Mesut Can Türkoğlu*, Fatma Kantaş Yilmaz**

THE EFFECT OF TECHNOLOGY READINESS ON EHEALTH LITERACY AMONG YOUNG PEOPLE LIVING IN URBAN ENVIRONMENTS

Received: 24. 10. 2023.
Accepted: 29. 1. 2025.
DOI https://doi.org/10.30924/mjcmi.30.2.6

Preliminary communication

ABSTRACT

In today's digital age, young individuals living in urban centers are awmong the most advantaged groups in terms of access to information. This research examines the technology readiness (TR) levels of young people in Istanbul, Turkey, and its impact on their eHealth literacy (eHL). In this cross-sectional research, data were collected through convenience sampling between February and April 2023, and analyzed using frequency, factor, reliability, correlation and regression analyses using the SPSS 25 package program. The results indicate that young individuals' motivating perceptions of technology (optimism and innovativeness) are stronger than their inhibiting perceptions (discomfort and insecurity). Additionally, while TR's motivating factors have a significant, positive, and moderate effect on eHL and its sub-dimensions (functional, communicative, critical, and translational); the inhibiting factors do not show a statistically significant effect on eHL and its sub-dimensions. These results demonstrate that young individuals' positive attitudes towards TR increase their adaptation to eHealth solutions. Moreover, the lack of change in eHL levels among those with negative views on TR underscores the growing indispensability and significance of technology use at the individual level in healthcare services.

KEYWORDS: *Digitalization, eHealth, eHealth Literacy, Technology, Technology Readiness, Motivating Factors, Inhibiting Factors*

1. INTRODUCTION

In the healthcare sector, where technology is utilized intensively, digitalization has contributed to the increased use of technology, the Internet, and mobile devices in service provision (Smith & Magnani, 2019). This digitalization in healthcare necessitates that individuals proficiently use technology to make informed decisions and solve potential issues. At this point, individuals' willingness and readiness to utilize relevant technological processes and resources become crucial (Öngel et al., 2022). Young people, who are known for their rapid response to technology readiness (TR) and often act as early adopters of technology, stand out as the most responsive group in societies (Dutot, 2014). With widespread Internet access, young people increasingly rely on it as a major source of health-related information, reflecting their high daily usage (Park

* University of Istanbul Beykent, Faculty of Health Sciences, Department of Health Management, e-mail: canturkoglu@beykent.edu.tr, ORCID: 0000-0001-7955-0520 (Corresponding Author)
** University of Health Sciences, Hamidiye Faculty of Health Sciences, Department of Health Management, e-mail: fatmakantas.yilmaz@sbu.edu.tr, ORCID: 0000-0003-0512-382X

& Kwon, 2018). In parallel with the digitalization in healthcare, electronic health literacy (eHL) has gained importance. eHL is a vital issue in societies that actively utilize technology, as problems and barriers in sectors, including healthcare, are frequently resolved through digital and technological solutions (Norgaard et al., 2015). In today's world of advanced mobile communication, it is essential to assess whether young people—who already hold a competitive advantage in using such resources—can strengthen their eHL through them.

Recent studies on healthcare digitalization and eHL suggest a correlation between individuals' technology and Internet use and their eHL, indicating that young people tend to learn more quickly compared to older age groups (Yıldız, 2021; Mıdık & Aker, 2021; Kurtoğlu et al., 2022). However, an individual's ability to use new technologies may not necessarily imply that they are also eHealth-literate. This connection overlooks factors such as social influences and the socioeconomic status of communities, reducing eHL to a narrow focus on basic competence in using health technologies. Additionally, negative perceptions toward technology are not solely observed among older individuals with lower educational levels but are also found among highly educated young adults. Accordingly, this research aims to identify the effects of urban young adults' TR on their eHL. The research is centered on two main questions: (1) whether optimism and innovativeness, the motivating factors of technology, enhance young adults' eHL, and (2) whether discomfort and insecurity, the inhibiting factors of technology, diminish young adults' eHL.

The motivation for using the TR approach in this research lies in its ability to encompass both motivating and inhibiting factors in individuals' use of technological innovations and while providing a comprehensive measure of their perspectives and readiness to adopt new technologies. Young individuals living in large urban areas are emerging as key actors in adapting to the evolving technology-driven healthcare sector. This is because these individuals are relatively more advantaged in experimenting with eHealth and mobile health applications than older adults and those living in rural areas. Furthermore, young individuals represent today's healthy citizens and potential future users of healthcare services. Thus, it can be anticipated that young people's TR will positively influence their future health outcomes. Although the TR approach has primarily been associated with consumer behavior and the retail sector (Pradhan et al., 2018; Mukerjee et al., 2019; Ali et al., 2020), the limited number of studies linking this approach with the healthcare field (Lee et al., 2022; Leung & Chen, 2019) further underscores the importance of this research. This research holds a distinctive value as the first of its kind in the literature to explain the eHL levels of young people by examining their positive and negative perspectives on technology.

2. CONCEPTUAL FRAMEWORK - TECHNOLOGY READINESS (TR)

Towards the end of the 20th century, the development of computer and communication technologies initiated an unprecedented digitalization across nearly all sectors. In response to this evolving technology, numerous behavioral theories have been developed to measure how service-providing businesses and their customers have adapted to these technologies. When examining the primary behavioral theories, the Theory of Reasoned Action, developed by Fishbein and Ajzen (1975), posits that beliefs, attitudes, and behavioral intentions are the foundations of actual behavior. An individual's attitude toward a behavior is shaped by their beliefs regarding how that behavior should be enacted, which in turn influences their behavioral intentions. The Diffusion of Innovation Theory, proposed by Rogers (1983), examines how technology-based systems are adopted by users. According to this theory, diffusion arises from verbal and non-verbal exchanges and refers to the spread of a new idea among members of a society. In the Technology Acceptance Model introduced by Davis (1989), the willingness of individuals to use technology is determined by how they perceive the value of that technology. This model comprises two sub-dimensions: perceived usefulness and perceived ease of use. Perceived usefulness can be defined as an individual's belief that using a specific technology will enhance job performance, while perceived ease of use measures how quickly and easily a person believes they can master a particular technology. These two sub-dimensions influence individuals' attitudes toward using technology, ultimately leading to the intention to use it.

While the main behavioral theories related to technology in the literature generally address various factors affecting individuals' acceptance and adoption processes, Parasuraman (2000) developed the Technology Readiness Index (TRI), a model that simultaneously measures both positive and negative attitudes toward new technologies. Parasuraman (2000, p. 308) defined Technology Readiness (TR) as "The inclination of individuals to adopt and use new technologies in their personal and professional lives to achieve their goals." TR represents the mental processes that collectively depict people's willingness to use new technologies encountered in daily or work life through the lens of motivating and inhibiting factors. Individuals may simultaneously hold positive and negative perceptions

and feelings regarding high-tech products and services (Chang & Chen, 2021). Therefore, TR is considered not a measure of competence but a psychological evaluation state (Lin et al., 2007). TRI differentiates itself from accepted technology acceptance models in the literature by focusing on factors such as technology anxiety, attitude, self-efficacy, expertise, and perceived risk. Positive feelings toward technology encourage individuals to use and adopt the relevant technology, while negative feelings distance them from technology (Parasuraman, 2000).

TRI consists of four dimensions: two motivating factors (optimism and innovativeness) and two inhibiting factors (discomfort and insecurity) (Parasuraman, 2000).

2.1. Motivating Factors of TRI

Optimism refers to individuals' positive attitudes and beliefs that technology provides advantages such as a favorable perspective, greater control, flexibility, and efficiency (Parasuraman, 2000; Chang & Chen, 2021). Individuals who are optimistic about technology tend to adapt more successfully new technologies than others. Therefore, optimistic individuals are more willing and prepared to use new technologies (Walczuch et al., 2007).

