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GENDER DIFFERENCES IN THE PERCEPTIONS OF SPORT COACHING STANDARDS AMONG MALAYSIAN SPORT COACHES

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ABSTRACT

This study examined the perception of Malaysian sport coaches on the sport coaching standards (SCS). A total of 384 coaches (age = 28.84±4.02 years; male = 67.7%, female = 32.3%) responded to the survey via an online google document. Almost 59% of the respondents were club level coaches with 42% having 1-3 years coaching experience. Majority (56.2%) of the coaches was involved in soccer, frisbee, dodgeball, and futsal. The adopted research instrument consisted of 40 coaching standards and were categorized into eight domains. The items were measured through an 11-point (0-10) Likert scale. The results suggested that Malaysian coaches perceived the 40 standards (minimum = 6.94 and maximum = 9.00) as knowledge and abilities that effective coaches must possess. As for the domains, Malaysian coaches ranked the top three domains to be 'Growth and Development', 'Teaching and Communication', and 'Skills and Tactics' respectively. Similar ranking of the domain was also reported according to gender. Even though coaching education in terms of sport specific and sport science programs is in place in Malaysia, it is imperative for Malaysian Sport Coaching Academy and National Sport Associations to incorporate some coaching standards in their relevant coaching education curriculum.

Keywords: *Sport coaching standards, coaching education, coaching effectiveness, coaching accreditation program.*

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INTRODUCTION

Sport coaches come from different backgrounds and experience, and that would determine their success in coaching athletes. Ideally, sport coaches should be trained formally through the coaching education system in respective countries. However, most coaches have never received any training as a coach beyond their school sport participation, physical education experience, and experience as an athlete and spectators.

Numerous experts have concurred that coaching effectiveness should be judged on various factors. Effective coaches should be able to consistently apply professional, inter-personal, and intra-personal knowledge to improve athletes' competence, confidence, connection, and character (Cote & Gilbert, 2009) in different coaching environments. Most importantly, effective coaches should acquire, upgrade and master their knowledge and skills, so as to help athletes under their charge develop physically, socially, mentally, and emotionally (Coakley, 2011; Gilbert, Nater, Siwik, & Gallimore, 2010).

In view of a variety of issues and challenges arise in sport such as keeping athletes engaged and motivated, athletes' poor movement abilities, poor skill development, and lack of proper fitness, failure in competitions, as well as working positively with excitable parents, coaches should be exposed to a systematic coaching education set up to prepare them for those challenges.

In Malaysia, formal sport coaching education is offered by various stakeholders such as the National Sport Coaching Academy [NSCA] (an affiliate of Malaysian National Sport Institute), Malaysian National Sport Associations [MNSAs], Malaysian public and private universities. NCSA provides sport science courses, and continuous coaching education. Besides , MNSAs organize sport specific coaching courses. In addition, NSCA is responsible for issuing the Malaysian Sport Coaching Licence through the National Coaching Licensing Scheme (SLKK) and the National Coaching Certification Scheme (SPKK). Malaysian coaches who attended and pass the Sports Science Course [SSC] (Level I, II, III) and Sports Specific Course [SSpC] (Level I, II, III) will be issued with Licence C, Licence B and Licence A according to Level I, II, and III passed for sport science and sport specific courses (For example, a coach will have a Licence C if he passes Level I Sport Science Course, and Level I Sport Specific Course). As for SSC (Level I, II and III) Malaysian sport coaches are exposed to a variety of topics which include sports philosophy, sports in Malaysia, coaching competency, anatomy and physiology, sports nutrition, sports psychology, physical conditioning, motor behaviour, biomechanics, sports medicine, and anti-doping. In addition, Sports Specific Courses [SSpC] which are conducted by the 45 National Sports Association, act as a complementary component in the SLKK and SPKK.

As sport education is provided by various stakeholders, there is no consensus on topics to be covered to educate sport coaches and make them effective. In order to improve sport coaching education and create an effective coaching system, it is imperative that discussions continue about what topics and information to impart to coaches so that it can prepare and educate all levels of coaches for their future unforeseen challenges in coaching. Thus, a national standard for sport coaches which consists of the core responsibilities of a sport coach and knowledge and skills needed to provide a quality sport experience, could be beneficial for

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Malaysian sport coaches to continually undertake a process of education in order to be knowledgeable and well-prepared for coaching situations that arise.

