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Full Length Research Paper

An analysis on play and playmate preferences of 48 to 66 months old children in the context of gender

Işıl Taş

Department of Early Childhood Education, Faculty of Education, Biruni University, Turkey.

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This research was conducted to analyze play and playmate preferences of preschool girls and boys during free play time. The study group consisted of 48 to 66 months old preschool children. There were ten girls, seven boys and a preschool teacher in the study group. They were all selected from a public preschool in Cukurova, a district of Adana a city in the south of Turkey in the fall semester of 2014 to 2015 academic year. For two weeks, children were observed during their free play time. In addition, the children and teacher were interviewed to determine the play and playmate preferences of the children. An interview with each child took approximately 5 to 6 min, whereas the interview with the teacher took 20 min. In this research, content analysis method was applied at the data analysis phase. The outcomes of the analysis indicated that there were differences between play area, type of play and playmate preferences between girls and boys. Research indicated that girls usually opt for dramatic (pretend) play such as playing house, role play and gets in role as doctor, mother or kid; while boys prefer to play with blocks and lego for construction and building purposes (block center). The research results show gender effects on girls and boys play behaviors.

Key words: Preschool education, gender roles, play and playmate preference, play type, play behaviors.

INTRODUCTION

Play is defined as a series of meaningful activities which are developed by children themselves. In addition, play includes components of effective learning such as providing opportunity for independence, and learning in terms of social context (Sevinç, 2009).

According to Yavuzer (2006), play consists of physical, educational, social and moral values. A lot of researchers such as Piaget, Freud and Parten had analyzed the phases of play. These researchers said that children's behaviors related to play change in accordance with some parameters such as age and their development levels (Orçan, 2008).

It cannot be underestimated that play contributes to the *social development* of children. While they play, girls model their mothers and boys model their fathers. This kind of modeling consolidates gender roles. Children learn family, relative and neighborhood relations by pretending as family members and they are.

Reflecting their learning from these people's duties, responsibilities, behavioral patterns and personalities while experiencing it in their life (Orçan, 2008). Several variables mentioned in socialization affect the forming of children's plays. For instance, *culture* affects the play preferences of both girls and boys. Children's play, toy

E-mail: isiltass@gmail.com.

preferences and group mate preferences differ in accordance with gender roles ascribed by their trait and culture (Rubin et al.,1983).

In many cultures, children learn to play by simulating/imitating previous generation. Climate and seasonal conditions also impact on choice of play. Play types including active plays and sports are preferred more in cool seasons; sports and plays which do not require more energy are preferred in warm weather. Gender is another significant factor of play type. For example, according to the results of a research study carried out in Istanbul, girls like skipping, stopping, dodge ball, hide and seek, hopscotch and playing tag; while boys like soccer, running, hide and seek and playing marble (Yavuzer, 2006).

The gender of the child has an effect on his/her play behaviors such as toy preferences, play types and playmate preferences. The study of Yavuzer (2006) which was conducted with 562 participants (270 children from different socio- economic and cultural background, 240 parents, 52 pharmacists and toy sellers) using 3 different surveys revealed that gender factor is significantly influential on toy preferences of children. According to indicators of the study, girls mostly prefer doll and model toys and blocks; in turn, boys mostly prefer toy cars, battery-operated toys and remote controlled toy, ball, toy gun and blocks. These series were confirmed by both parents and toy sellers. Studies on playmate preferences of young children in free play time revealed that from preschool years to middle childhood period, children spend more time with same gender peers (Maccoby, 1998).

In preschool years, girls especially keep away from boys. Gender differences in playmate preference become clearer at age of 3 and girls prefer other girls as playmates and boys prefer to play with other boys. A study of Carol Maccoby and Jacklin (1987) which was conducted with 33 months old children, revealed that both girls and boys play more effectively with peers of the same gender. Literature on children's play and playmate preferences were reviewed with similar results (Maccoby, 1998; Golombok et al., 2008).

Play and playmate segregation between girls and boys may have been caused by play style diffrences. Boys like to play in outdoors and they play more active, rough-and-tumble play (RTP hereafter) (running, chasing, and fleeing), whereas girls like to talk more to each other and play indoors. In her study, Harbin (2016) examined gender differences in rough and tumble play (RTP) behaviors. She found that boys participated in RTP more than girls and the forms of RTP in which boys were more aggressive.

There are three broad theoretical frameworks, from a range of theories which have been put forward to explain how gender preferences occur. Theories include biological, social learning, and cognitive developmental approaches. Biological approaches emphasize hormones and genetics effects on gendered behaviors. On the other hand, social learning approaches emphasize peer, family and larger societal structures effects on gendered behaviors, whereas, cognitive approaches underline construction of gender schemas (Berenbaum et al., 2008). All these approaches indicatted that sex-typed behavior begins at age 2.5.

In preschool and middle school years, social learning approach are apparent and are probably relatively stable, and the cognitive processes of gender concept formation and gender schematization occur during these years (Golombok et al., 2008). As seen there are studies investigating gender differences in children play and play behaviors.

However, in Turkey, the number of studies on gender factor in children plays and playmate preferences are not sufficient. Since the preferences and behavior of children in the rapidly changing world can change, children's play behaviors should be reconsidered in terms of changing contexts. In this regard, the main objective of this research was to determine the play and playmate preferences of 48 to 66 months old girls and boys in free play time.

METHODOLOGY

This research is a qualitative case study that aims to investigate 48 to 66 month old children's play and playmate preferences. The research was carried out in the fall semester of the 2014 to 2015 academic year. The most basic feature of qualitative research is to try to examine the events and values from the participants' perspective. It is an important strategy to try to find out what participants mean by explaining and using specific languages, meanings and concepts they use and create (Ekiz, 2003). In the case study, one or more of the factors related to the situation are investigated and a detailed investigation is made about how they affect the situation and how they are affected by the situation (Yıldırım and Şimşek, 2006). In this research, it was deemed appropriate to conduct a case study since study focused on participants natural play environments and experiences.

Participants

The study group was identified using a convenience sampling from non-probabilistic sampling. The study group of the research consisted of all 48 to 66 months old children in the selected preschool class in the 2014 to 2015 fall semester. There were 10 girls and 7 boys in the classroom. The sampled public preschool was in Cukurova district in Adana a city in the south of Turkey and a preschool teacher. In order to follow ethical rules and protect privacy, code numbers and names were given to preschool children, the teacher and kindergarten.

Data collection tools

Structured observation and semi-structured interview techniques were used to collect the data. In this regard, data sources and data collection methods were diversified in the research. As well as the collection of both interview and observation data, collecting data from different data sources like teacher and child had significant importance in terms of the validity and reliability of the study. Within

the scope of the research, the play of the children was observed during free play time (for an hour) throughout two weeks between 1st to 15th December 2014. In addition, interviews were held with the children and kindergarten teacher. In the interviews children were asked to state their play behaviors based on open ended questions. Questions' expressions were like, "What is/Who is your favorite play/playmate?, Do you like to play with girls/boys?, if you had a chance to play with someone in the classroom would you prefer to play with a girl or boy? why? etc. Interviews were also held with teacher about each child's plays types and playmate preferences.

Data analysis

In this research, content analysis method was applied at the data analysis phase. All interviews were transcribed by hand and coded. To code and determine the main themes, the types of plays, playgrounds and playmate that the girls and boys prefer during their free play time were described. Later, tables were used to present these concepts and themes. Following the analysis, direct citation was used in the presentation of the findings to ensure that the existing situation during the interviews and observations can be animated in the mind of the reader and to increase its reliability. Some abbreviations were used such as, K for girls in kindergarten, E for boys in kindergarten and O for teacher in kindergarten.

FINDINGS

Findings regarding play types of girls and boys

The types of play categories are based on Duman (2010) classification, like dramatic play, construction and building play, manipulative play, animated play, structured table/card play, non-structured/semi-structured art activity, computer activity and rough and tumble play (Duman, 2010).

Since children had never played any structured table/card play during the observations, this play type was not added to the table. Additionally, due to the fact that the children were not allowed to play or use materials such as water and finger painting in the classroom except for the art activities supervised by the teacher, such kind of play was not observed. Frequencies were calculated by counting the repetitions of the plays of boys and girls in the observations made during their free play time. Frequency distribution of girls play types is shown in Table 1. In terms of the number of plays, the following classification is used as a determinant; 1>: None, 1-2: Rarely, 3-4: Occasionally, 4<..: frequently. When the play frequency is evaluated, it is also taken into consideration how much space the child gives to the type of play within the total number of plays.

When Table 1 is considered, it is observed that the girls usually played dramatic plays in 5 h observations which are divided into time intervals of 10 to 15 min. The dramatic play was followed by animated plays, computer activities, art activities, passive events, - construction and building plays and finally manipulative plays. During the observations, the girls never played a rough and tumble play, and the teachers and children did not say that girls engage with play. The kindergarten teacher and children gave the following answers that support the observation findings of this study when they were asked which types of play girls prefer during their free time activities;

"They usually like playing house. Children take the role of parents... They also like to cook and serve in the kitchen. In addition, they like to paint in free times. (O, 15.12.2014). We like playing house the most. (K7, 16.12.2014)"

The frequency distribution of the boys' play in free time is shown in Table 2. In terms of the number of plays, the following classification is used as a determinant; 1>: None, 1- 2: Rarely, 3-4: Occasionally, 4<: frequently. When Table 2 is examined, it is observed that the boys play construction and building play the most. Construction and building play are followed by dramatic plays, animated play, computer play and finally rough and tumble play respectively. It is observed that the frequencies of dramatic play and animated play are close to each other. Boys do not prefer passive play and art activities in their free play time. The preschool teacher and children gave the following answers that support the findings of this study when they were asked which type of play boys played in their free time activities;

"They like blocks so much. Additionally, there like nopers and jigsaw puzzles. Even if they are not allowed to do so, they always make a sword or a gun. In general, blocks are very attractive for them (O, 15.12.2014)".

The reasons why boys play construction and building play most among all the types of play can be explained by the fact that construction and building play materials are scattered in the middle of the classroom. Boys love to make war-toys like guns, as seen in the direct citations above. Boys used construction and building play toys like legos and blocks to play any kind of war play like fighting, policing or role play-pretending like animals. Observational data also support that boys use construction and building toys to make guns and engage in war play. During the observation on 09.12.2014, this situation was recorded by the expressions below;

"E5, E8, E7 and E2 played together in the middle of the class with different shapes of toy blocks. When I asked them what they were doing, they said they were making "guns" (09.25). E5, E8, E7 and E2 were constructing various shapes with toy blocks in the playground which was encircled with big rubber blocks in the middle of the class. After a while they pretended to

Table 1. Frequency distribution of play types of girls.

Frequency											Type of play	
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10	Total (f)		
10	3	1	8	-	7	7	2	2	3	43	Playing house, role play-pretend play	Dramatic
-	2	3	3	-	-	1	-	-	2	11	Blocks, Legos, Nopers	Cons- building
7	3	4	4	-	1	5	2	4	1	31	Tag, hide and seek, turning around jumping to cushion, ball plays (dodge ball, keep yuppy)	Animated
-	1	1	-	1	-	-	1	-	1	5	Jigsaw puzzle, detachable toys	Manipulative
2	2				1	3	-	1	2	11	Story book, examination, making activities from book	Passive
-	3	5	3	4	3	-	-	2	4	24	Coloring, Drawing	Art Act.
5	6	1	1	-	-	7	1	8	4	31	Listening to music, watching movie, checking photo albums	Computer

Table 2. Frequency distribution of play types of boys.

Frequency								Type of play	
E1	E2	E3	E4	E5	E6	E7	Total (f)		
-	3	-	9	8	4	4	28	Playing house, role play-pretend play	Dramatic
4	5	-	10	11	3	10	43	Blocks, Legos, nopers	Cons-Building
4	4	1	3	4	3	3	22	Tag, hide and seek, turning around, jumping on cushion, ball plays (dodge ball etc.)	Animated
-	1	1	-	1	1	1	5	Jigsaw, puzzle, detachable toys	Manipulative
-	-	-	-	-	1	1	2	Physically contacted fighting plays.	Rough and tumble
2	-	-	1	1	-	1	5	Car, truck, taxi	Vehicles
5	2	6	2	1	-	-	16	Listening to music, watching movie, playing computer plays, looking at photos	Computer
1	-	-	2	2	-	1	6	Bowling	Other

shoot around using the shape they made with toy blocks as if they were guns".

Findings related to playgrounds used by girls and boys

If it cannot be determined during observations and interviews and in free playing situations, it is defined by considering playground, material equipment in the place where the child is playing. The sub-headings of the playground table are determined as such; construction- building area (where the blocks are located), playing house, dramatic play, books, educational toy, puppet, art and science-mathematics centres and computer (PC) centres.

In Table 3, the play areas used by the girls in the kindergarten are scored from 1 to 5 on the data obtained from the interviews and observations.1 point is used to indicate that the child had *never* played in the specified play area, 2 points indicates that the child has played *rarely*, 3 points indicates *sometimes,* 4 points indicates *frequently* and 5 points indicates the child had *always* played in the specified play area.

When Table 3 is examined, girls spend most of the time in playing house and dramatic playgrounds in a total of 10 h observations, divided into 10 to 15 min intervals. The playing house and dramatic play field is followed by science-mathematics, computer, art, construction and building playground, book and finally the puppet centre. Due to the lack of music centre and water-sand area in the kindergarten, the children were not observed while they were playing in these areas. Since the arts and educational toy centers were not clearly separated from the other centers, the researcher evaluated the materials on the floor in order to decide which playground it is. The preschool teacher and children gave the following answers to support the findings of the research when they were asked which activity centers girls were playing with during their free time activities:

"They prefer playing house centre more. A few girls prefer educational plays on computer (O,18.12.2014).

Table 3. Playground preferences of girls.

