HALK SAĞLIĞI ÇALIŞMALARI

Editör: Doç.Dr. Rıza ÇITIL

HALK SAĞLIĞI ÇALIŞMALARI

Editör

Doç.Dr. Rıza ÇITIL

yaz
yayınları

2024

HALK SAĞLIĞI ÇALIŞMALARI

Editör: Doç.Dr. Rıza ÇITIL

İÇİNDEKİLER

ADÖLESANLARDA BESLENME OKURYAZARLIĞI VE OBEZİTE İLİŞKİSİ

Büşra UYAR[1]

Rıza ÇITIL[2]

1. GİRİŞ

Adölesan terimi Latince kökenli "Adolescence" teriminin karşılığıdır. Adölesan "büyümek" veya "yetişkinliğe erişmek" anlamında kullanılmaktadır (Çelik Eren, D.,, 2009). Adölesan dönem, büyüme ve gelişmenin hızlı olduğu, çocukluk döneminden yetişkinlik dönemine geçişi içine alan dönemdir (Erkan, T., 2008). Bu dönemde fiziksel, ruhsal ve sosyal gelişim gerçekleştiğinden sağlıklı beslenme ve beslenme eğitimi büyük önem taşır (Contento IR, Nutrition Education, 2015). Adölesan dönemde sağlıklı beslenme davranışının kazandırılması ve ömür boyu sürdürülmesi uygun eğitimler sayesinde mümkündür. Bu dönemde verilecek sağlıklı beslenme eğitimi olası sağlık problemlerinin önlenmesinde önemli bir rol oynar (Banna J., Richards R., Jones B., Anderson A., Reicks M., Cluskey M., et al., 2020). Adölesanın arkadaş çevresinin çeşitlenmesi ve genişlemesi yeme alışkanlıklarının değişmesinde etkilidir (Meiklejohn S.., Ryan L., ve Palermo C.A., 2016). Adölesanın yaşı arttıkça ev dışında yemek yeme alışkanlıklarının arttığı görülmektedir (Kabaran, S., ve Mercanlıgil, 2013). Adölesanlarda sağlıksız beslenme alışkanlıkları ve davranışları

[1] Diyetisyen, Tokat Gaziosmanpaşa Üniversitesi, Lisansüstü Eğitim Enstitüsü, Halk Sağlığı Yüksek Lisans Programı, uyarbusra94@hotmail.com, ORCID: 0009-0002-3348-9896.

[2] Doç. Dr, Tokat Gaziosmanpaşa Üniversitesi, Tıp Fakültesi, Halk Sağlığı, rcitil38@gmail.com, ORCID: 0000-0002-7198-0195.

sık gözlemlenebilmektedir (Rodrigues P.R.M., Luiz R.R, Monteiro L.S, Ferreira M.G, Gonçalves-Silva, R.M.V., & Pereira, R.A, 2017). Adölesanlarda beslenme sorununun giderilmesindeki en etkili yöntem beslenme eğitimine erken yaşlarda başlamaktır (Bulduk S., 2002).

2. ADÖLESAN DÖNEMDE OBEZİTE

Dünya Sağlık Örgütü (DSÖ) obezite ve aşırı kiloyu, vücutta sağlığı olumsuz etkileyebilecek seviyede aşırı yağ birikimi olarak tanımlamaktadır (DSÖ, 2021). Obezite gelişmiş ve gelişmekte olan ülkelerde giderek artan önemli bir halk sağlığı sorunu olarak karşımıza çıkmaktadır (Gebrie A., Alebel A., Zegeye A., Tesfaye B., & Ferede A., 2018). Dünyada 2019 yılında 5-19 yaş arası yaklaşık 120 milyon çocuk ve adölesanın obez olduğu bildirilmiştir (DSÖ, 2019). Ülkemizde de obezite sıklığı gün geçtikçe artmış, 15 yaş ve üzerinde obezite sıklığı 2016 yılında %19,6 iken, 2019 yılında %21,1'e yükselmiştir (Türkiye Sağlık Araştırması, 2019).

Adölesan dönemdeki obezite, ilerleyen yaşlardaki obeziteye ortam oluşturmaktadır (Halk Sağlığı Genel Müdürlüğü, 2021). Obezitenin tip 2 diabetes mellitus, kardiyovasküler sistem hastalıkları, dislipidemi, metabolik sendrom, hipertansiyon ve kanserlere yakalanma durumu, düzensiz menstruasyon, psikolojik problemler ve kas iskelet sistemi hastalıkların artışına da zemin hazırladığı saptanmıştır (Justamente et al., 2020; Yılmazbaş, P. & Gökçay, G. 2018; Halk Sağlığı Genel Müdürlüğü, 2021).Obezitenin oluşumunda genetik faktörler ve çevresel faktörler beraber rol oynamaktadır (Yılmazbaş, P., & Gökçay, G., 2018).

Adölesan dönemde görülen obezite artışının en önemli sebepleri arasında teknolojinin gelişmesiyle beraber hareketsizliğin artması, beslenme alışkanlıklarının olumsuz

yönde değişmesi, ihtiyacından daha fazla yemek yeme, kullanılan ilaçlar, ebeveynlerin boşanması aileden ayrılma gibi nedenlere bağlı yaşanılan olumsuz durumlar ve depresyon gibi sorunlar gösterilmektedir (Deleş, B., 2019). Gelişmekte olan ülkelerde gelişmiş ülkelere göre obezite artış hızının daha yüksek olduğu bildirilmektedir (Khodaee G.H., & Sadaidi M., 2016).

Obezitenin belirlenmesinde sıklıkla kullanılan yöntem Beden Kitle İndeksi (BKİ) hesaplamasıdır (Zhou L., Zeng Q., Jin S., ve Cheng G., 2017). Beden Kitle İndeksi (BKİ) bireyin ağırlığını (kg) boy uzunluğunun karesine bölerek (m^2) hesaplanır ve yaygın olarak kullanılan bir sağlık ölçütüdür. Bulunan sonuç kişilerin cinsiyet ve yaşına göre sınıflandırılır. Bu yöntem tanı koymak için kullanılan bir yöntem olmayıp sıklıkla tarama amacı ile kullanılır (T.C. Sağlık Bakanlığı, 2008). Yüksek vücut kitle indeksi, gelecekteki hastalık ve ölüm oranlarının tahmin edilmesinde kritik bir öneme sahiptir (Barlow, 2007).

Adölesanlarda beslenme ile ilgili yapılan çalışmalar incelendiğinde, tükettikleri besinlerin genel olarak şeker içeriğinin yüksek olduğu ve bu durumu birçoğunun bilmediği, sosyoekonomik düzeyle beslenme arasında yakın ilişki bulunduğu bildirilmektedir (Erkan, T.,2011). Adölesan çağındaki bireylerde ev dışında besin tüketimi ve fast-food tarzı beslenme alışkanlıkları sıklıkla görülmektedir. Bu şekilde beslenme ile adölesanların posa, vitamin ve mineral açısından eksik; yağ ve tuz bakımından yüksek pizza, cips, asitli içecekler gibi besinlere yöneldiği bilinmektedir. Okul kantinlerinde sunulan yiyecekler öğrencilerin beslenme alışkanlıklarını önemli ölçüde etkiler. Adölesanlar beslenme tercihlerinde bulunurken genellikle erişimi kolay ve lezzetli yiyecekleri tercih etmektedirler (Banna J, Richards R, Jones B, Anderson A, Reicks M, Cluskey M, et al., 2020).

Adölesan dönemde meydana gelen büyüme ve gelişme hızının artmasıyla ile birlikte adölesanın ihtiyaç duyduğu besin ve enerji miktarı da artış göstermektedir. Bu dönemde yanlış ve yetersiz beslenme sonucu büyüme ve gelişme olumsuz yönde etkilenebilmektedir (Story ve Stang, 2005). Yapılan araştırmalar sonucu beslenme alışkanlıkları açısından riskli grupta bulunan adölesanların öğün atladıkları ve düzensiz beslenme periyotlarının olduğu saptanmıştır (Samuelson, 2000; Savige et al., 2007). Türkiye'de gerçekleştirilen araştırmalarda da adölesanların riskli beslenme alışkanlıkları edindikleri ve öğün atladıkları bildirilmiştir (Demirezen ve Coşansu, 2005; Türk, M. ve ark., 2007; Evrim 2010; Erdoğan ve Akın, 2017).

3. ADÖLESAN DÖNEMDE BESLENME OKURYAZARLIĞI

Beslenme okuryazarlığı, bireyin sağlığını sürdürecek temel beslenme bilgilerine erişme, bu bilgileri anlama, yorumlama ve uygulama becerisi şeklinde tanımlanmaktadır (Cesur, B, Koçoğlu, G. ve Sümer, H., 2015). Beslenme okuryazarlığını değerlendirmek için birçok faktör göz önünde bulundurulmalıdır. Bunlar sosyal, kültürel ve çevresel faktörlerdir. Beslenme okuryazarlığı düzeyinin artması besinler ile ilgili bilgilere erişim, bu bilgileri anlama, sağlıklı besinleri tercih edebilme, sağlığın korunup ve sürdürülmesi hususunda önemli fayda sağlayacaktır (Aktaş, N, Özdoğan, Y, 2016). Bireyin sağlıklı beslenme alışkanlıklarını adölesan dönemden başlayarak tüm hayatı boyunca devam ettirmesinde beslenme okuryazarlığının büyük önemi vardır (Doustmohammadian at al., 2019).

