Exploring the value of a coach intervention process within Women's youth soccer: A case study

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A coach intervention process was explored with a 38 year old female youth soccer coach. The experimental research design consisted of a baseline assessment, intervention and follow-up phase. Within each phase, the coaching practices were assessed using the Coaching Behaviour Assessment System (CBAS). Additionally, measures of both coach and athlete perceptions and attitudes were also recorded. The results revealed no significant change in coach behaviours from the baseline assessment to the follow-up assessment. However, although not significant, a meaningful change particularly regarding the use of Reinforcement, General Technical Instruction and Mistake Contingent Encouragement was evident. Results of the descriptive-analytic data generated from the cognitive investigations highlighted generally positive although not statistically significant changes, particularly those concerning the athletes' attitudes towards their coach, teammates and soccer, following the intervention process. The findings of this study are discussed in-line with the existing coach behaviour literature.

KEY WORDS: COACHING BEHAVIOURAL ASSESSMENT SYSTEM (CBAS), COACHING BEHAVIOURS, COACH AND ATHLETE PERCEPTIONS AND ATTITUDES

Introduction

Following the seminal work of Smith, Smoll and Curtis (1977) and Tharp and Gallimore (1976), systematic observation and the coding of

instructional behaviour in naturalistic settings has been a prominent research methodology in the field of coaching science research during the past four to five decades (Cushion, Harvey, Muir, & Nelson, 2012; Gilbert & Trudel, 2004; More & Franks, 1996; Roberts, Fairclough, Ryrie & Sharpe, 2012; Smith & Cushion, 2006). Previous research has reported that the consequences of coach behaviours on athlete and team attitudes are often determined by how their athletes perceive and categorise these behaviours (i.e. either positively perceived behaviours or negatively perceived behaviours). Smith and Smoll (1991) concluded that many psychological determinants that occur in sport settings, such as motivational, cognitive, and social processes, can be studied in a contextualised environment. Thus, it is possible to answer the fundamental empirical question: What is going on here, and why? (Potrac, Brewer, Jones, Armour, & Hoff, 2000).

While systematic observation has developed into an acknowledged methodology, and has generated a wealth of information surrounding coach behaviour, observation instruments remain somewhat restricted, as they only measure direct styles of coaching which are often stripped of context (Cushion, Harvey, Muir, & Nelson, 2012; Smith & Cushion, 2006). Although systematic observation enables researchers to investigate specific coaching behaviour, it has also received criticism for being too simplistic, as it often overlooks the rationale used to guide such actions (Côté et al., 1995). Thus, it is argued, systematic observation is not able to provide an insight into the contextual factors or cognitive process underlying the behaviours observed (Gilbert & Trudel, 2004).

One of the prominent instruments developed to investigate the instructional and pedagogic behaviour of sports coaches is the Coaching Behaviour Assessment System (CBAS), developed by Smith, Smoll and Hunt (1977). Following the development of the CBAS, a systematic programme of research has been conducted over a period of several years, designed to investigate a number of issues relating to the prospective influence of youth coaches and athletes' psychological well-being (Smoll & Smith, 2010). These studies have deepened our

understanding and knowledge of athletes' attitudes and perceptions of the complexities of the coaching process (DeMarco et al., 1996). Previous large-scale CBAS observational studies have coded in excess of 80,000 behaviours of some 70 male youth coaches, and have measured the recall of coaches' behaviours and their experiences from nearly 1,000 athletes (Smoll & Smith, 2010). Smith, Shoda, Cumming and Smoll (2009) recently examined the impact of coaching context and the relationship between youth baseball coaches' behaviours. It was reported that most coaches expressed individualised patterns of behaviour in response to particular situations for example whether the team was winning or losing during the game Smith et al (2009). Furthermore, it has been suggested that the "most positive outcomes occurred when children played for coaches who engaged in high levels of reinforcement, who responded to mistakes with encouragement and technical instruction, and who emphasised the importance of fun and personal improvement over winning" (Smoll & Smith, 2010, p. 394). Moreover, Smith, Smoll, Cumming and Grossbard (2007) concluded that, for the most part, the coaches were unaware of their employed behaviours and that the athletes were more accurate perceivers of the actual coach behaviours (Smoll & Smith, 2010).

