Original Research Article

Coach Experience and Age-Category effects on Young Soccer Players Training Environment: An Exploratory Study on Perceived Coaching Behavior in Timor-Leste

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Abstract

The objective of this investigation was to analyse soccer player's perception of coaching behavior in Timor-Leste, comparing coaching experience (experienced vs inexperienced coaches) and age-categories (under-10 vs under-14 male). Data was collected using the Coach Behavior Assessment System questionnaire. Two experienced coaches and three inexperienced coaches from five different soccer clubs were subjects of the investigation. Seventy-five under-10 and one hundred and forty-two under-14 players responded the questionnaire. A Kruskal-Wallis test was completed to evaluate differences between the two scenarios. Statistical differences were observed in inexperienced coaches for mistakes/errors and misbehaviors as rated by the players, and in experienced coaches for general technical instruction. Under-14 players revealed significantly higher scores to the opposing age group for all spontaneous behaviors and for positive reinforcement, mistake-contingent encouragement, and mistake-contingent technical instruction, while Under-10s rated higher behaviors for keeping control. Timorese's soccer coaches should promote a positive and reinforced training environment that can be focused on player's progress. It is recommended a more holistic approach to coach educational programs.
Keywords: Coach Behavior Assessment System; Southeast Asia; Coaching Education; Youth Development; Reactive Behaviors; Spontaneous Behaviors.

INTRODUCTION

Coaching behaviors are one of the most important factors that affect the decision-making processes of soccer players and are strongly linked to developing individual performance, influencing the practice environment, cognition, affective responses, and well-being of athletes (Cushion *et al.,* 2012; Holt, 2016; Holt *et al.,* 2017; Jones, 2006). For instance, soccer coaching styles which are mainly characterised by a highly directed and prescriptive approach to instruction, can be positively linked to improved levels of performance, team cohesion, player self-esteem and motor learning (Cushion *et al.,* 2012; Smith, M. & Cushion, 2006). These emergent patterns of soccer

coaches' conduct were observed by Smith, M. and Cushion (2006) as a sequential cycle of spontaneous and reactive behaviors, instruction, praise, and encouragement.

Coaches' behaviors play a major role in an athletic environment, skill acquisition, and psychosocial growth of children (Cumming *et al.,* 2006). One key factor that influences coaches' behaviour, is the experience level of the coach (Appleton *et al.,* 2011; Santos & Gonçalves, 2013) Inexperienced coaches have been reported to retain more control over sessions and are more concerned with discipline compared to experienced coaches (Coelho E Silva *et al.,* 2008;

Figueiredo *et al.,* 2009a). They also have been shown to use more mistake-contingent technical instruction when compared to their more experienced counterparts. Santos and Gonçalves (2013) also highlight those inexperienced coaches provided more positive reinforcement and general technical instruction. Alternatively, experienced coaches tend to promote more general technical instruction, encouragement, and reinforcement (Figueiredo *et al.,* 2009a), and promote an environment to aid guided discovery. The experienced coach fosters the importance of being focused on the competition and momentary performance (Gonçalves *et al.,* 2010), targeting more attention on information related to the skill level and individual differences of the players (Smith, M. & Cushion, 2006).

To analyse coaching behavior, several scientific methods have been used, including: a) self-report surveys, where coaches complete an assessment about their own coaching behaviors, attitudes, and beliefs *(*Lefebvre *et al.,* 2021); b) observer ratings or video analysis, where trained observers can examine coaching behavior or the use of a systematic coding system to evaluate specific coaching behaviors or interactions (Smith, R. E. *et al.,* 1979); and c) perceptions from others, where players or parents can be asked to provide feedback on the coaching behavior experienced, either through surveys or interviews (Barnett *et al.,* 1992; Smith, R. E. *et al.,* 1995). The Coaching Behavior Assessment System (CBAS) is an instrument to evaluate the coaches' conduct during sport practice, as a cognitive-behavioral model derived from social learning theory (Cumming *et al.,* 2006; Smith, R. E., Smoll, & Hunt, 1977). These authors revealed the existence of two types of conduct: a) reactive behaviors, where coaches respond to their athletes' correct performances, errors, or disturbing behaviors; and b) spontaneous behaviors, referring to responses initiated by the coach that does not have immediate or well-defined context in the game (Smith, R. E., Zane, Smoll, & Coppel, 1983). Despite the amount of research on coaching behavior in several sports and countries, to-date, no study has investigated coaches' behaviours in Timor-Leste, Southeast Asia. In addition, investigations have focused on comparing coaches and not groups of players (Figueiredo *et al.,* 2009b; Gonçalves *et al.,* 2010; Santos & Gonçalves, 2013), therefore, it is still unknown if players' perception of coaching behavior is related to athletes' individual growth and development.