METHODS

Participants

Participants of this survey were sport coaches in Malaysia. Potential sport coaches were contacted via emails/WhatsApp and their response were obtained through online Google Form's link. A total of 384 Malaysian sport coaches participated in this study. The mean age of the sample was 28.84±4.02 years old with 67.7% male (n=260) and 32.3% female (n=124). In terms of level of sport coaching involvement, 58.6% (n=225) of the coaches classified themselves as a club coach, 15.1% (n=58) as state coach, 20.3% as regional coach (n=78), and 6% as national coach (n=23). The coaches had varied coaching experience with 41.7% (n=160) reported to have 1-3 years of coaching, 38.8% (n=149) had 4-6 years, 15.6% (n=60) had 7-9 years, and 3.9% (n=15) had 10 years and above experience. As for the type of sport coached, the coaches were involved in soccer (19.5%, n = 75), frisbee (14.3%, n = 55), dodgeball (12.0%, n = 46), futsal (10.4%, n = 40), badminton (7.6%, n = 29), volleyball (7.6%, n = 29), basketball (7.0%, n = 27), and the remaining 83 (21.6%) coaches were involved in Muay Thai, taekwondo, athletics, and gymnastics.

Instrumentation

The National Standards for Sport Coaches (NSSC) was adopted for this research. The NSSC consists of 40 standards (Table 2) which are categorized into 8 domains as stated in Table 1 (National Association of Sport and Physical Education [NASPE]), 2006). NSSC was initially proposed by NASPE (2006) as a position paper on the Standards for Youth Sport Coaches (Bodey, Brylinsky, & Kuhlman, 2008). NSSC was created in 1995 through collaborations between NASPE and more than 140 local, state, and national sport governing bodies (Brylinsky, 2002). NSSC is scientific and practical competencies that sport coaches with different levels and experience are expected to possess (NASPE, 1995, 2006).

Table 1: *Domain, and expected skill and knowledge of coaches.*

Domain	Scientific and practical competencies
Philosophy and Ethics	This domain focuses on coaching philosophy, professional accountability, and fair play.
Safety and Injury Prevention	Coaches must be able to provide safe environments and healthy sport experience for athletes. Coaches are expected to have knowledge in basic sport medicine.
Physical Conditioning	Coaches should be able to design and implement training and conditioning programmes, understanding recovery from injuries. Coaches must have knowledge in drugs and supplements and promote proper nutrition.
Growth and Development	This domain takes into consideration athletes' development when designing practice and competition to enhance physical, social, and emotional growth of athletes.
Teaching and Communication	Coaches focus on sound instructional strategies and interpersonal behavior. Coaches should provide individualized instruction, and create a positive coaching style in maximizing learning and enjoyment in sporting experience.

Malaysian Journal of Sport Science and Recreation
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Skills and Tactics	Coaches should be knowledgeable in the sport they coach in terms of skills, strategies, scouting methods, and game analysis for practice and competition.
Organization and Administration	Coaches must be able to manage and utilize human and financial resources effectively. They must also have basic risk management knowledge.
Evaluation	Coaches must know how to evaluate athletes' performance, to assess athletes for role assignment, as well as doing self-evaluation and staff.

Pilot Study

As this is the first study conducted in Malaysia, a pilot study was conducted to verify the instrument. A total of 30 Malaysian Sport Coaches were sourced for the study and they were excluded from the main study. Cronbach's alpha analysis yielded an overall reliability of 0.967, which is considered adequate for it to be used. The reliability of 7 sub-domains ranges from 0.731 (Physical Conditioning Domain) to 0.932 (Evaluation Domain). The reliability for the 'Growth and Development Domain' ($\alpha = .587$) was less than satisfactory and any data related to this domain would be treated with caution as suggested by Joesaar, Hein, and Hagger (2011). The domain was excluded in the inferential statistical analyses.

Procedure

Approval to carry out this research has been obtained from The Ethical Committee of the Educational Institution (EC Ref. No.: FOAS/EC/2020/2-60). A total of 384 questionnaires in the form of a google document was distributed via email or WhatsApp to the participants. The participants were emailed/WhatsApp a link to the survey. They were asked to answer the questionnaire from Section A to B in sequence. All participants gave informed consent before completing their survey. Evaluations of the 40 standards of the inventory were asked before the ranking of the eight domains. The ranking of the domains (1-8) in terms of importance to an effective coach were asked at the end of the survey to minimize response bias among the coaches.

Data collection and analysis

Data of this research was collected through online Google Form. The quantitative data of the survey was analysed using SPSS (version 23.0). All variables satisfied normality criteria and were examined using relevant tests. Both descriptive and inferential statistical techniques were used to analyse the data. Descriptive statistics was used to analyse gender, age, years of coaching experience, level of involvement, and type of sport coached. The non-parametric Mann–Whitney U test was conducted to contrast mean scores for each of the 40 coaching standards as well as differences in the 8 domains according to gender. Test of significance was set at .05 level. For the Mann–Whitney U test, results were tabulated in Table 1 to show the U test statistics, and the presence of significant differences, as determined from each statistical comparison of the means between male and female sport coaches.

