



## Beden eğitimine yönelik tutum ve öz yeterlikte işbirlikli öğrenme modelinin etkileri

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### Özet

İşbirlikli öğrenmenin beden eğitimi ve spora yönelik tutum ve öz yeterli düzeyine etkisinin literatürde ele alınmamış ve modelin etkilerinin tam olarak aydınlatılmamış olması sebebiyle bu çalışma gerçekleştirilmiştir. Çalışmaya ortaokul 7. sınıfta öğrenim gören 24 erkek ve 24 kadın olmak üzere 48 öğrenci katılmıştır. Çalışma öntest-sontest kontrol gruplu deney desenine göre yürütülmüştür. Deney grubunda yer alan 24 öğrenciye işbirlikli öğrenme modelinin jigsaw tekniğine yönelik 8 hafta boyunca dersler işlenmiştir. Kontrol grubunda ise doğrudan öğretim modeli kullanılmıştır. Çalışmada beden eğitimine yönelik tutum ve öz yeterliği belirleyebilmek için “Beden Eğitime Yatkınlık Ölçeği” öğrencilere 8 haftalık eğitimden önce ve sonra uygulanmıştır. Çalışmada “Bağımsız Gruplar t testi” ve “Bağımlı Örneklem t test” ile analiz edilmiştir. Çalışmanın başında gruplar arasında anlamlı bir farklılık belirlenmezken eğitimler sonucunda deney grubu lehine tutum ve öz yeterlik skorlarında anlamlı farklılıklar tespit edilmiştir. Çalışma bulguları sonucunda jigsaw tekniği ile öğrencilerin beden eğitimine yönelik bağlılıklarının arttığı ve becerilerine yönelik inançlarının güçlendiği belirlenmiştir. Literatür açısından bir boşluğu doldurması ve işbirlikli öğrenme modelinin etkilerinin farklı açılarla aydınlatması sebebiyle çalışma önemli sonuçlar ortaya koymaktadır.

**Anahtar Kelimeler:** Jigsaw, spor, bağlılık, beden eğitime yatkınlık

### *The effects of cooperative learning model on attitudes in the direction of physical education and self-efficacy*

#### Abstract

This study was carried out because the effect of cooperative learning on attitudes and self-efficacy towards physical education and sports was not discussed in the literature and the effects of the model could not be fully elucidated. A total of 48 students, 24 male and 24 female, studying in the 7th grade of secondary school participated in the study. The study was carried out according to the pretest-posttest control group experimental design. Lessons were given to 24 students in the experimental group on the jigsaw technique of the cooperative learning model for 8 weeks. In the control group, the direct instruction model is used. In the study, in order to determine the attitude and self-efficacy towards physical education, the “Scale of Aptitude to Physical Education” is applied to the students before and after the 8-week education. In the study, “Independent Groups t test” and “Dependent Sample t test” were analyzed. While there is no important difference between the groups at the beginning of the study, important differences are found in the attitude and self-efficacy scores in favor of the experimental group as a result of the trainings. As a result of the study findings, it was determined that the jigsaw technique increased the students' commitment to physical education and their beliefs about their skills were strengthened. The study reveals important results as it fills a gap in terms of literature and illuminates the effects of the cooperative learning model from different angles.

**Keywords:** Jigsaw, sport, commitment, aptitude to physical education

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## INTRODUCTION

Cooperative learning is a structured systematic teaching design to advance group learning (Chen et al., 2021A). The members of the group learn together and compeers have a relationship of mutual success or failure. In this process, they help each other to achieve the learning goal (Yang et al., 2021). The cooperative learning model which is developed especially after the 1970s, refers to students working in small and structured groups in line with a goal (Dyson et al., 2010). Although the number of studies on the cooperative learning model has increased in the last 20 years (Metzler, 2011), there is still a shallowness in the field of physical education. The scarcity of studies in the field prevents a deeper elucidation of the effects of the cooperative learning model. As a matter of fact, Casey (2014) emphasizes that the number of scientific researches should increase in order to make cooperative learning more acceptable in the current situation and in the future.

The increase in the number of scientific researches is realized with the establishment of the cooperative learning center. In the field of physical education, it is seen that studies in colleges and universities are intensified. A meta-analysis found that 80% of the findings showed that cooperative learning had a positive affect on learning and 13% concluded that there is no difference between cooperative learning and traditional learning (Ding et al., 2020; D'Aniello et al., 2020). Students who apply cooperative learning strategies across the curriculum show important improvements in their achievement. As a result of the research, the best statement for the model is that it extends cognitive achievement, while the second best statement is that it promotes affective achievement. When students start to achieve success, they sense more confident in themselves and this leads to higher self-esteem and efficacy (Lago and Nawang, 2007). Self-efficacy is defined as an individual's belief in himself/herself to be able to do something (Bandura, 1993). Although past performances are thought to be effective on self-efficacy (Ceylan et al., 2020; Feltz & Lirgg, 2001). Another factor affecting the development of self-efficacy is individual responsibility, which is one of the components of the cooperative learning model (Slavin, 1990). The aim of cooperative learning is to make each member a strong individual in every aspect. For this reason, the evaluation of the individual student's performance affects the student to take individual responsibility (Senemoğlu, 2004). In this case, the student makes an effort to improve his/her skills by trying to do the best. Therefore, it can be said that with increasing effort to improve skills, the student's belief in his/her skills, that is, the level of self-efficacy, will increase.