Innovativeness is defined as the motivation of individuals to adopt a new technological product or service before others; in other words, it is the tendency to be a pioneer and early adopter in the use of technology (Parasuraman & Colby, 2015). Individuals who are open to innovation do not shy away from the challenges presented by new technologies; rather, they focus on the potential benefits these technologies can provide (Walczuch et al., 2007). Those who are innovative in their approach to technology are generally able to discover and utilize high-tech products and services without the assistance of others, showcasing their independence and capability (Demirci & Ersoy, 2008).

2.2. Inhibiting Factors of TRI

Discomfort represents individuals' perception of lacking full control over technology and captures their feelings of confusion caused by technology (Parasuraman & Colby, 2015). Individuals who experience discomfort with technology tend to adopt a skeptical attitude toward using products and services, often describing technology as complex and difficult to use while arguing that such endeavors are not meant for ordinary people (Yıldırım, 2017). Discomfort also signifies the degree of individuals' biases against technology (Lin & Chang, 2011).

Insecurity encompasses situations in which individuals experience a lack of confidence in a technological product or service, doubting whether the technology will function properly and fulfill its intended purpose. Furthermore, insecurity also involves concerns about the potentially harmful consequences of technology (Parasuraman, 2000). Insecurity may stem from concerns about technology's distracting effects, the generally low level of trust in online environments, dependency on technology, and the diminished quality of personal interactions (Chen & Lin, 2018).

3. CONCEPTUAL FRAMEWORK - EHEALTH LITERACY (EHL)

Health-related information has become one of the most searched topics on the Internet in recent years. The Internet provides quick and easy access to a wealth of up-to-date information. It allows individuals to access health-related information through various media platforms, such as social networking sites and messaging programs (Kim et al., 2023). However, health information obtained from online environments presents unique challenges compared to other channels. Accurately using continuously updated health information on the Internet requires a broad set of advanced skills. The concept of eHL describes these skills. Norman and Skinner (2006a, p. 2), who first conceptualized eHL, defined it as "the ability to search, find, understand, and evaluate health-related information from electronic sources and to use the health information obtained to solve a health problem."

eHL integrates various types of literacy and applies them to the promotion and care of eHealth. In the model referred to as the Lily Model, eHL is structured around six types of literacy: traditional literacy, information literacy, media literacy, health literacy, computer literacy, and scientific literacy (Norman & Skinner, 2006a).

To briefly define these types of literacy:

- Traditional literacy is the basic ability to read, including the capacity to understand the relationship between spoken and written language (Vlieghe, 2015).
- Information literacy involves recognizing when information is needed and having the skills to locate, evaluate, and effectively use it (Saranto & Hovenga, 2004).
- Media literacy refers to the ability to access, analyze, evaluate, and create messages in various media formats (Livingstone, 2004).
- Health literacy encompasses individuals' knowledge, motivation, and competencies to access, understand, evaluate, and apply health information to make informed decisions about health

services, disease prevention, and health promotion in daily life (Sørensen et al., 2012).
- Computer literacy is the ability to adapt to new technologies and software and to use computers effectively to solve problems (Norman & Skinner, 2006a).
- Scientific literacy refers to the knowledge and skills needed to make responsible decisions and engage in cognitive activities requiring an understanding of science and technology (Laugksch, 2000).

To effectively utilize eHealth resources, individuals should possess at least intermediate-level skills in the six types of literacy mentioned above (Norman & Skinner, 2006a).

The opportunities provided by eHealth are becoming increasingly patient-centered, and patient participation in services is on the rise (Barello et al., 2016). This shift in eHealth facilitates healthcare users' interaction with health information on the Internet and computer-based platforms. In this regard, Paige et al. (2018) proposed the Transactional Model of eHealth Literacy (TMeHL) to address gaps in existing eHL scales in the literature concerning communicative and social contexts. According to the authors the model emphasizes communication and interaction elements - often the weakest aspects of eHL in practice - more strongly than other established eHL scales (Norman & Skinner, 2006b; Seçkin et al., 2016; Petrič et al., 2017; Kayser et al., 2018; Karnoe et al., 2018), thereby clarifying and expanding the sub-dimensions of the eHL concept.

TMeHL defines eHL not only as a tool that measures the extent and quality of individuals' technology use but also as a skill set that demonstrates their ability to dynamically exchange health information with other users through technology and the Internet (Paige et al., 2018). Transactional eHL is described as follows (Paige et al., 2018, p. 9): "the ability to find, understand, share, and evaluate health information from online environments in the presence of dynamic contextual factors and apply it at environmental levels to maintain or improve health."

In TMeHL, eHL is divided into four sub-dimensions: functional, communicative, critical, and translational eHL. Functional eHL refers to basic literacy skills needed to read, write, and navigate health information online. Communicative eHL encompasses collaborating, adapting, and managing communication on health topics with other users in multimedia and social online environments. Critical eHL is the ability to evaluate the reliability, appropriateness, and risks of online health information sharing and acquisition. Translational eHL refers to the ability to apply online health information across diverse real-world settings. All these eHL dimensions were assessed by creating a scale called the Transactional eHealth Literacy Instrument (TeHLI) (Paige et al., 2019).

4. RELATIONSHIPS BETWEEN CONCEPTS AND DEVELOPMENT OF HYPOTHESES

As the digitalization process in healthcare accelerates daily, patients must adapt to this situation. One of the key steps for individuals to adopt eHealth solutions is developing eHL (Lee et al., 2022). An examination of the research findings in the literature reveals that individuals who are more successful in leveraging technological opportunities and who have a more positive attitude toward them tend to possess higher levels of digital literacy (Öngel et al., 2022) and make greater use of mobile and online health applications (Yıldız, 2021; Chiu & Cho, 2021).

Another research on nurses demonstrates that those with high optimism about TR are more successful in using mobile electronic medical record systems (Kuo et al., 2013). Additionally, research by Amelia et al. (2021) revealed that the readiness of civil servants to accept change and technology during the COVID-19 pandemic significantly impacted their job performance. From this, it can be inferred that individuals who are more prepared for technological developments and changes are likely to be more successful in using eHealth applications effectively.

In other words, for information technologies, digital hospitals, and eHealth technologies to be effectively utilized by healthcare recipients, readiness to embrace new technologies is essential. Indeed, Caison et al. (2008) demonstrated that the TRI is applicable not only in consumer-oriented media but also in the healthcare sector.

One of the most notable socio-demographic factors influencing eHL, as highlighted in the literature is the frequency with which individuals seek health information online and through social media platforms. Previous studies indicate that individuals who engage in more online health research tend to have higher levels of eHL (Wong & Cheung, 2019; Chang et al., 2015; Özer et al., 2020).

Based on the findings in the literature, it is reasonable to expect that the optimism and innovativeness driving individuals' TR will have a positive effect on their eHL. Accordingly, the first main hypothesis of the research and its sub-hypotheses are formulated as follows s:

H_1: The motivating factors of TR positively influence eHL.

H_{1a}: The motivating factors of TR positively influence functional eHL.

H_{1b}: The motivating factors of TR positively influence

communicative eHL.

H_{1c}: *The motivating factors of TR positively influence critical eHL.*

H_{1d}: *The motivating factors of TR positively influence translational eHL.*

Regardless of the measurement mechanism used, the readiness to adopt digital technologies is dependent on two key factors: (1) the availability of technology and (2) the individuals' ability to use it effectively to enhance performance (Jafari-Sadeghi et al., 2021). Therefore, it can be anticipated that individuals facing challenges in adapting to technological opportunities will also demonstrate knowledge and literacy levels that fall below the desired threshold.

The literature indicates that individuals who are insecure about utilizing technological opportunities are more reluctant to access digital solutions (Çam & Kıyıcı, 2017) and to use eHealth opportunities (Price-Haywood et al., 2017). Negative perceptions about technology have been observed to adversely affect individuals' intentions to use and adopt technology (Kuek & Hakkennes, 2020).

On the other hand, although the developed eHealth and mobile health applications are designed to enhance eHL, particularly among individuals with chronic diseases, these individuals may nevertheless experience concerns related to privacy and insecurity. Consequently, the eHL of those who do not feel prepared to use eHealth applications may be negatively impacted (Kim et al., 2019).