Therefore, the objective of this study was to understand the effect of coaching experience (experienced and inexperienced coaches) on the perceived coaching behavior by young male soccer players under-10 (U10) and under-14 (U14), in Timor-Leste. A secondary aim was to understand the differences in age category (U10 vs U14) on how young players' perceived coach behavior. It is hypothesising that experienced coaches will demonstrate behaviors aligned with the performance and game-related instructions, while inexperienced coaches more general communication directed to the organisation, control, and discipline (Coelho E Silva *et al.,* 2008; Figueiredo *et al.,* 2009a). It is also expected that U14 players will perceive more coaches' spontaneous behaviors, while U10 more reactive behaviors (Figueiredo *et al.,* 2009b).

MATERIALS AND METHODS
Participants
217 male soccer players (Under-14 (U14): 142 players, age: 13.42±0.96 years old; Under-10 (U10): 75 players, age: 9.63±1.58 years old) from 5 soccer clubs from Timor-Leste. All players participated in three weekly 90-minute training sessions, plus one game on weekends and competed at a regional standard on a clay soccer pitch. Players had approximately 40 weeks of training per season. The experienced coaches within the study were two male coaches (subject 1: 28 years old, 6 years coaching experience; subject 2: 32 years old, 7 years coaching experience). Both coaches possessed specific soccer coaching education through the Asian Soccer Confederation B licence. The inexperienced coaches were three male coaches (subject 3: 29 years old, 3 years coaching experience; subject 4: 39 years old, 3 years coaching experience; subject 5: 25 years old, 1 year coaching experience). The inexperienced coaches possessed specific soccer coaching education through the Asian Soccer Confederation C diploma. Coaches were considered inexperienced if they had less than four years of coaching practice (Jones, 2006). Informed consent was gained from the coaches, parents, and players, as well as gatekeeper consent from the clubs, before the beginning of the study. All participants were notified that they could withdraw from the study at any time. The experimental protocol and investigation were approved by the local Institutional Research Ethics Committee and performed according to the Helsinki Declaration's ethical standards. Data was collected in Timor-Leste, an under-developed Southeast Asian country, and recently born (year 2002), as part of a PhD project to characterize the soccer participants in this specific socio-cultural environment, with the objective to be a ground-breaking study to develop sports, and particular soccer, across that population.

Procedures
The Coach Behavior Assessment System (CBAS) was administered via a questionnaire, where participants answered a 11 Likert-scale items from 1 to 4, in which (1) never, (2) almost never, (3) few times, (4) almost always (Smith, R. E. *et al.,* 1977). For this study, the category "Nonreinforcement" from the traditional 12 categories of the CBAS was removed, as pilot testing with basketball players, revealed no significant differences between "nonbehaviors" and players' perceptions and attitudes, being a category of difficulty to score reliability (Smith, R. E. *et al.,* 1983). The questionnaire was translated into the Tetum

language by Professor Luís Costa, author of the only existing Portuguese-Tetum dictionary, and was later challenged by other Timorese teachers of its feasibility. Data was collected in one single training session, with paper form questionnaires. All subjects completed the CBAS at the same time, separated from each other, without interference from third parties, unless to explain any momentary question. For that a Tetum-Portuguese teacher was present during data collection to facilitate explanations. The questionnaire was applied before the start of the first session of a regular competitive week, after the match.