Yaşam kalitesini artırmak için bireyin ve toplumun sağlıklı beslenme bilincine sahip olması ve sağlıklı beslenmeyi yaşam tarzı olarak benimsemeleri gerekmektedir (Pekcan, G.,

2009). Sağlıklı beslenme konusundaki bilgi eksikliği yetersiz ve dengesiz beslenmeye yol açar (Baysal, A., 2015). Beslenme okuryazarlığının önemi bu gibi durumlarda karşımıza çıkmaktadır. Toplum sağlığı için bireyin beslenme hakkında güvenilir ve yeterli bilgiye sahip olması kaçınılmazdır. Öğrenilen bilgilerin davranışa dönüştürülmesiyle toplum sağlığının istenilen düzeye getirilmesi sağlanmış olur. Bunun için bireylere beslenme eğitimi verilmesi önemli bir husustur. Yapılan çalışmalarda beslenme eğitim programlarının bireylerin beslenme bilgi düzeylerini artırdığı sonucuna ulaşılmıştır (Türkiye Beslenme Rehberi, 2015). Pek çok ülkede okullarda beslenme programları uygulanmaktadır. Bu programların çözümlenmesi ve daha etkili beslenme programlarının oluşturulması sağlıklı beslenme için önem arz etmektedir (Eser, E., 2014). Türkiye'de 2010 yılında Sağlık Bakanlığı ile Milli Eğitim Bakanlığı arasında ''Beslenme Dostu Okul Programı'' protokolü imzalanmış ve uygulamaya geçirilmiştir. Daha sonraki yıllarda Sağlık Bakanlığı'nca "Türkiye Obezite ile Mücadele ve Kontrol Programı" ile "Türkiye Sağlıklı Beslenme ve Hareketli Hayat Programı" yürütülmeye başlanmıştır (Türkiye Sağlıklı Beslenme ve Hareketli Hayat Programı, 2013). Dengeli ve düzenli beslenmede adölesanlar gerekli bilgi ve becerilere ihtiyaç duymaktadır. Okullarda verilen beslenme eğitiminin adölesanlarda besin etiket okuma alışkanlığı kazandırılmasında, sağlıklı besin tercih etmelerinde ve sağlıklı beslenmenin öneminin anlaşılmasında etkili olduğu görülmüştür (Yardımcı, H., ve Özçelik, A., 2015). Yapılan çalışmalarda beslenme bilgisinin sağlıklı beslenme davranışını etkilediği sonucuna ulaşılmıştır. Kişinin beslenme bilgi seviyesi ne kadar yüksek ise sağlıklı beslenme davranışının da o kadar yüksek olduğu saptanmıştır. Ulaşılan bu sonuçlar adölesanların beslenme bilgisinin artırılmasının önemli olduğunu göstermektedir (Yahia N., Brown C., Rapley M., ve Chung M., 2016).

Beslenme okuryazarı olan birey sağlıklı beslenme alışkanlığını benimseyeceği için beslenme okuryazarlığı ve sağlıklı beslenme birbirini etkilemektedir. Özenoğlu ve ark. (2021) yapmış olduğu araştırmada, beslenme okuryazarlığının sağlıklı beslenmeyi pozitif yönde etkilediği sonucuna varılmıştır (Özenoğlu, A., Gün B., Karadeniz, B., Koç, F., Bilgin, V., Bembeyaz , Z., ve Saha, B.S., 2021). Adölesan grupta yapılan bir çalışmada yüksek BKİ aralığında olan adölesanların normal BKİ aralığında olan adölesanlara göre beslenme okuryazarlığı düzeyinin daha düşük olduğu sonucuna ulaşılmıştır (Bozdoğan, S., 2020). Yapılan farklı bir araştırmada ise beslenme bilgi düzeyi, beslenme davranışı ve beslenme alışkanlığı ile BKİ arasında anlamlı bir ilişki bulunamamıştır (Şanlıer, N., Konaklioğlu, E., ve Güçer, E., 2009).

Adölesan grupta yapılan araştırmaların çoğunda beslenme bilgi düzeylerinin yetersiz olduğu sonucuna ulaşıldığı görülmektedir (Ergül, Ş, Kalkım, A.,2011). Okullarda verilecek beslenme eğitimleri ile sosyoekonomik düzeyi daha düşük olan adölesanlarda sağlıklı beslenme davranışlarının geliştirilebileceğinin üzerinde durulmuştur (Kastorini C, Lykou A, Yannakoulıa M, Petralias A, Rıza E, Linos A, 2016). Thomas ve Irwin (2011) tarafından yapılan çalışmada, adölesanların beslenme okuryazarlığını ve pişirme yeteneklerini geliştirmeye ayrıca besinlerin çiftlikten sofralarına gelme sürecini kavramalarına yardımcı olmaya yönelik bir program oluşturularak bu programın etkisi incelenmiştir. Bu program yaş ortalaması 15 olan sekiz katılımcıya 18 ay süresince uygulanmış ve araştırma sonunda besinlerin üretimi, pişirme becerisi ve beslenme okuryazarlığına yönelik farkındalığın arttığı, meyve-sebze tüketim oranının arttığı, beslenme alışkanlıklarının olumlu yönde geliştiği gözlemlenmiştir. Adölesan dönemdeki bireylerin beslenme okuryazarlık düzeyi arttıkça beslenme alışkanlıkları bundan olumlu yönde etkilenmektedir (Harley A, Lemke M,

Brazauskas R, Carnegıe N, Bokowy L, Kingery L, 2018). Yapılan araştırmalarda beslenme okuryazarlığının adölesanlarda obezitenin yol açtığı kandaki yağ düzeyi kontrol altına alınmasında ve vücut ölçülerinde olumlu sonuçlara yol açtığı görülmüştür. Kayaalp (2020) tarafından yapılan bir araştırmada adölesan dönemdeki bireylerin sıklıkla öğün atladıkları, asitli ve şekerli meşrubatları sık tükettikleri, çok fazla hazır gıda ile beslendikleri, beslenme bilgilerinin eksik olduğu saptanmıştır. Beslenme okuryazarlığının ölçülmesinde sıklıkla yararlanılan araçların genellikle temel beslenme bilgisi, ürün etiketi okuma ve besinlerin sağlık için önemi ile ilgili yetenekleri göz önünde tuttuğu bildirilmektedir (Aydemir, Ö.,2014).

Adölesanların beslenme okuryazarlık seviyesini saptamak için Bari (2012) tarafından 2012 yılında adölesanlarda beslenme okuryazarlığı ölçeği geliştirilmiştir (Bari, 2012). Ölçek Türkmen ve ark. (2017) tarafından Türkçe'ye uyarlanmıştır. Ölçek 22 maddeden ve üç alt boyuttan oluşmakta olup her maddesi 1 ile 5 (1=Hiç katılmıyorum, 2=katılmıyorum, 3=kararsızım, 4=katılıyorum, 5=tamamen katılıyorum) arasında puan alabilen beşli likert tiptedir. Ölçeğin sonucunda alınabilecek minimum puan 22 iken maksimum puan 110'dur. Alınan puanlar ne kadar yüksek ise beslenme okuryazarlığı düzeyi de o kadar yüksek anlamına gelmektedir (Türkmen ve ark., 2017).

Türkiye'de farklı illerde yapılan çalışmalarda adölesanlarda beslenme okuryazarlığının "orta" düzeyde olduğu bildirilmektedir (Dilsiz, B., Aktaş, B., 2023; Yılmazel, G., Bozdoğan, S., 2021; Ayer, Ç., Ergin, A., 2021). Ekim 2019 - Ocak 2020 tarihleri arasında Gaziantep İli Şahinbey İlçe Milli Eğitim Müdürlüğü'ne bağlı bir lisede 570 öğrencinin katıldığı bir çalışmada adölesanlarda beslenme okuryazarlığı ölçeği kullanılmış ve 110 puan üzerinden 70.18±9.01 puan alınarak adölesanlarda beslenme okuryazarlığının orta düzeyin üzerinde

olduğu bulunmuştur (Dilsiz, B., Aktaş, B., 2023). Çorum'da Mart-Mayıs 2019 tarihleri arasında 14-17 yaş arasındaki 307 öğrencide yürütülen çalışmada adolesanlarda beslenme okuryazarlığı ölçeğinden 110 puan üzerinden ortalama 70 puan (70,31±8,66) alınarak adölesanlarda beslenme okuryazarlığının orta düzeyde olduğu saptanmıştır (Yılmazel, G., Bozdoğan, S., 2021). Denizli'de 2017-2018 eğitim öğretim yılında 523 lise öğrencisinde yürütülen çalışmada ise adolesanlarda beslenme okuryazarlığı ölçeğinden 110 puan üzerinden 67.6±7.9 puan alınarak adölesanlarda beslenme okuryazarlığının orta düzeyde olduğu bildirilmiştir (Ayer, Ç., Ergin, A., 2021).

Mayıs-Haziran 2019 tarihleri arasında Kahramanmaraş ili Elbistan ilçesinde 614 lise öğrencinin katıldığı ve Adölesan Beslenme Okuryazarlığı Ölçeği kullanılarak beslenme okuryazarlığı düzeyinin ölçülmesinin amaçlandığı çalışmada, öğrencilerin beslenme okuryazarlığı puan ortalamasının 110 puan üzerinden 66.9±8.3 puan ile orta düzeyde olduğu bulunmuştur (Kayaalp., 2020).

Ülkemizde Çorum, Denizli ve Kahramanmaraş illerinde Adölesan Beslenme Okuryazarlığı Ölçeği kullanılarak yapılan çalışmalarda, adölesanların cinsiyetine göre beslenme okuryazarlığı puan ortalamaları arasında istatistiksel açıdan anlamlı fark saptanmış olup kızlarda beslenme okuryazarlığı puanlarının erkeklere göre daha yüksek olduğu bildirilmiştir (Yılmazel, G., ve Bozdoğan, S., 2021; Ayer, Ç., Ergin, A., 2021; Kayaalp., 2020). Dilsiz ve Aktaş (2023) tarafından Gaziantep ilinde lise öğrencilerinde yapılan çalışmada da beslenme okuryazarlığı düzeyi kız öğrencilerde daha yüksek olmasına karşılık cinsiyete göre aradaki fark istatistiksel açıdan anlamlı bulunmamıştır (p=0.057).

Gaziantep, Denizli ve Kahramanmaraş illerinde yapılan ve Adölesan Beslenme Okuryazarlığı Ölçeğinin kullanıldığı

çalışmalarda, adölesanların beden kitle indeksine göre beslenme okuryazarlığı puan ortalamaları arasında istatistiksel açıdan anlamlı fark olmadığı saptanmıştır (Dilsiz, B., Aktaş, B., 2023; Ayer, Ç., Ergin, A., 2021; Kayaalp., 2020). Buna karşılık Yılmazel ve Bozdoğan (2021) tarafından Çorum ilinde lise öğrencilerinde yapılan çalışmada ise Adölesan Beslenme Okuryazarlığı Ölçeği puan ortalamaları beden kitle indeksine göre normal olan adölesanlarda beden kitle indeksine göre zayıf, hafif şişman ve obez olanlara göre anlamlı şekilde daha yüksek olarak bulunmuştur (p<0,001).