In the context of findings from the literature, it can be predicted that discomfort and insecurity factors that inhibit individuals' TR will adversely affect their eHL. Accordingly, the second main hypothesis and its sub-hypotheses are formulated as follows:

H_2: The inhibiting factors of TR negatively influence eHL.

H_{2a}: *The inhibiting factors of TR negatively influence functional eHL.*

H_{2b}: *The inhibiting factors of TR negatively influence communicative eHL.*

H_{2c}: *The inhibiting factors of TR negatively influence critical eHL.*

H_{2d}: *The inhibiting factors of TR negatively influence translational eHL.*

5. METHODS

5.1. Population and Sample of the Research

The population of the research consists of young individuals aged 18-24 living in Istanbul, Turkey's most populous city. Since it is impossible to reach the entire population and the exact size of the population is unknown, a representative sample was employed. The sample was selected using a convenience sampling method among young people in Istanbul. Convenience sampling is preferred when participants are easily accessible (Taherdoost, 2016).

When determining the sample size, Hair et al. (2009) noted that for survey studies, the number of participants should be at least five times the number of scale items. In this research, since the measurement tools used comprised a total of 34 items, it was calculated that at least 170 participants should be included in the research. A total of 305 valid survey responses were collected, exceeding the proposed minimum number. Singh and Masuku (2014) also observed that a common method for calculating sample size involves multiplying the number of survey items by a specific coefficient, which typically ranges from 5 to 10. In this regard, the adequacy of the sample size in the current research was confirmed.

Additionally, when determining the sample size, under the conditions of a 95% confidence interval and a 5% margin of error, it was assumed that the young population, which shows a better profile in terms of TR and eHL compared to the general population (Lee et al., 2011; Tennant et al., 2015; Xesfingi and Vozikis, 2016; Rojas-Mendez et al., 2017), would score higher on both measurement instruments (TRI and TeHLI). Therefore, the p-value was set at 0.75 and the q-value at 0.25 for the sample size calculation. When values are substituted into the sample size formula applicable to cases where the number of individuals in the population is unknown:

$$\mathbf{n = t^2pq / d^2}$$

t: *Coefficient in the standard normal distribution table at 95% confidence interval (1.96)*

n: *Optimum sample size to be determined*

p: *Approximate frequency of occurrence of the event under consideration (75%)*

q: *Approximate frequency of non-occurrence of the event under consideration (25%)*

d: *Margin of error (5%)*

$$\mathbf{n = (1.96)^2(0.75)(0.25) / (0.05)^2}$$
$$\mathbf{n = 288.12}$$

The formula results demonstrate that the 305 participants collected for this research are statistically sufficient. The survey administered to participants between February and April 2023 was initially intended to be distributed and later collected face-to-face. However, it was observed that only 103 individuals were reached through face-to-face surveys, which was considered insufficient. Consequently, an online survey form was distributed via Google Forms to reach

TABLE 1 Demographic characteristics of the participants

Variables	Categories	n	%
Age	18	33	10.8
	19	40	13.1
	20	77	25.2
	21	49	16.1
	22	44	14.4
	23	18	5.9
	24	44	14.4
Gender	Female	182	59.7
	Male	123	40.3
Educational Status	Graduated from a high school	206	67.6
	Graduated from a university	99	32.4

a larger number of participants, resulting in an additional 202 responses collected online. The research was conducted with the approval of the Hamidiye Scientific Research Ethics Committee of the Health Sciences University, dated September 21, 2022, with approval No. 12125.

5.2. Data Collection Tools of the Research

The questionnaire directed to the participants consisted of three sections. The first section included a socio-demographic data form containing statements regarding the participants' age, gender, and education level. The second section of the questionnaire featured the TRI and TeHLI scales, which were administered to the participants. The TRI was developed by Parasuraman (2000) and was later modernized by Parasuraman and Colby (2015), with its statements updated accordingly. The TRI comprised four dimensions and sixteen statements. The TeHLI scale was developed by Paige et al. (2019) and comprised four dimensions and eighteen statements. Both scales utilized in the research were designed using a 5-point Likert-type format (1: strongly disagree - 5: strongly agree).

5.3. Data Analysis of the Research

The data analysis of the research was conducted using the SPSS 25 statistical software package. Factor analysis was performed to test whether the scales used in the research were assessed with appropriate samples, to verify the adequacy of the sample size, and to determine whether the scales were distributed across suitable factors. Additionally, reliability analysis was conducted to determine the internal consistency of the scales and the appropriateness of the participants' responses. The Varimax rotation technique was employed to ensure an appropriate distribution of the items within the scale. Cronbach's Alpha coefficient was used to assess the reliability of the measurement tools. Correlation analysis was conducted to identify the relationships between individuals' TR and eHL, while regression analysis was performed to examine the effect of individuals' TR on their eHL. The TRI's motivating and inhibiting factors represented the independent variables of the research, whereas eHL and its sub-dimensions served as the dependent variables of the research.

6. RESULTS

The demographic variables of the participants, including age, gender, and education level, were examined. The categories, frequencies, and percentage values for each variable are presented in Table 1. It can be observed that the majority of the participants were 20 years old (25.2%), female (59.7%), and high school graduates (67.6%).

The factor and reliability analysis results of the measurement tools used in the research are presented in Table 2 and Table 3.

When examining the values in Table 2, which presents the results of the factor analysis of TRI, the KMO value was 0.746, and the significance level of the Bartlett's Test of Sphericity was statistically significant ($p = 0.000$) . As a result of the factor analysis, the scale was divided into four factors, consistent with the original scale. Since all items corresponded to the original factors of the scale and all factor loadings were above 0.40, no items were removed. Moreover, as the total explained variance exceeded 50%, the scale can be considered to have adequate representational capability (Hair et al., 2009). The reliability analysis yielded a Cronbach's Alpha value of 0.662, indicating that the measurement tool is sufficiently reliable (Karagöz, 2019).

TABLE 2 Factor and reliability analyses of TRI

Rotated Component Matrix				
Items	**Component**			
	OPT	**INS**	**INN**	**DIS**
OPT3: Technology gives people more control over their daily lives.	0.778			
OPT4: Technology makes me more productive in my personal life.	0.778			
OPT2: Technology gives me more freedom of mobility.	0.768			
OPT1: New technologies contribute to a better quality of life.	0.725			
INS3: Technology lowers the quality of relationships by reducing personal interaction.		0.806		
INS2: Too much technology distracts people to the point that is harmful.		0.775		
INS1: People are too dependent on technology to do things for them.		0.631		
INS4: I do not feel confident doing business with a place that can only be reached online.		0.628		
INN1: Other people come to me for advice on new technologies.			0.746	
INN2: In general, I am among the first in my circle of friends to acquire new technology when it appears.			0.681	
INN3: I can usually figure out new high-tech products and services without help from others.			0.650	
INN4: I keep up with the latest technological developments in my areas of interest.			0.642	
DIS3: Sometimes, I think that technology systems are not designed for ordinary users.				0.672
DIS4: There is no such thing as a manual for a high-tech product or service that is written in plain language.				0.652
DIS1: When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.				0.648
DIS2: Technical support lines are not helpful because they do not explain things in terms I understand.				0.465
Variance Explained:	16.379%	14.023%	12.823%	10.969%

Notes: OPT: Optimism; **INN:** Innovativeness; **DIS:** Discomfort; **INS:** Insecurity; **Extraction Method:** Principal Component Analysis; **Rotation Method:** Varimax Rotation with Kaiser Normalization; **Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy:** 0.746; **Bartlett's Test of Sphericity:** 0.000; **Approximately $\chi 2$:** 1107.050; **Degree of Freedom:** 120; **Total Variance Explained:** 54.195%; **Cronbach's Alpha:** 0.662; **Number of Items:** 16