For the 40 sport coaching standards, respondents were asked to evaluate the importance of each standard in terms of being an effective sport coach. An 11-point (0 – 10) Likert-scale was used for all the 40 standards, whereby 0 = *Least important standard to be an effective sport coach* and 10 = *Most important standard to be an effective sport coach*.

Malaysian Journal of Sport Science and Recreation
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As for the 8 domains, each domain was computed based on the score of all items for each domain as stated in Table 1. For example, the composite score of the 'Philosophy & Ethics' domain would be the summation score of items 1, 2, 3, and 4.

In Table 2, the means, number of items of the sub-domains, the unweighted means and their ranking based on the unweighted means were reported. The unweighted means was used because sub-domains contain different numbers of items. The unweighted means were calculated by dividing the means by the number of items in the sub-domains. A mean of 5 is considered neutral; a mean above 5 indicates that the domain is more important for effective coaching and a mean below 5 indicates that the domain is less important for effective coaching. To compare the 8 domains in terms of gender, the Mann–Whitney U test was employed.

RESULTS

Table 1 displays the responses of sport coaches toward the importance of the 40 sport coaching standards, mean score and ranking of the standards. All the mean scores for the 40 standards are greater than 5.0 on a 0–10 scale (minimum = 6.94 and maximum = 9.00) suggesting that Malaysian sport coaches perceived that all the 40 standards are important knowledge and abilities that effective sport coaches must have.

Based on the ranking of the coaching standards, Domain 4 (Growth and Development) has three standards (Standard 2, 5, and 8) in the top 10 standards. This result echoed the needs of coaches in applying knowledge to help athletes grow physically, socially and emotionally. The domain emphasised that coaches should be able to apply knowledge of physical growth and changes in coaching skills to athletes using the development appropriate strategy.
Standard 20 (The ability to develop and monitor goals and objectives for the athletes and program) (Domain 5: Teaching and Communication) was ranked first. Malaysian coaches prioritize the ability to plan training programs especially in monitoring training goals and achieving objectives.

Domain 7 (Organization & Administration) has four of the 6 standards at the bottom of the 40 standards (standard 37, 38, 39, and 40). This indicated that coaches viewed the ability to manage human resources, fiscal resources, information, documents, and records for the program as the least important. Similarly, coaches felt that public relation activities for the sport program are not important.

Table 2 also displays the inferential statistics on the 40 standards according to gender. Significant differences were found on four standards; two each from Domain 7 [Organization and Administration] (standard 30 and 31) and Domain 8 [Evaluation] (standard 37 and 38). For the Organization and Administration, female coaches (mean = 8.23 $\pm$ 1.72) perceived efficiency of competition management as more important than male (mean = 7.62 $\pm$ 2.29) counterparts (U = 13887, p = .022; ES = -.28). Similarly, female coaches (mean = 7.60 $\pm$ 1.81) placed importance on public relation activities of the sport programme that they are involved in as compared to male coaches (mean = 7.06 $\pm$ 2.26) (U = 14079.5, p = .038; ES = - .26).

As for the Evaluation domain, female coaches (mean = 8.69 $\pm$ 1.11) perceived effective evaluation of team performance in achieving team goals as more important than male coaches

Malaysian Journal of Sport Science and Recreation
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(mean = 8.35± 1.52) counterparts (U=14059, p=.034; ES = -.24). Similarly, female coaches (mean = 8.48 ± 1.17) placed importance on a variety of evaluation strategies to gauge motivation in achieving seasonal goals and objectives as compared to male coaches (mean = 8.15 ± 1.51) (U=14143.5, p = .044; ES = -.23).

Table 2: Mean scores, Rankings, Averages, and Differences for the 40 Standards Between Sport Coaches

