

# Change of Occupational Health and Safety (OHS) University Students' Perceptions on OHS in Parallel to Vocational Training: The Comparative Analysis

## İş Sağlığı ve Güvenliği (İSG) Öğrencilerinin Mesleki Eğitimlerine Paralel Olarak İSG Algılarındaki Değişim: Karşılaştırmalı Bir Analiz

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**Özet:** Yürürlüğe giren Uluslararası Çalışma Örgütü (ILO) direktifleri kapsamında son yıllarda önem kazanan “İş Sağlığı ve Güvenliği”nden, üniversitelerdeki müfredatlar da olumlu anlamda etkilenmiş, müfredata alan ile ilgili olarak dersler eklenmiştir. Bu çalışmanın amacı; İş sağlığı ve Güvenliğine (İSG) dair öğrencilerin bilgi ve farkındalık düzeyini ölçmek ve analiz etmektir. Bu kapsamda, araştırmacının örneklemini Türkiye’de; vakıf üniversitesi olan İstanbul Gelisim Üniversitesi ile devlet üniversitesi olan Gaziantep Üniversitesi İş Sağlığı ve Güvenliği programı öğrencileri oluşturmaktadır. Bu sayede iki farklı tipteki üniversite (devlet ve vakıf) arası karşılaştırma sağlanmıştır. Veriler çalışma kapsamında oluşturulan bir anket aracılığıyla toplanmıştır. Anket, demografik sorular ve İSG Farkındalık Ölçeğine ilişkin sorulardan oluşmaktadır. Araştırmada SPSS 25.0 istatistik paket programı kullanılarak veriler analiz edilmiştir. Bu çalışmada kullanılan ölçek soruları orijinal ölçekten farklı olarak tek faktörde toplanmıştır. Çalışma sonucunda öğrencilerin İSG eğitimi gördükleri üniversitede uygulamalı derslerin gerçekleştirilebileceği laboratuvarın olmasının ve ailesinde anne ve/veya babasının işveren olması İSG farkındalığını pozitif yönde yordadığı görülmüştür. Bu durum aile içi diyalogun diğer aile bireylerinde de İSG farkındalığını artırabileceği görüşünü oluşturmuştur. Bu çalışma, ILO direktifleri çerçevesinde öğrencilerin İSG yasal uygulamaları hakkında sahip oldukları işyeri güvenlik kültürü bakış açılarını değerlendirmek ve iş sağlığı ve güvenliği eğitiminin etkinliği hakkındaki bakış açılarını ortaya koymak bakımından önem arz etmektedir.

**Anahtar Kelimeler:** İş Sağlığı ve Güvenliği, İSG, İş Sağlığı ve Güvenliği Eğitimi, İSG Farkındalık Ölçeği, Sosyal Politika

**Abstract:** The curricula at universities were also positively affected by the “Occupational Health and Safety”, which gained importance in recent years within the scope of the International Labour Organization (ILO) directives that came into force, and courses related to the field were added to the curriculum. The aim of this study; To measure and analyze the level of knowledge and awareness of students about Occupational Health and Safety (OHS). In this context, the sample of the research is in Turkey; Istanbul Gelisim University, which is a foundation university, and Gaziantep University, which is a state university, consist of the OHS program students. In this way, a comparison between two different types of universities (state and foundation) was provided. Data were collected through a questionnaire created within the scope of the study. The questionnaire consists of demographic questions and questions about the OHS Awareness Scale. In the research, the data were analysed by using the SPSS 25.0 statistical package program. The scale questions used in this study were collected in a single factor, unlike the original scale. As a result of the study, it has been seen that the presence of a laboratory where applied courses can take place at the university where the students receive OHS education and the fact that their parents are employers positively predict OHS awareness. This situation created the opinion that intra-family dialogues can increase OHS awareness of other family members. This study is important in terms of evaluating the workplace safety culture perspectives that students have about OHS legal practices within the framework of ILO directives and revealing their perspectives on the effectiveness of OHS education.

**Keywords:** Occupational Health and Safety, OHS, Occupational Health and Safety Training, OHS Awareness, Social Policy.