TABLE 3 Factor and reliability analyses of TeHLI

Rotated Component Matrix				
Items	**Component**			
	CRI	**FUN**	**COM**	**TRA**
CRI3: I can tell when a health website is safe for sharing my personal health information.	0.776			
CRI2: I can tell when health information on the Internet is fake.	0.772			
CRI5: I know how to evaluate the credibility of Internet users who share health information.	0.702			
CRI1: I can tell when an Internet user is a credible source of health information.	0.699			
CRI4: I can tell when information on the Internet is relevant to my health needs.	0.646			
FUN2: I know how to access basic health information on the Internet.		0.812		
FUN1: I can summarize basic health information from the Internet in my own words.		0.742		
FUN4: I have the skills I need to tell someone how to find basic health information on the Internet.		0.707		
FUN3: I can use my computer to create messages that describe my health needs.		0.680		
COM5: I have the skills I need to build personal connections with other Internet users who share health information.			0.839	
COM4: I have the skills I need to contribute to health conversations on the Internet.			0.827	
COM2: I have the skills I need to talk about health topics on the Internet with multiple users at the same time.			0.633	
COM3: I can identify the emotional tone of a health conversation on the Internet.			0.459	
TRA3: I can use information on the Internet to make an informed decision about my health.				0.827
TRA4: I can use the Internet to learn about topics that are relevant to me.				0.749
TRA2: I can use the Internet as a tool to improve my health.				0.733
Variance Explained:	18.834%	18.771%	14.297%	13.124%

Notes: FUN: Functional eHL; **COM:** Communicative eHL; **CRI:** Critical eHL; **TRA:** Translational eHL; **Extraction Method:** Principal Component Analysis; **Rotation Method:** Varimax Rotation with Kaiser Normalization; **KMO Measure of Sampling Adequacy:** 0.885; **Bartlett's Test of Sphericity:** 0.000; **Approximately χ2:** 2151.138; **Degree of Freedom:** 120; **Total Variance Explained:** 65.026%; **Cronbach's Alpha:** 0.892; **Number of Items:** 16

Upon conducting the factor analysis of TeHLI, the items coded as COM1 ("I can achieve my health information goals on the Internet while helping other users achieve theirs") and TRA1 ("I can use the Internet to learn how to manage my health in a positive way") were excluded from the analysis because they loaded on the wrong factors. The results in Table 3 show that the KMO value was 0.885, and Bartlett's Test of Sphericity was statistically significant (p = 0.000).. The factor analysis revealed four factors, consistent with the original scale. Since the remaining items loaded onto the correct factors and all factor loadings were above

TABLE 4 Descriptive statistics of scales

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Optimism	3.6074	0.82751	-0.419	0.467
Innovativeness	3.3336	0.72433	-0.050	-0.224
TRI-Motivating Factors	***3.4705***	***0.65082***	***-0.127***	***0.106***
Discomfort	2.8328	0.67338	-0.075	0.585
Insecurity	3.8361	0.72701	-0.817	1.520
TRI-Inhibiting Factors	***3.3344***	***0.55081***	***-0.444***	***1.117***
Functional eHL	3.9336	0.69293	-1.232	3.147
Communicative eHL	3.4533	0.74895	-0.332	0.682
Critical eHL	3.6970	0.65857	-0.401	0.651
Translational eHL	3.6470	0.84443	-0.467	0.166
TeHLI General	***3.6827***	***0.57047***	***-0.265***	***0.769***

0.40, no additional items were removed apart from COM1 and TRA1. Furthermore, as the total explained variance exceeded 50%, the scale can be considered to have adequate representational capability (Hair et al., 2009). The reliability analysis produced a Cronbach's Alpha of 0.892, indicating that the measurement tool is highly reliable (Karagöz, 2019).

Table 4 presents descriptive statistics related for the measurement tools used in the study. The data indicate that the distributions in the dataset are approximately normal. According to Hair et al. (2009), assessing normality requires examining skewness and kurtosis values. If the skewness values fall between -2 and +2, and the kurtosis values range from -7 to +7, it can be concluded that the distribution is normal.

The overall mean score for the motivating factors of TRI was 3.4705 ± 0.65082, while the mean score for the inhibiting factors was 3.3344 ± 0.55081. Furthermore, individuals' perception of optimism regarding technology was higher than their perception of innovation, while their perception of insecurity exceeded their perception of discomfort. The average eHL score was 3.6827 ± 0.57047. Examining the subdimensions of the measurement tool revealed that individuals' functional eHL scores were 3.9336 ± 0.69293, communicative eHL scores were 3.4533 ± 0.74895, critical eHL scores were 3.6970 ± 0.65857, and translational eHL were are 3.6470 ± 0.84443. These results suggest that individuals' functional eHL skills are higher than their skills in the other dimensions.

To examine the relationships between individuals' TR and eHL, a correlation analysis was conducted. Since the analyzed data met the assumptions of normal distribution, the Pearson correlation coefficient was applied. The obtained results are presented in Table 5.

Analysis of the results revealed a moderate (0.483), positive, and statistically significant relationship ($p < 0.05$) between the motivating factors of TRI and eHL. Furthermore, moderate, positive, and statistically significant relationships were also identified between the motivating factors and all eHL dimensions (Karagöz, 2019). In contrast, the correlation analysis conducted between the inhibiting factors of TRI and eHL, including its subdimensions, revealed no significant relationship ($p > 0.05$). The absence of statistical significance suggests that the relationship between the inhibiting factors and eHL may be coincidental. Accordingly, the inhibiting factors were excluded from the regression analysis, and their impact on eHL was not examined.

As the inhibiting factors had no effect on eHL or its subdimensions, hypotheses H_{2}, H_{2a}, H_{2b}, H_{2c}, and H_{2d} were rejected. The rationale for rejecting these hypotheses lies in the correlation analysis results, which indicated that the inhibiting factors were unrelated to eHL and showed no significant effect in the regression analysis. Consequently, only the effects of the motivating factors of TRI on eHL and its subdimensions were examined in this research. The regression analysis results testing the effects of the motivating factors on eHL are presented in Table 6.

The analysis results indicate that the motivating factors of TRI account for 23% of the variance in eHL. This finding suggests that the motivating factors exert a moderate effect on eHL. When examining the subdimensions of eHL, the motivating factors explain 13% of the variance in functional eHL,13% in communicative eHL, 12.4% in critical eHL, and 16% in translational eHL. Thus, it can be concluded that the motivating factors moderately influence the functional, commu-

TABLE 5 Correlation analysis between the variables in the research

Correlations								
		TRI - Motivating Factors	TRI - Inhibiting Factors	eHL	Functional eHL	Communicative eHL	Critical eHL	Translational eHL
TRI - Motivating Factors	Pearson Correlation	1						
	Sig. (2-tailed)							
TRI - Inhibiting Factors	Pearson Correlation	-0.044	1					
	Sig. (2-tailed)	0.439						
eHL	Pearson Correlation	**0.483***	0.036	1				
	Sig. (2-tailed)	0.000	0.530					
Functional eHL	Pearson Correlation	**0.365***	0.019	0.831*	1			
	Sig. (2-tailed)	0.000	0.744	0.000				
Communicative eHL	Pearson Correlation	**0.364***	0.075	0.764*	0.564*	1		
	Sig. (2-tailed)	0.000	0.189	0.000	0.000			
Critical eHL	Pearson Correlation	**0.356***	0.026	0.769*	0.577*	0.477*	1	
	Sig. (2-tailed)	0.000	0.650	0.000	0.000	0.000		
Translational eHL	Pearson Correlation	**0.404***	-0.005	0.743*	0.475*	0.343*	0.401*	1
	Sig. (2-tailed)	0.000	0.931	0.000	0.000	0.000	0.000	
* Correlation is significant at the 0.05 level (2-tailed).								

TABLE 6 Regression analysis between the variables in the research

Model Summary[b]						**ANOVA**	
Model	R	R Square	Adjusted R Square	Standard Error	Durbin-Watson	F	p
1	0.483[a]	0.233	**0.230**	0.50043	1.868	92.049	**0.000**
2	0.365[a]	0.133	**0.130**	0.64622	1.859	46.544	**0.000**
3	0.364[a]	0.133	**0.130**	0.69863	1.804	46.373	**0.000**
4	0.356[a]	0.127	**0.124**	0.61636	2.033	44.056	**0.000**
5	0.404[a]	0.163	**0.160**	0.77374	1.791	59.086	**0.000**
a. Predictors: (Constant), TRI- Motivating Factors							
b. Dependent Variable: eHL (1) - Functional (2) - Communicative (3) - Critical (4) - Translational (5)							

nicative, and translational dimensions, while they exert a low-level effect on the critical dimension (Cohen, 1988).