Domain	Standard	Rank	Mean score	Gender Diff.
Philosophy & Ethics	1.The ability to develop and implement an athlete-centered coaching philosophy.	32	8.03	U=15735.5, p=.693
	2. The ability to identify, model, and teach positive values learned through sport participation.	15	8.57	U=15978.5, p=.844
	3. The ability to teach and reinforce responsible, personal, social, and ethical behaviour of all people involved in the sport program.	7	8.72	U=15293.5, p=.387
	4. The ability to demonstrate ethical conduct in all facets of the sport program.	27	8.18	U=14498, p=.102
Safety & Injury Prevention	5. The ability to prevent injuries by providing safe facilities.	30	8.09	U=15996.5, p=.897
	6. The ability to ensure that all necessary protective equipment is available, properly fitted, and used appropriately.	28	8.16	U=15843.5, p=.777
	7. The ability to monitor environmental conditions and modify participation as needed to ensure the health and safety of everyone involved.	17	8.53	U=16099.5, p=.983
	8. The ability to identify physical conditions that predispose athletes to injuries.	9	8.64	U=15262, p=.368
	9. The ability to recognize injuries and provide immediate and appropriate care.	16	8.54	U=15534, p=.547
	10. The ability to facilitate a coordinated sports health care program that includes prevention, care, and management of injuries.	34	8.00	U=14834.5, p=.187
	11. The ability to identify and address the psychological implications of injury.	31	8.08	U=15388.5, p=.459
Physical Conditioning	12. The ability to design programs of training, conditioning, and recovery that properly utilize exercise physiology and biomechanical principles.	4	8.76	U=15055, p=.272
	13. The ability to teach and encourage proper nutrition for optimal physical and mental performance and overall good health.	29	8.10	U=16057.5, p=.949
	14. The ability to be an advocate for drug free sport participation and provide accurate information about drugs and supplements.	25	8.32	U=15887.5, p=.811
	15. The ability to plan conditioning programs to help athletes return to full participation following injury.	22	8.36	U=15911, p=.830
	19. The ability to provide a positive learning environment that is appropriate to the	11	8.59	U=16033.5, p=.929

Malaysian Journal of Sport Science and Recreation
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Teaching & Communication	characteristics of the athletes and goals of the program.			
	20. The ability to develop and monitor goals and objectives for the athletes and program.	1	9.00	U=15774, p=.715
	21. The ability to organize practice based on a seasonal or annual practice plan to maintain motivation, manage fatigue, and allow for peak performance at the appropriate time.	11	8.59	U=16033, p=.927
	22. The ability to plan and implement daily practice activities that maximize time on task and available resources.	17	8.53	U=14339, p=.068
	23. The ability to utilize appropriate instructional strategies to facilitate athlete development and performance.	14	8.58	U=15053, p=.266
	24. The ability to teach and incorporate mental skills to enhance performance and reduce sport anxiety.	23	8.33	U=15985, p=.858
	25.The ability to use effective communication skills to enhance individual learning, group success, and enjoyment in the sport experience.	5	8.75	U=15585.5 , p=.563
	26. The ability to demonstrate and utilize appropriate and effective motivational techniques to enhance athlete performance and satisfaction.	23	8.33	U=15331.5, p=.408
Skills & Tactics	27. The ability to know the skills, elements of skill combinations, and techniques associated with the sport being coached.	19	8.50	U=15573, p=.567
	28. The ability to identify, develop, and apply competitive sport strategies and specific tactics appropriate for the age and skill levels of the participating athletes.	3	8.77	U=15049, p=270
	29. The ability to use scouting methods for planning practices, game preparation, and game analysis.	20	8.46	U=14409, p=.081
Organization & Administration	**30. The ability to demonstrate efficiency in contest management.**	36	7.82	**U=13887, p=.022**
	31. The ability to be involved in public relation activities for the sport program.	39	7.23	**U=14079.5, p=.038**
	32. The ability to manage human resources for the program.	38	7.24	U=14240, p=.059
	33. The ability to manage fiscal resources for the program.	40	6.94	U=14228.5, p=.058
	34. The ability to facilitate planning, implementation, and documentation of the emergency action plan.	33	8.01	U=14396, p=.081
	35. The ability to manage all information, documents, and records for the program.	37	7.25	U=15366 , p=.438
	36. The ability to fulfill all legal responsibilities and risk management procedures associated with coaching.	35	7.91	U=15793, p=.737

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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Evaluation	**37. The ability to implement effective evaluation techniques for team performance in relation to established goals.**	20	8.46	**U=14059, p=.034**
	38. The ability to use a variety of strategies to evaluate athlete motivation and individual performance as they relate to season objectives and goals.	26	8.26	**U=14143.5, p=.044**
	39. The ability to utilize an effective and objective process for evaluation of athletes in order to assign roles or positions and establish individual goals.	10	8.62	U=15729, p=.307
	40. The ability to utilize an objective and effective process for evaluation of self and staff.	11	8.59	U=15059, p=.272

Results in Table 3 show that the top ten standards were in the 7 of the 9 domains. 'Growth and Development' sub-domain could be considered as the most important domain as all the three standards are ranked in the top 10 standards (rank 2nd, 5th and 8th). Malaysian sport coaches perceived the ability to develop and monitor goals and objectives for the athletes and program (Teaching and Communication sub-domain) as their first priority, and the ability to identify, develop, and apply competitive sport strategies and specific tactics appropriate for the age and skill levels of the participating athletes (Skills and Tactics sub-domain) as their third most important standard that they must have.