Child	Construction building	Play house	Dramatic play	Book	Educational toy	Art	Science	PC	Puppet
K1	2	4	4	3	2	2	4	4	2
K2	2	4	4	3	2	3	2	4	1
K3	3	2	2	1	2	3	1	2	1
K4	4	4	4	2	2	3	4	2	2
K5	1	2	1	1	2	3	1	1	1
K6	2	4	4	2	2	3	4	1	2
K7	2	4	4	3	1	3	4	4	1
K8	2	4	4	1	2	3	3	2	1
K9	1	2	3	3	1	3	2	4	1
K10	1	4	4	1	2	2	3	4	2

Table 4. Playground preferences of boys.

Child	Construction building	Play house	Dramatic play	Book	Educational toy	Art	Science	PC	Puppet
E1	4	1	2	1	4	1	1	4	1
E2	4	1	2	1	2	1	2	2	1
E3	1	1	1	1	2	1	1	4	1
E4	4	2	3	1	3	1	2	2	2
E5	4	2	3	1	3	1	2	2	2
E6	4	1	2	1	3	1	1	1	1
E7	4	2	2	1	2	1	1	1	1

Playing house and computer are the most (K4, 18.12.2014)".

In Table 4, the play areas used by the boys in the kindergarten were scored from 1 to 5 on the data obtained from the interviews and observations. 1 point was used to indicate that the child had *never* played in the specified play area, 2 points indicate that the child had played *rarely*, 3 points indicates *sometimes*, 4 points indicates *frequently* and 5 points indicates the child had *always* played in the specified play area.

When Table 4 is examined, boys usually play with construction and building playground. The construction and building playground is followed by educational toys, computers, dramatic play, science-mathematics and finally the puppet centres. Due to the lack of music centre and water-sand area in the kindergarten, the children were not observed in these areas. Boys who participated in the survey were found to use mostly construction- building playground in the classroom.

Boys played in the construction and building playground, with large-to-small pieces of lego and blocks. They pretend to be certain characters during play and often interact with their friends and teachers within this area. The preschool teacher and children gave the following answers to support the findings of the research when they were asked which activity centers that boys play in during their free time activities:

"They love the centre of the blocks ... Usually, blocks attract a lot of attention. As I said, they take educational toys there and create a world (O, 18.12.2014)".

Since the construction and building playground covers a relatively larger area in the centre of the Pitirciklar (the name of the classroom) kindergarten, educational toys and block centres also located side by side with construction and building playground have increased the frequency of boys' presence in these areas and reduced the frequency of girls' presence in these areas. When free time begins, almost all boys converge to the materials found in the construction and building playground and girls prefer to play in the remote areas of the construction and building playground, educational toys and blocks where boys play.

On the other hand, since the arts centre is located in the classroom far away from the construction and building playground and also it is almost nested inside the play housing centre which was preferred by girls, boys usually had no activity in this area. Respectively, dramatic plays and science-mathematics centres were located just next to the art centre. Throughout the observations, girls generally played by carrying the materials from the playing house centre to dramatic play

and math centres. Therefore, while this situation increases the frequency of girls' presence in these areas, it is a factor that reduces the frequency of boys' presence.

Findings related to the playmate preferences of girls and boys

In the research, it was observed that girls usually prefer girls as playmates and boys prefer boys. Therefore gender discrimination is a matter of preference for playmates. In interviews with kindergarten children, they also expressed their preference to play with their fellow creature by using clear expressions. Kindergarten teacher also made a statement which supports the finding that girls play with their fellow mates of the same sex. The children and the teacher indicated their thoughts on children's preferences of playmates and the reasons for these preferences by using the following expressions:

"With girls. Because I am not a boy... (K2, 15.12.2014). With girls... I don't like boys; they always like to play plays meant for only boys. They build towers, fighting and make gun. Sometimes, they spoil our plays. They hurt us while they play fighting (K3, 16.12.2014). I don't prefer to play with girls, playing house is not for boys. Boys don't prefer plays like that (E2, 15.12.2014)".

As it is understood from the expressions earlier mentioned, research findings revealed that children tend to play more with children of same sex. When explaining the reasons why they prefer same sex playmates, both boys and girls emphasized differences in play styles and gender differences. While most of boys emphasized the differences in play types rather than sexual identity, besides play type differences, girls underlined sexual identity when explaining the causes of why they prefer to play with same sex. All girls complained that boys do not comply with the rules of plays and since they tend to play rough plays usually boys hurt girls. Despite that most of the boys indicated that since they like active plays they find girls plays boring. What is interesting is that girls had more sexist expressions than boys. Besides these findings listed by the children, kindergarten teacher stated that the biological differences of boys and girls, the social gender roles in society, gender of the sibling who is a role model for the child and the family type were also influential on children's playmate preferences. When explaining the causes of gender differences on playmate preferences, teacher especially emphasized on biological factors and social gender roles (society reinforce gendered behaviors).

DISCUSSION

In this research, it was determined that there are gender-related differences between girl's and boy's play behaviors. Girls usually play dramatic plays and boys play construction and building play. The results of this research conclude that girls prefer to play dramatic play (pretend plays) by talking with other girls, whereas boys preferred to play more active, rough-and-tumble play like running, chasing etc. Similar results were achieved from the other studies. The researches revealed the difference in the play types of boys, and girls can be seen from the age of 3. Boys tend to play in a more active, rough-and-tumble manner and this can sometimes leads to being physically aggressive. Whereas girls tend to talk more to each other (Maccoby, 1998; Maccoby and Jacklin, 1987).

In their research on Turkish, German and American children, Güler and Kargı (2008) found that girls prefer playing house and boys prefer to play with wheels, cars; and girls are more likely to be involved in the role in pretend play about house (mother, sibling, child etc.), while boys tend to be involved in the role related with work (engineer, mechanic, etc.). The reason why boys prefer the most construction and building plays among all the play types can be explained by the fact that construction and building play materials are scattered in the centre of the class, boys like to design war toys like guns and boys can use Lego and block toys in order to organize war plays. According to results of this research, while girls like to spend most of their time playing house and dramatic play, boys prefer to play with construction and building play.

In this research, girls mostly played playing house in dramatic play center, whereas boys mostly played in construction and building area (block center etc.). Similar results obtained by Gürpınar (2006) as a result of the study in which the children's preferences of interest centers were examined. In the study, results indicated that gender differences were effective in preferences of centers and there were more interests in some centers (playing house and block). The vast majority of the teachers who participated in the research indicated that boys prefer active centers and girls prefer passive (quiet and calm) centers. In addition, teachers argued that while girls were more likely to prefer playing house centers, boys tended to play in block centers and gender is effective on children' preferences of interest centers.

According to the results of this research, children preferred same sex playmates. Boys and girls underlined differences in play types and gender as the cause of this preference. In this study, when explaining the reason why they tend to play with same sex playmates, girls underlined sexual identity more than boys, and girls had more sexist expressions than boys. Observation findings support these findings. According to observations during two weeks in the classroom, boys tends to play with boys and girls tend to play with girls. Most of the studies on gender differences in children playmate preferences revealed similar result. As its indicated in the research, sex differences in playmate preference become apparent in the preschool years. From as early as 3 years of age,

girls prefer other girls as playmates and boys prefer to play with other boys (Maccoby, 1998; Maccoby and Jacklin, 1987).

Teachers, caregivers and parents are important role models in young children's life. Naturally, young children are influenced by the attitudes, views and behaviors of adults and society around. In this context, it is not possible for children not to be influenced by the social gender role expectations of the society. As a natural consequence of this situation, the play behaviors of children, like play and playmate preferences, may also be influenced by the society. This research's teacher interview findings supports this evaluation. When explaining the causes of gender differences on playmate preferences, teacher especially emphasized on biological factors and social gender roles (society reinforce gendered behaviors). Similar results obtained by some other studies. For example, Tezel Şahin (2003)'s research on views of parents about children's plays and toys revealed that when parents decide to buy a toy, they choose it based on their child's gender and parents direct their children in this way.

There are studies that examined teacher's influences on children's play preferences. For instance, Chapman (2016) conducted a case study of gendered play in preschools which investigated children's play in relation to gender stereotypes and beliefs and practices of educators in preschool settings. Findings suggest that early childhood educators' perceptions of gender do influence children's play. Also research revealed that boys and girls were engaging in different experiences, in seperated girls and boys groups.

However in drawing and dramatic play, boys and girls did play together. Similarly, Golombok, et al. (2008) eximined the stability of sex-typed behavior from the preschool to the middle school years. The investigation involved a general population sample of 2,726 boys and 2,775 girls. As a result of the research, sex-typed behavior increased through age 2.5 (the most sex typed at age), to age 5, with those children who showed the highest levels of sex-typed behavior during the preschool years continuing to do so at age 8.

Conclusion

Research findings revealed important conclusions about play behaviors of young children. According to research findings on gender effects on children's play and playmate preference, all children tends to play more with children of same gender. Another important finding of this research is that girls had more sexist expressions than boys. In later studies, the sexist expressions and behaviors of girls and boys can be examined in depth with the reasons, considering all possible components can have effect on gender based behavior. In other studies, children's crucial role models are parents. Other studies should count parents in the study group. These research observation findings were just based on free play time, other researches should focus on other activity times during school day.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

Berenbaum SA, Martin CL, Ruble DN (2008). Gender development. In W. Damon & R. Lerner (Eds) Child and Adolescent Development: An Advanced Course. (647-681). New York, NY: Wiley.

Chapman R (2016). A case study of gendered play in preschools: how early childhood educators' perceptions of gender influence children's play. Early Child Development and Care 186(8):1271-1284, Doi: 10.1080/03004430.2015.1089435

Duman G (2010). Türkiye ve Amerika'da anasınıfına devam eden çocukların oyun davranışlarının incelenmesi 'kültürler arası bir çalışma'. Yayınlanmamış Doktora Tezi. Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Ekiz D (2003). Eğitimde araştırma yöntem ve metodlarına giriş. Ankara: Anı Yayıncılık.

Güler T, Kargı E (2008). Play behaviors of preschool children: a cross-cultural analysis of play contents. XXIX International Congress of Psychology, International Journal of Psychology 43(3/4):70, Berlin.

Gürpınar HA (2006). Okulöncesi öğrenime devam eden çocukların tercih ettikleri ilgi köşeleri ve tercih etme nedenleri. Yayınlanmamış Yüksek Lisans Tezi. Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

Golombok S, Rust J, Golding K, Zervoulis T, Croudace J, Hines M (2008). Developmental trajectories of sex-typed behavior in boys and girls: a longitudinal general population study of children aged 2.5-8 years. Child Development 79(5):1583-1593. doi: 10.1111/j.1467-8624.2008.01207.

Harbin SJ (2016) Gender differences in rough and tumble play behaviors. International Journal of Undergraduate Research and Creative Activities 8:5. Doi: http://dx.doi.org/10.7710/2168-0620.1080.

Maccoby EE (1998). The two sexes: growing apart, coming together. (2. baskı). London, England: The Belknap Press of Harvard University Press.

Maccoby EE, Jacklin CN (1987). Sex segregation in childhood. In: H. W. Reese (Ed.) Advances in Child Development and Behavior 20:239-288). New York: Academic Press.

Orçan M (2008). Sosyal gelişim. E. Deniz (Ed.). *Erken Çocukluk Döneminde Gelişim* içinde (134-188). Ankara: Maya Akademi.

Rubin K, Fein G, Vandenberg B (1983). Play. In: Mussin, P. (Ed). Handbook of Child Psychology, New York: John Wiley and Sons 4:694-774.

Sevinç M (2009). Erken çocukluk gelişimi ve eğitiminde oyun. İstanbul: Morpa Yayıncılık.

Tezel Şahin F (2003). Okul öncesi dönemde oyuncaklar ve oyun materyalleri. *Mesleki Eğitim Dergisi.* Ocak, sayı: 640:78-82.

Yavuzer H (2006). Çocuk psikolojisi. (29. baskı). İstanbul: Remzi Kitapevi.

Yıldırım A, Şimşek H (2006). Sosyal bilimlerde nitel araştırma yöntemleri. (5. baskı). Ankara: Seçkin Yayıncılık.

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The effect of physical education and ports departments on behavioral changes towards exercising

Aliye Menevşe

School of Physical Education and Sport, İstanbul Esenyurt University, İstanbul, Turkey.

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This study was conducted to investigate the effects of Physical Education and Sports (PES) Departments over the exercise behaviors of male students (277 public, 283 private) from a sample group of 21 to 26 year-olds, who are studying in various departments from both private and public universities in Istanbul. The Physical Activity Stages of Change Questionnaire (PASCQ) was used for data collection and the effect of the PES sciences was investigated to determine the tendency to play sports. A chi-square test was used to examine the relationship between categorical variables. According to PASCQ variable of male students from different departments of these universities, the general distribution of the tendency to participate in a moderate physical activity is 34.7% in private universities and 62% in public universities. The tendency to participate in sports was almost non-existent in age groups of 23, 24, and 26 in private universities, and in age groups of 21, 23 and 26 in public universities. A meaningful relationship was found when we asked the students of private universities the question of "Do PES departments have an effect on your physical activity?" (X^2=33,952; p=,000; p<0.05). As 87.3% of the students work in the private sector along with school, they spend their non-school recreative time outside the campus and in the workplace. As a result, they are not in touch with the facilities, organizations and friend groups the PES departments have to offer, so they only show a 34.7% pre-tendency and behavior tendency in the Physical Activity Stages of Change compared to public universities. These three questions were asked and a meaningful relationship was found: "Do you have any close friends who are studying in the PES departments of public universities?" (X^2=16,696; p=,033) "Do you use the university's facilities when you exercise?" (X^2=38,241; p=,000) and "Does PES students have effect on your physical activities?" (X^2=59,815; p=,002) p<0.05). Despite the fact that 40% of these students work alongside schoolling, having friends in PES departments, wanting to participate in organizations and activities, having the opportunity to use facilities, and the tendency of PES students to exercise, gives these students a 62% maintenance stage tendency. It was found that PES sciences are more effective in state universities as regards directing students to physical activity in campus life. Individuals in PES sciences also affect the physical activity levels of students in other disciplines.

Key words: Physical education and sport, behavioral change, physical environment, physical activity, types of university.

