Asian Journal of Education and Training
Vol. 6, No. 1, 35-40, 2020
ISSN(E): 2519-5387
DOI: 10.20448/journal.522.2020.61.35.40

Examining the Multiple Intelligence Types Based on Academic Success, Age, Gender and Job Experience of Physical Education Teachers in State Schools in Turkey

Levent Bayram[1]
Deniz Özge Yüceloğlu Keskin[2]

[1,2]*Ondokuz Mayıs Üniversity Yaşar Doğu, Faculty of Sport Sciences, Turkey.*
[1]*Email: levent.bayram@omu.edu.tr Tel: +903623121919/5632*
[2]*Email: ozge_yuceloglu@hotmail.com Tel: +90623121919/5653*


(✉ Corresponding Author)

Abstract

The current approach to education has highly changed compared to the past approach where individual differences and potentials were overlooked. Today, there is an education system that reveals the potentials of individuals, shapes the strong sides and supports the weak sides. This approach is based on the multiple intelligence theory. The aim of this study is to examine the profiles of educators based on the multiple intelligence theory. This is a scan model descriptive research. It was carried out in 2017 in four cities in Turkey (Istanbul, Ankara, Samsun, Gaziantep) with the participation of 110 physical education teachers (46 female, 64 male) whose ages were 22-42 (an average age of 31,98). To collect data, the reliability index was determined as .81, and the "Multiple Intelligences Inventory", translated into Turkish by Oral (2001) was used. The significance level was considered as ($p<0.05$). To compare the multiple intelligence type points based on the gender and age variables, the t test and Mann Whitney U test were used for paired comparisons while the Kruskal Wallis and OneWay ANOVA test was used for multiple comparisons. The significance level was considered as ($p<0.05$). As a result of the study, a statistically significant difference was not detected in multiple intelligence point averages based on gender, job experience and academic achievement variables while a positively significant difference was found in the social intelligence type based on the age variable.

Keywords: Multiple intelligence theory, Intelligence types, Education system, Sports, Teaching physical education, Academic achievement.

Citation | Levent Bayram; Deniz Özge Yüceloğlu Keskin (2020). Examining the Multiple Intelligence Types Based on Academic Success, Age, Gender and Job Experience of Physical Education Teachers in State Schools in Turkey. Asian Journal of Education and Training, 6(1): 35-40.
History:
Received: 28 October 2019
Revised: 2 December 2019
Accepted: 7 January 2020
Published: 3 February 2020

Publisher: Asian Online Journal Publishing Group

Acknowledgement: All authors contributed to the conception and design of the study.
Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no conflict of interests.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.
Ethical: This study follows all ethical practices during writing.

Contents

Contribution of this paper to the literature

This study contributes to the existing literature by investigating the multiple intelligence types of physical education teachers working in state schools in Turkey and examining how these intelligence types are affected by the academic success, age, gender and job experience variables.

1. Introduction

Education is an important term for the development of individuals, society and the world. The rapid change that is taking place in the world today deeply affects individuals and society. In order to keep up with this change, it is necessary to be equipped in many different ways. Indeed, it is not enough for individuals to be equipped only cognitively. This will only cause the individual to be crushed under enormous amounts of information. Thus, it is necessary for individuals to be satisfied and equipped both cognitively and affectively. Education is the determinant of the future, so more attention should be given to its affective aspect. This can be done by focusing a little more on the affective aspect of the functionality of educational activities that are mainly directed towards cognitive goals (Gömleksiz and Kan, 2012). Modern education considers the individual as a whole with all aspects such as physical, mental, emotional and social. In this sense, what is expected from education is to reveal the hidden power in individuals and help to improve it to the best extent. Thus, it is possible to integrate productive and physically and mentally happy individuals into society (Yenal *et al.*, 1999). Fast technological developments are raising the importance of physical education and sports in human life. Due to this, it is the only discipline that can help gain most of matters that make up the aims of education because physical education and sports is a field that improves an individual physically, emotionally and socially.