The Durbin-Watson statistics (1.868, 1.859, 1.804, 2.033, and 1.791) indicate no autocorrelation among the variables. Moreover, the effect of the motivating factors of TRI on eHL and its subdimensions is statistically significant and positive at the $p < 0.05$ level. According to the regression analysis, participants' positive motivations related to TRI enhance their overall eHL as well as their functional, communicative, critical, and translational eHL. Therefore, hypotheses H_1, H_{1a}, H_{1b}, H_{1c}, and H_{1d} were accepted.

7. DISCUSSION

This research aims to examine the role of the TR of young individuals living in urban environments on their eHL. When analyzing participants' views regarding TR, it can be stated that their motivation levels toward technology appear to be above average. The high level of acceptance of the motivating factors for technology can be attributed to the fact that the research sample consists of young, educated individuals living in urban areas. Similar findings were reported by Öngel et al. (2022) and Kaymak (2019), who found that samples with similar characteristics displayed high levels of optimism and innovativeness toward technology use. Furthermore, Rojas-Mendez et al. (2017) identified education level as the most significant factor explaining individuals' willingness to adopt technology. Thus, the research sample can be considered pioneering in technology adoption.

When analyzing participants' views on inhibiting factors within TR, the lowest score was observed in the dimension of discomfort. This suggests that participants maintain sufficient self-control when using new technologies. Individuals with high perceptions of discomfort tend to avoid technology unless necessary and often find it overwhelming (Blut and Wang, 2020). Such individuals also perceive fewer benefits from technology, reflecting limited awareness of its risks and uncertainties (Sunny et al., 2019). Although participants reported low discomfort, they expressed relatively high insecurity towards technology. They largely agreed that technological opportunities reduce traditional human relationships, diminish the quality of interpersonal interactions, and distract attention. Given that the sample consists of youth living in urban environments, these individuals can be considered both pioneers in digital adoption and highly aware of potential risks. Thus, their cautious and conscious stance toward technology's risks is noteworthy. Celik and Kocaman (2017) also found that young students in their study who exhibited high insecurity in adopting mobile applications. Among urban youth, insecurity may stem from factors such as distraction, technology addiction, and reduced face-to-face communication.

When analyzing participant's views on eHL, their overall eHL levels appear above average. This can be attributed to the fact that the research sample consists of young and educated individuals, as noted in the TR section. Young people hold an advantage over others in society in accessing accurate health information and using it effectively. Previous studies confirm that those with high online health information search rates and eHL levels are generally younger and more educated (Xesfingi and Vozikis, 2016; Kontos et al., 2014). When examining the subdimensions of eHL, it was observed that participants scored highest in the functional dimension, followed by critical, translational, and communicative dimensions. Thus, young individuals focus mainly on the functionality and usefulness of information when searching for health information online. They effectively adapt the eHealth information they obtain into their daily lives and evaluate it critically.

In recent years, exposure to fake health information on the Internet has significantly increased Zanatta et al. (2021) reported that young individuals, as intensive Internet users, are particularly exposed to fake health news through social media. Therefore, it enhancing young individuals' critical eHL skills is essential. The importance of critical eHL also extends to health promotion activities. Yang et al. (2017) found that critical eHL skills among university students are more effective in promoting and improving health than other eHL dimensions.

However, the participants showed relative weaknesses in contributing to others' issues and engaging in effective communication using health information. This may be linked to the lack of reliable foundations for health information in online environments, where the accuracy of information is often uncertain. The high levels of insecurity noted in the TR section further clarify this situation.

In addition, health communication among youth has noticeably decreased, particularly with the recent advancements in mobile technologies. Briones (2015) found that young people use social media channels used more for networking and entertainment than for sharing health information. Consequently, although young people are skilled in accessing health information online, they appear somewhat reluctant to share it with others compared to their performance in other eHL dimensions.

According to the findings, the motivating factors of TR positively influence the eHL levels of young individuals. Similarly, Chiu and Cho (2021) found that individuals with stronger motivation towards technology were more likely to use health and fitness applications. Parallel research by Chisolm et al. (2011) showed that young individuals with stronger intentions to use health-related websites demonstrated higher health literacy levels. Furthermore, Cheon et al. (2012) reported that university students' positive attitudes towards technology significantly increased their intention to adopt mobile learning. Thus, individuals' beliefs about the usefulness of eHealth applications enhance both their knowledge and literacy levels.

On the other hand, while it was expected that the inhibiting factors of TR would have a detrimental effect on eHL, the study found no significant relationship. In line with this, Lee et al. (2022) reported that patients'

technological insecurity did not significantly affect their eHL. This may be attributed to the recent digitalization of healthcare, where almost all processes are now conducted online or via mobile devices. In such an environment, even if individuals feel uncomfortable and insecure about technology, their eHL levels remain unaffected. Particularly during the COVID-19 pandemic, the widespread adoption of eHealth and mobile health applications, and the persistence of certain habits developed during this period, suggests that this finding is unsurprising. Individuals were compelled to use technology in healthcare, and although they expressed negative views about technology, these attitudes were not reflected in their eHealth literacy. It can therefore be argued that the coercive environment created by the COVID-19 pandemic strongly influenced this situation (Tatlı & Öngel, 2021).

Moreover, the fact that the research sample consists of young individuals living in urban environments may also explain why the discomfort and insecurity some feel about technology are not reflected in their eHL. Young individuals are already in a more advantageous position than older individuals when it comes to benefiting from digital opportunities. It can be stated that individuals living in different countries or regions may express varying opinions regarding TR and eHL.

When examining the effects of the motivating factors of TR on the subdimensions of eHL, it can be argued that the factors provide the foundation for young individuals to acquire accurate information online and to develop communication skills that enable them to manage their health more effectively. Indeed, research by Hsu et al. (2014) indicated that individuals' functional eHL skills mediate the relationship between their use of health-related communication technologies and their healthy eating and exercise behaviors. The functionality of health information enables individuals to be better informed about eHealth usage. This finding supports Norman and Skinner's (2006a) Zambak Model, which initially introduced the concept of eHL and emphasized the importance of information literacy and computer literacy as developmental conditions of eHL. The pathway to acquiring relevant skills is through effective technology use. Communicative eHL enables individuals to make effective use various mass communication tools related to eHealth in order to obtain accurate health information (Cheng, 2020). Thus, young individuals who take greater advantage of technological opportunities not only develop their eHL through different communication tools but also contribute to raising overall public health by sharing the health information they acquire with others.

Additionally, since young individuals are more technologically prepared (Öngel et al., 2022), they tend to be more successful in evaluating the accuracy of health information obtained from digital platforms. This, in turn, increases the frequency of positive health behaviors among young individuals (Yang et al., 2017). Furthermore, individuals with greater motivation towards technology can enhance their eHealth skills in a translational manner, thereby improving their self-health management. The translational dimension of eHL represents the ability to apply accurate and reliable health information from the Internet in various contexts (Paige et al., 2018). This dimension constitutes the highest cognitive level of eHL, and translational eHL skills are typically more advanced in young individuals who are better prepared for technological innovations.

The significant and positive effect of TR's motivating factors on eHL underscores the need to promote a positive attitude towards technology in order to develop eHealth awareness and skills among young individuals. Furthermore, the research highlights the limited impact of young individuals' technology-related concerns on their eHL, shedding light on the potential effects of ongoing digital habits on health behaviors, even in the post-COVID-19 pandemic. Thus, this research provides an important empirical contribution to previous studies addressing TR and eHL, offering a comprehensive perspective on how eHL develops through young individuals' interactions with technology.