Statistical Analysis

The statistical analysis was conducted using Jamovi Project. The descriptive analysis is presented as means and standard deviations (Mean ± SD) (figure 1). A Shapiro-Wilk Test was performed and exposed non-normal data. Therefore, a non-parametric Kruskal-Wallis Test was executed to evaluate differences in the 11 questions of the CBAS considering: (1) coaching experience (Experienced vs Inexperienced); and (2) age category (U14 vs U10), with alpha level of statistical significance set at .05.
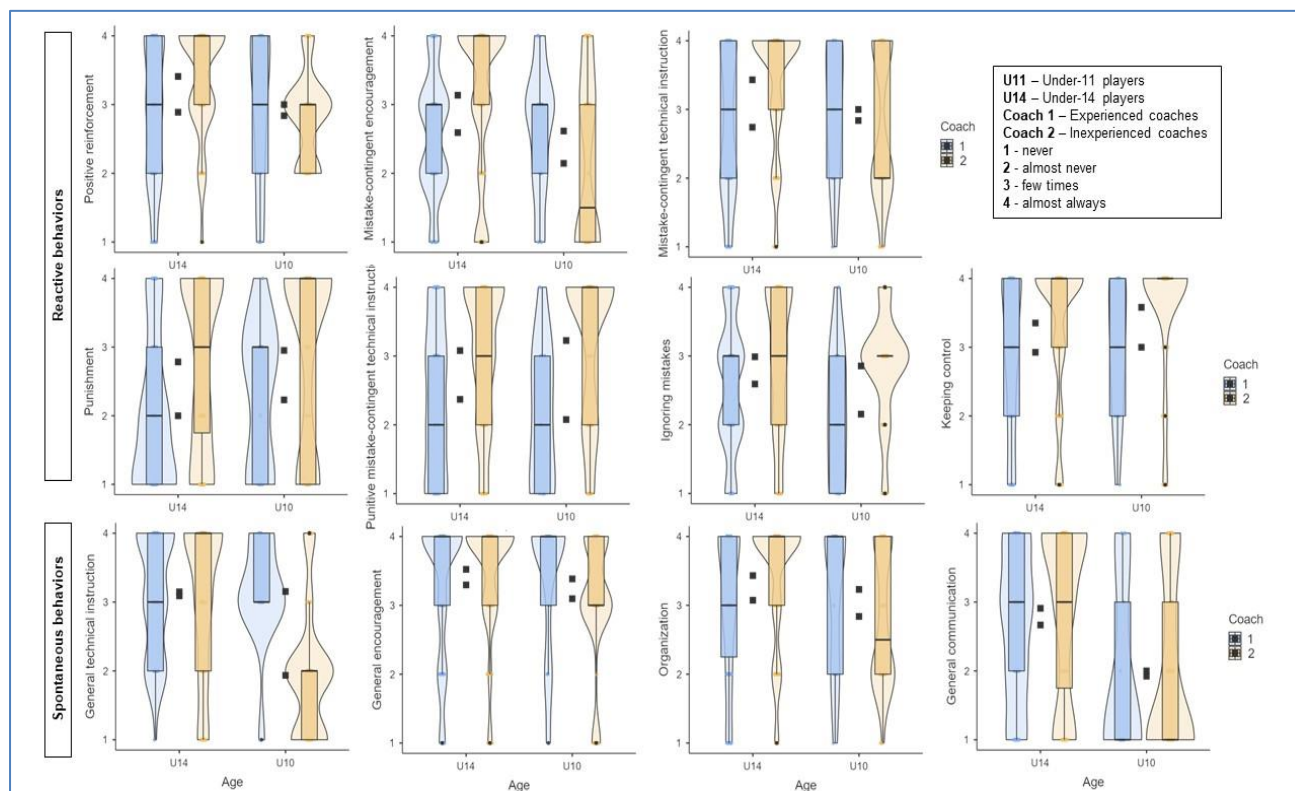

Figure 1: Descriptive mean values (violin box plots, with jittered data) when considering age category and coaching experience.

RESULTS

Coaching experience

Players perceived higher scores for inexperienced coaches, for reactive behaviors, and particularly for mistake-contingent technical instruction ($p < .01$, ε^2 0.03), punishment ($p < .001$, ε^2 0.09), punitive mistake-contingent technical instruction ($p < .001$, ε^2 0.12), ignoring mistakes ($p < .01$, ε^2 0.04), and keeping control ($p < .001$, ε^2 0.07). For the experienced coaches, players presented higher scores for spontaneous behaviors, for general technical instructions ($p < .01$, ε^2 0.04) (table 1).

