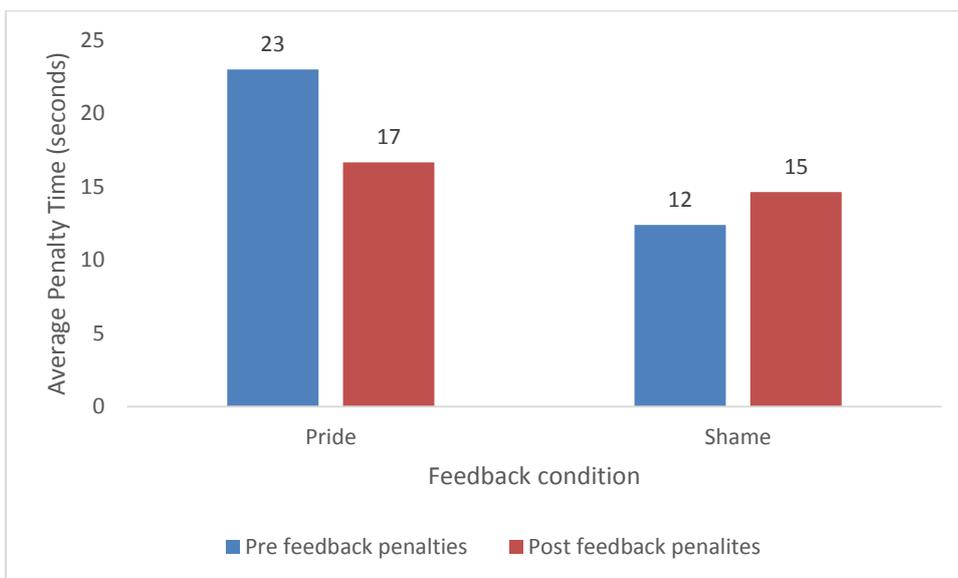


Figure 4. Average difference in penalty time pre/post feedback (s)