INTRODUCTION

It is stated in Article 47 of the Higher Education Act No. 2547 under Social Services that the development of health and physical fitness of university students is a legal duty. The institutions of higher education, in accordance with the plans and programs of the Council of Higher Education, are to take necessary measures for

the mental and physical well-being of students; to provide their social needs regarding nutrition, studies, relaxation, use of leisure time and the like; and with this aim in mind and within the limits of the budget, to open reading rooms, health centers with inpatient facilities, medico-social centers, student canteens and restaurants; to provide cinema and theatre halls, outdoor camping sites, gymnasiums and sports grounds (Ziyagil et al., Project report, 2016).

Although the quality of life and the physical fitness of the students are guaranteed by this legislation, the sports competitions and competitions attended by the students are limited to the students of physical education and sports department. Students in different disciplines or departments are not as active as physical education students in exercise or physical activities, which suggests that the legal articles are inadequate in practice.

Besides, this inadequacy of the students from different disciplines in practice requires different choices to be made at public and private universities. Within these preferences, a solution within the campus can be found by implementing an approach based on the physical education and sports departments, and the sedentary lifestyle of the students can be changed. Even though this question concerns university students, the main problem is the different points of view in public and private universities. It is aimed to contribute to the regulations concerning this strategy towards the differences in policies that will be based on scientific (Şirinkan, 2002).

Therefore, private and public schools need awareness on new approaches to motivate university students to exercise. The physical development of young people in universities is almost completed, but this development can be delayed by some factors such as nutrition, climate conditions, and genetics. In addition, students who have just left home need physical activity for them not to be affected negatively by this change. Students need to participate in physical activities to use their free time well, to relieve the stress caused by their classes, and to create new social groups (Şirinkan, 2002). Participating in physical activities increases self-expression and self-confidence in individuals, increases unity and sportsmanship, helps decrease mental fatigue and stress, and also improves success and social communication skills (Gür and Küçükoğlu, 1992).

The World Health Organization (WHO) defines an adolescent as any person between ages 10 and 19 (young adult), any person between the ages of 20 and 24 as youth, and any person between the ages of 10 and 24 as young people (Özcebe, 2002). In studies conducted for young groups, it was observed that young people had a lower quality of life as regards mental dimension in for comparison to the physical dimension in the age range of 18-24, and again with age, risky behaviors concerning mental health, perceived health and health were observed (Zahran et al., 2007).

An approach to lead a healthy life combines models based on stages that brings to mind the effect physical activity has on cognition and behavior, and linear models. The change processes in the Stages of Change comprise various strategies. These processes include cognitive and behavioral strategies. The Physical Activity Stages of Change refers to a person's readiness to exercise regularly (Marcus et al., 1992). These stages classify a person's readiness to change their behavior. These stages are precontemplation, contemplation, preparation, action, and maintenance (Prochaska and Velicer, 1997).

Individual, social and physical determinants along with many other factors play an important role in widespread participation during physical and sporting activities. Social support, social obstacles or social impact caused by social roles, loyalty to a group, and physical environment determines the Physical Activity Stages of Change. It is necessary to analyze the factors that make an individual exercise or put off exercising. The importance individuals place on health, the internal control they have over their health behavior, the self-efficacy they have in solving problems, the meaning they attribute to health, and factors concerning how they perceive their current health status are the most defining features of exercise behavior. Demographic characteristics, interpersonal interaction, and the environment of the individual are among the changing factors related to improving health (Çepni, 2010; Dalak, 2010).

The study was conducted to investigate the effects of changing the exercise behaviors of students from various departments in both public and private universities and the effect Physical Education and Sports Departments have on these students' exercise behaviors.

METHODOLOGY

One criteria during the selection of private and public universities is, it was particularly important for the PES departments to be on the same campus and for the PES department's facilities to also be on campus. This includes an athletic field, a multi-purpose gym, a football field, a table tennis hall, an indoor tennis court, volleyball, handball, badminton courts, a fitness center, a basketball court, and a semi-olympic indoor swimming pool. However, the facilities of the Physical Education and Sports (PES) departments can be used by students of other departments that has membership with time constraints and a certain allowance.

The study used a descriptive study and simple random sampling method. The population consists of students in various departments from private and public universities in Istanbul, and the sample consists of 560 male students between 21 and 26 years of age.

E-mail: akademihk@hotmail.com.

Table 1. Participation of private and public university students according to their age, and ratios of students working in the private sector along with school.

Age	Prıvate / n	Publıc / n	Works along with school
Aged 21	38	17	
Aged 22	49	46	87.3% PR
Aged 23	76	87	
Aged 24	32	64	
Aged 25	67	48	40% PU
Aged 26	15	21	
Total	277	283	560

Those who participated from the private university were 38 people aged 21, 49 people aged 22, 76 people aged 23, 32 people aged 24, 67 people aged 25, and 15 people aged 26, a total of 277 students. 87.3% of these students also work in the private sector. From the public university, 17 people aged 21, 46 people aged 22, 87 people aged 23, 64 people aged 24, 48 people aged 25, and 21 people aged 26 participated in the study, a total of 283 students. 40% of these students also work in the private sector. In total, a survey consisting of 15 questions was applied to 560 students.

A small group was formed to develop a draft survey by taking in the views of expert lecturers in the field to identify possible mistakes. The first part of the three-part survey consists of four questions to determine the demographic characteristics of the participants. The second part consists of the five yes/no questions shown in Table 4 regarding Physical Education and Sports Departments. The Physical Activity Stages of Change Questionnaire (PASCQ) was applied in the third part. PASCQ is a tool that measures the individual's readiness to participate in physical activities and it has six questions (Marcus et al., 1992; Marcus and Lewis, 2003). The participants of the questionnaire answered questions on their participation in physical activity by answering Yes or No. Five categories were constructed for the answers they gave. These stages are precontemplation, contemplation, preparation, action, and maintenance. The Turkish version of PASCQ (Cengiz, 2007) was used in this study. The Test-Retest Reliability of the Turkish version is high (ISC= .80) (Priscilla et al., 1994).

The data obtained in the research was analyzed using Statistical Package for Social Sciences (SPSS) for Windows 21.0 package software. The data was evaluated in the program by Chi-square analysis for the relationship between frequency, percentage and categorical variables with a confidence level of 95% and a significance level of 5%.

FINDINGS

According to the Physical Activity Stages of Change variable of male students from various departments in private universities, 106 of them are in precontemplation (35.3%), 45 in contemplation (16.0%), 42 in preparation (14.0%), 26 in action (12.0%), and 58 in maintenance (22.7%). According to the Physical Activity Stages of Change variable of male students from various departments in public universities, 19 of them are in precontemplation (6.3%), 24 in contemplation (8.0%), 61 in preparation (23.7%), 64 in action (24.7%), and 115 in maintenance (37.3%) (Tables 1 to 3).

The preparation stage of the 21-year-old age group is 42.9% in Pr and 8.4% in Pu. The maintenance stage is 25% in Pr and 17% in Pu. The maintenance tendency decreased in Pr. The contemplation and preparation stages of the 22-year-old age group are between 20 to 23% in Pr and in Pu. The maintenance stage for this age group is 25% in Pr and 19.6% in Pu. The precontemplation stage of the 23-year-old age group is 34% in Pr and 47.4% in Pu. The contemplation stage is 29.2% in Pr and 45.8% in Pu, and the preparation stage is 19.0% in Pr and 40.8% in Pu. The maintenance stage decreases quite a lot in Pr to 14.7% and to 15.2% in Pu. The precontemplation, contemplation, preparation and action stages for the 24-year-old age group are around 15%. Meanwhile, the maintenance stage is 2.9% in Pr and 23.2% in Pu. The contemplation stage of the 25-year-old age group is 31.2% in Pr and 4.2% in Pu. The maintenance stage is 27.9% in Pr and 19.6% in Pu. The 26-year-old age group had the lowest maintenance stage ratio of 4.5% in Pr and 5.4% in Pu. Significance was determined in both groups $p<0.05$. The maintenance stage had the lowest percentages in the age groups of 23, 24 and 26 in private universities. Meanwhile, this was paralleled by the age groups of 21, 23 and 26 in public universities (Table 4).

When the table is examined, it can be seen that all 276 students from all age groups answered No to the question "Do you have any close friends studying in PES departments?" (X^2=8,403; p=,590; p>0.05). No significant relationship was found. 63 students said Yes and 214 students said No to the question "Do PES departments have an effect on your physical activity?" (X^2=33,952; p=,000; p<0.05) and a significant relationship was found. 128 students said Yes and 149 said No to the question of "Would you like to participate in the organizations and activities of the PES departments?" (X^2=10,529; p=,395; p>0.05) and no significant relationship was found. 72 students said Yes and 205 said No to the question "Do you use the university's facilities when you exercise?" (X^2=16,479; p=0.087; p>0.05) and no significant

Table 2. Stages of exercise change in private and public universities.

Variable	Group	Frequency (n)		Percentage	
		Private	Public	Private	Public
Stages of change	Precontemplation	106	19	35,3	6.3
	Contemplation	45	24	16,0	8.0
	Preparation	42	61	14,0	23.7
	Action	26	64	12,0	24.7
	Maintenance	58	115	22,7	37.3
	Total	277	283	100,0	100.0

Table 3. The physical activity stages of change ratios of private and public universities by age.

Age (years)	Recontemplation		Contemplation		Preparation		Action		Maintenance		p
	Pr %	Pu %	Pr %	Pu %	Pr %	Pu %	Pr %	Pu %	Pr %	Pu %	PR
21	10.0	5.2	2.1	12.5	42.9	8.4	5.6	6.6	25.0	17.0	
22	5.9	10.5	22.9	20.8	23.8	14.1	30.6	9.5	25.0	19.6	X^2=151.78 p=0.000*; PU X^2=59.815 p=0.002*
23	34.0	47.4	29.2	45.8	19.0	40.8	22.2	28.4	14.7	15.2	
24	15.1	15.8	10.4	12.5	4.8	18.3	19.4	25.7	2.9	23.2	
25	23.6	15.8	31.2	4.2	9.5	9.9	11	20.3	27.9	19.6	
26	11.4	5.3	4.2	4.2	0.0	8.5	11.2	9.5	4.5	5.4	
Total	106	19	45	24	42	61	26	64	58	115	277 / 283= 560

Pr; private; Pu; public; p<0.05***.**

Table 4. Private university students' questions related to physical education and sports.

Questions		21 Yrs		22 Yrs		23 Yrs		24 Yrs		25 Yrs		26 Yrs		P
		N	%	N	%	N	%	N	%	N	%	N	%	
Do you have any close friends in PES departments?	Y	0	0.0	0	0.0	0	0.0	1	3.1	0	0.0	0	0.0	X^2=8.403 p=0.590
	N	38	12.7	49	16.4	76	25.4	31	10.4	67	22.4	15	5.0	
Do PES departments have an effect on your physical activity?	Y	18	28.6	3	4.8	20	31.7	7	11.1	15	23.8	0	0,0	X^2=33.952 p=0.000*
	N	20	8.4	46	19.4	56	23.9	25	10.5	52	21.9	15	6,3	
Would you like to participate in PES org. and act.?	Y	18	12.9	25	17.9	35	25.0	18	12.7	26	18.6	6	4.3	X^2=10.529 p=0.395
	N	20	12.5	24	15.0	41	25.6	14	8.8	41	25.6	9	5.6	
Do you use the university's facilities when you exercise?	Y	6	7.9	15	19.7	20	26.5	14	18.4	15	19.7	2	2.6	X^2=16.479 p=0.087
	N	32	14.3	34	15.2	56	25.0	18	8.0	52	23.2	13	5.8	
Do PES students have an effect on your physical activity?	Y	12	10.3	18	15.5	24	20.7	15	12.9	27	23.3	6	5.2	X^2=16.355 p=0.090
	N	26	14.1	31	16.8	52	28.4	17	9.2	40	21.7	9	4.9	

Y: Yes; N: No; p<0.05*; yrs, years.

relationship was found. 102 students said Yes and 175 said No to the question "Do PES students have an effect on your physical activity?" (X^2=16,355; p=,090; p>0.05) and no significant relationship was found (Table 5).

Table 5. Public university students' questions related to physical education and sports.

Questıons		21 Yrs		22 Yrs		23 Yrs		24 Yrs		25 Yrs		26 Yrs		P
		N	%	N	%	N	%	N	%	N	%	N	%	
Do you have any close friends in PES departments?	Y	11	6.6	27	16.2	50	29.9	43	25.7	18	10.8	8	4.8	X^2=16.696
	N	6	4.5	19	14.3	37	27.8	21	15.8	30	22.6	13	9.8	p=0.033*
Do PES departments have an effect on your physical activity?	Y	3	3.2	16	17.2	32	34.4	25	26.9	7	7.5	6	6.5	X^2=13.022
	N	14	6.8	30	14.5	55	26.7	39	18.8	41	19.8	15	7.2	p=0.111
Would you like to participate in PES org. and act.?	Y	6	3.5	27	15.8	54	31.6	38	22.2	25	14.6	11	6.4	X^2=8.374
	N	11	8.5	19	14.7	33	25.6	26	20.2	23	17.7	10	7.8	p=0.398
Do you use the university's facilities when you exercise?	Y	15	8.4	21	11.7	54	30.1	52	29.1	22	12.3	7	3.9	X^2=38.241
	N	2	1.7	25	20.7	33	27.3	12	9.9	26	21.5	14	11.6	p=0.000*
Do PES students have an effect on your physical activity?	Y	9	5.4	27	16.2	54	32.3	38	22.8	20	12.0	7	4.2	X^2=59.815
	N	8	6.0	19	14.3	33	24.8	26	19.5	28	21.1	14	10.5	p=0.002*

Y: Yes; N: No; p<0.05***.**

DISCUSSION

It has been wondered whether there is a positive relationship between exercise and cognitive performance for many years. Many studies in the literature have revealed that participation in physical activity positively affects academic success, and there are also other studies that indicate that participation in these activities has an adverse effect on academic success (Cheung et al., 2009). Success in education is determined by “academic success,” which is obtained through classes given in school and grades given out by teachers,test scores or both (Carter, 2009). It is common knowledge that team playing and all kinds of sports helps improve social integration and social skills in individuals from all ages. As a result, physically active individuals are thought to display a higher academic performance (Gür and Küçükoğlu, 1992).