Table 3: Top ten standards identified by Malaysian sport coaches

Domain	Standard	Rank	Mean rating
Philosophy & Ethics	3. The ability to teach and reinforce responsible, personal, social, and ethical behaviour of all people involved in the sport program.	7	8.72
Safety & Injury Prevention	8. The ability to identify physical conditions that predispose athletes to injuries.	9	8.64
Physical Conditioning	12. The ability to design programs of training, conditioning, and recovery that properly utilize exercise physiology and biomechanical principles.	4	8.76
Growth & Development	16. The ability to apply knowledge of how developmental change influences the learning and performance of sport skills.	5	8.75
	17. The ability to facilitate the social and emotional growth of athletes by supporting a positive sport experience and lifelong participation in physical activity.	8	8.70
	18. The ability to provide athletes with responsibility and leadership opportunities as they mature.	2	8.83
Teaching & Communication	20. The ability to develop and monitor goals and objectives for the athletes and program.	1	9.00
	25.The ability to use effective communication skills to enhance individual learning, group success, and enjoyment in the sport experience.	5	8.75
Skills & Tactics	28. The ability to identify, develop, and apply competitive sport strategies and specific tactics appropriate for the age and skill levels of the participating athletes.	3	8.77

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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Evaluation	39. The ability to utilize an effective and objective process for evaluation of athletes in order to assign roles or positions and establish individual goals.	10	8.62

When the results of domain ranking were examined (Table 3), similar ranking was found for male and female coaches and they ranked the top three domains 'Growth and Development', 'Teaching and Communication', and 'Skills and Tactics' respectively. There were no significant differences between male and female coaches in these domains. The statistically insignificant differences indicate that both male and female coaches have similar perceptions about the importance of the three sub-domains relative to being an effective sport coach. They felt that it is imperative to apply developmentally appropriate strategies in developing athletes physically, emotionally, and socially, as well as in the competitive sport strategies and specific tactics. In addition, the coaches felt that they must be able to develop and monitor goals and objectives for the athletes and program. They perceived that coach-athlete communication skills are important to enhance sport performance and to ensure an enjoyable sporting experience. However, there was a significant difference in the 'evaluation' domain according to gender. The statistically significant differences suggest that female coaches valued the ability to evaluate sport performance and motivation in relation to established goals as more important than their male counterparts.

Table 4: *Ranking for the 8 domains among Malaysian Sport Coaches (whole sample and gender)*

Domain	No. of Item	Whole sample Mean score	Whole sample UW mean	Whole sample Rank	Male Mean score	Male UW mean	Male Rank	Female Mean score	Female UW mean	Female Rank	Gender diff.
Philosophy & Ethics	4	33.51	8.38	5	33.22	8.30	6	34.10	8.53	5	U=14963 P=.252
Safety & Injury Prevention	7	58.00	8.29	7	57.57	8.22	7	58.91	8.42	6	U=15167 P=.344
Physical Conditioning	4	33.53	8.38	5	33.51	8.38	5	33.58	8.40	7	U=16002 P=.907
Growth & Development	3	26.28	8.76	1	26.21	8.74	1	26.42	8.81	1	U=15893 p=.818
Teaching & Communication	8	69.20	8.65	2	68.62	8.58	2	70.40	8.80	2	U=15243 p=.384
Skills & Tactics	3	25.73	8.58	3	25.60	8.53	3	26.01	8.67	3	U=14459 p=.097
Organization & Administration	7	52.40	7.49	8	51.43	7.35	8	54.45	7.78	8	U=14297.5, p=.071
Evaluation	4	33.93	8.48	4	33.55	8.39	4	34.73	8.68	4	U=14031.5 p=.038

Note: UW mean = Unweighted mean

DISCUSSION

The mean scores for the 40 standards ranged from a minimum of 6.94 and maximum of 9.00 indicating that Malaysian sport coaches consider the standards important for them. There were no differences in all the standards according to gender except for four standards (standard 30 and 31, 37 and 38).

Philosophy and Ethics Domain

This domain states that coaches must establish a clearly defined coaching philosophy that encompasses appropriate ethical and safe behaviour for athletes. Sport coaches must prioritize

Malaysian Journal of Sport Science and Recreation
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opportunities for development over winning at all costs but still enable athletes to reach their full potential. Coaches must be able to demonstrate how athletes could be fair, caring, respectful, responsible and sensitive to teammates, opponents, spectators and officials. These values could be inculcated through their verbal and nonverbal forms of communication.