However, the study has some limitations. First, the study was conducted on young people living in Turkey's largest and most developed city. Young people in other cities may have different views on TR and eHL. For example, in less developed cities with a higher proportion of rural residents, access to technological devices and the internet is more limited than in large cities. This suggests that young people living in rural areas may demonstrate lower levels of TRs due to unfavorable conditions and, therefore, face greater difficulties in accessing e-health information (Kayser et al., 2019; Jagde et al., 2021). In addition, waiting times for health services in overcrowded metropolises such as Istanbul are quite long. Therefore, it has become almost necessary for individuals living in such metropolises to address their health problems using e-health information and available technological resources. However, individuals in underdeveloped cities with smaller populations may not experience the same need for online health research.

Another limitation of the study is that, when collecting data on the educational status of the participants, only the institution where they received their most recent education was recorded, without considering their ongoing education. Additionally, cultural differences among participants were not taken into account while collecting data in a cosmopolitan region such as Istanbul. This study did not consider cultural

differences because no identifying questions, such as those on race or ethnicity, were asked during data collection. Indeed, research has shown that TR is significantly influenced by cultural factors. For example, in Europe and North America, users show a higher level of trust and interest in accessing technology, while in Africa and the Middle East, concerns about data privacy and technological infrastructure are more pronounced (Beebeejaun & Chittoo, 2017; Yusif et al., 2020).

Finally, since the study was conducted cross-sectionally, the results can only be interpreted for a single point in time, and temporal changes cannot be detected.

8. CONCLUSION

It can be stated that the youth participating in the research exhibited high levels of TR and eHL. Additionally, while the participants' perceptions of discomfort regarding technology use were not very high, their insecurity was notably high. Among young individuals who generally feel optimistic and innovative about technology use, there exists a level of anxiety and insecurity regarding the potential drawbacks that technology may bring. The primary concern relates to data security and privacy in the applications used. Indeed, the fact that the communicative eHL of young individuals is lower than that of other sub-dimensions helps explain this situation.

The research found that young individuals motivated by TR and optimistic and innovative in adopting new technologies have higher levels of eHL. This result suggests that young individuals can better manage their health and make more effective decisions regarding eHealth by maximizing the benefits of the opportunities provided by technology and continuously following technological developments within their areas of interest. Conversely, the absence of any change in the eHL of young individuals who perceive themselves as inadequate in technology use indicates that traditional methods in the increasingly digital healthcare sector are losing popularity and that digital health solutions will become even more widespread in the coming years.

Given the finding that TR positively influences eHL and considering that today's youth will be the demanding users of future healthcare services, significant responsibilities lie ahead for implementing institutions and policymakers to enhance society's overall health and well-being. In this regard, awareness training programs in eHealth should be organized for young individuals through technological opportunities, and policies should encourage individuals to develop and maintain higher TR and eHL. Training programs for young people should emphasize data security and privacy issues, which represent pressing digital challenges today. This is because the discomfort and lack of trust brought about by using technology among young people remain considerable. Moreover, it is recommended that the developed eHealth and mobile health applications be designed to be more user-friendly and easier to use. Thus, young people, who are in a more advantageous position than older individuals in terms of using technological devices and services, will be able to better manage their diagnosis and treatment processes through accurate health information obtained online instead of directly applying to the health institution to solve future health problems, thereby reducing unnecessary pressure on the healthcare system.

Future research should include comparative analyses of the TR and eHL of young individuals living in urban and rural areas and studies that identify and propose solutions for the factors causing discomfort and insecurity towards technology among youth.

REFERENCES

1. Ali, S., Khalid, N., Javed, H. M. U., & Islam, D. M. Z. (2020). Consumer adoption of online food delivery ordering (OFDO) services in Pakistan: The impact of the COVID-19 pandemic situation. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(1), 10. https://doi.org/10.3390/joitmc7010010
2. Barello, S., Triberti, S., Graffigna, G., Libreri, C., Serino, S., Hibbard, J., & Riva, G. (2016). eHealth for patient engagement: A systematic review. *Frontiers in Psychology, 6*, 2013. https://doi.org/10.3389/fpsyg.2015.02013
3. Beebeejaun, M. R., & Chittoo, H. (2017). An assessment of e-health readiness in the public health sector of Mauritius. *International Journal of Science: Basic and Applied Research, 35*(1), 193-210.
4. Blut, M., & Wang, C. (2020). Technology readiness: A meta-analysis of conceptualizations of the construct and its impact on technology usage. *Journal of the Academy of Marketing Science, 48*, 649-669. https://doi.org/10.1007/s11747-019-00680-8
5. Caison, A. L., Bulman, D., Pai, S., & Neville, D. (2008). Exploring the technology readiness of nursing and medical students at a Canadian University. *Journal of Interprofessional Care, 22*(3), 283-294. https://doi.org/10.1080/13561820802061809
6. Celik, H., & Kocaman, R. (2017). Roles of self-monitoring, fashion involvement and technology readiness in an individual's propensity to use mobile shopping. *Journal of Systems and Information Technology, 19*(3/4), 166-182. https://doi.org/10.1108/JSIT-01-2017-0008
7. Chang, F. C., Chiu, C. H., Chen, P. H., Miao, N. F., Lee, C. M., Chiang, J. T., & Pan, Y. C. (2015). Relationship between parental and adolescent eHealth literacy and online health information seeking in Taiwan. *Cyberpsychology, Behavior, and Social Networking, 18*(10), 618-624. https://doi.org/10.1089/cyber.2015.0110
8. Chang, Y. W., & Chen, J. (2021). What motivates customers to shop in smart shops? The impacts of smart technology and technology readiness. *Journal of Retailing and Consumer Services, 58*, 102325. https://doi.org/10.1016/j.jretconser.2020.102325
9. Chen, M. F., & Lin, N. P. (2018). Incorporation of health consciousness into the technology readiness and acceptance model to predict app download and usage intentions. *Internet Research, 28*(2), 351-373. https://doi.org/10.1108/IntR-03-2017-0099
10. Chisolm, D. J., Hardin, D. S., McCoy, K. S., Johnson, L. D., McAlearney, A. S., & Gardner, W. (2011). Health literacy and willingness to use online health information by teens with asthma and diabetes. *Telemedicine and e-Health, 17*(9), 676-682. https://doi.org/10.1089/tmj.2011.0037
11. Chiu, W., & Cho, H. (2021). The role of technology readiness in individuals' intention to use health and fitness applications: A comparison between users and non-users. *Asia Pacific Journal of Marketing and Logistics, 33*(3), 807-825. https://doi.org/10.1108/APJML-09-2019-0534
12. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Second Edition). New Jersey: Lawrence Erlbaum Associates.
13. Çam, E., & Kiyici, M. (2017). Perceptions of prospective teachers on digital literacy. *Malaysian Online Journal of Educational Technology,* (4), 29-44.
14. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. https://doi.org/10.2307/249008
15. Demirci, A. E., & Ersoy, N. F. (2008). Technology readiness for innovative high-tech products: How consumers perceive and adopt new technologies. *The Business Review, 11*(1), 302-308.
16. Dutot, V. (2014). Adoption of social media using technology acceptance model: The generational effect. *International Journal of Technology and Human Interaction (IJTHI), 10*(4), 18-35. https://doi.org/10.4018/ijthi.2014100102
17. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory research.* Massachusetts: Addison-Wesley.
18. Hair, J., Black W., Babin B., & Anderson R. (2009). *Multivariate data analysis* (7th ed.). London: Pearson Education Limited.
19. Hsu, W., Chiang, C., & Yang, S. (2014). The effect of individual factors on health behaviors among college students: The mediating effects of eHealth literacy. *Journal of Medical Internet Research, 16*(12), e3542. https://doi.org/10.2196/jmir.3542
20. Jafari-Sadeghi, V., Garcia-Perez, A., Candelo, E., & Couturier, J. (2021). Exploring the impact of digital transformation on technology entrepreneurship and technological market expansion: The role of technology readiness, exploration and exploitation. *Journal of Business Research, 124*, 100-111. https://doi.org/10.1016/j.jbusres.2020.11.020
21. Jagde, A. K., Shrivastava, R., Feine, J., & Emami, E. (2021). Patients' E-Readiness to use E-Health technologies for oral health. *Plos One, 16*(7), e0253922. https://doi.org/10.1371/journal.