4. SONUÇ

Obezite, halk sağlığı açısından önemli bir sorunudur. Özellikle de gelişmiş ve gelişmekte olan ülkelerde obezite prevalansı artış göstermektedir. 2019 yılında dünyada 5-19 yaş aralığında olan yaklaşık 120 milyon adölesan ve çocuğun obez olduğu bildirilmiştir (DSÖ, 2019). Ülkemizde ise Türkiye Sağlık Araştırması'nın 2019 yılı verilerine göre 15 yaş ve üzeri yaklaşık 5 kişiden 1'i obezdir (Türkiye Sağlık Araştırması, 2019). Dengeli beslenme sağlığın korunması ve yaşam kalitesinin artırılabilmesi için en temel faktörlerden biridir (Devran SB, Kızıltan G., 2018).

Ülkemizde adölesanlarda beslenme okuryazarlığının orta düzeyde olduğu bildirilmektedir (Dilsiz, B., Aktaş, B., 2023; Yılmazel, G., Bozdoğan, S., 2021; Ayer, Ç., Ergin, A., 2021). Bu dönemde beslenme okuryazarlığı düzeyinin arttırılması ile birlikte beslenme durumunun iyileştirilmesine ve beslenmeye bağlı oluşabilecek hastalıkların önlenmesine katkıda bulunulabilir. Liteatürde beslenme okuryazarlığı ile ilgili araştırmalar kısıtlıdır. Öğrencilerin gıda etiketi okuma, porsiyon miktarları gibi konularda yeterlilik düzeylerini artırmak ve gruplar arasındaki bilgi farklılıklarını gidermek amacıyla tüm

eğitim seviyelerindeki okullarda beslenme, porsiyon ve etiket bilgisi konuları ders ya da eğitim programı olarak ele alınmalı ve bu programların etkinliği düzenli bir şekilde değerlendirilmelidir (İbiş, R., Öztürk, A., 2023). Bu konuyla ilgili yapılan çalışmaların bir kısmında adölesanların beslenme okuryazarlığı düzeyinin obezite üzerine etkisi olduğu sonucuna varılırken, bazı çalışmalarda ise beslenme okuryazarlığının obezite ile anlamlı bir ilişkisi bulunmadığı sonucuna varılmıştır. Özellikle adölesanların beslenme okuryazarlığı konusunda yapılacak bilimsel çalışmalar artırılmalıdır.

Adölesanların beslenme okuryazarlığını artırmaya yönelik adölesana ve ebeveynine eğitim verilmesi, okullardaki sağlıklı beslenme programlarının daha yaygın hale getirilmesi ve adölesan dönemde boy-kilo takibinin düzenli bir şekilde yapılması için aile-okul iş birliğinin sağlanması önerilmektedir. Bu uygulamalarda ve eğitimlerde mutlaka beslenme ve diyet uzmanlarından destek alınması önemlidir.

KAYNAKÇA

Aktaş, N., Özdoğan, Y., (2016). Gıda ve beslenme okuryazarlığı. Harran Tarım ve Gıda Bilimleri Dergisi, 20(2):146-153.

Aydemir, Ö., (2014). Sağlıkta yaşam kalitesinin klinikte kullanımı. Türk Nöroloji Dergisi, 20(1):5-9.

Ayer, Ç., Ergin, A., (2021). Status of nutritional literacy in adolescents in the semirural area in Turkey and related factors. Public Health Nutr, 24(12):3870-8.

Banna, J., Richards, R., Jones, B., Anderson, A., Reicks, M., Cluskey, M., et al. (2020). Describing independent eating occasions among low-income adolescents. International Journal of Environmental Research and Public Health, 17(3):981.

Barlow, SE., (2007). Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics, 120 (4). 164-192.

Baysal, A., (2015). Beslenme. (16. Baskı). Hatiboğlu, Ankara.

Bozdoğan, S., (2020). Çorum il merkezinde ilk ve ortaöğretim öğretmenlerinde beslenme okuryazarlığı ve ilişkili faktörler. Yüksek Lisans Tezi, Hitit Universitesi, Çorum.

Bulduk, S., (2002). Beslenme ilkeleri ve menü planlama. 1.Baskı. Detay Yayınları, Ankara.

Can, T ve Şahin Kaya, A. (2022). Adölesan dönemde beslenme okuryazarlığı. Current Perspectives on Health Sciences, 3(2):74-81.

Cappa, C., Wardlaw, T., Langevin-Falcon, C., Diers, J., (2012). Progress for children: a report card on adolescents. Lancet, 379(9834):2323-5.

Cesur, B, Koçoğlu, G. ve Sümer, H. (2015). Evaluation Instrument of Nutrition Literacy on Adults (EINLA): The study of validity and reliability. Integrative Food, Nutrition and Metabolism, 2(3):174-177.

Contento IR. Nutrition Education: Linking Research, Theory & Practice. Edition, 3rd; Publisher, Jones & Bartlett Learning, 2015.

Çelik Eren, D., (2019). Adölesan gebelikler ve hemşirelik. Ed: Çer, E., Kahraman, N., Yılmaz, T. Sağlık Toplum ve Kültür Sempozyumu Bildirileri Tam Metin Kitabı. KIBATEK Yayını, Amasya, 17-29.

Deleş, B., (2019). Çocukluk çağı obezitesi. Hacettepe Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 6(1), 17-31.

Demirezen E., ve Coşansu G., (2005). Adölesan çağı öğrencilerde beslenme alışkanlıklarının değerlendirilmesi. Sürekli Tıp Eğitimi Dergisi, 14(8), 174-178.

Devran, SB., Kızıltan, G., (2018). Doğu Anadolu Bölgesinde yaşayan adölesan ve yetişkinlerin beslenme alışkanlıkları ile yeme tutum ve davranışlarının belirlenmesi. Başkent Üniversitesi Sağlık Bilimleri Fakültesi Dergisi, 2(2):47-60.

Dilsiz, B., & Aktaş, B. (2023). Lise öğrencilerinde beslenme okuryazarlığı ve obezite yaygınlığının değerlendirilmesi. Sağlık Bilimleri Dergisi, 32(2), 229-236.

Doustmohammadian, A., Keshavarz Mohammadi, N., Omidvar, N., Amini, M., Abdollahi, M., Eini-Zinab, H., Amirhamidi, Z., Sfandiari, S., (2019). Food and nutrition literacy (FNLIT) and its predictors in primary school children in Iran. Health Promot Int, 34(5), 1002-13.

Erdoğan, E.G., ve Akın, B., (2017). Lise öğrencilerinde beden kütle indeksi durumunun sosyodemografik ve beslenme özellikleri ile ilişkisi. Journal of Human Sciences, 14(2): 1571-1589.

Ergül, Ş., Kalkım, A., (2011). Önemli bir kronik hastalık: Çocukluk ve ergenlik döneminde obezite. TAF Preventive Medicine Bulletin, 10(2):223-230.

Erkan, T., Ergenlerde Beslenme. İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi Sürekli Tıp Eğitimi Etkinlikleri. Adolesan Sağlığı II. Sempozyum Dizisi. Mart 2008. No: 63. 73-77.

Eser, E., (2014). Sağlıkla ilgili yaşam kalitesinin kavramsal temelleri ve ölçümü. Türk Nöroloji Dergisi, 20(1), 1-4.

Evrim, F.İ., (2010). Ankara ili Etimesgut ilçesi Şeyh Şamil ilköğretim okulu öğrencilerinin beslenme alışkanlıkları ve obezite durumu. Yüksek Lisans Tezi, Ankara Üniversitesi Fen Bilimleri Enstitüsü, Ankara.

Gebrie, A., Alebel, A., Zegeye, A., Tesfaye, B., & Ferede, A. (2018). Prevalence and associated factors of overweight/obesity among children and adolescents in Ethiopia: A systematic review and meta-analysis. BMC Obesity, 5, 19.

Hacıalioğlu N. Adölesan (Ergen) Sağlığı, İçinde, Halk Sağlığı Hemşireliği. Erci, B. (Editör) Anadolu Nobel Tıp Kitabevleri 2016. 2.Baskı, Elazığ. ss 122- 136.

Harley, A., Lemke, M., Brazauskas, R., Carnegie, N. B., Bokowy, L., & Kingery, L. (2018). Youth Chef Academy: Pilot results from a plant-based culinary and nutrition literacy program for sixth and seventh graders. The Journal of School Health, 88(12), 893–902.

Hayes, D., Contento, I., ve Weekly, C., (2018). Position of the academy of nutrition and dietetics, society for nutrition education and behavior, and school nutrition association: Comprehensive nutrition programs and services in schools. Journal of the Academy of Nutrition and Dietetics, 118(5), 913-919.

İbiş R., Öztürk, A. (2023). Üniversite öğrencilerinde beslenme okuryazarlığı durumu ve obezite ile ilişkisi: Yozgat örneği, Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 12(2):700-712.

Jaworska N., MacQueen G. (2015). Adolescence as a unique developmental period. J Psychiatry Neurosci. 40(5):291-3.

Justamente, I., Raudeniece, J., Ozolina-Moll, L., Guadalupe-Grau, A., & Reihmane, D. (2020). Comparative analysis of the effects of daily eating habits and physical activity on anthropometric parameters in elementary school children in Latvia: Pach study. Nutrients, 12(12), 3818.

Kabaran, S., ve Mercanlıgil, S.M., (2013). Adölesan dönem besin seçimlerini hangi faktörler etkiliyor? Güncel Pediatri, 11, 121-127.

Kastorini, C. M., Lykou, A., Yannakoulia, M., Petralias, A., Riza, E., Linos, A., & DIATROFI Program Research Team (2016). The influence of a school-based intervention programme regarding adherence to a healthy diet in children and adolescents from disadvantaged areas in Greece: the DIATROFI study. Journal of Epidemiology and Community Health, 70(7), 671–677.