Despite the development of highly organised sport programmes within the UK (Gilbert & Trudel, 2004), there is still a major shortage of studies conducted within female sports coaching populations. Whilst studies of female coaches do exist, for example Lacy and Goldston's (1990) study of male and female high school basketball coaches, and Millard's (1996) study of male and female high school soccer coaches, these are very much contextualised to American environments. This contrasts with the numerous systematic observation studies that have investigated the coach behaviours of male soccer coaches within the UK (i.e. Potrac, Jones & Armour, 2002; Smith & Cushion, 2006; Potrac, Jones & Cushion, 2007).

Therefore, the aim of this paper is to investigate the value of a coach intervention process programme within women's youth soccer in the UK. The coach intervention process was based on the principles

advocated from the coach effectiveness training programme developed previously by Smith and Smoll (1979). The importance of the current study is based on our attempt to further explore, and thus better comprehend, the relationship between the behaviours, perceptions and attitudes of an adult female sports coach, and the psycho-social impact of these pedagogical practices upon youth athletes.

Method

Participants

This study adopted a single participant case study design (Patton, 2002), and following institutional ethical approval, and purposeful sampling procedures, a professional female soccer coach was selected to participate in this study. The participant Amy (pseudonym) was 38 years of age, with 18 years of coaching experience within a professional soccer community coaching department. Amy currently holds the Football Association (FA) Level 3 award or Union of European Football Association standards 'B' (UEFA B) coaching licence. Amy has also completed the FA Youth Module 2 (Developing the Player) award and currently works with female youth footballers ranging from sub-professional to elite level.

Systematic Observation Instrument (CBAS)

The systematic observation instrument used in this study was the CBAS (Smith, Smoll & Hunt, 1997). CBAS enables trained observers to systematically record the on-going behaviours of coaches into one of 12 categories. A detailed description of the CBAS definitions can be viewed in figure 1. These 12 categories are sub-divided into two classifications, which include reactive behaviours (i.e. responses to an athlete's behaviour) and spontaneous behaviours (i.e. self-initiated responses, not requiring prior activity by an athlete) (Smoll & Smith, 2010). Additionally, these classifications are analogous to the distinction between prompted behaviours (i.e. responses to identifiable stimuli) and emitted behaviours

(i.e. behaviours that do not have straightforward antecedents) (Smith et al., 2007).

According to Bakeman and Gottman (1997, p. 56) when implementing coding schemes and recording measurements of observable behaviour:

it becomes especially important to convince others that what was observed

does not unduly reflect either the investigator's desires or some idiosyncratic

worldview of the observer.

To this extent the first author followed the guidelines of Bakeman and Gottman (1997) and Sharpe and Koperwas (1997) and addressed the issue of researcher and instrument reliability. Observer expertise and accuracy in using the CBAS was established during formal training sessions provided by the second author who was familiar with the CBAS instrument.   During these training sessions the first author practised becoming familiar with the CBAS protocol, memorising observational categories and codes, using instrument notation and being able to discriminate among CBAS classifications. Throughout this process the first author received formal teaching, feedback and guidance surrounding the accurate recording of CBAS codes.   The first author's proficiency in systematic observation procedures, memorising CBAS classifications and accurately recording CBAS category codes culminated in approximately 16 hours of observer training.

[PLEASE INSERT FIGURE 1 HERE]

Reliability

Previous studies which have incorporated the use of systematic observation instruments, for example Smith et al (1977), Smith et al (1997) and Ford, Yates and Williams (2010) have illustrated the importance of demonstrating both instrument and researcher reliability.

Inter-observer agreements and intra-observer agreements were therefore conducted and recorded.

To examine inter-observer agreement values, the first and second author observed pre-recorded video footage of three coaching sessions independent of each other, and at separate times during the same week. For intra-observer reliability, the first author analysed video footage on two separate occasions, allowing for a one-week gap, sufficient for memory lapse to occur (Darst, Zakrajsek and Mancini, 1989). The inter-observer and intra-observer agreement values were calculated using the following formula: (agreements / (agreements + disagreements) x 100. The mean inter-observer agreement value was recorded at 96.4% and the intra-observer agreement value was recorded at 93.3%. The recordings were deemed to provide sufficient reliability as they accounted for agreement scores over 85% (Darst, et al., 1989).

One problem that must be considered during systematic observation studies is reactivity (i.e. behaviour change occurring as a result of being observed) (Smith et al., 1977). In order to reduce the impact of reactivity the observer attempted to be as unobtrusive as possible, and throughout the research process, the coach became accustomed to the presence of the observer.