Cooperative learning has many outcomes. It has a structure that encourages learning and success, such as students having a sense of community in the classroom and contributing to the creation of a warm classroom climate. Students try to understand different ways of interpreting concepts and solving problems by having a positive classroom climate. Thus, they become more willing to take on challenging tasks in the hope of succeeding and their attitudes towards the course become more positive (Towns, 1998 cited by Lago & Nawang, 2007).

Students develop their thinking skills and have the power of critical thinking with the use of the model in education. Besides, it contributes positively to many affective characteristics such as empathy, respecting the opinions of others, learning to discuss, and reducing the anxiety of making mistakes (Taşpınar, 2017). There are also the effects of the model as a robust and empowering context for peer mediation and dispute resolution among students (Lago & Nawang, 2007). These affective gains can positively affect the student's attitude towards the course (Roseth, 2008; Sharan, 2010; Karakoyun, 2010; Altıparmak & Nakipoğlu, 2005). Evidence of the positive effects of cooperative learning on course attitudes has been found in mathematics (Herrera, 2002), chemistry (Lago & Nawang, 2007), music (Bilen, 1995), social studies (Şeker-Özkal, 2000) and accounting (Lindquist & Abraham, 1996).

Studies on the affect of cooperative learning in the field of physical education also indicate that the model is more effectual than learning alone or competitively (Dyson et al., 2004; Chen et al., 2021B). A high quality physical education lesson should include the teaching and development of ideas, attitudes and values or emotional learning (Unesco, 2015). Although there are studies on the positive affect of cooperative learning on attitudes in the direction of the physical education course, it has been observed that these studies are handled with different techniques (Saritaş, 1998; Pehlivan & Alkan, 2002). Again, in the studies examining the relationship between self-efficacy and cooperative learning (Nunnery et al., 2013; Köseoğlu, 2010; Wang & Lin, 2007), no studies using the jigsaw technique are found.

### **Jigsaw method**

Aronson and Bridgeman (1979) introduced the jigsaw technique as a teaching methodology to reduce contest and bias in the classroom. In this method, students work in two different groups: the original groups and the break-up groups. First, students come in concert in their original groups taking into account heterogeneous characteristics and every team member is assigned a particular task. Then, the students in the original groups with the same task are divided into pieces like a jigsaw puzzle, and the students unite the jigsaw/split and

merge groups formed in this way. These puzzle groups come together to study the identical topic and work together until they have learned and mastered the assigned material. After learning the topic in the break-up group, students return to their original group and share what they have learned with their original group members (Clarke, 1994). Studies show that the jigsaw method is more effectual than traditional teaching methods in increasing student achievement, encouraging students to express their ideas, increasing their self-confidence and directing them to cooperate with each other (Aksoy, 2006; Buzludağ, 2010).

The focus of much of the recent research on the jigsaw technique has been to settle its effectuality as a teaching method to enhance academic learning through collaborative learning (Akkuş & Doymuş, 2022; Montazeri-Khadem et al., 2022; Batdi, 2014). Batdi (2014) summarized the instructional profits of using the jigsaw method in a meta-analysis. Batdi (2014) found that the jigsaw method had a great impact on academic accomplishment scores that are based on 37 studies. In point of fact, the affect size of 1.20 indicates that the jigsaw method expanded students' scores by more than one standard deviation from pretest to posttest. This means that, on average, students who participated in the jigsaw method surpassed 84% of students who do not participate in the jigsaw on an academic development (Hattie, 2008).

Considering the deficiency in the literature, it is seen as an important study in order to expand the limits of the affects of the collaborative learning model. The study is addressed in this context and aimed to settle the effect of cooperative learning model on attitude and self-efficacy in physical education in order to close the gap in the literature.

In order to further elucidate the impact area of the cooperative teaching model, answers to the following problems are sought:

1. Do the attitudes of the students who teach with the jigsaw technique towards the physical education lesson differ significantly according to their pre-test and post-test scores?
2. Does the self-efficacy of the students who teach with the jigsaw technique differ significantly according to the pre-test and post-test scores of the physical education lesson?
3. Is there a significant difference between the Jigsaw technique and the direct instruction model and the attitudes of the students who teach the physical education lesson?
4. Is there a significant difference between the self-efficacy of the students who teach with the jigsaw technique and the direct instruction model, towards the physical education lesson?

## **METHOD**

### **Research model**

In the study, a random design model with pretest-posttest control group, which is one of the real treatment methods, was used. In this model, one of the groups is formed by random assignment as another experimental control group. Then, measurements for the dependent variable are taken from both groups. The control groups are not applied while the experimental group is applied for the application process effect test. After the process, both groups finished the loading process of the variable again (Büyüköztürk et al., 2020).

