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A Survey of Table Tennis Coaches' Opinions of Some Criteria in Talent Identification

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INTRODUCTION

"Talent is a word we hear so often in sport. Whether it be parents, coaches, other athletes, managers or whoever, someone is always telling someone that he or she is talented or has heaps of natural ability" (Stojanovic, 1997). "Talent is the substance that a person or group has that sets them apart from other people" (Wikipedia). Jurgen Kozel (1996) describes talent as "extremely complex attribute, genetically determined, complicated in structure and subject to environmental conditions."

How can you find the sport which an individual is most suited to? In addition, how does the coach and sporting organization identify the athlete who is most likely to succeed in a given sport? "The answer is talent Identification (TID), although this method is far from perfect, it does offer athletes, coaches, and sporting organizations an opportunity to identify talent and direct it towards the sport which he/she is most suited" (Stojanovic 1997)

Talent Identification in sports is a process in which individuals, who are more likely to prosper in a given sport, are identified according to the results of the tests of specific factors (Hadavi, 2000). "TID was established as early as the late 1960,s. East European countries were the first to involve TID into their sporting programs and as early as the 1970,s they were using specific methods for identifying potentially high-class athletes. Gradually, in some western countries including Australia we have seen the adoption of TID" (Stojanovic 1997). Due to the increasing competitive factor and Specific sport programs, talent identification methods became very common (Baur, 1975, Woodman, 1985).

There have been variations of talent Identification methods employed in several countries such as German Democratic Republic (G.D.R), the Soviet Union (USSR) and China over the last three decades (Baur 1988,Jarver 1981, Peltola 1992, Thomson 1985, and Wu 1992). Talents can be analyzed and identified from three dimensions of physiological, somato-type, variable trainability, and motivation. He also believes that talent depends on two *internal* (heredity) and *external* (environment) factors (Gimble, 1976). Bompa (1985) states that level of performance in a sport is determined by three factors: 1. *Motor capacities* (psychomotor skills), *Endurance, Strength* and *Power* 2. *Physiological* 3. *Somato-type*

According to some studies, researchers categorize the effective characteristics in talent identification into six groups: l. *physiological* and *bio-mechanical* 2. *anthropometric*, 3. *biological* 4. *genetic* 5. *psychological* 6. *sociological* (Thomson 1992, Hanson 1989, Bevis 1985, Ward 1981).

Considering researches conducted out of Iran and studying more than seventy questionnaires answered by Iranian high-level coaches in 15 sports, Hadavi (2000) suggests a model of Talent Identification process in which the following characteristics are measured to identify talented individuals: *physiological, anthropometric, psychological, psychomotor, physical-motor, biological,* and *health condition*

Recognizing a talent in sports and accordingly in table tennis is very important. There is no doubt that identifying a talent is a complicated and heavy task. This requires not only the theoretical knowledge, but the experience gained through practice (Uzorinac, 1997). Potter and Anderson (1996) surveyed some table tennis players' perceptions of the ideal table tennis players. The players consistently identified *psychological*, *fitness*, and table tennis *specific*

characteristics in an ideal player. Limoochi (1996) reported that the main factors that are considered in selecting talented players in Beijing Sport School are *anthropometrics*, *psychological* and *physical-motor* factors.

Lapszo (2002) found that there was a very strong correlation between all the general factors of *psychomotor* efficiency and sporting rank for senior Polish National Table Tennis Team. "These general factors are probably strongly genetically conditioned. Accordingly, these factors can be treated as predispositions to investigate the degree of aptitude for table tennis." Djokic (2004), analyzing the heart-rate values in competition conditions for a sample of top players, concluded that modern table tennis requires both sub-maximal and maximal work and this puts pressure on both *aerobic* and *anaerobic* energy systems.

The purpose of this study is to determine some criteria and principles in talent identification based on the views of the table tennis coaches about anthropometrics, physical-motor ability, physiological, psycho-motor, psychological, and somato-type factors.

MATERIALS AND METHODS

Design

This is a descriptive study that aims to survey the opinions of the international table tennis coaches, concerning some important factors and characteristics in Talent Identification and finally establish a basis for determining the most important and effective elements.

Respondents

The respondents in this study included 40 international-level table tennis coaches (26 from Iran and 14 from other countries), who were selected on the random basis. The foreign coaches were chosen and sent questionnaires by the ITTF Research Committee. Among the coaches who were contacted, 26 from Iran and 14 from other countries filled out and returned the questionnaires.

Data-gathering

In order to obtain the coaches' views of important factors in talent identification, a *closed-form* questionnaire consisting of two sections requiring personal and specialized information was used. The questionnaire was designed by the researcher and got its content and face validity confirmed by experts in this field. The reliability was computed as 0.70.