Every function and action that is required for human life is formed in the body of an individual. There is a close connection between physical development and human behavior. Disorders, instabilities and declining in physical development affect behavior (Başaran, 1991). Movement, on the other hand, is the best way to improve as a whole and adapt to society. Humans use their senses to activate perceptions and thoughts, and they use these thoughts to control their bodies. In this system, muscles are affected by thoughts and feelings. In other words, muscles are affected by psychology while psychology is affected by muscles. This interaction and communication continues throughout life. Therefore, developing the ability to move to do sports is the biggest contribution to the overall development of a child (Camlıyer and Camlıyer, 1997). Besides playing an important role in child development, physical education and sports activities contribute to the social and emotional development of the child. These activities functionalize abilities such as creativity and leadership, and they develop certain personality traits like being competent, determined, compatible, productive, hardworking, respectful and understanding, following rules, cooperating, and being independent and self-disciplined.

The teacher is one of the main components of the teaching-learning process. They are people who constantly interact with students, apply the education program and instruct it, and evaluate both students and teachers. The qualifications of the teacher affect the quality of these processes to a great extent.

A teacher should be an individual who can make use of certain conditions in the best way in order to meet the constantly-changing needs of society and educational institutions, works for perfection, uses creativity and flexibility, and does not have ideological obsessions that can harm the main principles of the society. Being open to cooperation and sharing are among the characteristic traits of a modern teacher. As teachers are people who educate students with different intelligence and personality types from different socio-culture backgrounds, and encourage and support them to learn, creativity is perhaps one of the most important traits of a modern teacher (Yetim and Göktaş, 2004).

Howard Gardner brought a new aspect to the discussion about intelligence with this Multiple Intelligence Theory in 1983. According to Gardner, intelligence is the ability to create a product that is valued within one or more cultural settings, to find effective solutions to real life problems, and to discover new or complex problems that need to be solved (Saban, 2001). In the multiple intelligence theory, which states that intelligence differs based on biological and cultural effects, there are 8 different intelligences: Verbal-Linguistic, Logical-Mathematical, Spatial-Visual, Musical-Rhythmic, Bodily-Kinesthetic, Interpersonal-Social, Intrapersonal and Naturalist (Gardner, 1993). Besides being different in terms of producing information, adapting to the environment, reasoning and thinking, these intelligences can show difference in problem-solving (Kiremitci and Canpolat, 2014). According to the multiple intelligence theory, a healthy individual possess all of these intelligences but not at the same level. When the individual encounters a problem, they use the dominant intelligence type to solve the problem. However, the intelligences work in cooperation with one another (Temiz, 2007). If the educator does not consider personal traits while preparing educational activities, it is not possible to serve all intelligence types. Due to this, not all students will be able to comprehend, and this will prevent the interest and abilities of individuals to be revealed. In this situation where individual abilities and intelligences do not have the chance to improve, there will not be equality in education. Thus, students will have jobs which are not convenient for themselves, and this will eventually cause unfavorable issues in the future (Güleryüz, 2002).

Since physical education and sportive activities in school highly support student development in many ways, the significance of the physical education teacher, who plans, applies, instructs and evaluates the lessons and activities, can be seen more clearly. Due to the fact that they are responsible for the physical development young students who have different abilities, personalities, interests, social and cultural backgrounds, mental and emotional structures, and also experience social conflict and dilemma, the physical education teacher has a significant role. Being able to apply forms of education based on different kinds of personal interests, needs and learning styles, and knowing how to communicate effectively and solve problems based on personal traits in situations of conflict shows the synthesis of the intelligence and creativity of an educator. Physical education teachers can help students benefit from lessons and activities by using their own multiple intelligence potentials in their teaching and problem-solving methods. This study aims to examine the multiple intelligences of physical education teachers in state schools based on academic success and certain demographic features.

2. Method

2.1. Sample and Procedure

This research was conducted in 2017 in four cities of Turkey (Istanbul, Ankara, Samsun, Gaziantep) with a total of 110 physical education teachers (46 female, 64 male) in state schools whose ages range between 22-42, with an age average of 31.98. This research is a descriptive study.

2.2. Measures

To collect data, the "Multiple Intelligences Inventory", which was translated into Turkish by Oral (2001) was used along with descriptive questions to the participants such as age, gender, job experience, education of mother and father, and Bachelor's degree GPA in order to determine academic success.