### **Research group**

The study is guided in the first semester of the 2021-2022 academic year in the 7th grade of a secondary school in the central zone of Bursa province. In this study, the content of the curriculum is presented to the students, and the experimental and control group students received education according to different teaching methods. The fact that the teacher who carried out the implementation in the study is teaching the 7th grades at the time of the study and that the participation in physical education classes at the school where the study is to be guided is highest in the 7th grades caused the study to be designed on the 7th grades. Simple random sampling method was used to determine the experimental and control groups in the study. In this method, each sample has an equal probability of being selected (Çıngı, 1994). Two of the eight 7th grade branches at the school were selected randomly. The lessons are taught by using the cooperative teaching model in the experimental group, while the lessons are taught by using the direct teaching model in the control group. In the study, 24 students (12 girls, 12 boys) are in the experimental group and 24 students (9 girls, 15 boys) are in the control group. The average age of the students in the experimental group is  $12.21 \pm 0.58$  and the average age of the students in the control group is  $12.42 \pm 0.65$ .

### **The physical education predisposition scale (peps)**

The Physical Education Predisposition Scale which is originated by Hilland et al. (2009) and adapted into Turkish by Öncü et al. (2015) is used in order to determine students' attitudes and self-efficacy towards physical education. The scale has a 2-factor structure that consists of 11 items. The factors are named as "attitude" (6 items) and "self-efficacy" (5 items). The negative items in the scale are reverse scored. The scale items are in the form of "5-point Likert Type Scale". The options are ranked as "Strongly Disagree (1)", "Disagree (2)", "Neutral (3)", "Agree (4)" and "Strongly Agree (5)" and the scoring is done accordingly. The lowest score that can be obtained from the scale is 11 and the highest score is 55. The lowest and highest

scores that can be procured from the “attitude” dimension of the scale are 6 and 30, separately, while the lowest score of 5 and the highest score of 25 can be procured from the “self-efficacy” dimension. In the original form of the scale, the internal consistency coefficient is calculated as 0.91 for the “attitude” dimension and 0.89 for the “self-efficacy” dimension (Hilland et al., 2009). In the Turkish adaptation study, the factor structure of the scale is examined by confirmatory factor analysis ( $\chi^2 = 250.05$ ,  $sd=43$ ,  $\chi^2/sd$ : 5.81,  $p<0.01$ , CFI=0.94, GFI=0.95, IFI=0.94, TLI=0.93, SRMR=0.05 and RMSEA=0.07), and its reliability is examined by calculating test-retest correlation ( $r_{Attitude}=0.81$ ,  $p<0.01$ ;  $r_{Self-efficacy} = 0.85$ ,  $p<0.01$ ) and Cronbach Alpha internal consistency coefficients ( $\alpha_{Attitude}=0.81$ ,  $\alpha_{Self-efficacy}=0.84$ ). The findings of the study showed that the two-factor structure of the scale is confirmed (Öncü et al., 2015). Cronbach's alpha reliability coefficients of the sub-dimensions of the scale are given in the table below in this study.

**Table 1. Values related to attitude and self-efficacy**

	Mean	s.d.	Skewness	Kurtosis	Cronbach's Alpha
<b>Attitude pre-test</b>	4.10	0.63	-0.527	-0.697	0.74
<b>Attitude post-test</b>	4.28	0.61	-0.741	-0.249	0.72
<b>Self Efficacy pre-test</b>	3.59	0.75	-0.274	-0.234	0.84
<b>Self Efficacy post-test</b>	3.88	0.73	-0.221	-0.765	0.77

### **The process**

Necessary permissions were obtained from the parents and school administration of all students in the classes to attend physical education classes, and consent forms were signed before starting the study. At the beginning of the study, necessary permissions (Number: E-19928322-100-209047) were obtained from Bursa Provincial Directorate of National Education and Ethics Committee. In the study, two 7th grades are determined by random assignment method. In the first semester of the 2022-2023 academic year, the data of the scale are collected in the first physical education lesson. Then, the trainings planned to be given to the experimental group during the 8-week training process are implemented. In this process, the content in the curriculum is taught to the control group with the direct teaching model. The program is implemented for 8 weeks during the physical education class hours (2 hours) determined in the weekly course schedule of the school. At the end of the trainings, the data belonging to the scale are finally collected and the experiment is terminated. In the experimental group, the subject is taught with the “Jigsaw” technique. While the direct teaching model is applied in the control group, the procedures performed in the experimental group are detailed below.

1. The lesson started with greetings and roll call.
2. Information or skills that would attract the attention of the students on the topic are shared and then their previous knowledge on the topic is reviewed in the introduction phase of the lesson,. Then the importance of the topic for students is emphasized.
3. Students are given a short warm-up (such as jogging, educational game) in the transition phase to the lesson.
4. In the lesson phase, the topic to be covered is explained visually and verbally by the teacher.
5. Students' questions are answered. The students are also asked some questions about whether they understood what they needed to do in terms of both psychomotor skills and cooperation aptitudes.
6. In the research, the “jigsaw” method in the cooperative teaching model is used in the experimental group.
7. The researcher observed the groups during the lesson and made corrections if there are problems.