Sport coaches must prioritize ethical practices and behaviour, observe codes of conduct appropriate to their sport and coaching context, and teach ethical behaviour in their sport programme. Sport coaches could model appropriate ethical behaviour for their athletes. In addition, they must diligently teach and reinforce ethical behaviour among their athletes. At the same time, sport coaches should teach athletes how to make a decision using ethical approaches, determine the best course of action, and reflect upon their action to improve ethical decision-making.

Safety & Injury Prevention Domain

This domain emphasizes that sport coaches are responsible for creating a safe sport environment and ensuring the usage of necessary protective equipment for all athletes. Sport coaches are aware of physical conditions that predispose athletes to injuries. Sport coaches could recognize injuries and manage injuries appropriately as well as addressing the psychological implications of injury.

Previous research has reported poor first aid knowledge among sport coaches. In the assessment of coaches first aid knowledge, Baron et al. (2009) revealed only 5.2% of 290 coaches passed their assessment, while Castro (2010) reported that 11.4% of 114 youth soccer coaches passed their assessment on their decision-making ability in hypothetical athletic injury situations. Earlier, Gurchiek et al. (1998) reported that coaches were not aware of their responsibilities and limitations in terms of injury prevention, recognition, and rehabilitation. Singh and Surujlal (2010) reported limited risk management practices implemented by high school coaches; 21.6% of the coaches admitted inadequate supervision to athletes was not provided in locker rooms, weight rooms or gymnasiums.

Physical Conditioning Domain

The domain focuses on coaches' ability to design programmes of training, conditioning, recovery, and injury recovery of athletes. In addition, coaches must have the ability to teach and encourage proper nutrition for optimal physical and mental performance and overall good health.

According to LaPlaca and Schempp (2020), a competent strength and conditioning coach could design an effective periodized programme based on the athlete's needs and their sport, adjusting in the program where necessary based on current physical status, and injury. The competent coach could provide feedback to athletes immediately to improve performance. In a study of physical training knowledge of Jordanian Taekwondo coaches, Hammad et al. (2022) found that the coaches' knowledge was inadequate and obtained only about 28% of physical training knowledge. Similar results were reported by other researchers (Bhadana et al., 2015; García-Isidoro et al., 2021).

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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Evaluation Domain

This domain focuses on the ability of coaches in using a variety of evaluation techniques and strategies to evaluate team and individual performance, to assign roles or positions and establish individual goals, as well as to evaluate athlete motivation.

According to Martens (2012), sport coaches must have knowledge to evaluate their activities and athletes under their charge. In view of using a variety of evaluation techniques and strategies, Den Hartigh et al. (2018) examined the superiority of actuarial approach (predictions based on predefined decision rules) as compared to clinical method (predictions based on overall impressions of experts) that coaches used to select athletes. In addition, Den Hartigh et al. (2018) also emphasized samples approach (assessing athletes based on their behaviour in a representative context) to be used as compared to signs approach (assessing athletes, their skills are often tested separately in a standardized setting). In supporting the evaluation domain, Den Hartigh et al. (2018) suggested that to predict future sport performance, taking samples of athletes' behaviours in their sports environment may result in more valid assessments. Thus, Den Hartigh et al. (2018) suggested that selection of athletes should be more actuarial and sample-based.

Gender differences

In terms of gender, differences were found on four standards; two each from Domain 7 [Organization and Administration] (standard 30 and 31) and Domain 8 [Evaluation] (standard 37 and 38). For Domain 7, female coaches perceived efficiency of competition management, and public relation activities of the sport programme as more important than male counterparts. As for the Evaluation domain (Domain 8), female coaches perceived effective evaluation of team performance, and motivation in achieving team goals, as more important than male coaches.

Organization and Administration.

In a study of basketball players by Frey et al. (2016), it was indicated that female coaches were not efficient in competition management. Frey et al. (2016) revealed that female coaches were unorganized and non-authoritative; the practices were not structured and were not on a time schedule. In addition, female coaches introduced different practices in every practice which was difficult for athletes to follow. Thus, female coaches had a harder time trying to achieve practice objectives, and did not have similar discipline as compared to the male counterparts. On the contrary, male coaches were more structured and organized. Male coaches knew what exactly to be done; they would develop practice plans and execute every detail needed such as every possible strategy the opponent team could do and propose strategies to provide counter attacks. Previous research investigations have also reported that high school basketball athletes rated male coaches as more knowledgeable than female coaches and more likely to achieve future success (Parkhouse & Williams, 1986).