Kayaalp, H. (2020). Kahramanmaraş ilinin Elbistan ilçesindeki lise öğrencilerinde beslenme okuryazarlığının ölçülmesi

ve etkileyen faktörlerin belirlenmesi (Yüksek Lisans Tezi). İnönü Üniversitesi.

Khodaee, G.H., ve Sadaidi, M., (2016). Increases of Obesity and Overweight in Children: an Alarm for Parents and Policymakers. International Journal of Pediatrics, 4(4), 1591-1601.

Meiklejohn, S., Ryan, L., ve Palermo, C.A., (2016). Systematic review of the impact of multi- strategy nutrition education programs on health and nutrition of adolescents. J Nutr Educ Behav, 48, 631-646.

Naeeni M.M., Jafari, S., Fouladgar, M., et al. (2014) Nutritional knowledge, practice, and dietary habits among school children and adolescents. Int J Prev Med, 5(Suppl 2), S171.

Özenoğlu, A., Gün, B., Karadeniz, B., Koç, F., Bilgin, V., Bembeyaz, Z., ve Saha, B.S., (2021). Yetişkinlerde beslenme okuryazarlığın sağlıklı beslenmeye ilişkin tutumlar ve beden kütle indeksi ile ilişkisi. Life Sciences, 16(1), 1-18.

Pekcan, G., (2009). Türkiye'de beslenme ve sağlık durumu. Hacettepe Beslenme ve Diyetetik Günleri II. Mezuniyet Sonrası Eğitim Kursu, 19-20 Haziran, Ankara.

Rodrigues P.R.M., Luiz, R.R, Monteiro L.S, Ferreira M.G, Gonçalves-Silva, R.M.V., & Pereira, R.A (2017). Adolescents unhealthy eating habits are associated with meal skipping. Nutrition, 42, 114-120.

Samuelson, G., (2000). Dietary habits and nutritional status in adolescents over europe: an overview of current studies in the Nordic countries. European Journal of Clinical Nutrition, 54(suppl 1), 21-28.

Savige, G., Macfarlane, A., Ball, K., Worsley, A., ve Crawford, D., (2007). Snacking behaviours of adolescents and their association with skipping meals. International Journal of Behavioral Nutrition and Physical Activity, 4, 36-40.

Story, M., ve Stang, J., (2005). Nutrition needs of adolescents. (Edt: Stang, J., Story, M.,) Guidelines for adolescent nutrition services. Minneapolis, MN: Center for Leadership, Education and training in maternal and child nutrition, Division of epidemiology and community health, School of public health, University of Minnesota, 21–34.

Şanlıer, N., Konaklioğlu, E., ve Güçer, E., (2009). Gençlerin beslenme bilgi, alışkanlık ve davranışları ile beden kütle indeksleri arasındaki ilişki. Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 29(2), 333-352.

T.C. Sağlık Bakanlığı, Halk Sağlığı Genel Müdürlüğü. (2021). Obezitenin yol açtığı sağlık problemleri. https://hsgm.saglik.gov.tr/tr/obezite/obezitenin-yol-actigi-saglik-problemleri.html Erişim Tarihi: 15.02.2024

T.C. Sağlık Bakanlığı, Sağlık Eğitimi Genel Müdürlüğü. Eğitimciler İçin Eğitim Rehberi. 2008

Thomas, HM., Irwin, JD. (2011). Cook It Up! A community-based cooking program for at-risk youth: overview of a food literacy intervention. BMC Research Notes. 4(1):495-501.

Türk M., Gürsoy T., ve Ergin I., (2007). Kentsel bölgede lise birinci sınıf öğrencilerinin beslenme alışkanlıkları. Genel Tıp Dergisi, 17, 81-87.

Türkiye Beslenme Rehberi (TÜBER 2015), T.C. Sağlık Bakanlığı Yayınları, Yayın No: 1031, Ankara, 26-28

Türkiye İstatistik Kurumu (TUİK). Türkiye Sağlık Araştırması, 2019. https://data.tuik.gov.tr/Bulten/Index?p=Turkiye-Saglik-Arastirmasi-2019-33661 Erişim tarihi: 16.02.2024

Türkiye Sağlıklı Beslenme ve Hareketli Hayat Programı, Sağlık Bakanlığı, Türkiye Halk Sağlığı Kurumu, Yayın No:773, Ankara, 2013. Erişim Tarihi: 11.03.2024 https://hsgm.saglik.gov.tr/depo/birimler/saglikli-beslenme-ve-hareketli-hayat-db/Dokumanlar/Programlar/hareketli-hayat-programi-2014-2017.pdf

WHO (2021). Obesity. Erişim Tarihi: 15.02.2024 http://www.who.int/topics/obesity/en/.

Yahia, N., Brown, C., Rapley, M., ve Chung, M., (2016). Level of nutrition knowledge and its association with fat consumption among college students. BMC Public Health, 16(1), 1047.

Yardımcı, H., ve Özçelik, A., (2015). Üniversite öğrencilerinin öğün düzenleri ve beslenme eğitiminin beslenme bilgisine etkisi. Beslenme ve Diyet Dergisi, 43(1), 19-26.

Yılmazbaş, P., & Gökçay, G. (2018). Çocukluk çağı obezitesi ve önlenmesi. Çocuk Dergisi, 18(3), 103-112.

Yılmazel, G., & Bozdoğan, S., (2021). Nutrition literacy, dietary habits and food label use among Turkish adolescents. Prog Nutr 23, e2021007.

Zhou, L., Zeng, Q., Jin, S., Cheng, G., (2017). The impact of changes in dietary knowledge on adult overweight and obesity in China. PloS One, 12(6), e0179551.

COMPARISON OF THE OPINION OF EMPLOYEE HEALTH AND SAFETY CULTURE IN TURKIYE AND WORLD COUNTRIES - REVIEW STUDY

Reyhan ATA[1]

1. INTRODUCTION

The Universal Declaration of Human Rights identifies the fundamental rights of individuals as the right to life, freedom, and the provision of fair and favorable working conditions. The World Health Organization (WHO) defines employee health as a state of complete physical, mental, and social well-being (WHO, 2024). Two factors that distance employees from this state of well-being are occupational accidents and work-related illnesses. Even with adequate working conditions in the place, occupational accidents and work-related illnesses can still occur. In addition to mental harm, employees are increasingly susceptible to physical harm through workplace accidents and occupational diseases. Conceptually, according to the International Labour Organization (ILO), an occupational accident is an unexpected and unplanned event that causes specific harm or injury (ILO, 2024). In Turkiye, according to Law No. 5510 on Social Security Institution (SSI), an occupational disease is defined as a temporary or permanent illness, disability, or mental disorder suffered by the insured due to the nature of the work performed or the conditions under which it is carried out (MEV, 2024). As is known, 88% of the causes of occupational accidents are unsafe acts, 10% unsafe conditions,

---
[1] Asst. Prof., Tekirdağ Namık Kemal University, Çerkezköy Vocational School, rata@nku.edu.tr, ORCID: 0000-0002-2760-6649.

and 2% unknown and unavoidable causes. From a general perspective, 98% of occupational accidents are preventable. However, this requires more than the implementation of laws, that is, the creation of a culture of occupational safety.

2. CONCEPTUAL FRAMEWORK OF OCCUPATIONAL SAFETY AND HEALTH CULTURE

The causes of occupational accidents have long been a concern for health and safety professionals. Understanding these causes forms the basis for efforts aimed at preventing accidents. It is a well-established fact that human behavior directly influences safety in all aspects of life and is closely linked to culture. Many past accidents have been predominantly attributed to human behavior.

Culture is generally defined as encompassing human attitudes, behaviors, education and training, mental development, intellectual development, and more. "Culture" is a word with many different meanings in the English literature. Originating from Latin, meaning "to till" or "to cultivate," "cultura" evolved into French as "culture," carrying the sense of "cultivating the mind through education," and later adopted in German to denote "the value created by human mental capacity" starting from 1805, and as "a reflection of the intellectual accumulation of society" since then. (Tylor E.B., 1871). To summarize, culture may define as "a belief and customs system employed by a group of people in understanding, organizing, and structuring individual and collective lives.

Individual and societal approaches to life and living styles are aspects of cultural context. These include human relationships, teamwork, team spirit, tolerance, endurance, management, guidance, setting standards, conceptual approaches,

future expectations, and historical connections. Gerard Hendrik Hofstede's Cultural Dimensions Theory explores interpersonal interactions and the influence of culture. According to this theory, each society's cultural structure—power distance, individualism-collectivism, uncertainty avoidance, masculinity-femininity, long-term orientation, and indulgence-restraint—impacts interpersonal relationships among its members and individual approaches to work tasks. Hofstede's Cultural Dimensions Theory provides a conceptual framework for examining the profound influence of culture in various fields of study (Doğruöz C.B., Erbaş İ., 2021).

In this context, culture is a multidimensional concept intersecting with numerous disciplines. Organizational culture, safety culture, and occupational safety and health (OSH) are interconnected concepts. The term "safety culture" first appeared in 1986 in a report by the International Nuclear Safety Group (INSAG) following the Chernobyl accident (IAEA, 1992). In its 1991 report, INSAG defined safety culture as "a comprehensive set of specific characteristics, attitudes, and preventive measures that prioritize safety in workplaces and among individuals". The concept of safety culture was further articulated in the INSAG-3 report in 1988, stating "the general concept of safety culture is the dedicated and responsible approach of all individuals engaged in any activity related to the security of nuclear plants" (Cox, S. ve Flin, R.,1998).

Behaviors related to occupational safety and health are influenced by organizational culture. Organizational culture is a commonly used concept to describe shared organizational values that influence workplace members' attitudes and behaviors. An independent safety culture cannot be divorced from organizational culture, which defines the conditions or environment under which a workplace operates. Occupational safety and health must be perceived as essential by both

employers and employees and should form the foundation of daily activities (Cooper, M.D., 2000).

A safety culture in businesses is unthinkable independent of corporate culture, and corporate culture is the conditions or environment in which the workplace is understood. The requirements of occupational health and safety should be seen as a need by both the employer and the employee and should form the basis of all daily work (Zopçuk O., 2015).