pone.0253922

22. Karagöz, Y. (2019). *SPSS - AMOS - META applied statistical analyses.* Ankara: Nobel Academic Publishing.
23. Karnoe, A., Furstrand, D., Christensen, K. B., Norgaard, O., & Kayser, L. (2018). Assessing competencies needed to engage with digital health services: Development of the eHealth literacy assessment toolkit. *Journal of Medical Internet Research, 20*(5), e178. https://doi.org/10.2196/jmir.8347
24. Kaymak, E. (2019). *The effect of cultural differences on Technology Readiness and acceptance: A study on online shopping technologies* (Master's Thesis). Balıkesir University, Balıkesir. https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=Eb5EkakJlp3olBdo_wNEGel4htu2RE7DOWDq1cTVrEjUfOGloRdX4To6BKnmcqug
25. Kayser, L., Karnoe, A., Furstrand, D., Batterham, R., Christensen, K. B., Elsworth, G., & Osborne, R. H. (2018). A multidimensional tool based on the eHealth literacy framework: Development and initial validity testing of the eHealth literacy questionnaire (eHLQ). *Journal of Medical Internet Research, 20*(2), e8371. https://doi.org/10.2196/jmir.8371
26. Kayser, L., Rossen, S., Karnoe, A., Elsworth, G., Vibe-Petersen, J., Christensen, J. F., & Osborne, R. H. (2019). Development of the multidimensional readiness and enablement index for health technology (READHY) tool to measure individuals' health technology readiness: initial testing in a cancer rehabilitation setting. *Journal of Medical Internet Research, 21*(2), e10377. https://doi.org/10.2196/10377
27. Kim, H., Goldsmith, J. V., Sengupta, S., Mahmood, A., Powell, M. P., Bhatt, J., & Bhuyan, S. S. (2019). Mobile health application and e-health literacy: opportunities and concerns for cancer patients and caregivers. *Journal of Cancer Education, 34,* 3-8. https://doi.org/10.1007/s13187-017-1293-5
28. Kim, K., Shin, S., Kim, S., & Lee, E. (2023). The relation between eHealth literacy and health-related behaviors: Systematic review and meta-analysis. *Journal of Medical Internet Research, 25,* e40778. https://doi.org/10.2196/40778
29. Kontos, E., Blake, K. D., Chou, W. Y. S., & Prestin, A. (2014). Predictors of eHealth usage: Insights on the digital divide from the Health Information National Trends Survey 2012. *Journal of Medical Internet Research, 16*(7), e172. https://doi.org/10.2196/jmir.3117
30. Kuek, A., & Hakkennes, S. (2020). Healthcare staff digital literacy levels and their attitudes towards information systems. *Health Informatics Journal, 26*(1), 592-612. https://doi.org/10.1177/1460458219839613
31. Kuo, K. M., Liu, C. F., & Ma, C. C. (2013). An investigation of the effect of nurses' technology readiness on the acceptance of mobile electronic medical record systems. *BMC Medical Informatics and Decision Making, 13,* 1-14. https://doi.org/10.1186/1472-6947-13-88
32. Kurtoğlu, İ., Yılmaz, N., & Taş, M. A. (2022). A research on e-health literacy levels of chronic patients. *Mehmet Akif Ersoy University Journal of Social Sciences Institute,* (35), 126-136. https://doi.org/10.20875/makusobed.1009918
33. Laugksch, R. C. (2000). Scientific literacy: A conceptual overview. *Science Education, 84*(1), 71-94. https://doi.org/10.1002/(SICI)1098-237X(200001)84:1%3C71::AID-SCE6%3E3.0.CO;2-C
34. Lee, S., Ha, S., & ve Widdows, R. (2011). Consumer responses to high-technology products: Product attributes, cognition, and emotions. *Journal of Business Research, 64*(11), 1195-1200. https://doi.org/10.1016/j.jbusres.2011.06.022
35. Lee, W. L., Lim, Z. J., Tang, L. Y., Yahya, N. A., Varathan, K. D., & Ludin, S. M. (2022). Patients' technology readiness and eHealth literacy: Implications for adoption and deployment of eHealth in the COVID-19 era and beyond. *CIN: Computers, Informatics, Nursing, 40*(4), 244-250. https://doi.org/10.1097/CIN.0000000000000854
36. Leung, L., & Chen, C. (2019). E-health/m-health adoption and lifestyle improvements: Exploring the roles of technology readiness, the expectation-confirmation model, and health-related information activities. *Telecommunications Policy, 43*(6), 563-575. https://doi.org/10.1016/j.telpol.2019.01.005
37. Lin, C. H., Shih, H. Y., & Sher, P. J. (2007). Integrating technology readiness into technology acceptance: The TRAM model. *Psychology & Marketing, 24*(7), 641-657. https://doi.org/10.1002/mar.20177
38. Lin, J. S. C., & Chang, H. C. (2011). The role of technology readiness in self-service technology acceptance. *Managing Service Quality: An International Journal, 21*(4), 424-444. https://doi.org/10.1108/09604521111146289
39. Livingstone, S. (2004). Media literacy and the challenge of new information and communication technologies. *The Communication Review, 7*(1), 3-14. https://doi.org/10.1080/10714420490280152
40. Mıdık, Ö., & Aker, S. (2021). E-health literacy and health information-seeking behavior among the medical students at pandemic process. *Journal of Continuing Medical Education 30*(4), 245-251.