2.3. Multiple Intelligences Survey

The reliability of Multiple Intelligences Inventory (MII) was calculated as .79 by Oral (2001). This coefficient shows that MII has high reliability. The reliability of the MII applied in this research was found as .81. MII is a 5-point Likert-scale that is made up of 80 items. It consists of statements based on the eight intelligences introduced by Gardner. The total point received by the marked items of a single intelligence type shows the sufficiency of an individual in that area. The participating teachers read certain statements based on intelligence types and marked the option which best described them. Each intelligence type is represented by 10 statements. The point range that can be received from one of the eight intelligence types is 10-50, and the point range that can be received from the entire inventory is 80-400 (Aşçı, 2003).

2.4. Data Analysis

The data was analyzed with the SPSS 22 packet program. The Kolmogorow test was used to determine whether the data showed a regular range or not. The t test and Mann Whitney U test were used for paired comparison while the Kruskal Wallis and OneWay ANOVA test was used for multiple comparisons to compare the multiple intelligences points of the physical education teachers based the gender and age variables. Then the descriptive statistics of the variables (average, standard deviation, median, minimum and maximum values) were made. The level of significance was accepted as ($p<0.05$).

3. Findings

Table-1. Comparison of the score averages of multiple intelligence types according to gender variable.

Intelligences Area	Gender	N	Mean	Sd	Median	Min	Max	P
Verbal – Linguistic	Female	46	33,65	4,691	34,00	22	42	,819
	Male	64	33,88	5,245	33,00	22	46	
Logical – Mathematical	Female	46	34,61	4,982	36,00	23	44	,159
	Male	64	35,92	4,651	36,50	24	48	
Visual – Spatial	Female	46	35,87	4,534	37,00	27	46	,444
	Male	64	35,16	4,983	35,00	21	45	
Musical – Rhythmic	Female	46	33,50	6,221	35,00	20	43	,876
	Male	64	33,30	7,019	34,00	16	44	
Naturalistic	Female	46	35,74	3,672	36,00	28	42	,161
	Male	64	36,66	3,123	37,00	28	42	
Interpersonal	Female	46	34,63	4,814	35,00	21	44	,098
	Male	64	36,20	4,909	36,00	20	45	
Bodily – Kinesthetic	Female	46	37,48	4,510	38,00	28	47	,651
	Male	64	37,86	4,231	39,00	30	46	
Intrapersonal	Female	46	35,35	4,223	36,00	27	48	,442
	Male	64	35,91	3,360	36,00	27	44	

Note: $p>0.05$.

According to Table 1 there is not a statistically significant difference between the intelligence type point average of male and female teachers. ($p>0.05$).

According to Table 2 a statistically significant difference was found in the interpersonal intelligence point average of the participants based on age ($p<0.05$). The interpersonal intelligence point average in teachers aged 34-42 was found to be higher when compared to the younger group.

Table 3 shows the comparison of intelligence type and job experience. Based on this, there is not a statistically significant difference between job experience and intelligence type point averages ($p>0.05$).

According to Table 4, a statistically significant difference was not found in the intelligence type point average of the participants based on their graduation academic average ($p>0.05$).

4. Discussion

As it can be seen in the table that shows the multiple intelligence types of the physical education teachers based on gender, there is not a significant difference between genders based on intelligence type. On the other hand, it can be seen that the social intelligence points of male physical education teachers are higher when compared to their female colleagues. Among researches that compare genders based on intelligence types, there are studies that show both similar and opposite results compared to our study.

Table-2. Comparison of the score averages of multiple intelligence types with regard to age group variable.