When examining the definition of safety culture in the literature, it is described with concepts such as values, attitudes-behaviors, beliefs, collective actions, prevention, protection, change, and perception. Safety culture encompasses the entire organization and is manifested in employees to varying degrees across different levels. Occupational Safety and Health Culture is shaped by individual or group values, attitudes, behaviors, and competencies that dictate commitment to occupational safety and health programs, compliance style, and adequacy, thereby fostering safe attitudes and behaviors through training and direction.

The first step in workplaces for employees to perceive safety culture, akin to management systems, is the commitment of senior management. It is crucial for employers to be committed to establishing a safety culture in the workplace. Additionally, middle managers, supervisors, and lead workers in intermediate positions must also adhere to and promote adherence to occupational health and safety requirements. Supporting this effort, having a written occupational safety and health management system in the workplace is essential. This informs employees about occupational safety and health practices daily, encourages participation in reporting accidents, occupational diseases, incidents, and near misses, fosters a safety culture in

workplaces, ensures employee well-being, and promotes a strong commitment to occupational safety and health.

In order to ensure occupational health and safety in the workplace, it is essential to eliminate hazardous conditions, promptly identify and address developments that threaten occupational health and safety, and minimize the adverse outcomes in cases where such conditions cannot be prevented.

Preventing workplace accidents and emphasizing occupational health and safety are, above all, reflections of the value placed on human life. In addition to this, it is a well-known fact that reducing the direct high costs caused by workplace accidents and occupational diseases will also increase profitability and productivity in businesses. Adopting occupational health and safety measures and fostering an OHS culture among employers and employees have now become necessities. Creating this awareness is possible primarily through effective training and by businesses understanding their own profiles. To provide a safe working environment, it is crucial to adopt and enhance the applicability of occupational health and safety practices in workplaces, and more importantly, to make them permanent. Occupational health and safety primarily consider human factors, with standardized systems implemented to prevent incidents, which in turn also contribute to ensuring process safety by establishing and reinforcing relevant policies and rules. In contemporary times, organizations are increasingly focusing on developing an organizational OHS culture within the workforce by creating systems that can adapt to the organizational structure where a large number of people work together and that can enhance occupational health and safety (OHS) management performance. Establishing an occupational health and safety (OHS) culture involves a comprehensive process of creating a set of values, behaviors, and practices that prioritize the well-being of employees and significantly contribute to preventing

workplace accidents, ultimately achieving enhanced OHS management performance.

An occupational health and safety culture is shaped not only by rules and regulations but also by the values and behaviors of the organization. This culture should encompass not only the physical health of employees but also their psychological well-being. Adopting this culture within the organization can increase employee satisfaction and help prevent workplace accidents and occupational diseases (Conklin T., 2017).

The dimensions of occupational health and safety (OHS) culture, which are crucial steps to establish a strong OHS culture in organizations, can be listed as follows:

- Organizational commitment and organizational culture,
- Leadership commitment and management involvement,
- Empowerment and participation of employees,
- Training and education,
- Risk assessment,
- Open communication,
- Continuous improvement,
- Suggestions and rewards,
- Establishment of OHS performance measurement and reporting system,
- Legal compliance (Conklin T., 2017; Acar M.N., 2024).

Establishing an OHS culture in the workplace begins with ensuring organizational commitment and embedding organizational culture. Leadership plays a significant role in shaping organizational culture. OHS culture requires commitment from top-level executives throughout the organization. Senior management must demonstrate strong commitment to occupational health and safety. Leaders conveying the importance of OHS, allocating resources, and

actively participating lay the foundation for an adopted OHS culture among employees.

Employee participation involves involving employees in developing safety policies and procedures, enhancing ownership and commitment. Awareness campaigns and activities should further increase employees' awareness of risks.

Training and education should provide regular and comprehensive training on workplace hazards, safe work practices, and OHS protocols and practices to all employees, including new hires.

Risk assessment involves conducting regular risk assessments to identify potential hazards in the workplace and implementing effective control measures to eliminate or minimize identified risks. Compliance with relevant legal regulations and the establishment of OHS policies according to standards are essential.

Open communication encourages employees to ask questions and express concerns regarding OHS matters. Open communication channels should be established for reporting concerns, incidents, and near misses related to OHS, fostering a culture where employees can report OHS issues without fear of retaliation. Sharing best practices encourages knowledge exchange among employees and strengthens the OHS culture.

Continuous improvement involves regularly reviewing and updating OHS policies and procedures to promote a culture of continuous improvement. Analyzing incidents to identify root causes and implementing corrective and preventive actions to prevent their recurrence is crucial.

Suggestions and rewards involve providing opportunities for employees to contribute suggestions and ideas related to OHS and recognizing and rewarding them for their commitment to the

system, which helps establish an OHS culture. Positive reinforcement can strengthen desired behaviors. Awareness campaigns should also be conducted to keep OHS prominently in employees' minds. Various communication channels such as the internet can be utilized to promote OHS messages and initiatives.

OHS performance measurement involves establishing key performance indicators (KPIs) to measure OHS performance, regularly monitoring and evaluating safety metrics to identify trends and areas for improvement, and reporting them regularly.

Legal compliance involves ensuring compliance with local and international OHS regulations, establishing a program to stay informed of regulatory changes, and updating and adapting policies accordingly (Conklin T., 2017; Acar M.N., 2024).

In summary, OHS culture in the workplace is generally defined as a sense of being safe. It requires commitment and participation from senior management and all employees. It reflects shared values expressed by groups at all levels of the organization and aims to influence behaviors in the workplace to establish behavioral norms. It reflects voluntary learning and development from incidents, accidents, and errors in the workplace. This aims to reduce accidents and injuries by promoting the sharing of the same beliefs and ideas among employees regarding accidents and diseases.

Even within the same society, employees with different cultural values have varying perspectives on workplace accidents, precautions, and regulations related to occupational health and safety (OHS). For example, the frequency of workplace accidents differs significantly between societies where employees take their work seriously, adhere to legal regulations, and implement necessary precautions, compared to societies where rules are relaxed and precautions are overlooked.

Literature has documented studies on cultural differences. One study compares the cultural differences in OHS between Turkiye and Japan, two countries with distinct cultures, within their construction sectors. Statistical data on workplace accidents from construction activities in Turkiye and Japan between 2011 and 2019 were analyzed to evaluate the concept of OHS in these countries in terms of their cultural dimensions. As expected, different societies exhibit varying cultural characteristics, and rapid changes or transformations in cultural traits are not easily achievable. In this context, attempting to modify cultural characteristics in ensuring OHS could enhance the adoption and applicability of OHS rules, and more importantly, make them sustainable. Recent international studies over the past decade have shown that improvements in OHS culture have been linked to the development of leadership behaviors that promote compliance with and participation in OHS practices. These studies emphasize the implementation of 'just culture' and the enhancement of leadership behaviors to encourage adherence to OHS behaviors (Dekker SWA, Breakey H., 2016, Nordlöf H., et al., 2015,; Pupulidy I., 2020).

OHS culture is part of the organizational culture in workplaces, encompassing employees' attitudes, beliefs, perceptions, and values regarding OHS practices. Studies have detailed OHS culture not only for personal safety but also for achieving operational excellence and resilience through process safety. Additionally, organizations need to effectively enhance and measure the positivity of their OHS culture (Olewski T. et al., 2016; Halim SZ., Mannan MS., 2018; Jain P. et al., 2018; Al Mazrouei MA. et al., 2019).

In organizations, team-based operational learning (involving learning teams that bring employees closest to learning and development through daily activities) should be established. These teams should reinforce proactive learning from successes

rather than reactive learning from failures. Such operational learning activities can create a 'snowball' effect to enhance the organization's OHS culture and OHS management performance without the need for intervention in employee behavior (Vanderhaegen F., Hollnagel E., 2015; Conklin T., 2017).

In conclusion, addressing cultural differences is crucial for enhancing occupational health and safety (OHS) in workplaces. Studies show that cultural characteristics play a significant role in shaping attitudes and behaviors towards OHS practices. Moreover, fostering an OHS culture requires understanding and respecting cultural diversity while promoting universal safety standards and practices. Effective leadership, proactive learning, and continuous improvement are essential for cultivating a positive OHS culture that contributes to both personal safety and operational excellence.

There are three stages in developing a strong occupational health and safety (OHS) culture:

Proactive; Employees take preventive measures rather than assuming that workplace accidents and occupational diseases will be prevented.

Autonomous; Employees implement OHS practices not because they are told to, but because they personally value occupational health and safety as a top priority.

Interdependent; Each employee watches out for others, fostering a mindset of "self-control" (Khan M.I., 2013).

Organizations benefit from improving their OHS culture through increased productivity and overall operational efficiency, which result from enhancements such as improved quality, reduced equipment damage, and mitigation of litigation issues, production delays, and financial penalties, among other less

immediately visible improvements. Reducing these indirect costs also enhances profitability.

3. OCCUPATIONAL HEALTH AND SAFETY CULTURE: HISTORICAL DEVELOPMENT AND CURRENT STUDIES

3.1. Pre-Industrial Revolution

The concept of occupational health and safety (OHS) has been evolving throughout history since the emergence of humanity's need to work, and its connection with the existing production infrastructure of each period is noteworthy. The standardization and differentiation of tasks over time, particularly with the emergence of settled societies after the Industrial Revolution, made it necessary to ensure the health and safety of workers. Intensive work accidents observed in slave societies transitioning to settled life, especially during the construction of Egyptian pyramids, highlighted the necessity to discuss and define this concept. Imhotep, who lived around 2600 BC in Ancient Egypt and worked as an architect, engineer, physician, and priest, was the first to identify the high incidence of accidents and frequent back problems among workers during the construction of the pyramids, preceding Hippocrates as the father of modern medicine in making these observations. The earliest written sources known about OHS concepts date back to the Ancient Greek philosopher Herodotus, who initiated the study of the relationships between workers' health and the nature of their work. Herodotus emphasized the necessity for workers to be nourished with high-energy foods to increase productivity. Similarly, Hippocrates made assessments regarding the potential harm workers could suffer from their work, being the first to mention the poisonous effects of lead substances. Nicander further developed Hippocrates' work, emphasizing not only the

identification and definition of health and safety issues among workers but also the necessity to take preventive measures against harmful effects. Pliny suggested that workers in hazardous environments should wear bags over their heads to protect themselves from dangerous dust. Dr. Galen from Pergamon, during his tenure as the chief physician of Roman gladiators, compared the physical structures of gladiators and spectators, making observations that continuous bodily movements are crucial for healthy living. During this period, significant contributions to the analysis and resolution of workers' health and safety issues were made by Paracelsus, Agricola, and Ramazzini. Paracelsus authored the first occupational medicine book, "De Morbis Metallici," in which he also discussed lead and mercury poisoning observed in miners. Agricola, recognized as the first known mineralogist, authored "De Re Metallica," a comprehensive work covering geology, mining, and metallurgy of his time. In this book, he emphasized the necessity of ventilating mines to prevent dust formation and provided recommendations for occupational health and safety measures (Şen, M., 2015; Çiçek Ö., Öçal M., 2016).