Athlete Perceptions and Attitudes
In order to establish how frequently the athletes perceived the coach to engage within each of the CBAS behaviour categories a series of interviews were conducted. In accordance with previous methodologies (i.e. Smith et al., 1979) the interview process began by providing each athlete (n=10) with a description of each of the CBAS behavioural categories. The athletes were then requested to specify how frequently their coach engaged in each of the 12 behaviours on a scale from 1 (never) to 7 (always). The athletes were also requested to respond to 10 questions regarding their attitudes towards their coach, the team, and the game of soccer. These questions were also assessed on a 7-point scale

(least favourable to most favourable). Listed below is an example of the 10 questions asked in the study:

> Q1. How much do you like playing soccer?
>
> Q2. How much do you like playing for your coach?
>
> Q3. How much would you like to have the same coach again next year?
>
> Q4. How much does your coach know about soccer?
>
> Q5. How good a soccer teacher is your coach?
>
> Q6. How well do the players on your team get along?
>
> Q7. How good are you at sports?
>
> Q8. How good are you at soccer?
>
> Q9. How good does your coach think you are in soccer?
>
> Q10. How good do your teammates think you are at soccer?

Coach Self-Perceptions

In addition, Amy was also requested to complete a coach self-perception questionnaire, which recorded on a 7-point scale how frequently the coach perceived herself to employ each CBAS behaviour during practice.

Experimental Design and Data Collection Procedure

The experimental design was a baseline interrupted timeline with equivalent no-treatment control timeline and consisted of three distinct phases (Biglan, Ary, & Wagenaar, 2000).

Phase 1: Baseline measurement

Amy was observed on four separate occasions (i.e. practices 1, 2, 3 and 4) which averaged 83:56 minutes per practice and were conducted on the

5th, 12th, 19th and 26th January 2012. All observations were conducted on grass pitches and video recorded for reliability checks. A video camera (Sony HDV 1080i) with a wide angle lens was mounted onto a tripod and connected to a wireless microphone system (Sennheiser EW 100-ENG G2). The input receiver of the wireless microphone system was attached to the video camera, thus allowing for the simultaneous recording of video footage and the verbal comments of the coach (Becker & Wrisberg, 2008).

Following these four coaching practices Amy also completed the self-perception questionnaire (Smith et al., 1979). The athletes who participated in these four coaching practices (n=10) were also requested to complete the perception and attitude questionnaire.

Phase 2: Intervention Process

After the first four baseline practices the intervention process followed. The intervention process was conceptualised within a cognitive-behavioural framework (Bandura, 1977). Similar to Smith et al (1979) and Smith et al (2007) behavioural techniques were employed to make the coach more aware of her behaviours during practice, and to ensure that any necessary modifications could be made by the coach.

An interview was arranged with Amy and conducted at her place of work. The interview was relaxed and informal in nature and ensured that Amy felt comfortable and at ease when being questioned. The interviews were audiotaped using an Olympus Vn-7000 digital voice recorder and lasted for approximately 46 minutes. The interview began by the first author and Amy discussing what perceived behaviours were employed during the coaching process and her rationale for these, as well as her thoughts on their effectiveness. The behaviours observed throughout the baseline practices with the assistance of the statistics were provided to Amy with additional feedback from the first author. Selected features of Amy's employed behaviours, in addition to particular answers of interest from the athletes' perceptions and attitudes were highlighted. This was imperative as it provided a baseline for discussion, and thus allowed for reflection, suggestions and recommendations to be produced.

Additionally, the answers produced from the coach's self-perceptions were weaved into the discussion to encourage reflection of Amy's initial perceptions. It was anticipated that cognitive progress of this nature would encourage and mediate constructive changes in overt behaviours for the proceeding four follow-up practices.

Phase 3: Follow-up

The coach (Amy) then conducted her concluding four practices (i.e. practices 5, 6, 7 and 8) which averaged 83:48 minutes per practice and took place on the 2nd, 9th, 16th and 23rd February 2012 to allow follow-up data to be accumulated. However, in contrast to phase 1 and phase 2, no follow up discussions were conducted between the first author and Amy.