Intelligences Area	Age	N	Mean	Sd	Median	Min	Max	P
Verbal – Linguistic	22-28 age	35	34,00	6,005	34,00	22	46	,615
	29-33 age	31	33,03	3,665	33,00	24	42	
	34-42 age	44	34,14	4,991	34,00	24	45	
Logical – Mathematical	22-28 age	35	34,00	5,325	35,00	23	44	,109
	29-33 age	31	35,68	4,908	36,00	24	48	
	34-42 age	44	36,25	4,138	37,00	28	44	
Visual – Spatial	22-28 age	35	34,51	5,933	34,00	21	46	,170
	29-33 age	31	35,06	4,211	36,00	24	42	
	34-42 age	44	36,48	4,014	37,00	27	44	
Musical – Rhythmic	22-28 age	35	34,43	6,951	36,00	16	44	,232
	29-33 age	31	33,77	5,881	35,00	18	44	
	34-42 age	44	32,27	6,936	33,00	18	44	
Naturalistic	22-28 age	35	35,89	3,332	37,00	28	40	,280
	29-33 age	31	35,81	3,459	36,00	30	42	
	34-42 age	44	36,91	3,333	37,50	28	42	
Interpersonal	22-28 age	35	35,91	4,901	36,00	27	45	**,045**
	29-33 age	31	33,74	5,680	34,00	20	42	
	34-42 age	44	36,52	4,020	36,00	26	44	
Bodily – Kinesthetic	22-28 age	35	38,67	4,690	38,00	28	47	,454
	29-33 age	31	37,42	4,015	39,00	30	45	
	34-42 age	44	38,41	4,250	38,00	29	46	
Intrapersonal	22-28 age	35	34,97	3,815	36,00	27	44	,381
	29-33 age	31	35,81	3,280	36,00	27	42	
	34-42 age	44	36,14	3,968	36,00	28	48	

Note: p>0.05.

Table-3. Comparison of the score averages of multiple intelligence types with regard to job experience variable.

Intelligences area	Vocational time	N	Mean	Sd	Median	Min	Max	P
Verbal – Linguistic	1-4 years	53	33,40	5,436	33,00	22	46	,536
	5-9 years	28	33,57	4,606	34,00	24	41	
	10-14 years	14	33,79	3,556	34,00	28	40	
	15+ years	15	35,53	5,317	36,00	27	45	
Logical – Mathematical	1-4 years	53	34,55	5,483	36,00	23	48	,355
	5-9 years	28	36,45	3,825	36,50	29	42	
	10-14 years	14	35,71	4,159	36,50	28	42	
	15+ years	15	35,93	4,367	36,00	30	44	
Visual – Spatial	1-4 years	53	34,53	5,507	34,00	21	46	,214
	5-9 years	28	36,50	3,854	37,00	30	44	
	10-14 years	14	35,43	4,201	35,50	27	42	
	15+ years	15	36,80	3,707	37,00	30	42	
Musical – Rhythmic	1-4 years	53	34,04	6,796	35,00	16	44	,275
	5-9 years	28	33,46	5,607	34,50	20	44	
	10-14 years	14	30,43	7,643	29,00	19	43	
	15+ years	15	33,67	7,017	36,00	18	43	
Naturalistic	1-4 years	53	36,19	3,229	37,00	28	42	,348
	5-9 years	28	35,68	3,732	36,00	30	42	
	10-14 years	14	37,71	2,335	38,00	34	42	
	15+ years	15	36,33	3,922	37,00	28	42	
Interpersonal	1-4 years	53	34,89	5,567	35,00	20	45	,081
	5-9 years	28	34,96	4,757	35,50	24	44	
	10-14 years	14	38,50	3,276	39,00	34	44	
	15+ years	15	36,20	2,731	36,00	31	42	
Bodily – Kinesthetic	1-4 years	53	37,17	4,318	38,00	28	47	,599
	5-9 years	28	37,82	4,555	39,00	29	46	
	10-14 years	14	39,14	3,939	38,00	34	45	
	15+ years	15	38	4,392	37,00	31	44	
Intrapersonal	1-4 years	53	35,32	3,694	36,00	27	44	,100
	5-9 years	28	34,93	2,567	35,50	30	40	
	10-14 years	14	36,43	3,817	37,00	28	42	
	15+ years	15	37,60	5,068	39,00	30	48	

Note: p>0.05.

Table-4. Comparison of the score averages of multiple intelligence types with regard to their graduation academic average variable.