3.2. Post-Industrial Revolution

The Industrial Revolution that first emerged in England in the first half of the 18th century fundamentally transformed the nature of the production process. The transition from small craft workshops to factory systems with large machines due to advancements in technology led to a significant increase in the quantity of products manufactured. As a result of developments in production technologies, the class of wage-dependent workers grew, and issues related to health and safety emerged due to the risks posed by the tasks performed and the accidents that occurred. During this period, the increasing length of working hours, the employment of children and women in poor and harsh conditions, and many other factors raised the question of the

necessity for state intervention in labor life. In England during this period, Percival Pott's series of studies on chimney sweepers' disease among workers in chimney cleaning jobs led to the enactment of the Chimney Sweepers Act of 1788. Particularly, industrialists like Robert Owen shortened working hours in their factories, refrained from employing children under a certain age, and advocated for improving working conditions for their workers in their own factories. Michel Sadler proposed a new bill to Parliament in 1832, leading to the enactment of the "Factory Act" in 1833. The Factory Act of 1833 prohibited the employment of children under 9 years of age, the night work of those under 18 years of age, and the working of those under 18 years of age for more than 12 hours a day, and mandated the appointment of factory inspectors to oversee compliance with the law. Another regulation enacted in 1842 prohibited the employment of women and children under 10 years of age in mines. The 1844 legislation mandated the presence of factory medical officers within factories and included health checks for workers employed in hazardous areas within the duties of these medical officers. The "Ten Hours Act" that came into effect in 1847 further reduced working hours and established a system for factory inspection and labor inspection. A regulation in 1895 made the reporting of certain occupational diseases mandatory, and in 1900, legal requirements were established for entry into work, periodic health examinations, special examinations for hazardous jobs, reporting of occupational diseases, and preparation of special reports for those who were unable to work or disabled. These regulatory developments and others observed in England served as models for other European countries. Occupational health and safety laws were enacted in Germany in 1849, Switzerland in 1840, and France in 1842 (Villerme Report). Concurrent with developments in Europe, Alice Hamilton, the first female faculty member at Harvard University in 1919, dedicated 40 years of her life to research on occupational hazards as an occupational and

industrial physician. She conducted studies on silicosis in copper mines, carbon disulfide in the artificial silk industry, and mercury poisoning in mercury mines. During the same period, Alexander Semashko, one of the chief architects of Soviet health policy, advocated for the independent management of health services and focused on preventive measures. He facilitated the establishment of many research centers and institutes during the 1920s. The International Labour Organization (ILO) was initially established as an organization affiliated with the United Nations and became an independent specialized agency in 1946 following an agreement with the United Nations. At the beginning of the 19th century, Vaucanson and Jacquard emphasized the necessity of developing automatic machines to reduce strenuous and exhausting tasks within enterprises and to better ensure occupational safety. Taylor, who conducted scientific job analysis studies in work environments, made studies that emphasized the relationship between human physiology and work to increase workers' skills and make work more efficient. Due to negative factors in working conditions, on the one hand, child mortality rates increased, unhealthy nutritional conditions led not only to a numerical decrease in the working class but also to a decrease in the number of people sent to the front during wartime and a decline in the workforce in working conditions during wartime. Spatial relationships and the export of production processes from geographic areas where the exploitation relations were at the level of slavery have been experienced. Starting with Bismarck Germany, social insurance practices were implemented between the 1880s and 1920s as one of the fundamental points for re-production of labor. At first, some resistance was shown to legal - institutional regulations and precautions, and some processes were experienced, such as transferring the production process to the geographical areas where the labor-intensive production of exploitation relations is carried out (Şen, M., 2015; Çiçek Ö. Öçal M., 2016).

In the past decade, in the United Kingdom, there has been a call for further actions to improve ISG management systems due to the increase in workplace injuries and deaths in the construction sector. It has been reported that increasing information transfer and institutionalization between and within construction supply chains is necessary to reduce ISG risks and facilitate cultural change. A study conducted in 2020 by Duryana M. and colleagues focused on factors facilitating ISG information transfer among organizations involved in construction projects, using an interpretive methodology. The study highlights the inconsistency in OHS practices within construction organizations and emphasizes the importance of developing a positive safety culture to encourage employees to report emergencies and take appropriate measures. The impact of integrating new employees into the system, the role of new employees, and the need for a culture of 'non-blaming' in ISG has been studied by Claxton G. and colleagues in 2022. The study used a qualitative approach with a phenomenological structure based on in-depth interviews involving a wide range of participants, including business owners, department managers and supervisors, ISG consultants, workers, and union representatives in Western Australia. The findings suggest that the organization's ISG culture is adversely affected by the recruitment of temporary or new personnel who are less committed or so committed to health and safety. The study revealed that a proactive approach to creating or sustaining an ISG culture encourages employees to become active participants in the ISG system. The importance of risk awareness among employees and its strong relationship with organizational commitment were also identified. The study also emphasized the damaging effects of bias on the system after work accidents and highlighted the importance of conducting detailed accident investigations. One of the sectors highlighted in terms of work accidents is the mining sector. A study conducted in Canada in 2021 by Tetzlaff and colleagues analyzed ISG reports in the

mining sector to investigate the relationship between safety culture and accident causality. Using computer-assisted qualitative data analysis software, the study concluded that without efforts to understand and change cultural factors and share these findings, the same accidents are likely to continue to occur within and across industries ((Duryana M. et al., 2020;Claxton G. et al., 2022;Tetzlaff E.J. et al., 2021).

In a study conducted by Zuschlag M. and colleagues in 2016, the Federal Railroad Administration (FRA) demonstrated that conducting 360-degree feedback among employees at Union Pacific (UP), a North American railway service unit, increased continuous improvement and enhanced safety leadership development. According to an evaluation by the John A. Volpe National Transportation Systems Center of the U.S. Department of Transportation, over a two-year period, the facility saw an 80% decrease in risky behaviors, a 79% decrease in engineer certification revocations, an 81% reduction in derailments and other incidents, and improved labor-management relations in safety outcomes and safety culture. This study also reportedly led to the development and adoption of FRA's Railroad Safety Risk Reduction Program under the Railroad Safety Improvement Act of 2008, inspiring similar safety culture programs among other carriers (Zuschlag M. et al., 2016).

In a study conducted in Texas, USA, in 2018 by Halim S.Z. and Mannan M.S., efforts were made to achieve and sustain excellence in process safety to reduce the likelihood of chemical incidents, mitigate their consequences when they occur, and ensure effective emergency response. The study highlighted that achieving excellent process safety is linked to internal organizational issues, external influences, and, critically, the steadfast commitment of top-level leadership within the company. Emphasizing the elevation of OSH culture to the highest level, the study underscored the importance of

establishing and implementing strict operational discipline, ensuring the competence of all personnel, and advancing process safety performance (Halim S.Z. and Mannan M.S., 2018).

A study conducted in India in 2021 by Sharma R. and Mishra D. demonstrated that improving occupational safety and health culture positively impacted environmental management by fostering interdisciplinary development (Sharma R. and Mishra D., 2021).

Increasing incidents in universities in China have raised public concerns. Improving safety culture is seen as an effective way to prevent accidents in many industries. A survey conducted among undergraduate students in China in 2019 examined safety culture at universities. The results indicated that female students generally had a better safety culture than male students, and students studying occupational safety and health (OSH) had a better safety culture than those in other departments. However, no significant differences in safety culture were found among students in different academic years. The findings suggested the need to prioritize accident prevention programs for male students as academic years progress and develop strategies to enhance safety culture for all undergraduate students through mandatory and elective safety courses (Gong Y., 2019).

Improving human performance, reducing human errors, and controlling them are strategic approaches to advancing safety and health. Operational learning is part of the organization's knowledge management system focused on daily operations, contributing significantly to the development of OSH culture. In 2022, a study conducted in Indonesia's largest oil producer examined the impact of corporate safety culture on occupational safety and health (OSH) management performance. The study demonstrated positive and significant effects of operational learning on improving human performance, corporate safety

culture, and OSH management performance, emphasizing the need to prioritize and implement measures to improve corporate safety culture and OSH management performance (Suprapto V.H. et al., 2022).

As is well known, the chemical sector, particularly the petrochemical sector, is characterized by high rates of accidents and occupational diseases due to its hazardous operational areas. In a study conducted by Cakıt E. in Japan in 2019, the perceived safety culture among five petrochemical production companies was evaluated. The study also examined the current impact of perceived safety culture on employee safety motivation and performance. Findings from the survey of 883 workers at five petrochemical companies in the Chugoku region of Japan underscored the importance of perceived safety culture as a significant component of organizational culture influencing employee behaviors and safety attitudes. This study also confirmed the substantial impact of perceived safety culture in this industry sector on improving safety motivation and performance among petrochemical personnel, suggesting further research into variations in safety subcultures under broader safety cultures in similarly high-risk industries such as construction, aviation, manufacturing, and mining. This recommendation highlights the potential significant contribution of this thesis study to the literature (Cakıt E. et al., 2019).