Data Analysis

In order to identify variations between the behaviours observed throughout Phase 1 and Phase 3, separate statistical analyses were conducted. Data were initially screened for missing or implausible values and assumptions for normality, linearity and homogeneity of variances were conducted using Kolmogorov Smirnov and Levene's tests. During the second phase of the analysis Paired Sample t-tests were applied to observe whether there were any significant differences between the behavioural categories', coded behaviour totals, RPM and percentages throughout Phases 1 and 3. All analyses were conducted using the Statistical Package for the Social Sciences v.17 (SPSS Inc, Chicago, IL, USA), and the alpha level was set at $p < 0.05$.

Results

Systematic Observation Practice Time Durations

In total, 669 minutes and 40 seconds of live observation was conducted over an eight-week period. Figure 2 provides an illustration of the total number of frequency counts, rates per minute and percentage statistics generated throughout the systematic observation process.

[INSERT FIGURE 2]

Coaching Behaviours

Figure 3 illustrates that a total of 1,322 behaviours were coded during the systematic observation process, accumulating a mean of 165.25 during each practice. The frequency of each behaviour was presented as Rate per Minute (RPM), alongside the percentage (%) each behaviour obtained.

[INSERT FIGURE 3]

Coaching Behaviours (Phase 1)

As illustrated in Table 4, a total of 671 behaviours were observed throughout Phase 1. Additionally, a mean of 167.75 were coded for each practice (i.e. practices 1, 2, 3 and 4). A total of 1.92 behaviours were recorded by the observer per minute. The General Technical Instruction category obtained the greatest amount of coding, being observed on 97 separate occasions, thus gaining an RPM of 0.28 and a percentage of 14.5% of the behaviours witnessed throughout this phase.

[INSERT FIGURE 4]

Coaching Behaviours (Phase 3)

A total of 651 behaviours were observed throughout Phase 3, with a mean of 162.75 behaviours coded for each post intervention practice (i.e. practices 5, 6, 7 and 8). Moreover, a total of 1.89 behaviours were recorded by the observer per minute. As shown in figure 5, the reinforcement category obtained the greatest amount of coded behaviours, being observed on 85 separate occasions, thus gaining an RPM of 0.25 and a percentage of 13.1% of the behaviours detected throughout this phase.

[INSERT FIGURE 5]

Paired Sample t-test analysis was conducted as the values from each recording were from either the same individual or a group that consisted of the same people at different time periods (Larson-Hall, 2010). The analysis conducted between the behaviours observed prior to and post the intervention process indicated that there was no significant differences (P > 0.05). Reinforcement was observed on 75 separate occasions throughout Phase 1, accumulating a RPM of 0.22 and 11.1%. However, throughout Phase 3, Reinforcement was observed on 85 separate occasions, accumulating a RPM of 0.25 and 13.1%. A Paired Samples t-test was conducted between the mean totals for Reinforcement. The t = -2.100 and the Sig. (2-tailed) was recorded as .127 respectively, and so highlighted no significant difference. General Technical Instruction was observed on 97 separate occasions throughout Phase 1, accumulating a RPM of 0.28 and 14.5%. However, throughout Phase 3, General Technical Instruction was observed on 71 separate occasions, accumulating a RPM of 0.21 and 10.9%. A Paired Samples t-test was once again conducted between the mean totals for General Technical Instruction. The t = 1.924 and the Sig. (2-tailed) was recorded as .150 respectively; therefore, no significant differences (P > 0.05) were observed.

The largest change in behaviour was observed in the Mistake Contingent Encouragement category, which was recorded on 50 separate occasions throughout Phase 1, accumulating a RPM of 0.14 and 7.5%. However, throughout Phase 3, Mistake Contingent Encouragement was observed on 74 separate occasions, accumulating a RPM of 0.22 and 11.4%. The Paired Samples t-test conducted between the mean totals for Mistake Contingent Encouragement indicated that the $t = -5.555$ and the Sig. (2-tailed) was recorded as .012. Whilst this indicates that there is no significant difference ($P > 0.05$) between the two recordings, it can be considered that due to the Sig. (2-tailed) value being almost significant, it is definitely worth acknowledging that there is a noteworthy difference between the two mean values.

Athlete Perceptions and Attitudes

Table 6 displays the mean scores for each question, using the same 7-point scale from 1 (never) to 7 (always) from the athletes' perceptions questionnaire and 1 (least favourable) to 7 (most favourable) from the athletes' attitudes.

