Identification of Learning Preferences of Badminton Players

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ABSTRACT

The purpose of this research study was to assess the learning styles of Badminton players and compare the learning styles based on gender and representation level of players. Hundred Badminton players (Mage= 20.31, age range= 18-25 years) participated and completedthe VARK questionnaire for athletes which was administered to assess their learning preferences. The results depicted that majority of the athletes displayed a Multimodal learning style (56%) followed by Auditory (18%), Kinaesthetic (18%) and then Read/Write (8%). No significant difference was found between gender and assessed sensory modality preference. There was no unimodal visual learner in the entire sample which indicated that the use of visual aids may not be very effective learning techniques for Badminton players. Identification of the learning styles of players would assist coaches when introducing new skills or fine-tuning established ones, which will further help in improving performance and outcomes. Trainers/Coaches who are able to use different methodologies to reach a range of preferences, within an athletic group, will have the potential to enhance athlete's performance.

INTRODUCTION

Sport Psychology is the scientific study of the psychological factors that are associated with participation as well as performance in sports and other types of physical activity. Learning styles aims to account for differences in individual's learning. The learning preferences of an individual are influenced by personal experiences, culture, development and maturity level. These learning styles are cognitive, physiological and affective behaviours that serve as an indicator of how athletes perceive, interact with and respond to the learning environment. Every athlete learns better through a different learning style. Some athletes are better in understanding visual content than auditory content, while some athletes understand auditory content like instructions or listening to somebody explaining it better than videos, diagrams or charts. However, if athletes don't understand the instructions given to them by their coaches, it might affect their performance. The relationship between learning styles and performance is quite strong as this relationship is studied by the sport psychologists. Learning in a sport

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setting provides distinct challenges like dependence on motor skills acquisition, on time-appropriate cues and instruction. If any delay happens between the coach and the athlete, it might result in an ill-timed motor response or a missed opportunity for an athlete. The language of instructions, appropriate motor responses and verbal cues used commonly by both the coaches and the athletes are necessary in the sport setting due to the time-sensitive nature of sport. Hence, it is important to understand the learning preferences of athletes as well as coaches.

Athletes who understand how they learn best can ask their coaches to provide them with the information in a particular way. Burnett (2006) suggested that the knowledge of learning preferences is the most important in the high school and development arena, where many athletes stop playing because the gap between instruction and performance becomes too great. If a new skill or tactic is presented in the athlete's preferred learning style, it provides a solid foundation on which to advance learning, using instruction via other learning styles (Baldwin &Eckmann, 2007)

Need of the Present Study

The present study was conducted to learn about the differences among the learning preferences of Badminton players playing at state, national and international level. The purpose of the research study was also to find out the gender differences in their learning preferences. Since, the studies on Indian athlete's learning preferences were limited, so the present study aimed at finding out their learning

preferences. Moreover, the learning preferences of athletes would further facilitate better coaching strategies for different athletes.

Objectives

1. To assess the learning preferences of Badminton players.
2. To assess the learning preferences of
   a. Male Badminton players
   b. Female Badminton players
3. To compare the learning preferences of male and female Badminton players
4. To assess the learning preferences of:
a. State level Badminton players
b. National level Badminton players
c. International level Badminton players
5. To compare the learning preferences of state, national and international level Badminton players.

METHODOLOGY
Participants

Younger adults (54 males, 46 females, Mage= 20.31, age range= 18-25 years) playing Badminton at state, national and international level participated in this study. The highest level of competition in the last 2 years was also considered for determining the level of the player.

Materials and Procedure

The participants completed the VARK questionnaire for athletes. The acronym VARK stands for Visual, Aural, Read/write, and Kinaesthetic sensory modalities that are used for learning information. VARK for athletes is a 13 item self-report inventory designed by Julia L. Dunn, Whitman College, Walla Walla, Charles Bonwell and Neil Fleming (2001), to measure the

learning preferences of athletes. The participants were recruited from different Badminton academies in Delhi. The participants belonging to different states of India were also recruited in national tournaments. VARK questionnaire for athletes was administered to assess their learning preferences.

Statistical Analysis

SPSS was used to calculate Chi-Square $(X2)$, to find out the significant differences among the learning preferences of male and female Badminton players, as well as state, national and international Badminton players. While, Descriptive statistics frequencies, percentages as well as pie charts were used to depict the learning preferences of Badminton players.

RESULTS & DISCUSSION

Every individual has the capability to learn, regardless of their academic aptitude; however, each individual learns in a different manner (Dunn and Griggs ,2000). Learning styles aim to account for differences in individual's learning. Basically, they are patterns which provide direction towards learning and teaching. The learning preferences of an individual is influenced by personal experiences, culture, development and maturity level. These learning styles are cognitive, physiological and affective behaviours that serve as an indicator of how athletes perceive, interact with and respond to the learning environment.

Descriptive statistics like percentage and frequency was used to compute the learning preferences. Chi-Square$(X2)$ analysis was used to find out whether any significant differences existed among the learning preferences of male and female Badminton players as well as to find out whether any significant differences existed among the learning preferences of state, national and international level Badminton players.
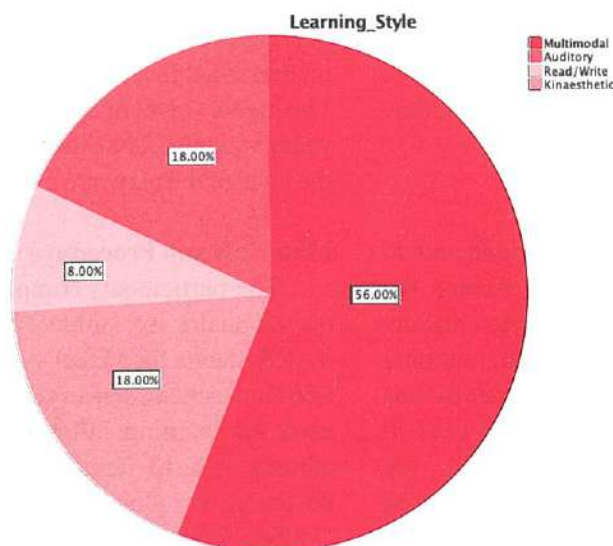