RESULTS AND DISCUSSION

According to the data collected in the personal information section of the questionnaires, 55% of the respondents held a international degree in coaching. The average coaching experience of the respondents was 15.74 years.

About 50% of the respondents considered the ages 7-8 while 27.5% of them suggested 5-6, and 17.5% regarded 9-10 as the most suitable period for Talent Identification. (Table 1)

Table 1 – Distribution and percentage of the coaches' views about the most suitable Age for Talent Identification

Ages / Coaches	5-6	7-8	9-10	11 & over
Distribution	11	20	7	2
Percentage	27.5	50	17.5	5

According to the analyses illustrated in table 2, It was found that 66.7% of the respondent chose *observation method* and 48.1% ranked the scientific method as their priorities in Talent Identification.

Table 2 - Distribution and percentage of the coaches' priorities of Methods for Talent Identification

Method / Coaches' Priorities		Festivals & Competitions	Scientific Method	Observation Method	Experimental Method
1st Priority	Distribution	7	13	20	10
	Percentage	22.6	48.1	66.7	37
2nd Priority	Distribution	14	2	4	5
	Percentage	45.2	7.4	13.3	18.5
3rd Priority	Distribution	3	9	5	6
	Percentage	9.7	33.3	16.7	22.2
4th Priority	Distribution	7	3	1	6
	Percentage	22.6	11.1	3.3	22.2

On the whole, 34.2% believed that the Educational Department/ Ministry has the prime responsibility for Talent Identification.

Table 3 illustrates that among *anthropometric* characteristics, *standing height* was considered as the most effective element by 21% of the respondents.

Table 3 - Distribution and percentage of the coaches' priorities of Anthropometric elements for Talent Identification

Features / Coaches	Standing height	Weight	Length of straight arms	Length of arm	Length of forearm	Ratio of trunk to legs	Ratio of trunk to standing height	Pelvis width	Sitting height
Distribution	8	4	4	1	2	3	1	6	4
Percentage	21	10.5	10.5	2.6	5.3	7.9	2.6	15.8	10.5

Furthermore, concerning somato-type factor, 59.4% of the coaches take Mesomorph as the most suitable somato-type for Table Tennis.

Among *psychological* factors illustrated in table 4, *intelligence* was taken as the most prominent element by 57.5% of the respondents. *Reaction time* with 21% and *decision making* with 13.2% respectively took the second and third place of importance for Talent Identification.

Table 4 - Distribution and percentage of the coaches' priorities of Psychological elements for Talent Identification

Features / Coaches	Intelligence	Anticipation	Decision making	Recognition	Reaction time
Distribution	23	3	5	3	8
Percentage	57.5	7.9	13.2	7.9	21

Among *psychomotor* factors, *motivation* was considered by 50% of the coaches as the primary element for identifying the talented; *self-confidence* by 30%; *concentration* by 27.5%, *handling mental pressure* by 22.5%, and *hard-working* by 17.5% of the respondents. (Table 5)

Table 5 - Distribution and percentage of the coaches' priorities of Psychomotor elements for Talent Identification

Features / Coaches	Motivation	Concentration	Self-confidence	Handling mental pressure	Boldness	Arousal	Attention	Hard working
Distribution	20	11	12	9	2	4	1	7
Percentage	50	27.5	30	22.5	5	10	2.5	17.5

Based on the results shown in table 6, among the *physical-motor* factors, *agility* was taken by 60% of the coaches as the most dominant characteristics for the Identification of talented individuals. *Explosive power* with 37.5% and *coordination* with 23.5% were established as the next priorities.

Table 6 - Distribution and percentage of the coaches' priorities of Physical-motor elements for Talent Identification

Features / Coaches	General strength	General speed	Flexibility	Agility	Muscular endurance	Explosive power	Coordination	Dynamic balance	General endurance
Distribution	2	5	2	24	---	15	9	1	6
Percentage	5	12.5	5	60	---	37.5	23.5	2.5	15

Table 7 shows that among *physiological* factors, *ATP-PC* was chosen by 45.2% of the respondents as the most important element for identifying talented players. *Fast tissues in bat arm* with 15.3% and *heart-rate threshold* with 12.9% ranked respectively as the second and third important elements for Talent Identification.