#### **Analysis of data**

The normality assumptions of the measurements are examined first in the study. The normality assumptions of the measurements are examined by Q-Q Plots and kurtosis-skewness values. In the study, the analyzes were carried out with the SPSS 25 package program. "Independent sample t test" was used to determine the score difference between the experimental and control groups in terms of the variables determined in the study, and the "paired sample t test" was used to determine the score difference between the pretest and posttests within the experimental and control groups. The significance level is taken as  $p < 0.05$ .

#### **FINDINGS**

The findings of the experimental and control groups obtained with the scale applied before and after the 8-week training are presented below.

**Table 2. Control group pre-test post-test results**

	<b>N</b>	<b>Mean</b>	<b>s.d.</b>	<b>t</b>	<b>d.f.</b>	<b>p</b>
<b>Attitude pre-test</b>	24	4.10	0.61	1.619	23	0.119
<b>Attitude post-test</b>	24	3.97	0.54			
<b>Self Efficacy pre-test</b>	24	3.68	0.52	0.211	23	0.835
<b>Self Efficacy post-test</b>	24	3.65	0.67			

As a result of the analysis, it is determined that there is no important difference in the attitude and self-efficacy dimensions of the control group before and after the 8-week training.

**Table 3. Experimental group pre-test post-test results**

	N	Mean	s.d.	t	d.f.	p
Attitude pre-test	24	4.10	0.67	-3.741	23	<b>0.001*</b>
Attitude post-test	24	4.60	0.52			
Self Efficacy pre-test	24	3.50	0.93	-3.800	23	<b>0.001*</b>
Self Efficacy post-test	24	4.10	0.74			

\*p<0.05

As a result of the analysis, it is determined that there is a statistically important difference in the positive attitude ( $t=-3.741$ ,  $p<0.05$ ) and self-efficacy ( $t=-3.800$ ,  $p<0.05$ ) dimensions in the experimental group.

**Table 4. Comparison of pre-test and post-test results of control and experimental groups**

Dimension	Groups	N	Mean	s.d.	t	d.f.	p
Attitude pre-test	Study Group	24	4.09	0.67	-0.075	46	0.940
	Control Group	24	4.10	0.61			
Attitude post-test	Study Group	24	4.60	0.52	4.068	46	<b>0.000*</b>
	Control Group	24	3.97	0.54			
Self-efficacy pre-test	Study Group	24	3.50	0.93	-0.807	36.183	0.425
	Control Group	24	3.68	0.52			
Self-efficacy post-test	Study Group	24	4.10	0.74	2.209	46	<b>0.032*</b>
	Control Group	24	3.65	0.67			

\*p<0.05

As a result of the analysis, while there is no important difference between the groups in the attitude pre-test results ( $t=-0.075$ ,  $p=0.94$ ), the post-test results are statistically important ( $t=4.068$ ,  $p=0.000$ ). In the self-efficacy dimension, while there is no important difference between the groups in the pretest ( $t=-0.807$ ,  $p=0.405$ ), there is a statistically important difference in the posttest ( $t=2.209$ ,  $p=0.032$ ).

## DISCUSSION AND CONCLUSION

The study is aimed to reveal how the cooperative teaching model will contribute to students' attitudes towards physical education and self-efficacy levels. For this purpose, pretest-posttest experimental design with control group is used. In this part of the study, the limitations of the study will be stated, the results of the study will be interpreted and suggestions for future studies will be made.

### Limitations of the study

Some limitations should be taken into consideration when explaining the findings of this study. First of all, due to the use of experimental design in the study, the study is limited to a narrow region and the sample could not be larger. For this reason, the results of the study do not represent all secondary schools in Turkey. In addition, the fact that the literature on the



study is not very comprehensive causes limitations in the interpretation of the results. Finally, only the jigsaw method of the cooperative teaching model is used in the study and the direct teaching model is applied in the control group. There may be other models or techniques that affect students' affective skills, but the study is designed to study only two models for reasons such as lack of time and expert instructors. It is seen that the literature on the affects of collaborative learning model on attitude and self-efficacy generally focuses on science (Kiremit, 2006), mathematics (Ural & Argün, 2010), Turkish (Çörek, 2006) and music (Öztürk & Kalyoncu, 2018) courses other than physical education and sports courses.

### **Interpretation of the results**

In the study, it is aimed to settle the effects of the jigsaw technique, one of the learning techniques of the collaborative learning model, on attitudes in the direction of physical education and self-efficacy. In line with this purpose, the results of the study are discussed with the research results in the literature and the results are discussed in this section.