[INSERT FIGURE 6]

There is a notable differentiation between the two mean scores for each perception based and attitudinal question. Paired Sample *t*-tests were conducted to analyse and observe whether there were any significant differences between the athlete's perceptions and attitudes before the baseline phase and after the follow-up phase.

The most notable evidence of change in the athletes' perceptions can be seen in the General Encouragement category, which initially gained a mean of 4.8, but now has a mean of 5.6. The Sig. (2-tailed) was recorded as .011. However, this was not statistically significant ($P > 0.05$).

The most notable change in the athletes' attitudes centred on how much the athletes liked playing soccer. This originally scored a mean of

5.5, but now has a mean of 6.0. However once again these increases were not significantly different ($P > 0.05$).

Coach Self-Perceptions

The examination of the coach's self-perceptions incorporated an analysis of the answers provided prior to Phase 1 and post Phase 3 to facilitate a comparison to be conducted. Table 7 illustrates the mean scores, utilising the same 7-point scale from 1 (n*ever*) to 7 (*always*). As shown, the most notable transformation concerned question 4, as Amy now perceives herself to only 'sometimes'(4) employ the Mistake Contingent Technical Instruction behaviour, rather than 'almost always' (6), which was her original perception.

[INSERT FIGURE 7]

Discussion

Behavioural research amongst female youth coaches has, thus far, received very little empirical attention (Smith & Cushion, 2006). For the purpose of this study the CBAS was adopted as the primary systematic observation instrument, based on its capability to identify and develop effective evidence-based research into the behaviours of the participant coach and the associated behavioural outcomes of the athlete (Curtis et al., 1979). The current study indicates some considerable differences between specific behaviours during Phase 1 and Phase 3 of the intervention; however these differences were not statistically significant. The largest mean differences are reported amongst the CBAS classifications: Reinforcement, General Technical Instruction and Mistake Contingent Encouragement. Previous research (Smith et al., 1978) has revealed that players who have played for highly reinforcing and encouraging coaches have significantly greater levels of self-esteem. This has been further highlighted by Smoll and Smith (2010) who documented that positive outcomes occur when athletes are exposed to high levels of

reinforcement and are encouraged after making a mistake. Therefore, the current study is in agreement with More and Franks (2006) that desired and long-lasting behavioural change is achievable following exposure to a pre-determined intervention strategy.

One of the most interesting findings from the current study regarded how frequently the coach exhibited technical instructions and encouragement. The fact that these behaviours occurred so frequently underlines the importance of these particular coaching behaviours. Moreover, these findings are comparable to Lacy and colleagues (Lacy & Darst, 1985; Lacy & Goldston, 1990) studies of high school basketball and football coaches, who in their findings revealed that technical instructions represented almost half of the coaches' behaviours, with forms of encouragement the next highest reported behaviour (Bloom, Crumpton & Anderson, 1999).

Furthermore, when compared to the results of previous findings of youth baseball coaches (Smith et al., 1978) and basketball coaches (Smith et al., 1983), our results suggest that the nature of the sport may influence behaviour patterns, a perception formerly identified by Smoll and Smith (1989). Therefore, additional research is necessary with larger samples of female coaches in order to fully understand the extent to which, and importantly why, consistent dimensions of behaviours occur in different sporting contexts (Smoll & Smith, 1989).

Athletes and Coach Self-Perceptions

As Jones (1997) states, detailed investigations to discover what high-quality coaches actually do, and how this affects their athletes, needs to be undertaken to assist in the development of any model of effective coaching. Isabel et al (2008) contends that cognitive-behavioural knowledge can certify that the production of positive behaviour is achieved so that skill acquisition can subsequently be accomplished. Analysis of the perception data obtained yielded detailed insights into what behaviours the athletes and coach perceived themselves to have received/implemented during the systematic observation process. Similar to Curtis et al (1979) the analysis of the coded behaviours of both the athletes' and coach's self-perceptions illustrated substantial variations of employed behaviours.

General Technical Instruction's declined after the intervention process was observed by the athletes, whilst Amy's was also observed to decline. Additionally, the increase in General Encouragement was recognised by the athletes. These differences are consistent with the behavioural changes that occurred in the study conducted by Smith et al (1979). However, the perception data contradicted the findings of Stodgill (1974), who revealed that coaches were inadequate at judging their own behaviour. Mistake Contingent Encouragement increased after the intervention process, and whilst the athletes acknowledged this increase, Amy did not identify this particular trend. This therefore supports Smoll and Smith's (2010) notion that athletes are more precise perceivers of actual coach behaviours. Consequently, future empirical research has to be conducted to gain further understanding of how coaches can become increasingly mindful of the behaviours they employ during practice to ensure that their desired outcomes are accomplished. It is presumed that this would provide beneficial material for enhancing formal coach education programmes (Côté et al., 1995).