## 1. Introduction

Occupational health and safety (OHS) is a determinant of the level of development of every country, with the importance of its work and its importance being understood better day by day. OHS concept; It includes systematic studies carried out to protect employees from work accidents and occupational diseases and to create healthy and safe environments (Tozkoparan and Taşoğlu, 2011: Bolat, 2022: 5). OHS is a multidisciplinary structure with physical, psychological and sociological importance and is secured by different legal regulations in different countries. In Turkey, with the entry into force of the Labour Law No. 4857 in 2003, a new era has been entered in the field of occupational health and safety (OHS). As an expected result of compliance with both the ILO conventions numbered 155 and 161 that we have ratified and the Framework Directive of the European Union numbered 89/391 in the field of OHS, a “preventive approach” has been adopted in the field of OHS and the implementation tools within the scope of this approach have been transferred to our legislation step by step (Yılmaz, et al., 2019: 42).

Reducing and preventing occupational accidents and diseases caused by employees, management and working environment in workplaces is among the main objectives of OHS. For this purpose, some regulations are made to protect the employee from the dangers and risks that may arise (Hoşten & Özge, 2021: 102). Within the scope of these regulations, the primary priority is collective protection measures. In cases where collective protection measures are not possible due to the nature of the work, individual protection measures are taken. However, Heinrich (1959), occupational accidents; claimed that 88% of these accidents were caused by unsafe acts, 10% by unsafe conditions and 2% by unpredictable factors. While Salmine and Tallberg (1996) emphasize that 91% of job losses are related to behavioural factors, Lutness (1987) states that more than 95% of all reported incidents are caused by human error. Many researchers believe that the main cause of accidents is unsafe behaviour (Abbasi et al., 2015). Unsafe behaviours include misuse of personal protective equipment, deactivation of machine guards, non-compliance with safety policies and procedures, etc. human-induced behaviours. Therefore, raising future employees with safety awareness at an early age can prevent a significant part of the accidents to be experienced.

With the amendment made with the new “Occupational Health and Safety Law” published in the Official Gazette dated June 30, 2012, all workplaces, with some minor exceptions, are responsible for providing “Occupational Health and Safety Services” to their employees (Official Gazette, 2012). This situation has increased the need for OHS professionals, who are already insufficient in number. A significant part of the increasing need for OHS in parallel with the legal regulations in Turkey is met by the graduates of the OHS departments of vocational schools. These people receive the title of occupational safety technician with vocational training; they can work as occupa-

tional safety technicians or occupational safety specialists (Ceylan, 2012: 96).

Vocational education is the education that aims to gain skills, knowledge, experience and work habits with a certain profession, makes it possible to adapt to business life and develop personality, and is now encouraged by most European Union (EU) countries. It can be said that VET provides useful skills to prepare young people for their entry into the workforce and increase their chances of a successful professional career (Quintini and Martin 2006). In this sense, Vocational Schools that provide education for a specific profession have a mission to train qualified workers according to their field of expertise in the business world or industry (Apriana, et al., 2019; Zengin, Sekmen, & Tekbalkan, 2022: 269).

Emotions, thoughts, attitudes, perceptions, etc. in human behaviour. factors appear to be very important. People often act in accordance with their perceptions or attitudes. In this respect, it is important to have information about people’s perceptions and attitudes on this issue when analysing behaviours related to occupational safety (Dursun and Keser, 2014: 6). It is expected that by integrating safety awareness into vocational education, the unsafe behaviours of today’s youth, who constitute the employees of the future, can be prevented and the OHS professionals trained through vocational training will reveal the prevention culture in business life.