In this study, the relationship between Physical Education and Sports Sciences and Physical Activity Stages of Change were examined to determine the tendency to do sports in students between ages 21 and 26 from various departments of private and public universities, and the results are given in the tables. According to the Physical Activity Stages of Change variable of male students from various departments in private universities, 106 of them are in precontemplation (35.3%), 45 in contemplation (16.0%), 42 in preparation (14.0%), 26 in action (12%), and 58 in maintenance (22.7%). According to the Physical Activity Stages of Change variable of male students from various departments in public universities, 19 of them are in precontemplation (6.3%), 24 in contemplation (8.0%), 61 in preparation (23.7%), 64 in action (24.7%), and 115 in maintenance (37.3%) (Table 2).

According to this study findings, all of the students who study at state universities in our sample have a tendency to change behavior. When the action and maintenance percentages are combined, we get a representation of moderate participation in physical activity. 34.7% of the private universities and 62% of the public universities participate in physical activity.

Çeker et al. (2013) in a study conducted in Amasya about the regular Physical Activity Stages of Behavior Change in women and men from different age groups, results showed that ratios for precontemplation, contemplation, preparation, action and maintenance stages were 41.82, 17.23, 12.88, 11.04 and 17.04% respectively with a total of 1033 participants. When action and maintenance stages were combined, they found out that 28% of women participated in moderate physical activity. In our study group, we found that 62% of the students of public universities participated in moderate physical activity and therefore were more inclined.

Marcus et al. (1992) examined the structures related to the self-efficacy stages to change exercise habits. They developed two scales to measure The Physical Activity Stages of Change. These scales were used in a group comprising 1063 public servants and 429 hospital employees. The exercise self-efficacy skill of the employees have been tested with surveys according to the stage they were in. The results obtained from change scales showed that 34-39% of the employees participated in a physical activity regularly. Tümer et al. (2013) examined the exercise behavior in the city of Muğla according to the Transtheoretical Model and found that out of 200 female participants (67%) and out of 104 participants with an average of 31.81±10.44, the ratios for

precontemplation, contemplation, preparation, action and maintenance stages were 14.5, 18.0, 20.0, 23.5 and 24.0% respectively. From this study, the action and maintenance stages has similarities.

The preparation stage of the 21-year-old age group is 42.9% in Pr and 8.4% in Pu. The maintenance stage is 25.0% in Pr and 17% in Pu. The maintenance tendency decreased in Pr. The contemplation and preparation stages of the 22-year-old age group are between 20 to 23% in Pr and in Pu. The maintenance stage for this age group is 25.0% in Pr and 19.6% in Pu. The precontemplation stage of the 23-year-old age group is 34.0% in Pr and 47.4% in Pu. The contemplation stage is 29.2% in Pr and 45.8% in Pu, also the preparation stage is 19.0% in Pr and 40.8% in Pu. The maintenance stage decreases quite a lot in Pr to 14.7% and to 15.2% in Pu. The precontemplation, contemplation, preparation and action stages for the 24-year-old age group are around 15%. Meanwhile, the maintenance stage is 2.9% in Pr and 23.2% in Pu. The contemplation stage of the 25-year-old age group is 31.2% in Pr and 4.2% in Pu. The maintenance stage is 27.9% in Pr and 19.6% in Pu. The 26-year-old age group had the lowest maintenance stage ratio with 4.5% in Pr and 5.4% in Pu. Significance was determined in both groups $p<0.05$. The maintenance stage had the lowest percentages in the age groups of 23, 24 and 26 in private universities. Meanwhile, this was paralleled by the age groups of 21, 23 and 26 in public universities (Table 3).

When the questions private university students are asked as regards the Physical Education and Sports are examined, it can be seen that all 276 students from all age groups answered No to the question of "Do you have any close friends studying in PES departments?" ($X^2=8.403$; $p=.590$; $p>0.05$). No significant relationship was found. Of the students in the sample group, 87.32% said they have to work in other sectors besides school in order not to be a burden to their families with their tuition payments, and because of other reasons. Therefore, they do not have a chance to socialize with students from the PES department. İt is believed that all 276 students giving a No response is completely due to this situation. Although the contemplation stage of exercise is influenced by a group of friends, this group has been a negative influence on the willingness to change behavior.

63 Sixty three students said Yes and 214 students said No to the question "Does PES departments have an effect on your physical activity?" ($X^2=33.952$; $p=.000$; $p<0.05$) and a significant relationship was found. When the PES departments' influence over the action and maintenance stages is considered, students pointed out that they said No due to insufficient funds and because the allocated time conflicted with working hours.

128 students said Yes and 149 said No to the question "Would you like to participate in the organizations and activities of the PES departments?" ($X^2=10.529$; $p=.395$; $p>0.05$) and no significant relationship was found. The lack of participation in organizations may be due to the lack of appeal in the announcements of these organizations, or maybe because only the students of PES departments attend these organizations. However, these organizations and activities may be the determining factors in preparation and action tendencies.

72 Seventy twostudents said Yes and 205 said No to the question "Do you use the university's facilities when you exercise?" ($X^2=16.479$; $p=.087$; $p>0.05$) and no significant relationship was found. The fact that the vast majority do not or can not use the facilities may show an inhibition of the precontemplation and contemplation stages. 102 students said Yes and 175 said No to the question "Does PES students have an effect on your physical activity?" ($X^2=16.355$; $p=.090$; $p>0.05$) and no significant relationship was found (Table 4). For the students who said Yes, the fact that PES students wear athletic or comfortable clothes may be appealing, or recently, the fact that PES students have taken an interest in fitness and have developed a muscular build may be visually appealing. It shows that there may be action and maintenance behaviors toward exercise.

When the questions public university students were asked as regards the Physical Education and Sports are examined, it can be seen that all 157 students said Yes and 126 students said No to the question "Do you have close friends studying in PES departments?" ($X^2=16.696$; $p=.033$; $p<0.05$) and a significant relationship was found. The Yes and No answers are almost divided equally when compared to the private university. The fact that only 40% of the students work outside of school, and that the number of working students is significantly lower, and that they also spend more time in the campus allows relationships with the PES students.

89 students said Yes and 194 students said No to the question "Does PES departments have an effect on your physical activity?" ($X^2=13.022$; $p=.111$; $p>0.05$) and no significant relationship was found. Physical Education and Sports departments tend to create a tendency for action and maintenance. How to be a athlete may predict being creating. For example, do personality differences between sedanter and athlete be a reason fort he below results? 161 students said Yes and 122 said No to the question "Would you like to participate in the organizations and activities of the PES departments?" ($X^2=8.374$; $p=.398$; $p>0.05$) and no significant relationship was found. The fact that students wish to participate in organizations and activities at a high level affects the preparation and action stages positively. 171 students said Yes and 112 said No to the question "Do you use the university's facilities when you exercise?" ($X^2=38.241$; $p=.000$; $p>0.05$) and a significant relationship was found. The tuition payments and financial worries are lower in public universities than private universities. Furthermore, students are allowed to use social facilities longer and time restrictions have been lifted. As a result, the students in public universities can use the facilities and this has affected their Physical Activity Stages of Change positively.

155 students said Yes and 128 students said No to the question "Do PES departments have an effect on your physical activity?" (X^2=59.815; p=.002; p<0.05) and a significant relationship was found (Table 5). These students have relatively more friends in PES departments, and this has resulted in a higher number of Yes answers. This has affected their Physical Activity Stages of Change positively.

Another study using the Physical Activity Stages of Change Questionnaire in METU shows that new male students of METU have a higher level of physical activity when compared to female students, and students living in the dormitories also had a higher physical activity level when compared to students who lived in homes. Precontemplation, contemplation, preparation, action and maintenance stages of all of the METU students were found to be 9.2%, 39.3%, 27.8%, 14.5% and 9.2% respectively (Ebem, 2007). When we compare these findings with our study, it is evident that with a 22.7% in public universities and 37.3% in private universities in the maintenance stage, the exercise behavior was not only limited to contemplation, but that it also showed a maintenance tendency. Yıldırım and Bayrak (2017) conducted a study on students' participation in physical activities based on sports and its effects on their quality of life, academic success and social skills. In this study, 32.2% of the students (n=330) showed high participation in a physical activity based on sports; meanwhile, 28.8% of the students (n=295) did not participate in any activities and led quite the sedentary lifestyle.

In conclusion, in the Physical Activity Stages of Change of private universities, movement and maintenance stage ratios are 12.0 and 22.7% respectively, and 34.7% when these stages are combined. In public universities, the movement stage ratio is 24.7% and the maintenance 37.3%, which is 62% in total. Students of public universities have shown greater participation in physical activities. In the question where the effects of PES departments' effects on exercise was investigated, it was found that private university students from various departments did not have friends in the PES department, they did not utilize the facilities, they did not want to participate in the organizations and activities, and therefore the PES department was not effective in increasing the students' physical activities. 87.3% of these students said that they paid their own tuitions and that they had other financial problems, and therefore had to work in the private sector. As a result, they spent their recreative time outside of the campus and within work places.

Furthermore, they could not pay the membership fees for the physical education departments and they also could not find time in their schedules. In conclusion, they had a ratio of 34.7% in precontemplation. Students in public universities had a higher ratio of yes answers to these questions. Public university students do not have tuition fees to pay and their financial worries are 40% lower than the students of private universities. It is apparent that these facts have shaped their responses. The students who attended public universities have friends in PES departments and lots of people use the university's facilities.

Conclusıon

This has resulted in a higher number of students who wish to participate in organizations and activities. Therefore, the PES departments are directly involved in students' physical activities and this is evident by the answers that are given. This also shows that with a combined ratio of 62% in action and maintenance stages of the Physical Activity Stages of Change, participation is high on the moderate physical activity level.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

Carter VE (2009). Good Dictionary of Education, vol: 4 New York: McGraw Hill Book Company,; as cited: Keskin G ve Sezgin B, Fırat Determination of the Factors Affecting a Group of Adolescents in Academic Achievement. Health Services Magazine 4(10):3-18.

Çeker A, Çekin R, Ziyagil MA (2013). Regular physical activity stages of behavior change in women and men from different age groups. CBU Beden Eğitimi ve Spor Bilimleri Dergisi 8(1):11-20.

Çepni SA (2010). The relationship between healthy lifestyle behaviors, health focus of control and health self-efficacy of college students. Gazi University Institute of Social Sciences, Ankara, Unpublished Master's Thesis.

Cheung Chau-Kiu, Kwok Siu-Tong (2009). Activities and academic achievement among collage students. The Journal of Genetic Psychology 159(2):147-162.

Dalak H (2010). The relationship between healthy living behaviors and social support in patients with essential hypertension. Mersin University Institute of Social Sciences, Mersin, Unpublished Master Thesis.

Ebem Z (2007). Health Promoting behaviors and exercise stages of change levels of students attransition to universıty. Middle East Technical University, Unpublished Master Thesis.

Gür H, Küçükoğlu S (1992). Old age and physical activity, Roche publication, 9. https://www.nadirkitap.com/yaslilik-ve-fiziksel-aktivite-yaslilar-icin-egzersiz-programlari-hakan-gur-selcuk-kucukoglu-kitap5753498.html

Marcus BH, Selby VC, Niaura RS, Rossi JS (1992). Self efficacy and the stages of exercise behavior change. Research Quarterly for Exercise and Sport 63(1):60-6.

Marcus BH, Lewis BA (2003). The transtheoretical model postulates that individuals move through a series of stages as they adopt and maintain physical activity 4:1-8.

Yıldırım M, Coskun B (2017). The participation of university students in physical activities based on sport and the effect of the students' quality of life on academic achievement and socialisation (Sample of Eskisehir Osmangazi University. H. U. Journal of Education doi: 10.16986/HUJE.2017032928.

Özcebe H (2002). Approach to adolescent problems ın primary care, Hacettepe University, Faculty of Medicine. Halk Sağlığı AD 11(10): 374. https://www.halksağlığı.hacettepe.edu.tr

Priscilla S, Don A, Dillman (1994). How to conduct your own survey, John Wiley & Sons, Inc. Newyork. P 55.

Prochaska JO, Velicer WF (1997). The transtheoretical model of health behavior change. American Journal of Health Promotion 12:38-48.
Tümer A, Arslan AS, Pehlivan Ç, Sunna E, Koç O (2013). Examination of exercise behavior of adults according to transtheoretical model. Health and Society 3(1):24-31.
Şirinkan A (2002). Special teaching methods (I-II). Sefa Kırtasiye Matbaa, Erzurum.
Ziyagil MA, Tamer K, Kabasakal Ö, Kayacan Y (2016). University students' tendencies toward physical and sport activities. Turkish University Sports Federation. Project report, December.
Zahran SH, Zack MM, Mary E, Smiley V, Hertz MS, Marci F, Vernon MD, Marci F, Hertz MS (2007). Health-related quality of life and behaviors risky to health among adults aged 18-24 years in secondary or highereducation united states, 2003-2005. Journal of Adolescent Health 41:389-397.

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Comparative study of Turkey and Germany Life Science teaching programs

Tuncay Canbulat

Department of Elementary Education, Buca Faculty of Education, Dokuz Eylül University, İzmir, Turkey.

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Comparative education studies within the perspective of globalization are seen as important studies, as they reveal the problems in education and show defective aspects of the systems applied in other countries. This way they improve the available system. The purpose of this research is to study the current curriculum of Life Science lesson within the context of four main elements comparatively. The Life Science lesson, which is assessed in the Social Studies course in many countries, is taught in Germany in a similar way as the content in Turkey. Therefore, Germany was chosen as the country for compararison. The study is a qualitative study and the data was analyzed by document review method. Document review is the examination of a text by the researcher according to various criteria. In other words, it collects records and documents related to a study and encode and analyze them according to a certain norm and system. The research is limited to the analysis of the current curriculum of the Life Science lessons in Turkey and Germany. The results obtained in the research will support the understanding of the Life Science Education Program in Turkey and contribute to the new studies to be carried out.