In another study, Kavussanu et al. (2008) examined coaching efficacy and coaching effectiveness and revealed that gender positively predicted game strategy efficacy; male

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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coaches had significantly higher levels of game strategy efficacy as compared to female coaches. Similarly, Marback et al. (2005) examined gender differences for coaching efficacy and showed that females had lower motivation and game strategy efficacy than males.

In addition, Santos et al. (2015) studied judo coaches and suggested that competition management is important. Coaches should understand their roles and tasks such as giving adequate or very little information during combat so as not to distract their judoka, giving no more than three elements that could help their judoka, and providing information to judoka verbally, non-verbally or a combination.

Evaluation domain.

Even though our findings reported that female coaches perceived effective evaluation of motivation in achieving team goals as more important than male coaches, this is not reflected in a previous study by Kavussanu et al. (2008). In a study of coaching efficacy and coaching effectiveness, Kavussanu et al. (2008) reported that coach gender did not significantly predict motivation efficacy. According to Maganini (2017) 96% of the 70 club basketball coaches in Italy agreed that the ability to observe and evaluate is important.

In addition, our finding also revealed that female coaches perceived effective evaluation of team performance as an important aspect in coaching. In that context, athletes' performance analysis is vital in providing information to athletes to help them comprehend their performance (Maslovat & Franks, 2008), to provide information to coaches to prescribe training and rehabilitation programmes (Carling, Bloomfield, Nelson, & Reilly, 2008). In addition, performance analysis of the oppositions could help coaches identify opponent's strength and weaknesses which would allow coaches an opportunity to plan team tactics and strategy (Groom, Cushion, & Nelson, 2011).

Ranking of the domains

The findings of this study revealed that the top three domains are Growth and Development', 'Teaching and Communication', and 'Skills and Tactics'.

Our findings are not supported by Hedlund, Fletcher and Dahlin (2018). In examining the perceptions of sport coaches and administrators regarding the eight domains and 40 standards contained in the National Standards for Sport Coaches (NSSC), Hedlund et al. reported that 308 sport coaches perceived 'teaching and communication', 'safety and injury prevention', 'philosophy and ethics' as their top three domains.

Growth and Development Domain.

This domain emphasizes sport coaches must be knowledgeable in ensuring athletes learn skill through development appropriate process, providing positive sport experience to facilitate the social and emotional growth of athletes, as well as providing opportunities for athletes to acquire responsibility and leadership.

One of the coach's responsibilities is to help their players grow as athletes. In supporting our findings on growth and development, Banwell and Kerr (2016) emphasized that athletes'

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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personal development should encompass psychological, emotional, social, cognitive, moral, and personal growth that contribute to whole person development. In addition, leading by example is also important for athletes; coaches should not only teach their athletes to train, to work, to cope in stressful situations but also to lead through a stressful situation. So, how coaches cope with adverse situations will be a good example for athletes. However, previous researchers (Coakley, 2011; Hartmann & Kwauk, 2011; Jones & Lavallee, 2009) have argued that sport in and of itself is insufficient to facilitate positive developmental outcomes among athletes. Additional measures need to be put in place; coaches need to specifically implement specific conditions conducive to development, then positive developmental outcomes could be made possible through sport participation.

Leadership training is important for athletes to develop as an individual and useful member of a society, and coaches play an important role in imparting or inculcating leadership abilities. However, the need of leadership in a sport team goes beyond the capability of an individual, and often require numerous other team members to assume different leadership roles (Duguay, Loughead, & Cook, 2019; Mertens et al., 2020, 2021). According to Leo et al. (2019) the most effective way to fulfil the diverse leadership needs within a team is to adopt a shared athlete leadership. In order to do that, coaches could apply the social network approach suggested by Duguay et al. (2019) where every athlete is viewed by at least one other teammate as providing leadership to them; athletes learned about numerous leadership behaviours and how these behaviours impacted the team's dynamics (Duguay, Loughead, & Munroe-Chandler, 2016). In addition, developing team captains need continuous support and guidance from coaches (Voelker, Gould, & Crawford, 2011). However, it was highlighted that coaches are not sufficiently equipped to cultivate the leadership skills and abilities of their athletes (Gould, Voelker, & Griffes, 2013).

Teaching and Communication Domain.

This domain requires sport coaches to develop and monitor goals and objectives for the athletes and programme. Coaches should be able to organize practice according to plan to enhance performance and maintain motivation as well as incorporate mental skills. In addition, coaches must be able to communicate effectively to enhance individual learning, group success, and enjoyment in the sport experience.