Intelligences Area	Graduation academic average	N	Mean	Sd	Median	Min	Max	P
Verbal – Linguistic	2.50 – 2.99	36	33,72	5,086	33,50	22	44	,326
	3.00 – 3.49	46	33,13	5,036	32,00	22	46	
	3.50 – 4.00	28	34,93	4,799	35,00	24	45	
Logical – Mathematical	2.50 – 2.99	36	35,31	4,653	36,00	24	44	,972
	3.00 – 3.49	46	35,50	5,328	36,00	23	48	
	3.50 – 4.00	28	35,25	4,257	35,00	28	44	
Visual – Spatial	2.50 – 2.99	36	35,72	5,568	37,00	21	45	,592
	3.00 – 3.49	46	34,91	4,613	34,50	27	46	
	3.50 – 4.00	28	36,00	4,018	36,50	26	42	
Musical – Rhythmic	2.50 – 2.99	36	34,64	6,015	35,00	19	44	,431
	3.00 – 3.49	46	33,43	6,807	34,50	16	44	
	3.50 – 4.00	28	31,68	7,087	33,00	18	43	
Naturalistic	2.50 – 2.99	36	36,25	3,451	37,00	28	42	,883
	3.00 – 3.49	46	36,13	3,250	37,00	30	42	
	3.50 – 4.00	28	36,54	3,595	37,00	28	42	
Interpersonal	2.50 – 2.99	36	35,61	4,871	35,50	21	45	,973
	3.00 – 3.49	46	35,61	5,331	36,00	20	44	
	3.50 – 4.00	28	35,36	4,373	36,00	24	42	
Bodily – Kinesthetic	2.50 – 2.99	36	37,78	4,065	39,00	31	47	,431
	3.00 – 3.49	46	37,15	4,331	37,00	28	44	
	3.50 – 4.00	28	38,50	4,686	39,50	29	45	
Intrapersonal	2.50 – 2.99	36	35,50	2,793	35,50	31	44	,103
	3.00 – 3.49	46	35,04	4,351	36,00	27	48	
	3.50 – 4.00	28	36,93	3,516	38,00	30	44	

Note: $p>0.05$.

In the research conducted by Tekin (2007) significant differences were not found in terms of verbal-linguistic intelligence, spatial intelligence, social intelligence, intrapersonal intelligence and naturalist intelligence while a significant difference was found in terms of musical-rhythmic intelligence and bodily-kinesthetic intelligence. In this study, the bodily-kinesthetic intelligence of females was found to be higher. There is a similarity between this study and ours in terms of verbal-linguistic intelligence, spatial intelligence, social intelligence, intrapersonal intelligence and naturalist intelligence. However, there is no similarity between the two studies in terms of musical-rhythmic intelligence and bodily-kinesthetic intelligence. In the study conducted by Loori (2005) male and female participants were examined separately according to the logical-mathematical intelligence type. Based on the averages, it was found that this intelligence type was higher in male participants. The result is not parallel to our findings. Kocabaş (2003) carried out a research with 46 preschool teacher candidates and did not find a significant difference between genders based on musical-rhythmic intelligence. Hamurcu *et al.* (2002) conducted a study to determine the profiles of 362 senior students studying Science Teaching and Elementary School Teaching based on the Multiple Intelligence Theory. This study did not find a significant difference between genders based on verbal-linguistic intelligence. In the research done by David (2003) a significant difference was not found between genders in terms of naturalist intelligence. These results are similar to our findings.

When intelligence types are examined according to age groups Table 2 we can see a statistically significant difference among age groups in terms of social intelligence points ($p<0.05$). The social intelligence points of teachers aged 34-42, which is the oldest age group, are higher compared to younger groups. It was also found that the social intelligence points of teachers aged 22-28, which is the youngest group, is higher than the points of teachers in the 22-33 age group. Gracious and Shyla (2012) carried out a study with prospective teachers and found that the verbal-linguistic intelligence and naturalist intelligence points of the participants aged 22 and above were higher. A difference was not found in the points other intelligence types in terms of age. These results are similar to our findings.

It was found that students mainly took teachers aged 22-28 as role models and preferred to communicate more with this age group compared to older teachers. It can be considered that the teachers in this group are not responsible for a family due to their age and have more time to spend with their peers. This anticipated situation may cause social intelligence to be more dominant in that period of life. The reason why the 34-42 age group has higher social intelligence compared to younger groups can be due to the fact that they have more experience in social interaction, they can effectively convey their life experience, they play a role as a guide and counselor, and they are at an age where they are consulted, and their thoughts are valued.

Based on Table 3, which examines intelligence type points based on job experience, there is no significant difference in this area. Despite this, it can be seen that the social intelligence points of teachers with 10-14 years of experience are higher. It can be said that the amount of time given to the job, increasing experience and communication skills tend to boost social intelligence, and this will begin to happen after the tenth year of teaching.