### **The effects of cooperative learning on attitude**

It is determined that attitude levels towards physical education improved with the cooperative teaching model in this study. With the jigsaw technique performed in the experimental group, attitude scores differ importantly compared to the control group in which the direct teaching model is applied. It is thought that students working in cooperation with the Jigsaw technique spend a happy time in the lesson thanks to the interaction they establish with each other. It is accepted that the good time spent also contributes to like the lesson and positively affects the attitude towards the lesson. Since the physical education class is geared towards the realization of a skill, students may become anxious and withdraw from the class if they cannot perform the skill. The group members interact face-to-face during tasks and support each other in overcoming a skill with encouraging interaction which is one of the elements of cooperative learning. The students' attitudes towards the course can become more positive with the taste of success. When teachers used the cooperative learning model in physical education classes, they observed that there is a positive sharing among students and that behaviors such as cooperation, responsibility, attention, listening and smiling are exhibited (Grineski, 1999). In another study on the development of social relationships, it is found that behaviors such as positive attitude towards school, development of self-confidence, emotional maturity and closeness with other students and school staff also developed (Johnson & Johnson, 1993). As a matter of fact, it is asserted that the use of the cooperative model in the field of physical education provides excellent opportunities for students' psychomotor, cognitive and affective

gains (Dunn & Wilson, 1991). The cooperative model gives students the aptitude to interact positively with each other and support their peers in their efforts to perform (Dyson & Grineski, 2001). Therefore, supporting students by their peers can conduct positive attitudes towards the course. The study has found that the use of collaborative learning in physical education classes has a positive affect on motivation. The development of social integration has led to an increase in intrinsic motivation, which in turn has led to an increase in sporting intention (Cecchini et al., 2010).

In other experimental studies, it is determined that cooperative learning had a important affect on attitude towards the process (Ifamuyiwa & Akinsola, 2009; Brush, 1997). In a study, it is stated that students showed a high level of agreement with the statement “cooperative learning can improve attitude towards work” (Farzaneh & Nejadansari, 2014). Apart from this, there is evidence that attitudes towards mathematics course can be positively increased by cooperative learning model (Brush, 1997; Işık & Tarım, 2009). Although there is evidence that the cooperative learning model has an effect on positive attitudes, there are also studies in the literature in which there is no effect. In a study investigating attitude in mathematics course, it is reported that findings are obtained that the cooperative learning model do not affect students' attitude towards the course (Tarım & Akdeniz, 2008). In a study on science and technology course, no important difference is found between the attitude scores of the experimental group where the cooperative learning model is applied and the control group in which the traditional method is applied (Genç & Şahin, 2015).

#### **The effects of cooperative learning on self-efficacy**

In this study, it is determined that self-efficacy levels for physical education improved with the cooperative teaching model. The self-efficacy scores of the experimental group with the jigsaw technique differ importantly compared to the control group in which the direct instruction model is applied. In the Jigsaw technique, it is thought that students' increasing their level of knowledge about the subject in expert groups and sharing their knowledge with their friends when they return to their own groups increase their self-efficacy levels. As a matter of fact, it is asserted that the jigsaw technique gradually improves students' level of self-sufficiency (Slavin, 2015). Students who become more self-sufficient through cooperative learning can be more effective in terms of achievement, retention, transfer of knowledge, use of effective learning strategies, development of thinking skills, and class participation (Şeker-Özkal, 2000). In this approach, an atmosphere of achievement is created and students increase their level of competence by working on the given task until they reach the goal of

understanding and completion (Panitz, 1996). In the study on the affect of collaborative learning and traditional teaching model on self-development, it is concluded that the experimental group is more successful in basketball skills in terms of physical, personal and social aspects than the group given traditional education (Al-Hayek, 2014).

In a study, it is determined that students had a high level of agreement with the statement “when I work with any other students, I achieve more than when I work alone” (Farzaneh & Nejadansari, 2014). As cooperative learning supports students' personal development (Shimazoe & Aldrich, 2010), positive progress is made in their proficiency levels. As a matter of fact, the effects on course success have been determined in studies (Zakaria et al., 2010). In addition, by acknowledging their strengths and weaknesses (Sundaresan et al., 2017), students' competence levels can become more qualified by improving their weaknesses and further improving their strengths. Although there is evidence that cooperative learning improves the level of self-efficacy, there are also studies that it does not affect the level of self-efficacy. In a study investigating the attitude towards mathematics course, it is reported that findings are obtained that the cooperative learning model do not increase students' course success (Tarım & Akdeniz, 2008; Altınsoy, 2007).

## **CONCLUSION**

In the study, the cooperative learning model has a positive affect on attitudes in the direction of physical education course and self-efficacy levels compared to the traditional learning model. The use of collaborative learning model in physical education lessons affects students to like the lesson more and to perform the skills related to the lesson better. Therefore, the use of cooperative learning model in the lessons is important for raising qualified athletes who will participate in sports throughout their lives.

## **Suggestions**

It is recommended that the study be extended to other areas (anxiety, leadership, etc.) that will support the social development of cooperative learning. In addition, it is suggested that other teaching models should be included in the study and the effects of teaching models should be revealed more clearly and comprehensively.