3.3. Historical Development of OHS Culture in Turkiye and Studies to Date

Due to the conditions of the Industrial Revolution not prevailing within the Ottoman Empire and thus arriving late in Anatolian territories, regulations concerning occupational health and safety (OHS) were deferred to later periods in Turkiye. Before the Tanzimat period in the Ottoman Empire, the existing production style, based on craftsmanship, was associated with

guilds of artisans and craftsmen organized on religious principles, allowing them to discuss their issues freely without strict rules or conditions. Although there seems to be no awareness of a process of consciousness about occupational health and safety during this period; there is a general acceptance that the master's teaching job will reduce the risk of accidents for the workers to the same extent.

During the Tanzimat and Constitutional periods, influenced by the political and economic rapprochement between the Ottoman Empire and Western European countries, the Ottoman Empire began to integrate into the industrialization process. This period also witnessed the inception of initial regulations concerning occupational health and safety (OHS). In Turkiye, foundational steps towards industrialization were primarily initiated during the Republican era, marking a period of intensified regulations regarding OHS. In 1926, with the enactment of Law No. 818 on Obligations, provisions addressing OHS were introduced. This law mandated that employers must take measures to protect workers against potential hazards, stipulating that failure to do so would require the employer to compensate for any damages incurred by employees. Subsequently, the General Public Health Law No. 1593 of 1930 introduced further provisions aimed at protecting women and children in the workforce, requiring workplaces with at least 50 employees to have a physician, and mandating the establishment of clinics or hospitals in larger workplaces. Articles 173-180 of Law No. 1593 specifically addressed relevant provisions related to occupational health and safety. In 1936, Law No. 3008 on Labor was enacted as Turkiye 's first comprehensive labor law, which included regulations pertaining to occupational health and safety alongside numerous implementing regulations. Following this, efforts were made to consolidate fragmented social insurance practices under a unified framework, resulting in the enactment

of Law No. 506 of 1964 on Social Insurance. Subsequently, the Occupational Health and Safety Center (İSGÜM) was established. The year 2006 saw the introduction of Law No. 5510 on Social Insurance and General Health Insurance, which gradually came into effect in 2008. This law aimed to regulate various social security laws based on the nature of employment relationships. In 1967, Law No. 931 on Labor was introduced to replace Law No. 3008, but it was later annulled by the Constitutional Court due to procedural issues. Consequently, Law No. 1475 of 1971 was enacted without amendments, incorporating detailed and contemporary regulations on occupational health and safety compared to previous labor laws. The provisions related to OHS under this law were included in Articles 73-82 of Chapter 5. Additionally, a directive mandating the employment of workplace physicians and safety officers was adopted in 1973. Reflecting the influence of the European Union accession process, Law No. 4857 on Labor was enacted in 2003, which led to the issuance of numerous regulations concerning occupational health and safety. Finally, Law No. 6331 on Occupational Health and Safety was adopted on June 20, 2012, resulting in the repeal of certain provisions of Law No. 4857 within a six-month period following its publication. The concept of occupational health and safety has evolved from its historical origins to encompass not only physical but also mental and social well-being. It has been a continuous demand in both legal frameworks (such as the Law on Occupational Health and Safety No. 6331) and in practice, requiring collective efforts to assert and advocate for these rights comprehensively.

In recent years, especially in Turkiye, there have been studies focusing on the Occupational Health and Safety (OHS) culture. In 2015, Osman Zopçuk conducted a study on the measurement of safety culture in businesses through the application of small and large-scale practices in textile and metal

workplaces for his Occupational Health and Safety Expertise Thesis. This study examined the levels of safety culture at individual and organizational levels from the perspectives of 439 employees across 14 different workplaces in the metal and textile sectors. The interaction between the defining characteristics of target groups was also investigated. As a result of the research, it was determined that safety culture in target groups is directly influenced by the workplace's safety culture. The findings indicated that it is possible to further enhance the level of safety culture among the target groups (Zopçuk O., 2015).

In 2016, a study was conducted in Denizli province in the metal sector to determine the impact of Quality Management System (ISO 9001), Environmental Management System (ISO 14001), and Occupational Health and Safety Management System (ISO 45001) on safety culture, which is a part of organizational culture. The research, involving 854 employees across 27 enterprises, concluded that management systems are associated with safety culture. It was found that enterprises without management system implementations perceived a more positive safety culture (Özkan Y. and Arpat B., 2016).

The impact of top management on OHS culture was examined by Arpat B. in 2018 through a case study at Denizli Metropolitan Municipality. The study evaluated top management's commitment to occupational safety. It was concluded that in municipalities, promoting employee safety, conducting effective safety leadership, and prioritizing safety training are essential safety actions (Arpat B., 2018).

A doctoral thesis in the shipbuilding industry in May 2019 explored the relationship between safety culture and safe behavior. The findings indicated a relationship between safety culture and safe behavior, supported by occupational health and safety experts (Nam D., 2019). In 2020, Çavuş and Keskin

conducted an analysis titled "Analysis of the Effects of Occupational Health and Safety Trainings on Safety Culture in the Healthcare Sector." The study aimed to measure the effects of occupational health and safety trainings on safety culture. Variations were observed in evaluations related to the "Safety Training" factor among participants based on age groups, occupational groups, and graduation degree groups. Differences were also noted in attitudes towards the "Safety Communication" factor among graduation degree groups (Çavuş ÖH., Keskin R., 2020).

Safety culture, as a subsystem of organizational culture, is a decisive factor in employee behavior. Therefore, İlhan ÜD. and Yemişçi DA. evaluated the effects of national culture on safety culture based on Hofstede's Cultural Dimensions Theory in 2020. The study concluded that high power distance and uncertainty avoidance, identified as high in Turkiye, have negative effects on safety culture (İlhan ÜD. and Yemişçi DA., 2020).

Cultural characteristics of societies emerge and become pronounced over many years, and cultural change is not feasible in the short term. Different societies have different cultural characteristics. A study by Doğruöz CD., and Erbaş İ. in 2021 examined the relationship between occupational safety in the construction sectors of Turkiye and Japan through the lens of Hofstede's cultural dimensions theory. Statistical data on workplace accidents in the construction sectors of both countries from 2011 to 2019 were used. The study highlighted differences between Turkiye and Japan in terms of uncertainty avoidance and long-term versus short-term orientation based on Hofstede's cultural dimension scores.

In this context, attempting to change cultural characteristics grouped according to Hofstede's theory in ensuring occupational safety is not feasible in the short term.

Considering all these factors, as in all fields, taking into account cultural characteristics in occupational safety and developing solutions suitable for cultures will increase the adoption and applicability of occupational safety rules, and more importantly, make them sustainable (Doğruöz CD., Erbaş İ., 2021, pp. 718-719).

A comparative analysis study on safety culture models was conducted in 2021, focusing on the maturity of safety culture, Mutual Safety Culture, Berends' Safety Culture, Total Safety Culture, and the Structure of Attitudes towards Safety. As a result, it was concluded that comprehensive models addressing dimensions related to safety culture need to be developed, and field studies need to be increased. The study also indicated that existing research often does not comprehensively address dimensions related to safety culture and tends to focus on employees in the sample, excluding other stakeholders (Erdoğan, E. and Genç, K.G., 2021).

Increasingly harsh working conditions and employers' desires to achieve higher productivity have led to an increase in work accidents, deaths, and injuries. This underscores the sensitivity of the impact of safety culture on work efficiency. This sensitive issue was addressed in 2022 by Eroğlu G. and colleagues in a study conducted at a press factory in Bursa province. Surveys were prepared and administered to employees as the data collection method. The findings indicated a positive and significant relationship between safety culture and work efficiency. As a result of the study, it was concluded that the establishment of an effective safety culture would lead to higher work efficiency among employees (Eroğlu G. et al., 2022).

A study evaluating occupational safety culture was conducted in 2023 in the woodworking and furniture sectors, which provide significant employment nationwide with small and

medium-sized enterprise structures in Gümüşhane province. In addition to proportional comparisons based on the data obtained, the Mann-Whitney U test was used to analyze occupational safety factors according to the variable of exposure to work accidents. The findings revealed that 67% of participant enterprises had been operational for less than 5 years. It was also found that there were deficiencies in the use of personal protective equipment and periodic health examinations. While the incidence of work accidents among participants was determined to be 72%, it was observed that hands and fingers were the most frequently injured body parts. Consequently, the study highlighted that the occupational health and safety culture in small and medium-sized woodworking and furniture enterprises is not sufficiently developed (Komut O. et al., 2023).

3.4. Purpose and Significance of the Study

While reducing work accidents and occupational diseases may be easier in developed countries, developing an OHS culture in developing countries is a challenging task that requires continuous and renewed efforts from legislators, organizations, and employees. In this context, while globally applicable frameworks and tools exist, it is necessary to establish national frameworks and tools. Therefore, this study aims to contribute to the creation of national frameworks and tools by drawing a perspective of the OSH Culture in our country and to shed light on what more can be done to determine where we are in terms of safety culture by comparing it with the practices in the world. In this context, with this research study, in which the developments in bad and harsh working conditions before and after the Industrial Revolution are discussed in detail all over the world and in our country, perhaps not in the short term, but with the comparative analysis of safety culture models, joint research on security solutions will be addressed holistically. It is aimed to further establish the safety culture over time and to help reduce

work accidents and occupational diseases, especially after the Labor Law No. 6331.

4. CONCLUSIONS

This study reveals through literature research that throughout human history, with the awareness of the fact that Occupational Health and Safety is mandatory both before and after the Industrial Revolution, adequate or inadequate precautions have been taken against harsh and bad working conditions, and that a certain progress has been made in this regard until today. At the end of this research study, it was determined that proactive, independent and at the same time interrelated mentalities should be created in order to develop a good OHS culture, and that the perception of safety culture has the effect of improving employee motivation and performance. It may not be possible in the short term, depending on the management systems supported by the top management, employee participation, training, effective communication between employees, risk assessment studies, suggestion and reward systems, compliance with laws and standards, and efforts to change the cultural characteristics grouped according to the Hofstede's theory in ensuring occupational safety. However, reviewing and comparative analysis of security culture models and holistic research on security culture will contribute to the further establishment of security culture over time.

REFERENCES

Acar M.N., 2024, Access link: www. isgturkiyesınav.com, access 2024.