Age-Category

For reactive behaviors, U14 players rated coaches higher on positive reinforcement ($p < .01$, ε^2 0.05), mistake-contingent encouragement ($p < .001$, ε^2 0.08), and punishment ($p < .05$, ε^2 0.05), whereas U10 players rated coaches higher for keeping control ($p < .05$, ε^2 0.03). For the spontaneous behaviors, U14 players rated coaches significantly higher than U10s in the categories: general technical instruction ($p < .001$, ε^2 0.17), general encouragement ($p < .01$, ε^2 0.04), organization ($p < .01$, ε^2 0.04), and general communication ($p < .001$, ε^2 0.09) (table 1).

Table 1: Descriptive analysis with Mean±SD and Kruskal-Wallis Test for Coach Behavior Assessment System (CBAS), considering age-category and coaching experience.

CBAS	Coaches				Players			
	Exp	**Inexp**	*p*	ε²	**U14**	**U10**	*p*	ε²
Reactive behaviors								
Positive reinforcement	2.91±1.03	3.17±0.78	0.12	0.01	3.21± 0.90	2.87± 0.76	**<.01**	0.05
Mistake-contingent encouragement	2.6±0.91	2.73±1.26	0.20	0.01	2.93± 1.07	2.23± 1.19	**<.001**	0.08
Mistake-contingent technical instruction	2.79±1.07	3.19±1.01	**<.01**	0.03	3.17± 1.02	2.87± 1.06	**<.05**	0.05
Punishment	2.04±1.11	2.85±1.30	**<.001**	0.09	2.49± 1.27	2.83± 1.33	0.08	0.01
Punitive mistake-contingent technical instruction	2.31±1.10	3.14±1.056	**<.001**	0.12	2.81± 1.12	3.03± 1.16	0.11	0.01
Ignoring mistakes	2.51±0.99	2.93±0.96	**<.01**	0.04	2.84± 1.05	2.73± 0.86	0.33	0.004
Keeping control	2.94±1.09	3.45±0.99	**<.001**	0.07	3.19± 1.07	3.48± 0.96	**<.05**	0.03
Spontaneous behaviors								
General technical instruction	3.15±0.86	2.61±1.19	**<.01**	0.04	3.11± 1.03	2.15± 1.02	**<.001**	0.17
General encouragement	3.31±1.03	3.35±0.91	0.65	9.83	3.44± 0.92	3.15± 0.97	**<.01**	0.04
Organization	3.1±1.061	3.19±0.99	0.57	0.002	3.3± 1.0	2.91± 1.00	**<.01**	0.04
General communication	2.52±1.17	2.53±1.32	0.87	1.18	2.82± 1.20	1.99± 1.26	**<.001**	0.09
Exp - Experienced coaches; Inexp - Inexperienced coaches; U14 – Under-14 Players; U10 – Under-10 Players.								

DISCUSSION

The aim of this study was to analyse the perception of soccer players regarding coaching behavior in relation to coaching experience (experienced vs inexperienced coaches) and age-category (U14 and U10 male players) in Timor-Leste, Southeast Asia. Regarding coaching experience, in line with our hypothesis, inexperienced coaches tended to focus more on mistakes/errors and misbehaviors. It was expected that experienced coaches would prioritize performance instruction over inexperienced coaches, however the data only revealed higher levels of players' perceptions of experienced coaches in general technical instruction. From an age-category analysis, U14 players perceived more spontaneous behaviors, positive reinforcement, mistake-contingent encouragement, and mistake-contingent technical instruction. Unexpectedly, U10 players perceived only higher scores of misbehaviors, specifically, for keeping control.

Previous research showed that experienced coaches tend to exhibit spontaneous behaviors, leading to improved outcomes and desired player behaviors (Gonçalves *et al.,* 2010). This was observed in the present investigation as the data revealed experienced coaches use more general technical instruction, which was the only category where they demonstrated higher scores compared to inexperienced coaches, as common behaviour. Experienced coaches have more flexibility to deliver fluid and player focused sessions (Silva *et al.,* 2013). On the other hand, inexperienced coaches tend to follow the session plan without adaptation to the session demands and momentary player's needs. Their feedback is focused on the development of the session as planned and intended final goals (Silva *et al.,* 2013).