## GENİŞLETİLMİŞ ÖZET

### GİRİŞ

İşbirlikli öğrenme, grup öğrenimini teşvik etmek için yapılandırılmış sistematik bir öğretim stratejisidir (Chen ve ark., 2021A). Grubun üyeleri öğrenmeyi birlikte gerçekleştirir ve akranlar, karşılıklı başarı ya da başarısızlık ilişkisine sahiptir. Bu süreçte ise birbirlerine öğrenme hedefine ulaşabilmek amacıyla yardımda bulunmaktadırlar (Yang ve ark., 2021). Özellikle 1970'lerden sonra geliştirilen işbirlikli öğrenme modeli küçük ve yapılandırılmış gruplar halinde öğrencilerin hedef doğrultusunda çalışmalarını ifade etmektedir (Dyson ve ark., 2010). Son 20 yılda işbirlikli öğrenme modeline yönelik çalışmaların sayısının artmasına rağmen (Metzler, 2011), beden eğitimi alanında hala bir sıklığın olduğu görülmektedir. Alandaki çalışmaların az olması ise işbirlikli öğrenme modelinin etkilerinin daha derin bir şekilde aydınlatılmasının önüne geçmektedir. Nitekim Casey (2014) mevcut durum ve gelecekte işbirlikli öğrenmenin daha kabul edilebilir olması için bilimsel araştırmaların sayısının artması gerektiğini vurgulamaktadır.

Literatürdeki eksiklik göz önüne alındığında işbirlikli öğrenme modelinin etkilerinin sınırlarının genişletilmesi adına önemli bir çalışma olarak görülmektedir. Çalışma bu kapsamda ele alınmış ve literatürdeki boşluğun kapatılması için işbirlikli öğrenme modelinin beden eğitiminde tutum ve özyeterliğe olan etkisinin belirlenmesi amaçlanmıştır.

İşbirlikli öğretim modelinin etki alanının daha fazla aydınlatılması amacıyla aşağıdaki problemlere yanıt aranmıştır:

1. Jigsaw tekniği ile ders işleyen öğrencilerin beden eğitimi dersine yönelik tutumları ön test ve son test puanlarına göre anlamlı farklılık göstermekte midir?
2. Jigsaw tekniği ile ders işleyen öğrencilerin beden eğitimi dersine yönelik özyeterlikleri ön test ve son test puanlarına göre anlamlı farklılık göstermekte midir?
3. Jigsaw tekniği ve doğrudan öğretim modeli ile ders işleyen öğrencilerin beden eğitimi dersine yönelik tutumları arasında anlamlı bir fark var mıdır?
4. Jigsaw tekniği ve doğrudan öğretim modeli ile ders işleyen öğrencilerin beden eğitimi dersine yönelik özyeterlikleri arasında anlamlı bir fark var mıdır?

### YÖNTEM

Araştırma 2021-2022 eğitim-öğretim yılı birinci döneminde Bursa ili Merkez ilçesinde bulunan bir ortaokulun 7. sınıflarında yürütülmüştür. Bu çalışmada öğrencilere öğretim programında yer alan içerik sunulmuş ve deney ve kontrol grubu öğrencileri farklı öğretim metotlarına göre eğitim almıştır. Araştırmada deney ve kontrol gruplarının belirlenmesinde basit seçkisiz örnekleme yöntemi kullanılmıştır. Bu yöntemde her bir örneklemin eşit oranda seçilme olasılığı bulunmaktadır (Çıngı, 1994). Okulda bulunan sekiz tane 7. sınıf şubesinden iki tanesi seçkisiz olarak belirlenmiştir. Deney grubunda dersler işbirlikli öğretim modeli kullanılarak işlenirken, kontrol grubunda doğrudan öğretim

modeli kullanılarak işlenmiştir. Araştırmada deney grubunda toplam öğrenci 24 (12 kız, 12 erkek), kontrol grubunda toplam 24 (9 kız, 15 erkek) öğrenci yer almıştır. Deney grubundaki öğrencilerin yaş ortalaması  $12,21 \pm 0,58$  ve kontrol grubundaki öğrencilerin yaş ortalaması  $12,42 \pm 0,65$  olarak bulunmuştur. Hilland ve arkadaşları (2009) tarafından geliştirilen, Öncü ve arkadaşları (2015) tarafından Türkçeye uyarlanan “Beden Eğitimi Yatkınlık Ölçeği” tutum ve öz yeterlik seviyelerini belirlemek için uygulanmıştır. Ölçek, 2 faktörlüdür (tutum=6 madde, özyeterlik=5 madde) ve 11 maddeden oluşmaktadır. Ölçekte yer alan olumsuz maddeler tersten puanlanmaktadır. “Hiç Katılmıyorum (1)”, “Katılmıyorum (2)”, “Kararsızım (3)”, “Katılıyorum (4)” ve “Tamamen Katılıyorum (5)” şeklinde sıralanan ölçek “5’li Likert Tipi”ndedir.