Athletes Attitudes

Attitudinal data was obtained to observe how a coach's behaviours impact on an athletes' psychological welfare (Smoll & Smith, 2010). Building on the earlier work of Curtis et al (1979), it was reassuring to note that all the athletes' attitudes towards their coach, teammates and soccer were predominately positive. This was illustrated by the recorded increase of selections 'leaning' towards most favourable on the 7-point scale. Incorporated within the intervention process was the discussion of the athletes' initial attitude recordings, thus ensuring that Amy was aware of how her use of behaviours employed throughout the baseline practices were affecting her athletes' psychological welfare. As noted, the specific behaviour-attitude relationships showed positive changes. Therefore, it can be concluded that the intervention process had a positive effect on the athletes' attitudes.

Latham and Seijts (1999) contend that performance feedback contains powerful informational effects that can help enhance behaviour by encouraging positive psychological effects. This can be linked specifically to the increase of particular behaviours employed during Phase 3; Reinforcement and General Encouragement. Yet, whilst Smith et al (1978) have found that reinforcement behaviours significantly higher levels of self-esteem, Smith et al (1982), amongst other studies of baseball coaches (e.g., Curtis et al., 1979; Smith et al., 1978; Smith et al., 1979) established that General Encouragement has been consistently negatively correlated with attitudes towards the coach. This may be due to the perception that General Encouragement fails to follow an action, as opposed to various other behaviours (i.e. Mistake Contingent Encouragement), which have been found to enhance the likelihood of obtaining positive results from athletes (Smoll & Smith, 2010). Additionally, extraordinary amounts of these behaviours are aversive to children, and so may result in reduced fondness for the circumstances in which they transpire (Smith et al., 1982).

One restraint in interpreting this data, however, is that it only symbolises results based on girls 10-12 years old playing for a female coach in a soccer team. In line with Curtis et al (1979) study, "additional data needs to be collected from other sports, at other levels of competition, in other sociocultural settings...to determine the generalibility of these results" (p. 399).

Nonetheless, the findings conveyed here are fundamental in applying the principles and methods of behavioural science to cultivating organised sports, particularly those for children (Curtis et al., 1979), as these data propose that specific improvement in an athlete's attitudes originates from training coaches how to interact more effectively with athletes (Smith et al., 1979).

Conclusion and Future Recommendations

The purpose of this particular study was to explore the value of a coach intervention process programme within women's youth soccer within the UK. In depth analysis of the athletes' attitudes towards their coach, teammates and soccer revealed distinctive positive outcomes, particularly considering how much the athletes like playing for their coach and how much they like playing soccer, following the intervention process. Therefore, the discussions held throughout the intervention process, with the assistance of the statistics, alongside the behavioural changes implemented by the coach during the four follow up practices highlights to other coaching practitioners what adjustments might be necessary to attain positive results in athletes' attitudes that have additionally been recognised to show significant increases in general self-esteem and play a critical role in the athletes' continuation in sport (Barnett, Smoll & Smith, 1992; Smith & Smoll, 2013; Smoll, Smith, Barnett & Everett, 1993). To that end, it is hoped that the descriptive-analytic data generated during the baseline interrupted experimental design will contribute to the existing body of knowledge surrounding overt behaviours, social psychological phenomena and individual differences, enhancing future coaching practices and providing supplementary avenues for further research

regarding the remaining questions surrounding coaching behaviours and their impact on athletes' desirable psychological characteristics.

In future studies, the current study can be built on by using a larger sample size to additionally obtain further recordings from a greater amount of coaches to enhance the subject knowledge of the relationship between the behaviours, perceptions and attitudes of adult female sports coaches and the psycho-social impact of these pedagogical practices upon youth athletes. Additionally, to build on this current study's findings even more, a number of potential confounding factors could be considered when conducting a future large scale study, such as the philosophy and coaching knowledge structures of the coaches and other situational and individual difference variables that are anticipated to influence athlete's reactions to their athletic experience reactions.

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