When we look at the previous studies on OHS, Aygün and Öztürk (2017) conducted a survey with 18 different programs from three different faculties and approximately 366 students in order to measure the attitudes of the Engineer and Technical Staff candidates about occupational safety. They declared that they want the course to be a compulsory course in Turkey. Topgül and Çağatay (2017) found that there was no perceptual difference between 65 students who took the Occupational Health and Occupational Safety course from two different departments and those who did not. Mostafa and Momen (2014) evaluated the knowledge, attitudes and behaviours of Technical School students regarding OHS; Yu-Huei et al. (2009), on the other hand, reached the conclusion that natural sciences or engineering students are interested in OHS in their study to measure the perception levels of university students in Taiwan regarding OHS. According to Merdin and Aygün (2014), they concluded that departments or vocational high schools should carry out more informative activities about OHS and that the participants want to be informed about the risks, work accidents and/or occupational diseases in the future about the program they are studying. Researches are mostly about OHS perceptions of students studying in different programs. Although there are studies on the perceptions of students of different programs in the literature, no studies have been found on the OHS perceptions of students studying in the OHS program. In this context, the problematic of this research is “the change in the perceptions of OHS students in parallel with the training received”.

## 2. Method

In order to measure students' OHS awareness levels, in addition to demographic questions, a demographic questionnaire was used with questions related to the scale used by Eraslan (2015) in his study called Sociology of Social Security (University Students' Perceptions of Social Security). The sample of the research is in Turkey; Istanbul Gelisim University, which is a foundation university, and Gaziantep University, which is a state university, consist of the OHS program students. The questionnaire was delivered to 212 people who are active OHS Students of the two universities and 191 responses were received. Ethical approval was obtained from Gaziantep University Institute of Social Sciences Research Ethics Committee at the meeting dated 03.02.2023 and numbered 02. Detailed information about the purpose of the study and what participation will involve is provided on the first page of the online questionnaire.

### 2.1. Information About Participants

Information about the participants is shown in Table 1. When Table 1 is examined, it is understood that 52.4% of the students are male and 47.6% are female. 71.2% of the student's study at state universities. The rate of first year students is 67.5%, while the rate of second year students is 32.5%. 48.2% of the students stated that they have applied courses in OHS education programs at their universities. 31.4% of the students stated that there is an OHS laboratory/workshop where they can attend applied courses in the institution where they are educated. The rate of students who stated that they had worked or had an internship in any place before was 41.4%. The rate of students stating that their parents are employers is 16.8%.

**Table 1.** Distribution of Students According to Diagnostic Features

		f	%
Gender	Man	100	52,4
	Woman	91	47,6
University	State	136	71,2
	Foundation	55	28,8
Grade level	1st Class	129	67,5
	2. Class	62	32,5
Do you have applied courses in your OHS education program at your university?	Yes	92	48,2
	No	99	51,8
Do you have an OHS laboratory/workshop where you can take applied courses at the institution you are studying at?	Yes	60	31,4
	No	131	68,6
Have you worked or interned somewhere before?	Yes	79	41,4
	No	112	58,6
Are your parents an employer in your family?	Yes	32	16,8
	No	159	83,2

### 2.2. Statistical Analysis of Data

Under this title, information about the statistical techniques used in the research is given. Percentage frequen-

cy analysis were applied to determine the distribution of the participants according to the diagnostic characteristics. The distribution of the scores obtained from the OHS scale was examined based on the skewness and kurtosis coefficients. It is considered sufficient for the skewness and kurtosis coefficients to be in the range of  $\pm 1$  in order to meet the normal distribution assumption (Hair et al., 2013). The skewness coefficient for the scores obtained from the scale was calculated as -0.16 and the kurtosis coefficient as 0.93. These results indicated that the scale scores showed a normal distribution.

Descriptive analysis techniques were used to examine the scores of the participants from the OHS scale. Independent groups t-test was applied to compare the scores obtained from the scale according to the variables of gender, university type, grade level, availability of applied courses, having a laboratory/workshop, working/internship status, and having an employer in the family. Cohen d coefficient was calculated for effect size calculations. about 0.20; Effect values of 0.50 and 0.80 were accepted as small, medium and large effects, respectively (Cohen, 1988). Analyses were carried out using the SPSS 25.0 statistical package program.

## 3. Results

In this study, primarily the OHS awareness level scores of the students were analysed (Table 2).

**Table 2.** Descriptive Values of the Scores Obtained from The OHS Scale

Variable	N	Min.	Maxs.	Average	Ss
OHS awareness level	191	13	65	44,19	12,03

In the next step of the study, demographic characteristics were compared with the OHS awareness level scores one by one and it was revealed whether there was a significant difference.