### **İşlem süreci**

Çalışmaya başlamadan önce uygulamanın yapılacağı okul yönetiminden ve beden eğitimi derslerine katılacak sınıflardaki tüm öğrencilerin velilerinden gerekli izinler alınmış ve onam formları imzalatılmıştır. Araştırmada yansız atama yöntemi ile iki 7. sınıf belirlenmiştir. 2022-2023 eğitim öğretim yılının ilk döneminde ilk beden eğitimi dersinde ölçeğe ait veriler toplanmıştır. Ardından 8 haftalık eğitim sürecinde deney grubuna verilmesi planlanan eğitimler uygulanmıştır. Bu süreçte kontrol grubuna ise öğretim programında yer alan içerik doğrudan öğretim modeli ile ele alınmıştır. Program okulun haftalık ders programında belirlenen beden eğitimi dersi saatlerinde (2 saat) 8 hafta boyunca uygulanmıştır. Eğitimlerin bitmesi ile birlikte ölçeğe ait veriler son olarak toplanarak deney sona erdirilmiştir. Deney grubunda konu “ayrılıp birleşme (Jigsaw)” tekniği ile işlenmiştir.

Araştırmada deney ve kontrol gruplarının belirlenen değişkenler açısından aralarındaki puan farkını saptamak amacıyla “Bağımsız gruplar t testi”, deney ve kontrol gruplarının kendi içlerinde deney öncesi ve sonrası puan farkını belirlemek için ise “Bağımlı örneklem t testi” kullanılmıştır. Araştırmada anlamlılık düzeyi  $p < 0,05$  olarak alınmıştır.

### **BULGULAR**

Çalışmadan elde edilen bulgular aşağıda ifade edilmektedir:

Kontrol grubunun 8 haftalık eğitim öncesi ve sonrasında tutum ve öz yeterlik boyutlarında anlamlı bir farklılık olmadığı belirlenmiştir.

Deney grubunun 8 haftalık eğitim öncesi ve sonrasında tutum ve öz yeterlik boyutlarında anlamlı bir farklılık olduğu belirlenmiştir.

Deney ve kontrol grupları arasında tutum ön test sonuçlarında anlamlı bir farklılık görülmezken ( $t = -0.075$ ,  $p = 0.94$ ) son test sonuçları istatistiksel açıdan anlamlıdır ( $t = 4.068$ ,  $p = 0.000$ ). Öz yeterlik boyutunda ön test açısından gruplara arasında anlamlı bir farklılık görülmezken ( $t = -0.807$ ,  $p = 0.405$ ) son testte istatistiksel açıdan anlamlı bir farklılık olduğu belirlenmiştir ( $t = 2.209$ ,  $p = 0.032$ ).

## TARTIŞMA VE SONUÇ

### İşbirlikli öğrenmenin tutum üzerine etkileri

Yapılan bu çalışmada beden eğitime yönelik tutum düzeylerinin işbirlikli öğretim modeli ile gelişim gösterdiği belirlenmiştir. Deneysel grupta gerçekleştirilen jigsaw tekniği ile tutum puanları doğrudan öğretim modelinin uygulandığı kontrol grubuna göre anlamlı düzeyde farklılık göstermektedir. Jigsaw tekniği ile işbirliği içerisinde çalışan öğrencilerin birbirleriyle kurdukları etkileşim sayesinde ders içerisinde mutlu zaman geçirdikleri düşünülmektedir. Geçirilen güzel zamanın ise dersi sevmeye de katkı sağladığı ve derse yönelik tutumu olumlu yönde etkilediği kabul edilmektedir. Beden eğitimi dersi bir becerinin gerçekleştirilmesine yönelik olduğu için öğrenci beceriyi yapamadığı durumda kaygı duyabilmekte ve dersten uzaklaşabilmektedir. İşbirlikli öğrenmenin unsurlarından biri olan teşvik edici etkileşim ile görevler sırasında grup üyeleri yüz yüze etkileşime girmekte ve bir becerinin üstesinden gelebilme konusunda birbirlerine destek olmaktadır. Başarı duygusunun tadılmasıyla birlikte de öğrencilerin derse yönelik tutumları daha olumlu hale gelebilmektedir. Öğretmenler beden eğitimi derslerinde işbirlikli öğrenme modelini kullandıklarında öğrenciler arasında olumlu bir paylaşım gerçekleştiğini; yardımlaşma, sorumluluk, dikkat, dinleme ve gülümseme gibi davranışların sergilendiğini gözlemlemişlerdir (Grineski, 1999). Sosyal ilişkilerin gelişimi üzerine yapılan başka bir çalışmada; okula karşı olumlu tutum, özgüven gelişimi, duygusal olgunluk ve diğer öğrenciler ve okul çalışanları ile yakınlık gibi davranışların da geliştiği saptanmıştır (Johnson ve Johnson, 1993). Nitekim beden eğitimi alanında işbirlikli modelin kullanılmasının öğrencilerin psikomotor, bilişsel ve duyuşsal alandaki kazanımları için mükemmel fırsatlar sunduğu belirtilmektedir (Dunn & Wilson, 1991). İşbirlikli model, öğrencilere birbirleriyle olumlu etkileşim kurma ve performans gösterme çabalarında akranlarını destekleme yeteneği vermektedir (Dyson & Grineski, 2001). Bu sebeple öğrencilerin akranları tarafından desteklenmesinin derse yönelik olumlu tutuma yol açabilir. Çalışmalar, beden eğitimi derslerinde işbirlikli öğrenme kullanımının motivasyon üzerinde olumlu bir etkisi olduğunu bulmuşlardır.