Table 7 - Distribution and percentage of the coaches' priorities of Physiological factors for Talent Identification

Features / Coaches	Lactate threshold	VO2-Max	Heart-rate threshold	ATP-PC	Percentage of fast tissues in bat arm	Percentage of slow tissues in bat arm	Percentage of fast tissues in legs	Percentage of slow tissues in legs
Distribution	3	3	4	14	8	2	3	4
Percentage	9.7	9.7	12.9	45.2	15.3	6.4	9.7	12.9

In conclusion, *anthropometric* factors were the most important in the views of 36.1% of the respondents. *Psychological* factors with 33.3%, *Psychomotor* with 25%, *physical-motor* with 13.9%, *physiological* with 11.1%, and *somato-type* with 8.3% respectively fall in the next orders. (Table 8, Figure 1)

Table 8 – Distribution and percentage of the coaches' views about the most effective factors in Talent Identification

Factors / Coaches	Anthropometric	Physiological	Physical-motor	Psychological	Psychomotor	Somato-type
Distribution	13	4	5	12	9	3
Percentage	36.1	11.1	13.9	33.3	25	8.3

CONCLUSION

Although there is no evidence of any similar research on talent identification specifically in table tennis, the results of present research, in general, are comparable with the findings of some studies by many researchers such as Bompa (1985), Russel (1989), Thomson (1992), Hadavi (2000), and Ibrahim (2003), etc., who considered Talent Identification of great importance in different sports.

This study is in line with some research, particularly, on demands and requirements of table tennis like physiological, psychological, psychomotor, physical-motor elements, etc. by Potter & Anderson (1996), Limoochi (1996), Givehchi (1997), Lapszo (1997), Kondric & Leskosek (2001), Bawden, Waldner & Maynard (2001), Djokic (2002, 2004), etc.

Despite the fact that in the history of table tennis championship, there have been some elite players, world and Olympic champions who lacked some typical table tennis characteristics (physical or anthropomeric, for instance), by utilizing some other capabilities, styles and techniques, and modern equipment (rubber & blade), they have compensated for their shortcomings and have made outstanding achievements.

On the other hand, we are aware that in the countries with small population, the need for this compensation is highly felt. However, concerning table tennis demands and fast development of this sport throughout the world, paying due attention to Talent Identification is crucial.

Based on the findings of this study, the researcher presents her proposed Talent Identification Process in Table Tennis in the form of a flow-chart. (Figure 2)