**Table 3.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results by Gender

Variables	Gender	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	Female	91	44,20	12,12	0,01	0,992	0,001
	Male	100	44,18	12,00			

When the table is examined, it is understood that OHS mean scores do not differ significantly by gender ( $t(189) = 0.01$ ;  $p > 0.05$ ). OHS awareness levels of female and male students are similar.

When Table 4 is examined, it is understood that the mean scores of OHS according to the type of university do not differ significantly ( $t(189) = -1.05$ ;  $p > 0.05$ ). OHS awareness levels of students studying at state and foundation universities are similar.

**Table 4.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results by University Type

Variables	University	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	State	136	43,61	11,58	-1,05	0,30	0,16
	Foundation	55	45,62	13,06			

**Table 5.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results According to Grade Level

Variables	Grade Level	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	1st Class	129	44,43	11,83	0,39	0,69	0,06
	2nd Class	62	43,69	12,51			

When Table 5 is examined, it is understood that OHS mean scores do not show a significant difference according to class level ( $t(189) = -1.05$ ;  $p > 0.05$ ). It was observed that the OHS awareness levels of the first and second-year students were similar.

**Table 6.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results According to The Availability of Applied Courses

Variables	Are there any practical lessons?	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	Yes	92	45,03	11,55	0,93	0,35	0,14
	No	99	43,40	12,46			

When Table 6 is examined, it is understood that OHS mean scores do not differ significantly according to the availability of applied courses ( $t(189) = 0.93$ ;  $p > 0.05$ ). It was observed that the OHS awareness levels of the students who stated that there were or did not have courses in the OHS training program at the university were similar.

**Table 7.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results According to Laboratory/Workshop Ownership

Variables	Is there an OHS Lab.	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	Yes	60	49,12	9,34	3,98	<0,01	0,65
	No	131	41,93	12,47			

When Table 7 is examined, it is understood that there is a significant difference in OHS mean scores according to the status of having a laboratory/workshop ( $t(189) = 3.98$ ;  $p < 0.01$ ). OHS awareness levels of the students who stated that there is an OHS laboratory/workshop in the institution where they are educated, where they can enter the classes, are significantly higher. Having a laboratory/workshop has a moderate effect on students' awareness of OHS (Cohen  $d = 0.65$ ).

When Table 8 is examined, it is understood that OHS mean scores do not show a significant difference according to working/internship status ( $t(189) = 0.84$ ;  $p > 0.05$ ). It was observed that the OHS awareness levels of the students who stated that they had worked or had an internship in any place before, and those who did not, were similar.

**Table 8.** OHS Scale Mean Scores, Standard Deviations and Independent Groups T-Test Results According to Working/Internship Status

Variables	Did you do an internship?	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	Yes	79	45,06	12,64	0,84	0,40	0,12
	No	112	43,57	11,59			

**Table 9.** OHS Scale Score Averages, Standard Deviations and Independent Groups T-Test Results According to The Employer's Presence in The Family

Variables	Are your parents an employer?	N	Mean	Ss	t(189)	p	Cohen d
OHS awareness level	Yes	32	50,69	10,37	3,45	<0,01	0,70
	No	159	42,88	11,94			

When Table 9 is examined, it is understood that the mean OHS scores show a significant difference according to the presence of the employer in the family ( $t(189) = 3.45$ ;  $p < 0.01$ ). OHS awareness levels of students who state that their parents are employers are significantly higher. The presence of an employer in the family has a moderate effect on students' awareness of OHS (Cohen  $d = 0.65$ ).

## 4. Discussion and Conclusion

With the amendment made with the new "Occupational Health and Safety Law" published in the Official Gazette dated June 30, 2012, the responsibility of providing "Occupational Health and Safety Service" (Official Gazette, 2012) is a job security technician or It paved the way for him to become an occupational safety specialist (Ceylan, 2012: 96). In this study, which was carried out based on the benefit of integrating safety awareness in vocational education, the unsafe behaviours of today's youth, who constitute the employees of the future, can be prevented and the OHS professionals trained through vocational education reveal the prevention culture in business life, the OHS of the students of the OHS program. Perceptions are studied extensively.