### İşbirlikli öğrenmenin özyeterlik üzerine etkileri

Yapılan bu çalışmada beden eğitime yönelik özyeterlik düzeylerinin işbirlikli öğretim modeli ile gelişim gösterdiği belirlenmiştir. Deneysel grupta gerçekleştirilen jigsaw tekniği ile özyeterlik puanları doğrudan öğretim modelinin uygulandığı kontrol grubuna göre anlamlı düzeyde farklılık göstermektedir. Jigsaw tekniğinde öğrencilerin uzman gruplarında konuya dair bilgi düzeylerini artırmaları ve kendi gruplarına döndüklerinde edindiği bilgileri arkadaşlarıyla paylaşmasının özyeterlik düzeylerini artırdığı düşünülmektedir. Nitekim jigsaw tekniğinin öğrencilerin giderek kendi kendilerine yeterli hale gelme düzeyini geliştirdiği ifade edilmektedir (Slavin, 2015). İşbirlikli öğrenme ile kendi kendine daha yeterli hale gelen öğrencilerin ise başarı, hatırd tutma, bilginin transfer edilmesi, etkili öğrenme stratejilerinin kullanılması, düşünme becerilerinin geliştirilmesi, derse katılım gibi konularda daha etkin olabilmektedir (Şeker-Özkal, 2000). Bu yaklaşımda bir başarı atmosferi oluşturulur ve

öğrenciler anlama ve tamamlama hedefine ulaşmaya kadar verilen görev üzerinde çalışarak yeterlik düzeylerini artırmaktadır (Panitz, 1996). İşbirlikli öğrenme ve geleneksel öğretim modelinin benlik gelişimine etkisiyle ilgili gerçekleştirilen çalışmada basketbol becerilerinde fiziksel, kişisel ve sosyal açıdan deney grubunun geleneksel eğitimin verildiği gruba göre daha başarılı olduğu sonucuna ulaşılmıştır (Al-Hayek, 2014).

## SONUÇ

Çalışmada işbirlikli öğrenme modelinin geleneksel öğrenme modeline göre beden eğitimi dersine yönelik tutum ve özyeterlik düzeylerine olumlu yönde etki etmektedir. İşbirlikli öğrenme modelinin beden eğitimi derslerinde kullanılması öğrencilerin dersi daha çok sevmesine ve dersle ilgili becerileri daha iyi yapmasına etki etmektedir. Dolayısıyla derslerde işbirlikli öğrenme modelinin kullanılması hayat boyu spora katılım gösterecek nitelikli sporcuların yetiştirilmesi için önemlidir.

## Öneriler

Çalışmanın işbirlikli öğrenmenin sosyal gelişimi destekleyecek diğer alanlara (kaygı, liderlik vb.) genişletilmesi önerilmektedir. Ayrıca diğer öğretim modellerinin de çalışmaya dahil edilerek öğretim modellerinin etkilerinin daha açık ve kapsamlı ortaya konulması önerilmektedir.

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<b>KATKI ORANI</b> <b>CONTRIBUTION RATE</b>	<b>AÇIKLAMA</b> <b>EXPLANATION</b>	<b>KATKIDA BULUNANLAR</b> <b>CONTRIBUTORS</b>
Fikir ve Kavramsal Örgü <i>Idea or Notion</i>	Araştırma hipotezini veya fikrini oluşturmak <i>Form the research hypothesis or idea</i>	Serhat TURAN
Tasarım <i>Design</i>	Yöntem ve araştırma desenini tasarlamak <i>To design the method and research design.</i>	Serhat TURAN Tuğba ZEHİR
Literatür Tarama <i>Literature Review</i>	Çalışma için gerekli literatürü taramak <i>Review the literature required for the study</i>	Serhat TURAN
Veri Toplama ve İşleme <i>Data Collecting and Processing</i>	Verileri toplamak, düzenlemek ve raporlaştırmak <i>Collecting, organizing and reporting data</i>	Serhat TURAN Özgecan İLGİN
Tartışma ve Yorum <i>Discussion and Commentary</i>	Elde edilen bulguların değerlendirilmesi <i>Evaluation of the obtained finding</i>	Serhat TURAN Fikret SOYER

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#### **Etik Kurul Beyanı/ Statement of Ethics Committee**

Bu araştırma, Balıkesir Üniversitesi Etik Kurulunun 16.12.2022 tarihli ve E-19928322-100-209047 sayılı kararı ile yürütülmüştür.

*This research was carried out with the decision of Balıkesir University Ethics Committee dated 16.12.2022 and numbered E-19928322-100-209047.*



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