Key words: Life Science course, comparative education, basic elements of the program, Turkey, Germany.

INTRODUCTION

Lessons within the area of Social Sciences, which are closely related to the social reality where students live have taken on the task of improving social participation skills of students, giving them citizenship competence and preparing them for citizenship by making them interact with other people and their environment in and out-of-school learning environments during primary and secondary school periods (Deveci, 2005). Life Science lesson is particularly taught to enable to students observe and examine daily events related to nature, family and social life, and to provide them with the necessary basic knowledge, skills and values. The Life Science lesson puts individuals who will become actors in shaping the future society with citizenship education for the first time and prepares them for life, by bringing democratic attitudes and values through events on the world of experience. In this regard, it is a strategic lesson in elementary school education.

As it is difficult to give a definite date regarding the beginning of the Life Science lesson, it can be said that the basis of Life Science thinking dates back to Plato, who thinks that "the student should observe and use the

E-mail: tuncaycanbulat@gmail.com.

learning object as much as possible". The founder of the Life Science lesson is considered to be Johann Amos Comenius (1592-1670) who wrote the first illustrated book "Orbis Sensualium Pictus (The World in Pictures)" (1658) for children. With this book, Comenius suggests that life should be considered as a whole at early ages (Tay, 2017).

Thus far, important developments have been in question for the Life Science lesson. With all these changes, the Life Science Lesson which started in Ottoman Empire period for the first time in 1869 has maintained its occurrence in the curriculum of Republic of Turkey. The curriculum which is similar to the Life Science lesson having been applied since 1869 in terms of pattern and content is only taught in Germany with the name "Sachunterricht" (Sachuntericht / Mensch Natur und Kultur in Germany or different names according to the provinces). The Sachunterricht lesson is a social and scientific discipline that is taught to children from the first grade to the end of the fourth grade enabling them to get basic knowledge about life, to recognize the world, and to acquire basic skills to adapt to the society. This lesson has five perspectives consisting of time and history, society and politics, place, nature and technique (Niedersächsisches Kultusministerium, 2006). "Sachunterricht Lesson" started in Germany in the 1920s with the Weimar Primary School Reform. However, the expression of "Sachunterricht" first appeared in the region of "Strukturplan für das deutsche Bildungswesen" (1970) which is important for the German education system (Baysal et al., 2018). The curriculum of "Sachunterricht" lesson, which is the topic of this study, was last updated in 2016 in Baden-Württemberg, Germany.

With the globalization gaining momentum, the interest in program development studies based on technologic and scientific developments is increasing day by day. Comparative education has been a source of inspiration for this study as it helps to understand the educational systems applied in other countries and to improve the current one by showing the defective aspects of the existing system and gives an idea of enriching educational practices. Most of the comparative studies actually attempts to improve education and training. For example, comparative education studies of institutions such as the OECD, the World Bank and UNESCO are the best-known ones of these improvement initiatives.

The purpose of this research is to examine up-to-date curriculums of the Life Science Lesson taught in Baden-Würtenberg Germany and Turkey comparatively within the context of four basic elements to be included in the study.

Subgoals of the research

(i) When was the Turkey and Germany Life Science Program updated?
(ii) How does Turkey and Germany Life Science curriculums compare in terms of 'target'?
(iii) How does Turkey and Germany Life Science curriculums compare in terms of 'content'?
(iv) How does Turkey and Germany Life Science curriculums compare in terms of 'educational statuses'?
(v) How does Turkey and Germany Life Science curriculums compare in terms of 'assessment and evaluation'?

METHODS

In the research, "descriptive approach" and "horizontal approach" from comparative education approaches and descriptive survey model from qualitative research models were used. In the horizontal approach, all dimensions of the education system are handled separately (Türkoğlu, 1998). In the descriptive approach, similarities and differences are compared by examining the related literature (Ültanır, 2000). According to Taba (1962), a teaching program has 4 items: target, content, educational status (teaching-learning process) and evaluation (Saylan, 1995: 36-37). In this study, the Life Science lesson is compared in terms of similarities and differences of two countries within the context of the Life Science curriculum.

Data collection tools

Primary sources have been examined in the research. "Primary Life Science Courses (1st, 2nd and 3rd grades) Curriculum" (2018) of Turkey and "Bildungsplan Grundschule Sachunterricht Program" (2016) of Germany-Baden Würtenberg State were examined as primary sources. Moreover, national and international articles, book chapters and theses were examined and the information given on the official web pages was used; also, these information were presented under related themes.

Data analysis

The data of the study was analyzed with the document analysis method. First of all, the literature was reviewed in order to make an inference regarding under what titles the comparison would be done. It was then checked whether the related documents were official, original and up-to-date sources. Finally, two different researchers analyzed the documents at the point of understanding and translating them into Turkish then they got together and checked them through. Through the data obtained, the admission dates, targets, course content, educational status and evaluation approaches of the current curriculums of both countries were compared. The current curriculum was updated in Jan 2018 in Turkey and in 2016 in Baden-Württemberg Germany.

FINDINGS

The analysis of the qualitative data of the study and the differences in the basic elements of the curriculum are given in the Tables 1 to 5. In addition, comments regarding data are given under each table.

Findings regarding the studies on updating the Life Science curriculum of Turkey and Germany

The Life Science curriculum was updated in January

Table 1. Comparison of Life Science Lesson in terms of 'target'.

Germany	Turkey
Target	
In this lesson, students gain basic knowledge about the social life of people currently and in the past, the place and the region they live in, nature and the World surrounding them.	Purpose of the program is to raise individuals who have basic life skills, who are self-aware, who live a healthy and safe life, who absorb the values of the society they live in, who are sensitive to nature and environment, who research, produce and love their country
Number of Achievements	
Sachunterricht focuses on competence. Students in Sachunterricht acquire qualifications that make the world with natural, technical, political, social and cultural contexts explainable and provide the basis for their future education. -Qualifications within the program 2. Number of qualifications to be gained at the end of the grade: 57 4. Number of qualifications to be gained at the end of the grade: 76	Life Science lesson focuses on achievement. The achievement is defined as the knowledge, skills and values that are expected from students thanks to the planned and organized experiences in the learning process (MEB, 2009). Number of achievement varies by units. -Number of total achievements: 1st grade: 53 2nd grade: 50 3rd grade: 45

Table 2. Comparison of Life Science Curriculums in terms of 'target'.

Germany	Turkey
Skill	
Skills seen in Germany can be summarized as follows: Observation, research, exchange of information, shaping the life together (social participation), understanding disagreements and finding a way round, perceiving the place, learning nature, reviewing predictions, perceiving time and date and making decisions. In addition, the skill of technical comprehension is also given importance: the use of materials, instruments and other tools in a proper and safe manner.	Skills seen in Turkey can be summarized as follows: Research, use of information technology and communication, perceiving change and sustainability, balanced diet, protecting nature, entrepreneurship, observation, communication, cooperation, making decisions, improving career conscious, use of sources, self protection, self-awareness, self-care, complying with rules, perceiving the place, learning national and cultural values, self management, protection of health, solving problems, social participation, time management.
Values	
Tolerance and accepting diversity, living together, showing democratic behaviours, thinking on time and history (sensitivity to cultural heritage, being in charge of nature, places and techniques.	Justice, friendship, honesty, self-control, patience, respect, love, responsibility, patriotism, helpfulness, loyalty, compassion, faithfulness, respect, solidarity, sensitivity to each other's problems, mutual grace, trust and kindness

2018 in Turkey. Starting from 2018-2019 academic year this program will be put into practice gradually. For this reason, in this study, the Life Science curriculum published by the Turkish Ministry of National Education [MEB] in January 2018 is evaluated as data.

Educational system is directly under the responsibility and authority of the provinces in Germany, where a federal educational and cultural policy is pursued. It reflects the cultural sovereignty of each province and essence of their independent structures. Thus, there are 16 different states, 16 different Ministries of Education and 16 different educational systems. The general purpose of the Germany's educational system is to provide everyone residing in Germany with equal educational opportunities depending on their interests, demands and abilities (Führ, 1996; Leschinsky and Cortina, 2003).

During the first four grades, Life Science lessons are taught in Germany under the names of 'Sachunterricht, Mensch Natur und Kultur, Heimat-und Sachunterricht and Heimat-und Sachkunde' and there are several differences between provinces. From the 5th grade onwards, such comprehensive courses as History, Geography, Science Education, Ethics and Citizenship Education are included in the curriculum with differences between provinces (Kab and Açıkalın, 2016).

Table 3. Comparison of Life Science Curriculums in terms of 'content'.

Germany	Turkey
Sachunterricht, with its interdisciplinary structure designed according to the collective teaching approach in Baden-Württemberg, Germany, provides students with basic knowledge to contribute to their present and future lives.	Unit-based understanding has been adopted in the 2018 curriculum. The units are also suitable for the spiral and expanding environmental design.
Unit Names of 2016 Curriculum:	Unit Names of 2018 Curriculum:
1-Democracy and Society	Life in our School
2-Nature and Life (Biological Assets and nourishment)	Life in our House
3-Working life and techniques (building a house, getting to know artisans, producing vehicle, making scale, etc.)	Healthy Life
4-Place and mobility (school road, school bus, bicycle, safe road, directions, compass, map etc.)	Safe Life
5- Time and change (hour, day, month, seasons, historical subjects, life in the past etc.)	Life in our Country
The unit called 'Experiments' are attributed to all units.	Life in Nature

Table 4. Comparison of Life Science Curriculums in terms of 'educational status'.

Germany	Turkey
- Lessons are given 3 h a week for 4 years.	- In 1st and 2nd grades, lessons are given 4 h a week and 3 h a week in the 3rd grade.
- In Germany, textbooks are used in lessons and they are not the primary source. Teachers use variety of sources in the educational environment.	- In- and out-of-school practices should be given importance in the course. Particularly out-of-school practices such as oral history, local history, museum visits, nature education, public institutions and organizations, and private institutions and organizations should be given importance and student-centered activities planned accordingly should be carried out.
- In regulating the learning process, the perception-thinking and learning conditions of primary school students are taken into account. Learning through experience forms the basis of the learning process as a learning method based on activities of the students.	- When the lesson is being taught in the class, students' previous experiences should be considered and a connection should be established between them.
Primary technics:	- Students should be able to use living and non-living things in their surroundings as a teaching material.
Painting evaluation, Text evaluation, Studying with a dictionary, Planning and making an experiment, Creating a time chart, Preparing and presenting a presentation, Interviewing and evaluation, drawing and presenting diagrams.	- Especially in the tasks given to the students for the research achievements, they should be supported with such activities as making presentation with posters, boards, brochures, newspapers, tables, graphics, etc.
	- Attention to students with special requirements!
	- In nature-based lessons, they can perform simple experimental activities.

Table 5. Comparison of the Life Science curriculum in terms of 'assessment and evaluation'.

Germany	Turkey
- Teachers do not call the roll in the first 2 years of the primary school. Marks are not written on report cards. A development certificate is issued	- Written examination is not done during the first 3 years of the school.
- Also, the first grade does not start with running hand; the running hand is taught as of the second grade and is meticulously used throughout the primary school. There is no obligation to use it in secondary school.	- For evaluation and assessment, it is based on multiple evaluation providing the use of recognition, process and result oriented approach together.
- From the third year, student working files, worksheets and process-result-oriented assessment methods are used. In this respect there is no difference from Turkey.	Such methods and techniques as written examinations, short answer tests, multiple choice tests, true false tests and oral examinations can be used within the scope of result and product focused traditional approaches. According to traditional approaches, more students' centered and realistic (authentic) methods and techniques can be used. And within the scope of evaluation and assessment approaches observation, interview, diagnostic tree, structured grid, self and peer assessment, student working file, grading key, worksheets, mind maps are used.

The State Institution for Development (Landesinstitut für Schulentwicklung) affiliated to the Ministry of Culture, Youth and Sports (Landesinstitut für Schulentwicklung) is responsible for the development of the curriculum of this lesson in the State of Baden-Württemberg, Germany; also, the relevant institution was updated and the curriculum put into practice in March 2016 (Source: http://www.bildungsplaene-bw.de). In addition, the Association called Gesellschaft (2013) für Didactik des Sachunterrichts (http://www.gdsu.de) conducts academic studies on the content of the Life Science Lesson.

Findings regarding the 'target' (knowledge, skill and other values to be provided to students) of the Turkey and Germany Life Science Lesson Curriculum

The "target", which is the first item in a teaching program, includes characteristics such as knowledge, skills, attitudes and behaviors to be brought in students. While each teaching program primarily includes objectives of that lesson, there are also a number of specific goals or achievements for each unit / topic in line with the based learning approach of the curriculum. Table 1 provides information on the "target" of the Life Science lessons of both countries.

The targets of primary schools in Turkey have been determined to be "bringing every Turkish child in basic knowlegde, skill, behaviour and habits required to become a good citizen; raising them in accordance with national moral understanding and preparing them for life and upper education by improving their interest, ability and capability "(MEB, 1973). In Germany, primary school targets are to improve children's learning ability and performance, to socialize them, and to prepare them for secondary education.

When Table 1 is examined, it can be said that the number of achievements/gainings in the Life Science curriculum of Turkey is more. In Turkey, the target of this lesson is to raise individuals who have basic life skills; who are self-aware; who live a healthy and safe life; who absorb the values of the society they live in; who are sensitive to nature and environment; who research, produce and love their country (MEB-Life Science Curriculum, 2018). The target of the Sachunterricht course in Germany is to help students understand the bases of the social and natural environment they live in. This process is carried out with an approach based on student experiences (Sachunterricht Grundschule, 2016).

When targets of these two programs are compared, it was seen that there are more competences for science, natural sciences and technology in Germany. In Turkey, while targets especially on Sciences are given Life Science lesson, subjects of Sciences were removed from the content of this lesson in 2013, and began being taught in a separate lesson. This may be contrary to the historical development of the Life Science course, but it is applied with this content today. Moreover, such a difference might be caused due to the fact that this lesson is given in the first 3 grades in Turkey and in the first 4 grades in Germany. Despite this, it can be said that majority of the targets are similar. In addition, the lesson is given in the first three grades in Turkey, while in Germany it is given in the first four classes, which creates such an important difference. A comparison table of the skills and values included in the "target" is given in Table 2.