In this context, the universe of the research is in Turkey; Istanbul Gelisim University, which is a foundation university, and Gaziantep University, which is a state university, consist of the OHS program students. Researches are mostly about OHS perceptions of students studying in different programs (Yu-Huei et al., 2009; Merdin & Aygün, 2014; Mostafa & Momen, 2014; Aygün & Öztürk, 2017; Topgül & Çağatay, 2017). Although there are

studies on the perceptions of students of different programs in the literature, no studies have been found on the OHS perceptions of only the students studying in the OHS program. In this direction, it is thought that the research carried out is original. The data obtained in the research were collected through a questionnaire created within the scope of the study. The questionnaire consists of demographic questions and questions about the OHS Awareness Scale. In the research, the data were analyzed by using the SPSS 25.0 statistical package program.

According to the findings obtained in the research, it has been revealed that the OHS perceptions of the students in the OHS program differ significantly according to the employer's presence in the family and the status of having a laboratory / workshop in the university where they are educated. The fact that one of their parents is an employer in their family indicates that OHS awareness is higher in students. It can be evaluated that the responsibilities imposed on employers by the OHS Law No. 6331 and the intra-family dialogues regarding these responsibilities can also improve the OHS awareness of other members of the family. In addition, it is obvious that only the theoretical training on OHS is insufficient, as the students have to apply all of the education, they receive in the field of OHS in the field/professional life. For this reason, it is essential to support education with applications for all kinds of work and transactions. In this study, the fact that the OHS awareness level of the students who have a laboratory/workshop and receive practical training on the equipment that can be used makes a significant difference compared to the students who do not have the opportunity for practical training, which also supports this situation. Topgül and Çağatay (2017) found that there was no perceptual difference between

students who took the Occupational Health and Occupational Safety course from two different departments and those who did not. The findings of the research differ with the research results of Topgül and Çağatay (2017). Aygün and Öztürk (2017) stated that the Engineer and Technical Staff candidates want the OHS course to be a compulsory course in Turkey. Yu-Huei et al. (2009), on the other hand, found that natural sciences or engineering university students in Taiwan are interested in OHS, and in the study of Merdin and Aygün (2014), departments or vocational high schools need to conduct more informative studies on OHS. The study carried out discussed the subject from different perspectives as stated below. The indicated aspect reveals the different original aspect of the research.

The place of our country among the world countries in terms of occupational accident statistics and the need to improve occupational health services are pointed out. The importance of intervention and education at an early age in the formation of a "safety culture", which is a subset of organizational culture, is known (Kelleci et al., 2022). In this context, the study is important in terms of establishing this culture in vocational education and determining the extent to which the courses given contribute to the formation of this culture. Of course, the establishment of the culture requires a long process, but the secret formula of accelerating this process is hidden in the importance that OHS professionals, managers, policy makers and researchers give to the subject of OHS. To future researchers; It is recommended to continue studies on participants with different demographic characteristics in different geographies and/or sectors, as different results may be obtained in different samples.