https://doi.org/10.17942/sted.730259
41. Mukerjee, H. S., Deshmukh, G. K., & Prasad, U. D. (2019). Technology readiness and likelihood to use self-checkout services using smartphone in retail grocery stores: Empirical evidences from Hyderabad, India. *Business Perspectives and Research, 7*(1), 1-15. https://doi.org/10.1177/2278533718800118
42. Norgaard, O., Furstrand, D., Klokker, L., Karnoe, A., Batterham, R., Kayser, L., & Osborne, R. H. (2015). The e-health literacy framework: A conceptual framework for characterizing e-health users and their interaction with e-health systems. *Knowledge Management & E-Learning: An International Journal, 7*(4), 522-540. https://doi.org/10.34105/j.kmel.2015.07.035
43. Norman, C. D., & Skinner, H. A. (2006a). eHealth literacy: Essential skills for consumer health in a networked world. *Journal of Medical Internet Research, 8*(2), e506. https://doi.org/10.2196/jmir.8.2.e9
44. Norman, C. D., & Skinner, H. A. (2006b). eHEALS: The eHealth literacy scale. *Journal of Medical Internet Research, 8*(4), e507. https://doi.org/10.2196/jmir.8.4.e27
45. Öngel, V., Yavuz, M. S., & Tatlı, H. S. (2022). Factors affecting digital literacy of human resources. Управленец, *13*(1), 68-83. https://doi.org/10.29141/2218-5003-2022-13-1-5
46. Özer, Ö., Özmen, S., & Özkan, O. (2020). Investigation of the effect of social media usage on e-health literacy. *Alanya Academic Review, 4*(2), 353-367. https://doi.org/10.29023/alanyaakademik.679417
47. Paige, S. R., Stellefson, M., Krieger, J. L., Anderson-Lewis, C., Cheong, J., & Stopka, C. (2018). Proposing a transactional model of eHealth literacy: Concept analysis. *Journal of Medical Internet Research, 20*(10), e10175. https://doi.org/10.2196/10175
48. Paige, S. R., Stellefson, M., Krieger, J. L., Miller, M. D., Cheong, J., & Anderson-Lewis, C. (2019). Transactional eHealth literacy: Developing and testing a multi-dimensional instrument. *Journal of Health Communication, 24*(10), 737-748. https://doi.org/10.1080/10810730.2019.1666940
49. Parasuraman, A. (2000). Technology Readiness Index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research, 2*(4), 307-320. https://doi.org/10.1177/109467050024001
50. Parasuraman, A., & Colby, C. L. (2015). An updated and streamlined technology readiness index: TRI 2.0. *Journal of Service Research, 18*(1), 59-74. https://doi.org/10.1177/1094670514539730
51. Park, E., & Kwon, M. (2018). Health-related internet use by children and adolescents: Systematic review. *Journal of Medical Internet Research, 20*(4), e120. https://doi.org/10.2196/jmir.7731
52. Petrič, G., Atanasova, S., & Kamin, T. (2017). Ill literates or illiterates? Investigating the eHealth literacy of users of online health communities. *Journal of Medical Internet Research, 19*(10), e7372. https://doi.org/10.2196/jmir.7372
53. Pradhan, M. K., Oh, J., & Lee, H. (2018). Understanding travelers' behavior for sustainable smart tourism: A technology readiness perspective. *Sustainability, 10*(11), 4259. https://doi.org/10.3390/su10114259
54. Price-Haywood, E. G., Harden-Barrios, J., Ulep, R., & Luo, Q. (2017). eHealth literacy: Patient engagement in identifying strategies to encourage use of patient portals among older adults. *Population Health Management, 20*(6), 486-494. https://doi.org/10.1089/pop.2016.0164
55. Rogers, E. M. (1983). *Diffusion of innovations.* Illinois: The Free Press.
56. Rojas-Mendez, J. I., Parasuraman, A. ve Papadopoulos, N. (2017). Demographics, attitudes, and technology readiness: A cross-cultural analysis and model validation. *Marketing Intelligence & Planning, 35*(1), 18-39. https://doi.org/10.1108/MIP-08-2015-0163
57. Saranto, K., & Hovenga, E. J. (2004). Information literacy - what it is about?: Literature review of the concept and the context. *International Journal of Medical Informatics, 73*(6), 503-513. https://doi.org/10.1016/j.ijmedinf.2004.03.002
58. Seçkin, G., Yeatts, D., Hughes, S., Hudson, C., & Bell, V. (2016). Being an informed consumer of health information and assessment of electronic health literacy in a national sample of internet users: Validity and reliability of the e-HLS instrument. *Journal of Medical Internet Research, 18*(7), e5496. https://doi.org/10.2196/jmir.5496
59. Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of Economics, Commerce and Management, 2*(11), 1-22.
60. Smith, B., & Magnani, J. W. (2019). New technologies, new disparities: The intersection of electronic health and digital health literacy. *International Journal of Cardiology, 292*, 280-282. https://doi.org/10.1016/j.ijcard.2019.05.066
61. Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., & Brand, H. (2012). Health literacy and public health: A systematic review and integration of definitions and models. *BMC Public Health, 12*(1), 1-13. https://doi.

org/10.1186/1471-2458-12-80

62. Sunny, S., Patrick, L., & Rob, L. (2019). Impact of cultural values on technology acceptance and technology readiness. *International Journal of Hospitality Management, 77,* 89-96. https://doi.org/10.1016/j.ijhm.2018.06.017
63. Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. *International Journal of Academic Research in Management* 5(2), 18-27.
64. Tatlı, H. S., & Öngel, G. (2021). Digitalization and compelling factors in the COVID-19 period: A review from the perspective of new institutional theory. S. Ada (Ed.), In *The new 'digital' normal in the post-pandemic period* (s. 39-55). Ankara: Nobel Academic Publishing.
65. Tennant, B., Stellefson, M., Dodd, V., Chaney, B., Chaney, D., Paige, S., & Alber, J. (2015). eHealth literacy and Web 2.0 health information seeking behaviors among baby boomers and older adults. *Journal of Medical Internet Research, 17*(3), e70. https://doi.org/10.2196/jmir.3992
66. Vlieghe, J. (2015). Traditional and digital literacy. The literacy hypothesis, technologies of reading and writing, and the 'grammatized' body. *Ethics and Education, 10*(2), 209-226. https://doi.org/10.1080/17449642.2015.1039288
67. Walczuch, R., Lemmink, J., & Streukens, S. (2007). The effect of service employees' technology readiness on technology acceptance. *Information & Management, 44*(2), 206-215. https://doi.org/10.1016/j.im.2006.12.005
68. Wong, D. K. K., & Cheung, M. K. (2019). Online health information seeking and eHealth literacy among patients attending a primary care clinic in Hong Kong: A cross-sectional survey. *Journal of Medical Internet Research, 21*(3), e10831. https://doi.org/10.2196/10831
69. Xesfingi, S., & Vozikis, A. (2016). eHealth literacy: In the quest of the contributing factors. *Interactive Journal of Medical Research,* 5(2), e4749. https://doi.org/10.2196/ijmr.4749
70. Yang, S. C., Luo, Y. F., & Chiang, C. H. (2017). The associations among individual factors, eHealth literacy, and health-promoting lifestyles among college students. *Journal of Medical Internet Research, 19*(1), e15. https://doi.org/10.2196/jmir.5964
71. Yıldırım, M. (2017). *An evaluation of the effect of technology readiness on attitudes towards advertisements and recall in new and traditional media* (PhD Thesis). Anadolu University, Eskişehir. https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=DPTyuy3wRPq_qvCPSqUB6wBxTzS-S_hOgMiGWErO4BuEv6GrEoI6FWR-GlDo74Fi
72. Yıldız, A. (2021). The effect of attitudes of higher education students studying in the field of health towards the internet on e-health literacy level. *Electronic Journal of Social Sciences, 20*(79), 1420-1431. https://doi.org/10.17755/esosder.776459
73. Yusif, S., Hafeez-Baig, A., & Soar, J. (2020). An exploratory study of the readiness of public healthcare facilities in developing countries to adopt health information technology (HIT)/e-Health: the case of Ghana. *Journal of Healthcare Informatics Research, 4*(2), 189-214. https://doi.org/10.1007/s41666-020-00070-8
74. Zanatta, E. T., Wanderley, G. P. D. M., Branco, I. K., Pereira, D., Kato, L. H., & Maluf, E. M. C. P. (2021). Fake news: The impact of the internet on population health. *Revista da Associação Médica Brasileira, 67,* 926-930. https://doi.org/10.1590/1806-9282.20201151

UTJECAJ TEHNOLOŠKE SPREMNOSTI NA E-ZDRAVSTVENU PISMENOST MLADIH U URBANIM OKRUŽENJIMA

SAŽETAK

U današnjem digitalnom dobu, mladi koji žive u urbanim sredinama ubrajaju se među najpovoljnije skupine u pogledu pristupa informacijama. Ovo istraživanje ispituje razinu tehnološke spremnosti mladih u Istanbulu, Turska, te njezin utjecaj na e-zdravstvenu pismenost.

Podaci su prikupljeni metodom prigodnog uzorkovanja u razdoblju od veljače do travnja 2023., a analizirani su primjenom analiza frekvencije, faktorske analize, analize pouzdanosti, korelacijske i regresijske analize uz pomoć programa SPSS 25.

Rezultati pokazuju da su motivirajuće percepcije mladih o tehnologiji (optimizam i inovativnost) izraženije od inhibirajućih percepcija (nelagoda i nesigurnost). Nadalje, motivirajući čimbenici TR-a imaju značajan, pozitivan i umjeren utjecaj na eHL i njegove poddimenzije (funkcionalnu, komunikacijsku, kritičku i translacijsku), dok inhibirajući čimbenici ne pokazuju statistički značajan učinak. Ovi rezultati upućuju na to da pozitivni stavovi mladih prema tehnologiji povećavaju njihovu prilagodbu e-zdravstvenim (eHealth) rješenjima. Štoviše, izostanak promjena u razinama eHL-a među mladima s negativnim stavovima prema TR-u naglašava sve veću nužnost i važnost korištenja tehnologije na individualnoj razini u zdravstvenim uslugama.

KLJUČNE RIJEČI: *digitalizacija, e-zdravlje, e-zdravstvena pismenost, tehnologija, tehnološka spremnost, motivirajući čimbenici, inhibirajući čimbenici*