It can be said that Life Science information skills and values are similar in Germany and Turkey. It is understood from Table 2 that skills teaching is more intensive and practical in Germany. However, in Turkey it can be said that it is focused more on value teaching. This may indicate the existence of other courses in value teaching in Germany. It can be said that the most important lesson on value teaching in Turkey in the first three grades is Life Science.

Findings regarding content (scope, approach and other subjects involved) of Life Science curriculums of Turkey and Germany

Table 3 gives information regarding content (scope, approach and subjects involved) which is the second element of the program.

This course in Germany does not include just one topic; it also covers social, socio-cultural, economics, biology, sexual education, history, geography, and security education. In other words, it is seen that many different disciplines in addition to Social Sciences and Sciences are also emphasized. The content of Sachunterricht is built on the basis of domain-specific units. They are neither hierarchically organized, nor should they be processed one after the other. Accordingly, it can be said that the Life Science lesson in Germany continues to be a course consisting of many different disciplines. In Turkey, the content of science has been given up since 2013, and science lessons began to be taught in a separate lesson. As seen in the units, the content mostly focuses on life skills and social rules. Only the "Life in Nature" unit is different from this content, it provides teaching of nature subjects (plants, animals, seasons, recycling and astronomy). The fact that Turkey gives this lesson only in the first 3 grades causes Turkey to be more limited comparing to Germany in terms of subject distribution.

Findings regarding the educational status (learning-teaching process) of Life Science lessons in Turkey and Germany

Table 4 gives information regarding educational status (learning-teaching process) which is the third element

of the program.

When Table 4 is examined, it attracts attention to the student-centered programs. In both countries, it is seen that there are no teacher-centered methods, and out-of class/school learning environments are intensely used. In Germany it is seen that students study independently and collaboratively, they conduct group study, verbal studies (verbal presentations, presenting their own solutions, etc.), and the education system also involves applications (preparing model and poster, drawing, mathematical travel diaries, portfolio, independent research) and finally written studies (written exercises, research books, workbooks, portfolios). Museums, historical sites, historic streets, monuments, laboratories, natural parks, zoos, forests, science centers, business premises, working places, government institutions, etc. are at the top of the places which can be used as an out-of-school learning environment.

Also, in Turkey, such out-of-school activities as oral history, local history, museum visits, nature education, recognition of governmental agencies and private institutions and organizations are given importance and accordingly it is suggested that student centered activities planned beforehand should be carried out. Again, in studies where students are expected to conduct research, they should be encouraged to share results of their research with their classmates using poster, board, brochures, newspaper, table, graphics, and so on (MEB, 2018).

Findings regarding the assessment and evaluation of Turkey and Germany Life Science lessons

Table 5 shows results of the analysis assessment and evaluation, the final element of the program.

It can be said that there are similar applications between the two countries in terms of evaluation and assessment in primary school. In Turkey, 1st, 2nd and 3rd grades students are assessed as "very good", "good" and "to be developed"; in the 4th grade written and oral examinations are done. In Germany, there is no grading in the first and second grades, oral and written evaluations and guidance start in the 3rd and 4th grades. In addition, branch teachers start teaching in Germany from the third year (Ikizer, 2004). Therefore, children are given marks only through observational evaluation in the 1st and 2nd grade, and through written and oral evaluation in 3rd and 4th grades.

DISCUSSION

It is seen that comparative studies under different titles have been carried out, although these kind of studies are limited in this field where Life Science course is compared. In the study carried out by Pamuk and Pamuk (2016) on the comparison of Life Science textbooks of Turkey and Germany, it was put forward that visuals materializing the knowledge are used more intensely in Germany. Again, in the study of Tural et al. (2017) called *"Comparison of Life Science Textbooks of Turkey and Germany in terms of Image Text Use and Relations",* results supporting the previous study have been reached. Finally, in the research of Baysal et al. (2018), Life Science curriculum of the State of Germany-Hamburg and Turkey was compared. Baysal et al. (2018) indicate that in Turkey's Life Science course being a good Turkish citizen is emphasized; in Germany- Hamburg Life Science course puts more emphasis on improving learning ability and socializing students. They also indicate that there are similarities between two countries in terms of assessment and evaluation and that many different disciplines have been emphasized in this course rather than emphasizing only Life Sciences or Science. These findings show similarity to the results of this study.

In the research of Keskin (2017), ıt was found that the acquisition groups in Germany focus on technical perception and solving of the problems, describing the use of simple materials, having basic knowledge about transportation of wastes, having knowledge about the assembly, being well-informed about the effects of technical inventions, and becoming familiar with the energy and water supply. When the related gains were examined, the gains in the production area were observed to remain superficial in the Life Sciences program according to the Sachunterricht program. The students in the Life Sciences program only have a role to observe production, while the students are performing the production itself in the Sachunterricht program. And, results supporting the previous study have been reached.

As a result, although the course names are similar between two countries, Life Science lesson is strained to be conveyed in different conditions and contents. Ideally, the content of a course which prepares people for life, such as Life Sciences course, should be directly based on active participation in life besides text books and knowledge-based learning experiences. This way, they can become aware of social and political situations they face and get influenced by their ability to understand processes improves and acquire social participation skills.

Suggestions

Similarities and differences were revealed under the titles determined by the researchers. Accordingly, the following suggestions can be made:

i) In Turkey, Life Science lesson should be planned again considering the wide range of design and spiral principle and in a way to cover the contents of Science and Social Sciences lessons.

ii) In Turkey, "Life in Nature" unit should be revised to increase sensitivity to the natural environment. A section like the 'Technical' unit in Germany (such as building houses, knowing craftsmen, making vehicles, scales, etc.) can be added to the 'life in nature' unit.

In general, it can be stated as a researcher's observation that designs of curriculums of both countries are similar, but the contents of textbooks in Turkey are not sufficient to meet the achievements of the curriculum. Accordingly, it is considered that the textbooks used in other researches should also be compared.

Conclusion

The reasons underlying the urge to prepare a new curriculum in education system are the hardships encountered within the present curriculum, the opinions mentioned in the national or international meetings to solve the mentioned hardships, demands of new generation students and teachers, changes in the social structure and developments in various branches of science School curricula are like dynamic organic bodies that are constantly developing. Thus, it would be more meaningful to consider the fact that the new curricula reflect the previous ones and as a result of societal improvements, some innovations will eventually emerge (Sahin, 2017). Curriculums should be in constant development like organic structure, and they should be dynamic. Therefore, it is a right approach to think that the programs to be created are based on previous ones and to expect some innovations according to the developments in the society.

Program development is a process. Within this process, curriculums can be developed with evaluations based on quantitative and qualitative data. The purpose of this research is to improve curriculums applied by comparing Life Science courses taught in Turkey and Germany. Today, the content of the Life Science courses in other countries, except Turkey and Germany, is given with different named course or courses; in America it is taught in 2 separate courses as Life Science and Science; in France as exploring the World and citizenship education. In the UK, there is a single discipline such as history, geography, citizenship and psychology (Tay, 2017).

In this study, curriculums are examined according to the elements of target, content, educational status and evaluation. In conclusion, it is seen that the equivalent of the Life Science lesson taught in Turkey during the first three years of primary school is Sachunterricht, taught in the state of Baden-Wurttemberg; while in Germany it's the first four years of the primary school. In addition, similarities and differences between the curriculums of the Life Science lessons taught in both countries have been addressed in the study.

As a result of the analyses made according to the criteria, it is determined that the educational status and evaluation approaches of the programs are almost the same and the target and contents are more interdisciplinary in Germany. It is seen that, in Germany, it is much more comprehensive in particular in terms of nature, living things, sexual education, time and change, science and technique (designing and developing various materials). Moreover, the lessons in German schools are not only taught didactically and in classrooms; museums, historical places, historical streets-roads, monuments, laboratories, natural parks, zoos, forests, science centers, workplaces, governmental institutions, etc. are indicated to be main places to be used as out-of-school learning environments (Höpken, 2003). There is also similar understanding within curriculum of Turkey; however it is said that this is not applied (Tay, 2017).

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

REFERENCES

Baysal ZN, Tezcan Ö, Araç KE (2018). Comparison of Life Science courses in Turkey and Germany-Hamburg: A general outlook. Journal of Theoretical Educational Science 11(1):117-134.

Deveci H (2005). Sosyal bilgiler dersinde gazete kullanımı. The Turkish Online Journal of Educational Technology 4(3):159-166.

Gesellschaft für Didaktik des Sachunterrichts (GDSU) (Hrsg.). (2013). Perspektivrahmen Sachunterrichts. Bad Heilbrunn: Verlag Julius Klinkhardt.

Führ C (1996). Deutsches Bildungswesen seit 1945. Germany-Bonn: Inter Nationes.

Höpken W (2003). Tarih eğitiminde yeni yönelimler. Toplumsal Tarih Dergisi 112:56-59.

Ikizer İ (2004). Almanya, Fransa ve Polonya'nın eğitim sistemlerine genel bir bakış. Üniversite ve Toplum Dergisi 4(3):8-24.

Kab İ, Açıkalın M (2016). Real Life Activities in Social Studies Education: Examples from Germany, United States and Japan. The Journal of National Education 45 (211):45-62.

Keskin T (2017). The technology in the programs of Life Sciences in Turkey and sachunterrıcht in Germany. International Technology and Education Journal 1(1):10-15.

Leschinsky A, Cortina KS (2003). Zur Sozialen Einbettung Bildungspolitischer Trends. In: Der Bundesrepublik. K. S.Cortina, J. Baumert, A. Leschinsky, K. U. Mayer, L. Trommer (Hg.). Das Bildungswesen In Der Bundesrepublik Deutschland (20-52). Hamburg: Rowohlt Verlag.

Bildungsplan Grundschule Sachunterricht (2016). Bildungsplan Grundschule Sachunterricht. http://www.bildungsplaene-bw.de/,Lde/LS/BP2016BW/ALLG/GS/SU, Date of Access: 05.03.2017

Ministry of National Education [MEB] (1973). Milli Eğitim Bakanlığı 1739 sayılı temel eğitim kanunu. No: 14574.

Ministry of National Education [MEB] (2009). İlköğretim hayat bilgisi dersi öğretim programı. Ankara: Talim ve Terbiye Kurumu.

Ministry of National Education [MEB] (2018). İlkokul hayat bilgisi dersi öğretim programı. Ankara: Talim ve Terbiye Kurumu.

Niedersächsisches Kultusministerium (2006). Kerncurriculum Für Die Grundschule Schuljahrgänge 1-4 Sachunterricht. Hannover: Niedersächsisches Kultusministerium.

Pamuk İ, Pamuk A (2016). Almanya'da Sachunterricht ve Türkiye'de hayat bilgisi ders kitaplarında okulda demokrasi uygulamalarına örnek olarak sınıf başkanı seçimi. Cumhuriyet International Journal of Education 5(2):67-83.

Sahin M (2017). Social studies curricula in Turkey: Historical evolution. European Journal of Education Studies 3(2):48-64. Doi: 10.5281/zenodo.241260
Saylan N (1995). Eğitimde Program tasarısı temeller, prensipler, kriterler. Turkey-Balıkesir: İnce Ofset
Tay B (2017). Hayat bilgisi: hayatın bilgisi. B. Tay (Ed.), Hayat Bilgisi Öğretimi (p. 1-43). Ankara: Pegem Akademi Yayıncılık.
Tural A, Şahan G, Işık AD, Özdemir S, Uysal H, Yılmaz O (2017). Comparison of Life Studies Course textbook in Turkey and Germany from picture-text relations and usage. Bartin University Journal of Faculty of Education 6(2):770-782. Doi: 10.14686/buefad.320432
Türkoğlu A (1998). Karşılaştırmalı eğitim, dünya ülkelerinden örneklerle. Adana: Baki Kitabevi.
Ültanır G (2000). Karşılaştırmalı eğitim bilimi. Ankara: Eylül Kitabevi.

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Existential intelligence among graduate students at the World Islamic Sciences University in Jordan

Esam Abdullah Al Jaddou

Department of Special Education, Faculty of Educational Sciences, The World Islamic Sciences and Education University (WISE), Amman, Jordan.

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Existential intelligence is often neglected in literature, especially at the tertiary level. Therefore this study aims to identify the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University in Jordan. In addition, the study aims to find out whether this degree differs according to a number of variables. The study sample comprised 56 male and female Faculty of Educational Sciences graduate students of 2017/2018 academic year. In order to achieve the objectives of the study, existential intelligence scale was used after the scale's validity and reliability was examined. The results indicated that the total degree of existential intelligence among graduate students at the Faculty of Educational Sciences at World Islamic Sciences University was average (medium). Furthermore, the results revealed that there were no statistically significant differences in the degree of existential intelligence due to gender, specialization and years of experience, marital status, and work position variables at the significance level of p≤0.05.

Key words: Existential intelligence, World Islamic Sciences University, graduate students.

INTRODUCTION

The mental field of study is considered as one of the areas that have captured a great deal of interest from researchers in the psychological and educational sciences. Researchers face several challenges in the study of intelligence. This led to the emergence of several trends' attempt to interpret the intelligence. One of these trends is the traditional trend, which considers intelligence as a general mental ability; while there is another view of intelligence that states intelligence is a set of multiple mental abilities or multiple intelligences. The classical traditional theory of intelligence is based on the idea of general ability (Jarwan and Abdel, 2016). Al-Eid (2014) study confirmed that the theories interpreted intelligence focused on few mental abilities and neglected the ones that are related to humanistic, existential, spiritual, and physical domains.