## References

- Abbasi, M., Gholamnia, R., Alizadeh, S. S., & Rasoulzadeh, Y. (2015). Evaluation of workers unsafe behaviors using safety sampling method in an industrial company. *Indian Journal of Science and Technology*, 8(28), 1-6.
- Apriana, D., Kristiawan, M., & Wardiah, D. (2019). Headmaster's competency in preparing vocational school students for entrepreneurship. *International Journal of Scientific & Technology Research*, 8(8), 1316-1330.
- Aygün, S. & Öztürk, Ö. F. (2017) Mühendis ve Teknik Eleman Adaylarının İş Güvenliği Konusunda Tutumlarının Belirlenmesi. *The International Journal of Innovative Approaches in Science Research*, 1(1), 21-32
- Bolat, H. (2022). "İş Sağlığı ve Güvenliğinin Örgütsel Bağlılık Üzerindeki Rolü: Malatya-Yeşilyurt Belediyesinde Ampirik Bir Çalışma". (Master's thesis, Sosyal Bilimler Enstitüsü).
- Ceylan, H. (2012). Türkiye'deki iş sağlığı ve güvenliği eğitimi sorunlar ve çözüm önerileri. *EJOVOC (Electronic Journal of Vocational Colleges)*, 2(2), 94-104.
- Cohen, J. (1988). *Statistical Power Analysis for The Behavioral Sciences*. Hillsdale, NJ: Erlbaum.
- Dursun, S., & Keser, A. (2014). İş güvenliği farkındalığı ve iş güvenliği davranışları arasındaki ilişkilerin araştırılması: uygulamalı bir araştırma. *Çalışma İlişkileri Dergisi*, 5(2), 1-9.
- Eraslan, L. (2015) "Sosyal Güvenliğin Sosyolojisi (Üniversite Öğrencilerinin Sosyal Güvenlik Algıları)", Retrieved from <https://app.csgb.gov.tr/isggm/isghafta/20.pdf>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2013). *Multivariate Data Analysis*. Pearson Education Limited.
- Heinrich, H. W. (1959). *Industrial Accident Prevention; A Scientific Approach 1959*. McGraw-Hill.
- Hoşten, G., & Özge, E. (2021). Sağlık Hizmetleri Meslek Yüksekokulu Öğrencilerinin İş Sağlığı ve Güvenliği Farkındalık Düzeylerinin Belirlenmesi: Bir Vakıf Üniversitesi Üzerinde Bir İnceleme. *Avrupa Bilim ve Teknoloji Dergisi*, (22), 101-108.
- Kelleci, S. Ç., Akalp, H. G., Saklangıç, U., & Taşci, H. (2022). Meslek Yüksekokulu Öğrencilerinin Temel İSG Eğitimlerinin İSG Algısı Oluşturulmasına Etkisi: Bir Üniversite Örneği. *Ergonomi*, 5(3), 178-185.
- Lutness, J. (1987). Measuring up: assessing safety with climate surveys. *Occupational health & safety (Waco, Tex.)*, 56(2), 20-26.
- Merdin, E., & Aygün, S. (2019). Meslek Yüksekokulu Öğrencilerinin İş Güvenliği Algısı. *International Journal of Innovative Approaches in Science Research*, 3(1), 9-19.
- Mostafa, N.S. & Momen, M. (2014). Occupational Health and Safety

- Training: Knowledge, Attitude and Practice Among Technical Education Students, *Egyptian Journal of Occupational Medicine*, 38(2), 153-165.
- Quintini, G., & Martin, S. (2006). *Starting well or losing their way?: The position of youth in the labour market in OECD countries*. Official Gazette (2012). "İş Sağlığı ve Güvenliği Kanunu", 30/06/2012 tarih ve 28339 sayılı resmi gazete.
- Salminen, S., & Tallberg, T. (1996). Human errors in fatal and serious occupational accidents in Finland. *Ergonomics*, 39(7), 980-988.
- Topgül, S. & Çağatay, A. (2017) Öğrencilerin İş Güvenliği ve İş Güvenliği Eğitimi Algısının Değerlendirilmesi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 22(2), 587-598
- Tozkoparan, G., & Taşoğlu, J. (2011). *İş sağlığı ve güvenliği uygulamaları ile ilgili işgörenlerin tutumlarını belirlemeye yönelik bir araştırma*.
- Yılmaz, F., Alp, S., Çınar, U. & Öz, B. (2019). İş Sağlığı ve Güvenliği Profesyonellerinin Ücret ve Çalışma Koşullarının Analizi. *OHS ACADEMY*, 2(1), 41-49. Retrieved from <https://dergipark.org.tr/pub/ohsacademy/issue/44841/557924>.
- Yu-Huei, T., Yu-Wen, L. Chic-Chieh, C. & Jia-Ming L. (2009) Perceptions of General Education on Occupational Health and Safety among College Students in Taiwan. *Journal of Occupational and Environmental Hygiene*, 6: 468–474.
- Zengin, M., Sekmen, M., & Tekbalkan, M. (2022). İş Sağlığı ve Güvenliği Programı Öğrencilerinin Güvenlik Algılarına Verilen Eğitimin Etkisinin Araştırılması. *Asos Journal*.