This domain is supported by Martens (2012). Martens emphasized that sport coaches must be able to prioritize goals and programmes, plan and organize training, familiar with the principles of skill training and learning of athletes and conversant with communication skills. In addition, Me'mari, Hamidi, and Jafarabadi (2012) identified technical, and communication skills as among the most important skills required by sport coaches. According to Cherubini (2019), coaches' communication skills are imperative to ensure the transfer of sport knowledge to develop athletes. However, Hensley and Chen (2019) revealed that female coaches demonstrated limited communication skills; they seemed to be less likely to provide positive feedback to athletes than their male counterparts.

Skills and Tactics Domain.

This domain emphasizes sport-specific knowledge of coaches. Coaches must have knowledge of the skills, elements of skill combinations, and techniques of the sport they coached. Sport

Malaysian Journal of Sport Science and Recreation
Vol. 18. No. 2. 290-309, 2022.
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coaches must also have the ability to identify, develop, and apply competitive sport strategies and specific tactics for competition. In addition, sport coaches must be able to use scouting methods for planning practices, game preparation, and game analysis.

According to SHAPE (2022) sport coaches must be well versed in all aspects of their sports such as rules, techniques, and competition strategies and tactics of their sport. In a study of perceptions of coaching competency in game-strategy, and technique by athletes, Kao, Hsieh, and Lee (2017) reported that athletes trusted coaches who could use effective tactical skills and strategizing skills to fulfill their achievement needs. In addition, coaches gained athletes' trust when they have technique competency in providing appropriate practice instruction, corrective feedback, and could detect skill errors to help athletes improve their skill and performance.

CONCLUSION

To our understanding, the present study was the first to examine the coaching standards in Malaysia. In this research, the sample of Malaysian coaches perceived all the 40 coaching standards to be important for effective coaching (mean scores were >5.00, mean values range from 6.94 to 9.00). Thus, these results show that the Sport Coaching Standards (SCS) are relevant to Malaysian sport.

SCS could serve the professional requirement in sport coaching in Malaysia. Coaching profession is dynamic in nature and sport coaches play a significant role in developing athletes and teams. As such there is a need to continuously adapt to the needs of athletes, and various stakeholders involved in the management of sport and make amendments in SCS.

In view of the agreement on the SCS by the coaches from 11 type of sports (soccer, frisbee, dodgeball, futsal, badminton, volleyball, basketball, Muay Thai, taekwondo, athletics, and gymnastics), by sport coaches from different levels of involvements (club coach, state coach, regional coach, and national coach), and by sport coaches with varied experiences in coaching (1-3 years, 4-6 years, 7-9 years, and 10 years and above), it could be assumed that the SCS could guide beginner, intermediate and elite sport coaches in Malaysia. The SCS could provide them with a clearer path and vision in developing sport in Malaysia. In this regard, previous researchers (Eichner, 2018; Roxas & Ridinger, 2016) concur that SCS is important for sport as sport coaches influence athletes on and off the courts, athletes' health and well-being, as well as athletes' personal development (Eichner, 2018; Roxas & Ridinger, 2016). Furthermore, the coaching profession has evolved and developed into a more complex profession, in which sport coaches assume a myriad of roles such as designing programmes based on the strengths, and ability of all athletes (Magnanini, 2017). planning and implementing practices, overseeing training and managing athletes and sport personnel (Bush & Silk, 2010; Duffy et al., 2011).

Pack et al. (2021) examined frequency of use of each SCS among beginner, intermediate and elite coaches, and reported that for 39 of 42 standards, there were differences in terms of usage; higher level coaches used most standards more frequently when compared to those with less expertise and experience. In view of coaches' agreement on all SCS in this study, the SCS is very useful for Malaysian coaches irrespective of their levels.

This research has numerous implications, the findings from this study could be used to assist sport coaches, sport trainers, curriculum planner, and other stakeholders. The SCS could help coaches understand their core responsibilities and enhance their confidence in carrying out their duty to improve sport in Malaysia. However, given that coaches' nature is so diverse in terms of knowledge, skills and experiences, it is imperative that National Sport Associations, Malaysian Institute of Sport, and Olympic Council of Malaysia to work together in adopting and/or adapting the SCS in the coaching setup in order to improve the coaching standard in Malaysia.

Contribution of Main author and Co – authors

Eng Hoe Wee (EHW); Shane Delwin Fernandez, (SDF), Wei Fong Cheng (WFC) and Hui Yin Ler (HYL)
a. Conceptualization EHW, SDF, HYL
b. Methodology EHW, SDF, HYL
c. Data collection SDF
d. Data curation EHW, SDF
e. Data analysis EHW, SDF, HYL
f. Draft preparation EHW, SDF, WFC, HYL
g. Review and editing EHW, SDF, WFC, HYL

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Conflict of interest

The authors declare no conflict of interest.

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