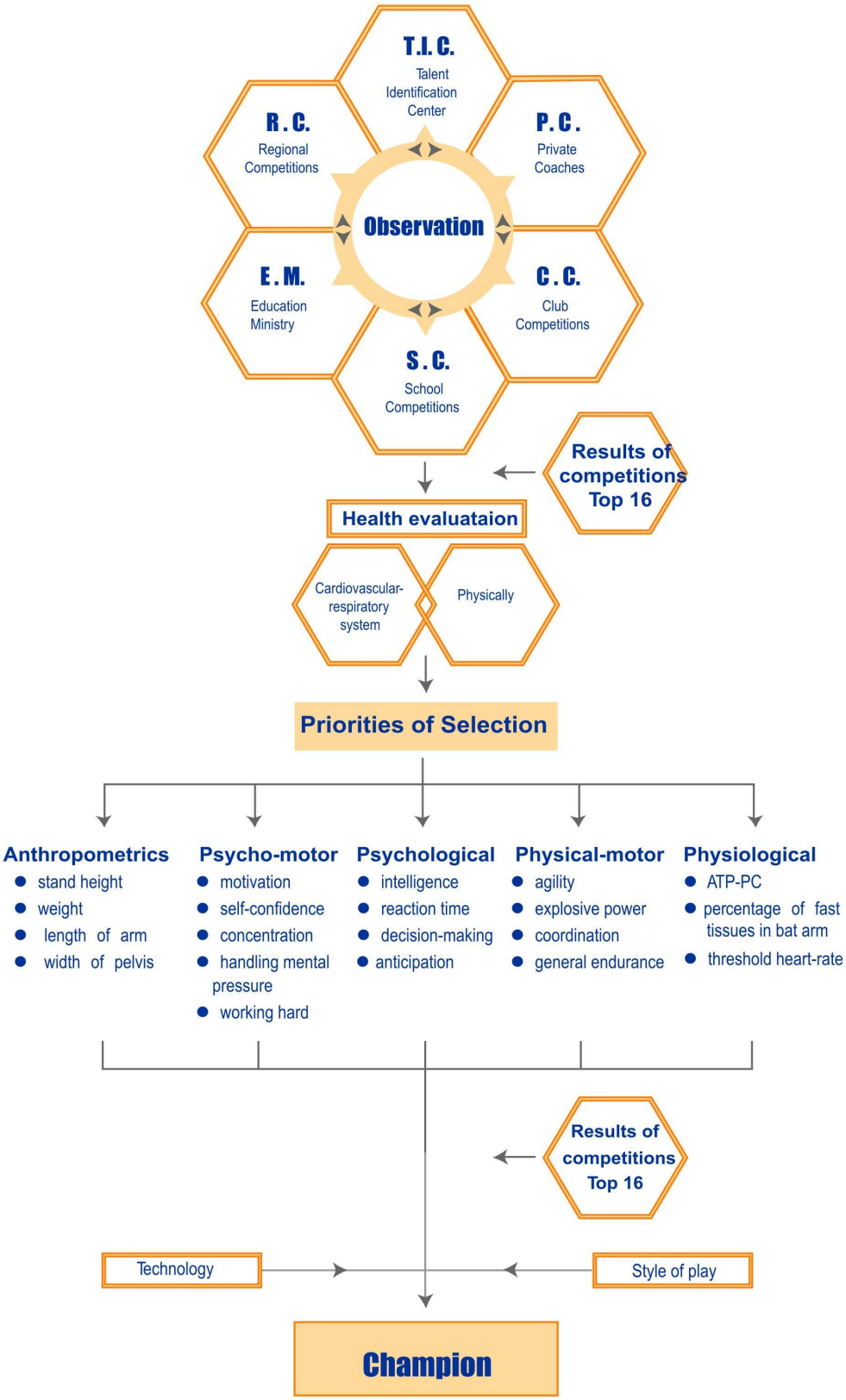

Figure 2 – Proposed Talent Identification flow-chart

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REFERENCES

[1] Alabin, V., Nischt, G. and Jefimov, W. (**2001**). Talent Selection. Modern Athlete and Coach. Talent Identification. http://www.faccioni.com/Reviews/talentid.htm
[2] Bawden, M. Waldner, J.(**1997**). Science and Racket Sports ll. The perception of factors that contribute to world class table tennis performance. Center of sport / Exercise science. Printed in Great Britain. http://www.ittf.com/ittf-Misc/world-congress-of science/Booklet.htm
[3] Bompa, T O.(**1985**). Talent identification. Science peridical on Research and technology in Sport. Ottawa,Feb 1985,Pg. 1.
[4] Bompa, T.O. (**1997**). Identifiying the athletic talent and the planning of a long term program. Talent Scouting National Coaches Convention of Canada.
[5] Djokic, Z. (**2003**). Table Tennis Sciences. No. 4&5. Basic and special physical preparation of top table tennis players. Printed in Japan.
[6] Djokic, Z. (**2004**). Science and Racket Sports lll. Heart-rate monitoring of table tennis playing. Eighth International Table Tennis Federation Sports Science Congress. Printed in Great Britain. http://www.faccioni.com/reviews/talented.htm
[7] Hadavi, F. (**2000**). The standards of talent identification in sports. Printed by Physical Education Organization of I.R. Iran. Tehran.
[8] Ibrahim, Kh. (**2004**). The process of talent identification in sports. Printed by Bamdad Ketab, Tehran.
[9] Limoochi, S. (**1996**). A report of Beijing Sports School – Table Tennis School. Printed by National Olympic Committee of I.R. Iran. Tehran.
[10] Kondric, M. (**1996**). International Journal of Table Tennis Science, No.3 . The expert system for orientation of children in to table tennis in the Republic of Slovenia.
[11] Kondric, M. (**2002**). Table Tennis Sciences No. 4 & 5. Computer supported system for the evaluation of fitness of Slovenian youth table tennis players. Printed in Japan.
[12] Lapszo, J. (**1997**). Table Tennis Science No.4&5. Simulation of table tennis play -- simulatory, diagnostic and training possibilities. Printed in Japan.
[13] Lejeune, M. (**1994**). Effect of mental practice on table tennis performance. Percept motskills.Aug,79 (1pt2): 627-410. www.ncbi.nlm.nih.gor/entrez/query.fcgi?cmd. Pubmed.
[14] Malina, R. (**1997**). Talent Identification and selection in Sport-spotlight spring. http://ed-web3.educ.msu.edu/ysi/spotlight 1997/talent.htm/
[15] Potter and Anderson (**1996**). Science and racket Sports ll. Using performance profiles with a regional junior table tennis squad. Printed in Great Britain.
[16] Stojanovic, J. (**1997**). Talent Identification and its role in tennis. http://www.faccioni.com/reviews/tennisID.htm.
[17] Thomson, R. and Beavis, N. (**1985**).Talent Identification in sport. Report on be half of the Otagho University and Community Sported Trust for the New Zealand Sports Foundation Inc, Wellington, New Zealand.
[18] Weinberg, RS.(**1994**). The effectiveness of psychological interventions in competitive sports. Department of physical Education, health and sport studies, Miami University, Ohio. Sports Med.
[19] Wikipedia (**2003**). www.4reference.net/encyclopetias/wikipedia/Talent .html GFDL: http://www.gnu.org/copyleft/fdl.html
[20] Zdenko, U. (**1997**). Table Tennis ABC. Printed in Croatia.