The psychologist scientist, Thorndike, was the first to categorize intelligence into three types of capacity: mechanical ability, abstract ability, and marital ability. Another theorist Gilford argues that the basic types of intelligence include mental processes, contents, and outputs (Wahsha, 2012). However, in the last quarter of the twentieth century, a remarkable progress was achieved in this direction. For example, Howard Gardner, the author of "Frames of Mind", presents a theory of multiple intelligences, where he lists seven types/ modalities of intelligences and they are: linguistic, logical-mathematical, spatial, bodily kinesthetic, musical,

E-mail: aa1b2255@yahoo.com.

interpersonal and intra-personal intelligence (Al-Sharbini and Sadik, 2002). Gardener kept on developing his efforts in this field and in 1996 he added another type, naturalistic intelligence (Jarwan and Abdel, 2016), then he added a new modality, existential intelligence, as the ninth type in the list of multiple intelligences (Gardner, 1999).

These types of intelligences are characterized by being flexible, not rigid, which can be developed across an individual's life. Furthermore, Gardner divided individuals into three categories, that is, individuals with multiple intelligences: High-growth, medium growth, and those with low growth in these intelligences (www.Kenanaonline.com). Subhi (2018) argues that each person possesses different degrees of intelligence (IQ), which represents independent mental abilities that any person is able to form and adapt within his cultural context in several manners. In this regard, the multiple intelligences theory highlights the importance of providing adequate environmental opportunities such as social groups or circles to reinforce and activate these types of intelligence (Mahmood, 2017).

The multiple intelligences theory envisages that intelligence as a concept is not only one type; but so many types, and the level of intelligence (IQ) varies from one person to another. Everyone has a unique personal combination of these types, in that using one of these types could contribute in developing a new one (Saeed, 2017).

Gardner and Hatch (1989) believe that while these intelligences are anatomically separate, they rarely operate individually and independently; rather, it works in a harmonious, consensual and complement each other. When an individual develops a skill or solves a problem, he/she uses most of these intelligences. For instance, students who need to excel academically, will use mathematical or logical, linguistic, intrapersonal intelligence, and interpersonal intelligence; each one performs differently. From this view, Al-Ali (2017) points out that the multiple intelligences theory contributes in refreshing the educational work leading its ideas toward the learner and his effective role in the learning process; taking students individual differences into consideration, and as consequence, its principles focus on the students' interests and tendencies.

Moreover, Rayan (2013) opines that there is a statistically significant differences in the level of the types of intelligence due to students gender in favor of the female students; in contrast, Al-Obaidi (2016) study findings shows that there are no statistically significant differences in students existential intelligence among university students due to gender and specialization, and there is a statistically significant difference due to academic level in favor of the fourth year students. The multiple intelligences theory states that these types of intelligence is not the end of its effort, by continuous research there is possibilities of suggesting new types such as sexual and digital intelligence, therefore the theory claims the necessity of reviewing the nature of these types in light of biological background (Mohammad, 2015).

Moreover, Gardner (1983) defines intelligence as the "ability" or "a biological and psychological potential" to process information that could be activated in a cultural context to solve problems or to create a valuable product in a culture. Thus, intelligence from Gardner's point of view is a set of skills that enables the individual to solve problems and the abilities that enable individual to produce something of appreciation and social value. Also, it is the ability to add new knowledge, in other word it is not a one-dimensional concept, but a multidimensional one (Ahmed, 2003). The contributions of Gardener in this field are substantial, whereas, he defines existential intelligence as the ability to think abstractly and think about life, death and beyond nature (Gardner, 1983). Gardner believes that existential intelligence is half intelligence, since he was unable to determine its biological location or its location in the human brain; but there is constant research in the field of multiple intelligences so as to verify the validity of its existence in humans (www.Kenanaonline.com).

Existential intelligence is concerned with the study of the science of existence, thinking and contemplation of existence, the creation of the universe, and the issues of life. This intelligence is often expressed by philosophers, and the individual, who possesses this type of intelligence, always tends to ask questions about multitude of issues such as: the existence of man and death, and questions about who we are, where we come from, why are we here and why do we die (Checkley, 1997). Moreover, Individuals with existential intelligence have an understanding of their ideas, which are sharp and they tend to understand and interpret new ideas through their own ideas and experiences (McCoog, 2010). A note worth mentioning is that, the previous studies conducted on existential intelligence are rare and scarce, for the best of the researcher's knowledge. The researcher will present these studies on two domains. The focus is on existential intelligence in particular, which is rare as mentioned earlier, and multiple intelligences theory.

One of the previous studies on existential intelligence is the study of Sawadi et al. (2017) that aim at investigating the degree of existential intelligence among bachelor students in the Faculty of Education in Iraq, and to identify whether the existential intelligence varies according to gender variable. The sample of the study consists of 168 students and the study tool was existential intelligence scale. The results indicate that the degree of existential intelligence among the students of the Faculty of Education was average and the results also indicated that there were statistically significant differences according to gender variable in favor of female students.

Al-Zubi et al. (2015) conducted a study aimed at identifying the level of existential intelligence among the students of the Faculty of Education at Yarmouk University in Jordan. Findings revealed that the level of existential intelligence among students of the Faculty of Education was medium. The results also showed that there is a statistically significant difference in the effect of gender on females and the existence of statistically significant differences due to the variable of student level in favor of fourth and third year students. However, there were no significant differences due to the interaction effect between the gender of the student and his/her academic level.

Shearer (2005) aims to identify the association of existential intelligence with other types of intelligences. The study sample consists of 547 male and female students divided into three groups: secondary school students, university students, and teachers. The results showed that the order of existential intelligences of the sample came last among other intelligences (43.2). The results showed also, that the means of the teachers' class reached 56.6 and the university students with means of (45.06) and finally the secondary school students with means of (37.6). The rest of the mean values for the other types of intelligences ranged from 40.9 to 55.7 at medium level.

Al-Rabee (2013) studied the level of spiritual intelligence among students of the Faculty of Education at Yarmouk University in Jordan and to attain whether this level varies according to the student's gender and level of achievement. The sample consisted of 256 students from the bachelor level. The results indicated that the level of spiritual intelligence was medium. There were statistically significant differences in the effect of gender on the level of spiritual intelligence, while there were statistically significant differences in the level of spiritual intelligence and the exclusion of critical existential thinking according to the variable of achievement in favor of higher achievement.

Al-Alwan (2010) identified the preferred intelligences according to the theory of multiple intelligences among the students of the fourth and eighth grades students in Jordan. The sample consisted of 623 students. The results showed that most of the preferred intelligences among the fourth-grade students include linguistic, logical, spatial and bodily-kinesthetic intelligences; while Eighth grade students prefer bodily-kinesthetic, intrapersonal, musical, and the naturalistic. The results showed that the least intelligence preference was interpersonal and existential. With regard to gender, the male students prefer skills that highlight logical and bodily-kinesthetic intelligence, while musical intelligence is the female preference.

Nofel and Alhilah (2008) investigated the differences in multiple intelligences among first year students of the institutions of higher education in UNRWA in Jordan. The results show that the most common types are: linguistic, intrapersonal, bodily-kinesthetic, existential, spatial, mathematical-logical, naturalistic and musical, chronologically. The results also shows that there are statistically significant differences according to gender variable in mathematical, spatial, interpersonal, and existential intelligence, in favor of females; while the difference in musical intelligence was in favor of males and there is absence of differences in linguistic, bodily-kinesthetic, naturalistic and intrapersonal intelligences according to gender variable.

Dsouza (2006) aims to identify the types of intelligences among students of the Department of Architecture at one of the US universities with a sample of 100 students in the second year. The results show that the Architecture students displayed their spatial, naturalistic and logical intelligence.

In summary, previous studies which examined existential intelligence are still limited and rare in comparison to the large number of studies on the theory of multiple intelligences as a whole. This shows the importance of conducting more studies on existential intelligence as a measure, and taking multiple samples of university students. Perhaps this study is distinguished because it discusses existential intelligence among graduate students. In addition the study variables are not covered in previous studies.

The problem of the study

The theory of multiple intelligences is based on the assumption that individuals possess multiple types of abilities; as a result, they do not all learn in the same way. However, each person has all types of intelligences in varying degrees and proportions and can develop these types of intelligences through training. From this point of view, it is important to investigate existential intelligence among graduate students. So, this study attempts to reveal the degree of existential intelligence in a sample of graduate students. The problem significance stems from the lack of studies on existential intelligence and lack of accessibility to graduate students in particular. This prompted the researcher to conduct this study, so as to obtain if there are differences in the level of existential intelligence attributed to gender, specialization and years of experience, marital status, and work type. Specifically, this study attempts to answer the following questions:

Question 1: What is the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University?

Question 2: Are there significant differences at the level of significance ($p \leq 0.05$) in the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University attributed to: gender (male, female), specialization (counseling, special education

Table 1. Distribution of study sample by study variables.

Variable	Variable classification	Number	Ratio (%)
Gender	Male	28	50
	Female	28	50
Marital status	Single	18	3 2. 2
	Married	38	67.8
Years of experience	1-5	22	39. 3
	6 - 10	22	39. 3
	>10	12	2 1. 4
Student Specialization	Psychological counseling	20	3 5. 6
	Special Education	18	32. 2
	Curriculum and Teaching	18	32. 2
Work type	Governmental	40	71. 4
	Private	16	28. 6

and, Curriculum), years of experience, marital status (married, single), work type (governmental, private section)?

Operational definitions

1. Existential Intelligence: The sum of respondent scores on existential intelligence scale used in this study.
2. Graduate students: All graduate students enrolled in the Faculty of Educational Sciences and registered officially for the 2017-2018 academic year. Those students are divided into three specializations as follows: psychological counseling, special education, curriculum and teaching.

MATERIALS AND METHODS

The study aims to identify the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University in Jordan. To fulfill this aim the quantitative research method was applied, using the descriptive survey which is more appropriate for the subject of the study. The researcher identified the study population, which the sample of the study was chosen from. The researcher distributed the tool to the sample, and was later retrieved from the sample.

Population and the sample of study

The study population comprises all graduate students in the Faculty of Educational Sciences at the World Islamic Sciences University, Jordan and is registered officially for the 2017-2018 academic year. The total number of students is 169, consisting of 66 students in the field of psychological counseling, 64 students in special education, 69 students in the specialization of curricula and teaching. The sample of the study involves 56 students who were randomly selected by 33% of the study population. Table 1 shows the distribution of the study sample.

Tool of the study

The study uses the existential intelligence scale developed by Al-Zubi et al. (2015) which was derived from Shearer's (2005) scale. The measure consists of 20 items, in the current study. Some items of the scale were modified in terms of wording or method, thus the scale in its final version consists of 20 items.

Validity of the scale

The validity of scale in its original form

Al- Zubi et al. (2015) verified the face validity of the scale by presenting it to seven referees who hold a Ph.D. degree and are experts in the field. The suggested modifications are made on the basis of the opinions of the referees in terms of language mutation, internal structure validity and using Likert-type response scale. The validity in terms of scale internal structure was calculated using correlation coefficient for each item of the scale and the total score on the scale on a sample of (55) male and female students from outside the study sample. The values of correlation coefficients between the items and the total score ranges from 0.250 to 0.626, which are statistically significant values indicating the validity of the scale.

Validity of scale in the current study

The scale was verified in its initial form by a group of professors from ten Jordanian Universities. They presented their opinions and observations on the relevance of the standard clauses, as well as the clarity of its language formulation. Their remarks were taken into

consideration.

Reliability of the scale

Reliability of the scale in its original form: The reliability of themeasure was determined using two methods: the consistency of scale scores using Cronbach Alpha coefficient, where the scale was applied to a sample of (45) students from outside the study sample (alpha=0.84); and the second method was stability coefficient using the test-retest method on a sample of (45) students from outside the sample of the study with two weeks period on the same sample, where the value of Pearson correlation coefficient between the two applications was (0.87).

Reliability of the scale in the current study: The study instrument reliability was examined using two methods**:** The consistency of scale scores using Cronbach Alpha coefficient. The internal consistency coefficient was 0.776 and the test-retest method was utilized by presenting the questionnaire to 20 individuals from outside the study sample, and the stability coefficient of the test using the Pearson correlation coefficient was calculated between the results of the two applications. The stability coefficient in this method was 0.810, which was an acceptable stability coefficient indicating the reliability of the measure.

Procedures of the study

1. The tool of the study was developed and the psychometric properties were verified: validity and reliability.
2. The researcher identified the study population, where a formal statistics was requested and officially provided from the department of admissions and registration at the world Islamic Sciences University in Jordan. The researcher then chose a random sample of 33% of the study population.
3. The study tool was distributed on the sample after clarifying the objectives of the study and the mechanism for responses.
4. The study tool was retrieved from the sample by 100% respondent rate.
5. Data was entered into the computer and processed statistically.
6. The average score of responses was divided into three categories (high, medium, low) according to the following formula: Length of the period = the range of the scale divided by the number of scale categories, that is, (5-1)/3 = 1.33.

The categories are as follows: 1- 2.33 (Low); 2.34- 3.67 (average); 3.68-5 (high).

Study variables

Independent variables

This study included the following five independent variables:

1. Gender: male, female.
2. Student specialization: Psychological counseling, Special education, Curriculum and teaching.
3. Marital status: single, married.
4. Years of experience: 1 - 5 years, 6 - 10 years, 10 years and above.
5. Work type: governmental and private sector.

Dependent variables

This is the degree of existential intelligence.

Statistical analysis

The researcher used the Statistical Package for social Sciences (SPSS) to conduct the necessary analyses and statistics for the questionnaire data. In order to answer the first question, the means, standard deviations, rank and degree were used. To answer the second question, means, standard deviations and (t-Test) for independent samples and one way analysis of variance (One-way ANOVA) were used.

RESULTS AND DISCUSSION

This section includes an overview of the findings of this study by answering its following questions.

The degree of existential intelligence among a sample of graduate students at the World Islamic sciences University

To answer this question, the means and standard deviations of the existential intelligence level were calculated in a sample of graduate students at the World Islamic Sciences University, as shown in Table 2.