Table 4 compares the intelligence type points of teachers based on graduation academic average success. It can be seen in this table that there is not a statistically significant difference among intelligence types based on different academic success levels. People who have been successful enough to become a physical education teacher in Turkey already had a sports-based life style before they began studying in the field at university. Many of them previously studied in a sports high school before university, or they were athletes who were a part of various sports clubs when they entered university with a special talent exam based on their athletics background and sportive

talents. With the education they receive in the faculty of sports sciences, they can ground the sportive abilities they already possess on scientific bases and specialize in sportive teaching methods. They come from a sports-based background and continue living according to this lifestyle through their studies in university. In fact, the academic success they achieve during their education is highly affected by their athletics background. As a result of this study, it was found that there is not a significant difference among the levels of intelligence types based on the academic success levels of physical education teachers.

References

Aşçı, Z., 2003. The effects of multiple intelligences based instruction on ninth graders' ecology achievement, attitudes toward ecology and multiple intelligences. Master Thesis, Middle East Technic University-METU., Mathematics and Science Education, Ankara, Turkey.

Başaran, I.E., 1991. Educational psychology. Ankara: Kadıoğlu Printing House.

Camlıyer, H. and H.U. Camlıyer, 1997. Movement education and sports. Izmir: Can Ofset.

David, C.W., 2003. Multiple intelligences and perceived self-efficacy among Chinese secondary school teachers in Hong Kong. Educational Psychology, 23(5): 521-533.Available at: https://doi.org/10.1080/0144341032000123778.

Gardner, H., 1993. Multiple intelligences: The theory in practice. New York: A Division of Harper Collins Publishers.

Gömleksiz, M.N. and A.U. Kan, 2012. International periodical for the languages. Literature and History of Turkish or Turkic, 7(1): 1159-1177.

Gracious, F.A. and F.J.A. Shyla, 2012. Multiple intelligence and digital learning awareness of prospective B. Ed teachers. Turkish Online Journal of Distance Education, 13(2): 112-118.

Güleryüz, H., 2002. Primary education program. Ankara: Pegem Publishing.

Hamurcu, H., Y. Günay and G. Özyılmaz, 2002. Multiple intelligence profiles of students who educated in Buca faculty of education in science teacher education department and Primary teacher education department. Middle East Technic University, V. National Science and Mathematics Education Congress, 16-18 Septemper 2002. Ankara. Available from http://old.fedu.metu.edu.tr/ufbmek-5/b_kitabi/PDF/Fen/Bildiri/t334.pdf.

Kiremitci, O. and M. Canpolat, 2014. Determining the role of physical education and sports school students' multiple intelligences areas on metacognitive awareness and problem solving skills. Hacettepe University Journal of Sports Sciences, 25(3): 118-126.

Kocabaş, A., 2003. Comparison of learning strategies in music and multiple intelligence of early Childhood teacher trainers. OMEP 2003 World Council and Conference, Proceedings. 3, 30–45.

Loori, A.A., 2005. Multiple intelligences: A comparative study between the preferences of males and females. Social Behavior and Personality: An International Journal, 33(1): 77-88.Available at: https://doi.org/10.2224/sbp.2005.33.1.77.

Oral, B., 2001. An investigation of university students' intelligence as categories according to their fields of study. Education and Science, 26(122): 19-31.

Saban, A., 2001. Multiple intelligence theory and education. 1st Edn., Ankara: Nobel Publishing House.

Tekin, M., 2007. Investigation of multiple intelligence areas of teacher candidates studying in physical education and sports schools according to various variables, 5th Physical Education and Sports Teaching Symposium, Adana.

Temiz, N., 2007. Multiple intelligence theory in school and classroom. Ankara: Nobel Publishing.

Yenal, T., H. Camlıyer and A. Saraçoğlu, 1999. Eden the effect of physical education and sport activities on motor skills and abilities in secondary secondary school children. Second GU BESBD, 4(3): 15-24.

Yetim, A. and Z. Göktaş, 2004. Teacher's occupational and personal qualifications. Kastamonu University Kastamonu Education Journal, 12(2): 541-550.