In line with our hypothesis, inexperienced coaches displayed more reactive behaviors, particularly in response to mistakes and misbehavior. These coaches seemed to focus on correcting errors and maintaining control over players. Inexperienced coaches also tended to ignore the error, but provided more mistake-contingent technical instruction, revealing a potential lower game knowledge. Coaches should consider their approach as focussing on the exertion of effort and mastery of specific abilities rather than errors, that may improve the motivation and self-esteem and de-emphasize the outcomes of players' actions, (Chaumeton & Duda, 1988). Timorese's coaches should then be aware that players need to be provided with specific praise given not only for performance outcome, but also for effort, improvement, and skill progress: as much as possible, all interactions should be personalized, with an emphasis on player performance and skill development (Smith, M. & Cushion, 2006). U14 player's perception of their coaches seems to be in line with this idea as they recorded more positive reinforcement, mistake-contingent encouragement, and mistake-contingent technical instruction.

U14 players also rated higher levels of spontaneous behaviors and perceived their coach's behavior as related to the game (including more behaviors game-irrelevant). The older players, when compared to the U10s, seem to be able to understand more specific instructions and be more motivated to practice, as per coaching reinforcement and encouragement. Consequently, this could be linked to the maturation process and players experience, and therefore, may allow them to better understand coaching communication (Philippaerts *et al.,* 2006). U10 players only scored higher values for keeping

control. This may emphasize the children's growth and development curve, as U10s seem not to be in a cognitive development stage that allows them to understand technical- and performance-related instructions (Figueiredo *et al.,* 2009b).

The coach has an important role to foster youngsters' positive development through sport (Holt *et al.,* 2017). The present work reinforces the relevance and need for coach behavior analysis and assessment, since it is not tacit that, according to the level of experience, coaches present the same type of behavior (Jones, 2006). Despite the innovative insights this investigation provided to countries with a social and cultural background identical to Timor-Leste, there are some limitations that need to be acknowledge. Timor-Leste is an under-development country and recently born (2002), so this may reflect some contextual constraints for these experienced coaches, that may not have had the opportunity to engage in a rich academic curriculum which would allow them to develop pedagogical strategies, nor having access to quality coaching training programs or competition in a higher-level national soccer league. As per Chaumeton and Duda (1988), experienced coaches that use behavioral guidelines are liked better and rated as more effective teachers, so there is a need to further develop coaching education in the country, in a holistic perspective. Also, Smith, R. E. *et al.,* (2007) verified that coaches with better training present more positive behaviors and, consequently, their athletes have higher perception of security and comfort, and thus, less anxiety. Notwithstanding the questionnaire translation was completed by the only author of the only Portuguese-Tetum dictionary, and confronted with other Portuguese-Tetum teachers, young soccer players may have found it hard to answer due to the introduction of new vocabulary, and the necessary time to assimilate such complex words. As well, the questionnaire could have included a middle choice option (e.g., "neither agree nor disagree") for those experiences that wouldn't fall into done or not done. Additionally, it would be beneficial to increase the variation in the number of years of coaching experience to determine any differences. The instrument should also be tested with older athletes to explore these differences further. Future studies could also include the analysis of players' perception of coaching behavior in different environments (e.g., competition vs training).

CONCLUSION

Coaches should be aware of how their behaviors directly influence player perception. In this specific environment of Timor-Leste, inexperienced coaches should be able to promote an encouraging and positive environment that will allow players to flourish and focus on their development, rather than converging on mistakes. In Asia, the courses are structured by the Soccer Confederation and delivered with the same content and structure in every affiliated Asian Association, through a more traditional teaching approach. This tends to create limitations to adapt to the different realities from each region and nation. Besides this possible negative influence on coach development, there is lack of awareness for coach self-development, adapted to this competitive and cultural reality, as coaching must be tailored to the players, and it should not follow one strict structure that will not fit all regions.

Coaching behaviors have a significant impact on the environment in which young players thrive, particularly those in the early stages of development. It is important for grassroots coaches to understand that children may perceive their actions differently than older players, and therefore should focus on promoting positive behaviors, such as encouragement and instructional techniques, that prioritize skill acquisition and development, through a more spontaneous free play perspective and guided discovery. The Timor-Leste Soccer Federation, Associations and Clubs should also strive to foster training programs that allow coaches to adopt effective training and pedagogy strategies to create a positive and engaging environment that will keep young players in soccer practice.

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