As shown in Table 2, the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University was medium. The means was 3.67 and the standard deviation was 0.34. All items were in the high and the medium level, with standard deviations ranging from 2.46 to 4.64. Item 15 comes in the first rank, which states, "Do you really think about the reality or the people?" with means of (4.64) and a standard deviation of 0.55 as a high score. Item 14 comes in the second rank and it states "Do you discover philosophical ideas in written works or works of art", with means of 4.45 and a standard deviation 0.89 with a high score. Item 16 which states "Have you thought about the suffering of people and the causes?" comes in the rank before the last one, with means of 2.70 and a standard deviation of 0.69, its score was medium. The last rank goes for the item 12 which states "Did you think about the origins or beginnings of humanity" with means of 2.46 and a standard deviation 0.57, with a medium score.

These findings showed that the level of existential intelligence on the total score was at a medium level/degree. This result can be explained by the fact that the educational environment which includes its curricula, teachers, teaching methods, educational philosophy and various stages of study, from secondary school to university do not support the development of this type of intelligence. Gardner pointed out that multiple intelligences can be developed through training. This result can be explained in the light of the family's lack of interest and knowledge of the development of this type of intelligence, in addition to the lack of interest in the institutions, the community and the media to develop this intelligence. This result can also be explained in the light of the scarcity and rarity of studies conducted around it.

Table 2. The means, standard deviations, rank and degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University are ranked in a descending order.

Number	Item	Means	Standard deviation	Rank	Degree
15	Do you think about reality or people?	4.64	0.55	1	High
14	Do you discover philosophical ideas in written works or works of art?	4.45	0.89	2	High
18	Do you discuss philosophical questions and answer them?	4.18	0.77	3	High
17	Do you discuss religious topics that have no answers?	4.13	0.97	4	High
9	Do you spend time praying?	4.07	0.83	5	High
11	Are you looking for answers in-depth for questions about life?	4.05	0.88	6	High
7	Do people close to you think you understand the basic issues in life?	3.91	0.82	7	High
6	Do you think about issues such as eternity, honesty, justice, goodness?	3.88	0.79	8	High
10	Do you spend time contemplating understanding the mysteries of the universe?	3.88	0.88	8	High
8	Do you spend time fixing other quarrels between who live around you?	3.84	0.80	10	High
3	Are you always working towards your goals?	3.75	0.72	11	High
1	Do you think about the spirit?	3.73	0.70	12	High
5	Do you spend time discussing a certain philosophy or belief?	3.73	0.73	12	High
4	Do you spend time reading or thinking?	3.71	0.73	14	High
2	Do you think about what happens to us after death?	3.66	0.70	15	Medium
20	Do you think there is life on other planets?	2.96	0.91	16	Medium
13	Have you thought about the secret of life?	2.80	0.82	17	Medium
19	Do you think there are ghosts?	2.79	0.80	18	Medium
16	Have you thought about the suffering and causes of people?	2.70	0.69	19	Medium
12	Have you thought about the origins or beginnings of humanity?	2.46	0.57	20	Medium
The total degree of existential intelligence		3.67	0.34		Medium

This result is consistent with the results of the study of Sawadi et al. (2017), Al-Zubi et al. (2015), Nofel and Al Hilah (2008); it disagrees with Shearer (2005) which found that the degree of existential intelligence came to low score. It also disagrees with the results of Alwan (2010).

The differences in the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University due to variables: gender (male, female); specialization (counseling, special education and, curriculum); years of experience; marital status (married, single); and work type (governmental, private sector). This question was answered as follows:

Gender variable

The means and standard deviations of the existential intelligence level in a sample of graduate students at the World Islamic Sciences University were calculated using the gender variable (male and female). The t-test is also shown in Table 3.

The results in Table 3 indicate that there are no statistically significant differences at $p \leq 0.05$ for the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University depending on gender variable (males, females) as t-value is calculated at 1.501 and at a significant level (0.139), which is not statistically significant. This result can be attributed to the fact that students, whether male or female, receive the same education and live in similar families and environment. The fact that this environment does not develop existential intelligence is reflected in both male and female students. This result is consistent with the results of Rabee (2013) study and in disagreement with the results of Swadi et al. (2017), Al-Zubi et al. (2015), Nofal and Alhilah (2008) studies

The specialization variable

The means and standard deviations of the existential intelligence level were calculated in a sample of graduate students at the World Islamic Sciences University according to the specialization variable (counseling, special education, and curriculum), as shown in Table 4.

Table 4 shows the existence of apparent differences between the means of the existential intelligence level in a sample of graduate students at the World Islamic Sciences University according to the variable of specialization (counseling, special education, and curriculum). The highest score was for the curricula with a mean of 3.73, followed by counseling with mean of 3.66 and finally special education with a mean of 3.61. To

Table 3. The means and standard deviations of the degree of existential intelligence in a sample of graduate students at the University of World Islamic Sciences and t-test according to gender.

Gender	Number	Means	Standard deviation	T value	Level of significance
Male	28	3.73	0.36	1.501	0.139
Female	28	3.60	0.31		

Table 4. Means and standard deviations of the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University according to specialization.

Specialization	Number	Means	Standard deviation
Counseling	20	3.66	0.37
Special Education	18	3.61	0.31
Curriculum	18	3.73	0.35
Total	56	3.67	0.34

determine whether the differences between the averages were statistically significant at the degree of significance ($p \leq 0.05$), one way ANOVA was applied, and the results of the variance analysis were presented as shown in Table 5.

The results in Table 5 shows that there are no statistically significant differences at $p \leq 0.05$ in the existential intelligence of a sample of graduate students at the World Islamic Science University according to the specialization variable (counseling, special education, and curriculum) based on calculated F value was 0.531 with a significance level of 0.591, which is not statistically significant. This result can be confirmed by the previous results. The lack of attention to the development of existential intelligence by the educational institutions has been reflected in the students, despite the different academic disciplines they study at the university. This result may have been consistent with previous results. There are no previous studies dealing with the study of this variable with existential intelligence due to the lack of studies on existential intelligence in general and perhaps this is what distinguishes this study.

Variable years of experience

The mean and standard deviations of the degree of existential intelligence in a sample of graduate students at the University of Islamic International Sciences were calculated according to the variable, years of experience. Table 6 shows statistically significant differences between the means of the existential intelligence level in a sample of graduate students at the World Islamic Sciences University according to years of experience variable. The highest rank was (6 to 10 years) of experience with a mean of 3.70.

The second rank goes for more than 10 years with a means of 3.68. Finally, the means for the 1- 5 years of experience is 3.63. To determine whether the differences between the means were statistically significant at the degree of significance ($p \leq 0.05$), one-way ANOVA was applied as it is shown in Table 7.

The results in Table 7 indicate that there were no statistically significant differences at $p \leq 0.05$ in the degree of existential intelligence in a sample of graduate students at the World Islamic sciences University according to years of experience variable, based on calculated F- value that got to 0.209, with a significance level of 0.812, which is statistically insignificant. This result shows the absence of the interest of practicing the existential intelligence. The sample refers to teachers, and this result indicates that there are no differences between them despite the different years of experience among them. This confirms the weakness and lack of application of existential intelligence or developing it among their students. There is a need to pay more attention to the development of existential intelligence. There are no previous studies for this variable.

Variable marital status

The mean and standard deviations of the existential intelligence level were calculated in a sample of graduate students at the World Islamic Sciences University for the variable marital status (married, single). The t-test is shown in Table 8.

The results in Table 8 indicate that there are no statistically significant differences at $p \leq 0.05$ level of existential intelligence in a sample of graduate students at World Islamic Sciences University according to marital status (married, single) based on calculated T-value at

Table 5. Analysis of ANOVA conducted to find the significance of differences for the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University according to specialization (counseling, special education, and curriculum).

Source of difference	Total squares	Degree of freedom	Means of squares	F value	Level of significance
Between groups	0.126	2	0.063	0.531	0.591
Within groups	6.309	53	0.119		
Total	6.436	55			

Table 6. Means and standard deviations of the degree of existential intelligence in a sample of graduate students at the World Islamic Sciences University by years of experience.

Years of experience	Number	Means	Standard deviation
1-5 years	22	3.63	0.34
6 -10years	22	3.70	0.33
More than 10years	12	3.68	0.40
Total	56	3.67	0.34

Table 7. Analysis of the ANOVA to find the significance of differences of existential intelligence in a sample of graduate students at the World Islamic Sciences University of according to the years of experience.

Source of variance	Total squares	Degrees of freedom	Means of squares	F value	Level of significance
Between groups	0.05	2	0.025	0.209	0.812
Within groups	6.385	53	0.12		
Total	6.436	55			

Table 8. The means and standard deviations of the existential intelligence level in a sample of graduate students at the World Islamic Sciences University and t-test according to marital status.

Marital status	Number	Means	Standard deviation	t value	Level of significance
Single	18	3.73	0.35	0.970	0.336
Married	38	3.64	0.34		

0.970 and at a significant level of 0.336, which is not statistically significant. This finding, which leads to the results of the study, confirms the lack of interest in the development and training of existential intelligence in all. This confirms the need to further strengthen attention to the development of existential intelligence.

Work variable

The mean and standard deviations of the existential intelligence level were calculated in a sample of graduate students at World University of Islamic Sciences for the variable of the employer (governmental, private sector). The t-test is shown in Table 9.

The results in Table 9 indicate that there are no statistically significant differences at the level of ($p \leq 0.05$) for the degree of existential intelligence in a sample of graduate students at World Islamic Sciences University based on the calculated T-value at 0.596 and at a significant level of 0.554, which is not statistically significant. This result can be explained in the light of the absence of attention to existential intelligence on all individuals according to their variables, which should lead to an increase in attention to this type of intelligence, through developing the capabilities and potential of individuals, as Gardner indicated. There are no previous studies on this variable.

RECOMMENDATIONS

Based on the results of this study the researcher recommends the following:

Table 9. Means and standard deviations of intelligence existential degree in a sample of graduate students at the University of World Islamic Sciences, were conducted, test (t-test), depending on employer.

Employer	Number	Means	Standard deviation	t value	Level of significance
Governmental organizations	40	3.65	0.36	0.596	0.554
Private	16	3.71	0.31		

1. Review the educational curricula of different stages of study with the picture of the theory of multiple intelligences and exert more efforts to strengthen and enable the existential intelligence among students.
2. Conduct further studies on existential intelligence from different angles and domains and with other samples e.g. with gifted and talented students.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

REFERENCES

Ahmad Al-Ali (2017).Multiple intelligences theory between theory and practice.2nd edition.Amman: Dar Al Maseera. www.massira.jo

Al-Eid M (2014).The Multiple intelligences. Amman: Dar haneen publishing. www.alfalahbookshop.com

Al-Obaidi A (2016). The existential intelligence among Bagdad University students in the light of some variables. Journal of the Center of Social and Humanistic Generation, Algeria 16(3):153-163.

Ahmed MS (2003). Current status in intelligence research. Alexandria: Modern University Office.

Al Rabee F (2013). Spiritual intelligence and its relation to sex and level of achievement among students of the Faculty of Education at Yarmouk University in Jordan. Jordanian Journal of Educational Sciences 9(4):353-364.

Al-Sharbini Zakaria, Sadik Yasiriya (2002). Children at the top / talent and mental excellence and creativity. Cairo: Arab. Dar al fiker.

Alwan AF (2010). Identify the preferences of the students of the fourth and eighth grades in accordance with the theory of intelligence preferred. Journal of Dirasat, University of Jordan Amman, Jordan 2(37):474-454.

Checkley K (1997). The First Seven and the eight: a conversation with Howard Gardner. Educational Leadership (EJ550524) 55(1):8-13.

Dsouza N (2006). Design Intelligences: A case for Multiple Intelligences in architectural design. DAI- A 67(12):314.

Gardner H (1983). Frames of mind, New York: Basic Books. www.journals.sagepub.com/doi/abs/10.1177/001698628502900212

Gardner H (1999). Intelligence reframed: Multiple Intelligences for the 21 st century. New York: Basi Books.

Gardner H, Hatch T (1989). Multiple Intelligences go to school. Educational Researcher 18(8):4-10.

Jarwan F, Abdel R (2016). Methods of discovering and caring for gifted people. (7th Ed), Amman: Dar Al Fikr for Printing. www.daralfiker.com

www.Kenanaonline.com.The Multi Intelligences Theory of Gardner and its uses in Teaching. Kamal,Maha.

McCoog J (2010). The Existential Learner. Clearing House 83(4):126-128. DOI: 10.1080/00098851003774828.

Mahmood Y (2017). Introduction to the multiple intelligences theory. Amman: Dar Al Maseera. www.massira.jo

Mohammad H (2015).The multiple intelligences. Amman: Dar Al Maseera. www.massira.jo

Nofal M, Alhilah Mohammed (2008). Differences in Multiple Intelligence among First Year Students Studying in Higher Education Institutions at UNRWA in Jordan. Najah Research Journal 5(22):1559-1623.

Rayan A (2013).The multiple intelligence types among secondary students in the directorate of education in Hebron, Palestine. Al - Aqsa university Journal 16(1):193-234.

Saeed A (2017). The multiple intelligences theory. Amman: Dar al Thaqafah. www.daralthaqafa.com

Subhi Y (2018). The multiple intelligences theory: concepts and application. Amman: Dar Hazeen publishing. www.alfalahbookshop.com

Swadi M, Tatir S, Shakheer A (2017). Intuitive Intelligence among Faculty of Education Students, Faculty of Education Publications, Qadisiyah University, Iraq.

Shearer B (2005). Development and validation of a scale for existential thinking, Unpublished paper, presented at the annual meeting of the Research. Association, Multiple Intelligence SIG: Montreal. www.onlinelibrary.wiley.com

Wahsha N (2012). Differences in the Use of Multiple Intelligences Theory Strategies for Teachers and Teachers at King Abdullah II School of Excellence in Jordan. Presented to the 9th Arab Scientific Conference on Giftedness. Journal of the Arab Council for Gifted and Talented 9(2):507-540.

Zubi A, Al-Rabee F, Al-Jarrah, Abdel N (2015). Intuitive Intelligence and Its Relation to Gender Variators and the Academic Level: A Field Study on a Sample of the Faculty of Education Students. Journal of the Islamic University for Educational and Psychological Studies 23(3):129-145.

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