Fig-1: Percentage of learning preferences of Badminton players

Majority of the Badminton players had a Multimodal learning (56%) preference followed by Auditory (18%), Kinaesthetic (18%) and then Read/Write (8%). Braakhuis et al. (2015) also indicated a strong preference for Multimodal learning amongst the athlete cohort. Reid (1987) also stated that vast majority of the sample demonstrated the use of more than one major learning preference, identified as multimodal.

Table-1: Observed, Expected and Chi-Square Values for male and female badminton Players.

OBSERVED		Auditory	Read/Write	Kinesthetic	Multimodal	Total
	Males	10	4	7	33	54
	Females	8	4	11	23	46
	Total	18	8	18	56	**100**
EXPECTED		Auditory	Read/Write	Kinesthetic	Multimodal	Total
	Males	9.72	4.32	9.72	30.24	54
	Females	8.28	3.68	8.28	25.76	46
	Total	18	8	18	56	**100**

X^2 value	2.37
df	3
X^2 Critical Value (α=.05)	7.815

The Chi-Square ($X2$) analysis between gender and assessed sensory modality preference indicated no significant difference in the learning preferences of males and females. Male athletes were found to prefer MM learning (61%) followed by A (19%), K (13%) and R (7%).On the other hand, 50% of female athletes showed a preference for MM learning followed by K (24%), A (17%) and R (9%). The research done by Peters et al (2008) was in concurrence with our results as he stated that there was no real distinction between gender and learning preferences. It was also seen that the Read/Write learning preference was the least among both the genders. Female kinaesthetic learners (24%) were more than male kinaesthetic learners (13%). While, male auditory learners (19%) were slightly more than female auditory learners (17%). Research study done by Dunn (2008) demonstrated how each gender prioritised its respective learning preferences. His research showed that male and female athletes had similar profile patterns, but the degree of prioritization differed as female athletes demonstrated slightly higher kinaesthetic modalities as compared to male athletes (53% vs 46%), while male athletes demonstrated a slightly higher disposition towards auditory modalities (27% vs 22% in females). The trend shown in this study was in concurrence with our results.

Table-2: Observed, Expected and Chi-Square Values for State, National and International Level Badminton Players.

OBSERVED		Auditory	Read/Write	Kinesthetic	Multimodal	Total
	State	5	4	9	17	35
	National	3	3	7	20	33
	International	7	1	4	20	32
	Total	15	8	20	57	**100**
EXPECTED		Auditory	Read/Write	Kinesthetic	Multimodal	Total
	State	5.25	2.8	7	19.95	35
	National	4.95	2.64	6.6	18.81	33
	International	4.8	2.56	6.4	18.24	32
	Total	15	8	20	57	**100**
X^2 value	2.37					
df	6					
X^2 Critical Value (α=.05)	12.592					

Also, the Chi-Square (X2) analysis between level and assessed sensory modality preference indicated no significant difference in the learning preferences of state, national and international Badminton players. 48% State level players were found to prefer MM learning followed by 26% kinaesthetic, then 14% auditory and 11% read/write learners. Elite level players including national and international Badminton players consisted of 61% and 63% Multimodal learners respectively, which was much higher than State level (48%) players. While, international Badminton players were higher in auditory learning (22%) as compared to state and national level players (9% and 14% respectively). Only 3% international level players preferred read/write learning style. Kinaesthetic international Badminton learners were also lesser (12%) as compared to state and national level players. Read/write learners were the least

amongst the three levels (State level= 11%, National level= 9% and International level= 3%).Kinaesthetic learning is critical to athletic performance. By providing an opportunity to feel the rhythm of performance and skill, experiencing desired movements in game competition, the kinaesthetic learners get the best opportunity for enhancing athletic performance. (Miller et al, 2008). Hence, there is a need to enhance this style of learning at the international level.

The major finding of the above study was that there was no unimodal visual learner in the entire sample. The finding is consistent with Dunn (2008) who reported that 1% of the athlete population is comprised of visual learners. Braakhuis et al. (2015) also suggested that very few athletes have a visual learning-style preference. This result indicated that using visual aids like depiction of information in maps, spider diagrams, charts, graphs, flow charts, labelled diagrams, and all the

symbolic arrows, circles, hierarchies and other devices may not be very effective learning techniques for Badminton players. It is, however, difficult to promote a complete move away from visual methods as many multimodal preferences include the visual mode.Hence, identification of the learning preferences of athletes would assist coaches when introducing new skills or fine-tuning established ones, which will further help improving performance and outcomes.

CONCLUSION

The main findings of the study were that majority of the Badminton players were multimodal learners. There was no significant difference among the learning style preferences of male and female Badminton players. There was no significant difference among the learning style preferences of state, national and international level Badminton players. Also, no athlete had a unimodal visual learning preference.

FUTURE DIRECTIONS

Trainers/Coaches who are able to use different methodologies to reach a range of preferences, within an athletic group, have the potential to enhance athlete's performance. Hence, further research on the learning preferences of coaches and how it affects the performance of the athletes will enlighten more. Therefore, matching coaching methods to athlete's learning preferences will lessen the potential for miscommunication. Finding about coach-athlete interaction will also provide us an insight about the learning processes of athletes.

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