Al Mazrouei MA., Khalid K., Davidson R., et al., 2019, Impact of organizational culture and Perceived process safety in the UAE oil and gas industry. J Qual Rep.;24:3215–3238.

Arpat B., 2018, Variables Explaining Top Management's Commitment to Occupational Safety Examining it within the Framework of Culture: Denizli Metropolitan Municipality Example, Volume: 16 Issue: (3) Special Issue September/September 2018 pp./pp. 290-313 Doi: http://dx.doi.org/10.11611/yead.441998

Cakıt E, Jan Olak A, Murata A, Karwowski W, Alrehaili O, Marek T., 2019, Evaluation of the perceived safety culture in the petrochemical industry in Japan: A cross-sectional study PLoS ONE 14(12): e0226416. https://doi.org/10.1371/journal.pone.0226416,

Çavuş ÖH., Keskin R., 2020, Occupational Health and Safety Training in the Health Sector Analysis of the Effects on Security Culture, Management and Economy Year:2020 Volume:27 Issue:3 Manisa Celal Bayar University Faculty of Economics and Administrative Sciences.

Çiçek Ö. – Öçal M., 2016 Historical History of Occupational Health and Safety in the World and in Turkiye Development, HAK-İŞ International Journal of Labor and Society © Volume: 5, Year: 5, Issue: 11 (2016/1) ISSN: 2147-3668.

Claxton G., Hosie P., Sharma P., 2022, Toward an effective occupational health and safety culture: A multiple stakeholder perspective, Journal of Safety Research 82

(2022)   57–67,   Elsevier,
https://doi.org/10.1016/j.jsr.2022.04.006.

Conklin T., 2017, Pre-accident investigations: better questions –
an applied approach to operational learning London: CRC
Press; 2017.

Cooper, M.D. (2000). Towards a Model of Safety Culture. Safety
Science. 36, 111-136.

Cox, S. and Flin, R., 1998, Safety Culture: Philosopher's Stone or
Man of Straw?, Work and Stress, Issue: 12(3), pages: 189-
201.

ÇSGB,   2024,
http://www.csgb.gov.tr/csgbPortal/isggm.portal?page=m
evzuat&id=3. Access year 2024.

Dekker SWA., 2014, Safety differently: human factors for a new
era. 2nd ed. Boca Rato (FL): CRC Press.

Dekker SWA., Breakey H., 2016, 'Just culture': improving safety
by achieving substantive, procedural and restorative
justice. J Saf Sci.;85:187–193. Available from:
http://www.sciencedirect.com/
science/article/pii/S0925753516000321

Doğruöz C.B., Erbaş İ. (2021).The Relationship between Culture
and Occupational Safety in the Construction Sector
Comparison of Hofstede's Cultural Dimensions Theory:
Türkiye and Japan Examples, Journal of Architectural
Sciences and Applications, Review article, JASA 2021, 6
(2), 718-736, e-ISSN: 2548-0170.

Dursun, S., 2012, Occupational safety culture, Beta Publications,
Istanbul.

Dursun, S., 2013, The Effect of Occupational Safety Culture on the Safe Behavior of Employees, Social Security Journal, 3.2, 61-75.

Duryana M., Smyta H., Roberts A., Rowlinson S. , Sherratt F., 2020, Knowledge transfer for occupational health and safety: Cultivating health and safety learning culture in construction firms, Accident Analysis and Prevention 139 (2020) 105496, Elsevier https://doi.org/10.1016/j.aap.2020.105496.

Edwards B.,2015, The power of operational learning [Internet]. Independence (OH): EHS today; https://www.ehstoday.com/safety-leadership/article/21917011/   the-power-of-operational-learning.

Erdoğan, E. and young, K.G., 2021, Comparison of Security Culture Models, Chromeextension://efaidnbmnnnibpcajpcglclefindmkaj/https://ceko.sakarya.edu.tr/sites/ceko.sakarya.edu.tr/file/7_Guvenlik_Kulturu_Modellerini_Karsilastirilmasi_____Ekrem_ERDOGAN__Kemal _Gokmen_GENC2.pdf.

Eroğlu G, Şüküroğlu EE., Günaydın M., Şüküroğlu S., 2022, Workplace Safety Culture Effect on Productivity: Example of Press Factory, GUJHS 2022; 11(3): 913 – 926.

Gong Y., 2019, Safety culture among Chinese undergraduates: A survey at a university, Safety Science 111, 17-21, Elsevier, https://doi.org/10.1016/j.ssci.2018.09.010.

Griffin MA., Hu X., 2013, How leaders differentially motivate safety compliance and safety participation: the role of monitoring, inspiring, and learning. J Saf Sci.;60:196–202.

http://www.sciencedirect.com/science/article/pii/S09257 535130 01690

Halim SZ., Mannan MS., 2018, A journey to excellence in process safety management. J. Loss Prev Process Ind.;55:71–79. doi:10.1016/ j.jlp.2018.06.002

IAEA-International Atomic Energy Agency, 1991, Safety Series, International Safety Advisory Group, Safety Series, No. 75-INSAG-4, Vienna., chrome extension://efaidnbmnnnibpcajpcglclefindmkaj/https://w ww.pub.iaea.org/MTCD/Publications/PDF/Pub882_web. pdf.

İlhan ÜD. and Yemişçi DA., 2020, National Culture, Organizational Culture and Occupational Safety Culture Relationship: In Terms of Hofstede's Power Distance and Uncertainty Avoidance Dimensions.

ILO,2024, https://www.ilo.org/

Jain P., Rogers WJ., Pasman HJ., et al., 2018, A Resilience-based integrated process systems hazard analysis (RIPSHA) approach: part I plant system layer. J Process Saf Environ Prot.;116:92–105. doi:10.1016/j.psep.2018.01.016

Khan M.İ.,2013, Developing a Safety Culture in Developing Countries page 26-31.

Komut O., Yaşar ŞŞ., Fidan MS., Yaşar M., 2023, Turkish Journal of Forestry, Türkiye Ormancılık Dergisi, 24(3): 316-322.

Martínez-Córcoles M., Gracia F., Tomás I., et al., 2011, Leadership and employees' perceived safety behaviours in a nuclear power plant: a structural equation model. J Saf Sci.;49:1118– 1129.http://www.sciencedirect.com/science/article/pii/S0 925753 511000725

MEV, 2024, https://www.mevzuat.gov.tr/

Nam D., 2019, "The relationship between occupational safety culture and safe behavior in the shipbuilding industry", doctoral thesis, Sakarya University, University of Social Sciences.

Nielsen KJ., 2014, Improving safety culture through the health and safety organization: a case study. J Safety Res.;48:7–17. http://www.sciencedirect.com/science/article/pii/S00224 3 7513001552.

Nordlöf H., Wiitavaara B., Winblad U., et al., 2015, Safety culture and reasons for risk- taking at a large steel-manufacturing company: investigating the worker perspective. JSaf Sci.;73:126–135.http://www.sciencedirect.com/science/article/pii/S09 2575 3514003087.

Olewski T., Ahammad M., Quraishy S., et al., 2016, Building process safety culture at Texas A&M University at Qatar: a case study on experimental research. J Loss Prev Process Ind.;44:642–652. doi:10.1016/j.jlp.2016.08.022

Özkan Y. and Arpat B., 2016, Journal of Politics, Economics and Management Research, 2016, year: 4, volume: 4, issue: 4.

Parekh, B., 2000, Rethinking Multiculturalism: Cultural Diversity and Political Theory. Harvard: Harvard University Press. https://books.google.com.tr/books?id=Ajx-AoUIW6wC&printsec=frontcover&hl=tr#v=onepage&q &f=false

Pupulidy I., 2020, Self-designing safety culture: a case study in adaptive approaches to creating a safety culture. J ACS Chem Heal Saf.; 27:24–33. doi:10.1021/acs.chas.0c00005

Şen, M. (2015). The Concept of Occupational Health and Safety, Its Historical Development and Basis, Melikşah University Faculty of Law Journal, 4(1), 117-142.

SGK, 2022,2023 occupational accident statistics, https://www.sgk.gov.tr/Istatistik/Yillik/fcd5e59b 6af9-4d90-a451-ee7500eb1cb4/.

Sharma R ve Mishra D., 2021, An analysis of thematic structure of research trends in occupational health and safety concerning safety culture and environmental management, Journal of Cleaner Production 281 (2021) 125346, Elsevier, https://doi.org/10.1016/j.jclepro.2020.125346.

Suprapto V.H., Pujawan I.N. and Dewi R.S., 2022, Effects of human performance improvement and operational learning on organizational safety culture and occupational safety and health management performance, Internatıonal Journal Of Occupatıonal Safety And Ergonomıcs (Jose), Vol. 28, NO. 4, 2455–2467, https://doi.org/10.1080/10803548.2021.2002571

Tetzlaff E.J., Goggins K.A.,. Pegoraro A.L., Dorman S.C, Pakalnis V., Eger T.R. 2021, Safety Culture: A Retrospective Analysis of Occupational Health and Safety Mining Reports, Safety and Health at Work 12, 201e208, https://doi.org/10.1016/j.shaw.2020.12.001.

Tylor E.B., 1871, "Primitive Culture"- İlkel Kültür, https://books.google.com.tr/books?id=AucLAAAAIAAJ &printsec=frontcover&hl=tr#v=onepage&q&f=false

Vanderhaegen F., Hollnagel E., 2015, safety-I and safety-II, the past and future of safety management. Cogn Technol Work.;17:461– 464. doi:10.1007/s10111-015-0345-z. doi:10.1111/1468-5973.12079.

WHO, 2024, https://www.who.int/

Zopçuk O.,2015, Measurement of Safety Culture in Businesses: Small and Large-Scale Textile and Metal Workplaces Application, MoLSS, ISGGM Directorate.

Zuschlag M.,. Ranney J.M., Coplen M., 2016, Evaluation of a safety culture intervention for Union Pacific shows improved safety and safety culture, Safety Science 83 (2016) 59– 73. http://dx.doi.org/10.1016/j.ssci.2015.10.001.

HALK SAĞLIĞI ÇALIŞMALARI

yaz
yayınları