



ONLINE READING ATTITUDES AND BEHAVIORS SCALE: VALIDITY AND RELIABILITY STUDY¹

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Abstract

In this study, the scale named "Survey of Online Reading Attitudes and Behaviours" developed by Putman (2014) was adapted to Turkish after obtaining the necessary permissions. It was concluded that the scale could be used in Turkish education to determine the attitudes and behaviours of middle school students towards online reading activities. It was observed that the predicted five-factor structure of the scale explained 43.47% of the total variance and maintained the 53 item structure in accordance with the original scale. The internal consistency coefficient is .83 for the whole scale; .78 for the effect dimension; .83 for the cognition dimension; .92 for the value dimension; it was calculated as .81 for the self-regulation dimension and .789 for the anxiety dimension. The differences between the 27% lower and upper groups were examined in order to ensure the reliability procedures. In the analysis ($t_{(742)}=24.35$, $p<.01$), statistically significant differences were observed between the lower and upper groups. Subsequently, confirmatory factor analyzes were conducted to examine the compatibility with the original scale. As a result of the analysis, it was seen that the fit indices of the scale were in the desired range (TLI=.90; CFI=.87, GFI=.89, RMSEA=.06). As a result of all the procedures performed for the scale, it was decided that the scale is a tool that can determine the attitudes and beliefs of middle school students towards online reading.

Keywords: Teaching of Turkish language, online reading attitude, online reading behavior.

INTRODUCTION

Developing technologies are changing the way we read and write. Readers often encounter not only potentially large amounts of online text but also web technologies that offer new research tools. In addition to this, online texts link various media and resources to help readers find the information they need.

Literacy areas are also developing in line with the developments in technology. While writings on stones, woods and various natural materials used to be read in ancient times, the technological developments in every field have made it possible to read and write in digital environments and holographic environments by enriching the literacy environments. In both daily and business life, people spend most of their time in front of the computer screen and a great deal of written and visual reading and analysis is performed on this digital screen. This has led to emergence of a new type of reading called "screen reading". According to Dillon (1992), the use and reading of electronic texts will be preferred more because of their advantages such as easy storage, retrieval, flexibility of structure and saving resources.

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In today's age of technology, a lot of information is produced, shared and kept in digital environments. Because of this, screen reading is becoming an obligation for people (Güneş, 2009). Students are more interested in digital media because of such obligations and the attractiveness of technology, and they spend most of their time in these digital media. Accordingly, they perform their understanding and narrative actions by making use of these digital environments. In other words, today's generation is native digital media users.

The Internet is changing the face of education. Nowadays, many people from different segments of society read online for different purposes. Reading on a screen that may contain hyperlinks, videos and pictures has different characteristics compared to reading on paper. Online reading requires a new set of cognitive and metacognitive reading strategies that help the reader understand (Coiro & Dobler, 2007; Henry, 2006; Incecay, 2013).

Different populations in different circumstances may have different approaches to digital reading. Ackerman and Goldsmith (2011) mentioned some advantages and disadvantages of reading online and on paper. Some researchers have claimed that reading on the screen encourages the reader to scan the text to find specific information rather than read it in detail, and as a result, online reading improves reader's comprehension (Herold, 2014). In addition, other researchers such as Coiro and Doblers (2007) stated that online reading provides readers with the opportunity to use their existing knowledge and inferential reading strategies. A new literacy perspective is considered important to take advantage of these opportunities.

New Literacies: A Dual-Level Theory

The new literacy perspective provides a distinct perspective when examining online reading comprehension. In addition, the new literacy perspective suggests the idea that some of the skills and strategies required for reading non-online and printed texts are also used for reading and understanding online texts. But it is acknowledged that there are also a number of new skills, strategies and trends that are necessary for students to be able to read and understand online texts effectively (Duke & Carlisle, 2011; Leu, Zawilinski, Castek, Banerjee, Housand, Liu, & Oneil, 2007). There are numerous concepts related to new strategies and skills required for reading, writing and communicating on the Internet such as digital literacies, ICT literacies, information literacies, electronic literacies. Coiro, Knobel, Lankshear, and Leu (2008) touched upon four common points based on these definitions:

1. New social practices, skills and dispositions are required to use new technologies, and there are few studies on online reading,
2. New literacies constitute essential elements for civic, economic and personal participation of a global community,
3. As new technologies continue to emerge, new literacies will continue to emerge,
4. The complex and multimodal reality of new literacies requires using multiple theoretical perspectives to explore and understand the issue of online reading.

The rapidly evolving nature of literacy poses a significant challenge for the development of a dual-level theory (Coiro, Knobel, Lankshear, & Leu, 2008). As the concept of literacy is continuously redefined by an ever-changing context, a dual-level new literacy theory is recommended (Leu, Kinzer, Coiro, Castek, & Henry, 2013). New literacy is conceptualized at two levels. These are; upper case (New Literacies) and lower case (new literacy).

New Literacies (Leu, Kinzer, Coiro, Castek, & Henry, 2013) investigate technologies such as instant messaging, social networks, blogs wikis and e-mails and new social applications on the internet (Greenhow, Robelia, & Hughes, 2009; Lewis & Fabos, 2005). Moreover, Literacy in this term can be expressed as the sum of the findings revealed by studies based on lower case literacy.



New literacy, which is written as lower case, explores a specific area of new literacy and / or new technology, such as social communicative processes that occur with phone messaging (e.g., Lewis & Fabos, 2005).

One of the areas that new literacy addresses is online reading. The concept of online reading, which is examined from the perspective of literacy, is also addressed in the literature as "online research and comprehension". Online reading refers to the act of reading while connected to the Internet in digital media and focuses on reading on digital devices such as computers or mobile devices (iPad, smartphones, tablets, etc.) rather than reading on paper (Herold, 2014).

Affective Factors, Self-regulation and Online Research and Reading Comprehension

School-age children, particularly adolescents, are generally expected to acquire online reading skills in tandem with the advances in technology (Putman, Wang, & Ki, 2015). In addition, when the existing research is examined, it is seen that it has been proven that middle school students do not have the ability to find information effectively in online environments, and that they do not show the adequate patience and persistence while doing research (Eagleton, Guinee, & Langlais, 2003; Eagleton & Dobler, 2007; Bennett, Maton, & Kervin, 2008; Kuiper, Volman, & Terwel, 2009). In addition, it is thought that students do not evaluate information critically (Hoffman, Wu, Krajcik, & Soloway, 2003; Kuiper, Volman, & Terwel, 2005; Kiili, Laurinen, & Marttunen, 2008).

In online research and comprehension, affective factors such as self-efficacy, motivation, self-control, value, attitude and anxiety play an important role as cognitive dimensions such as skills and strategies do (Tsai & Lin, 2004; Moos & Azevedo 2008; Coiro, 2009; Moos, 2009; Putman, 2014; Putman, Wang, & Ki, 2015; O'Byrne & McVeryy, 2009). Taking the role of affective factors into consideration is thought to be important for maximizing online research and reading comprehension processes. In their studies, Hofman, Wu, Krajcik and Soloway (2003), Tsai and Lin (2004), and Coiro, Knobel, Lankshear and Leu (2008) found that self-efficacy and motivation are positively correlated with the use of strategies in online tasks. Tsai and Tsai (2003), and Moos and Azevedo (2009) stated that the students having a high level of self-efficacy in online contexts have high self-regulation skills. In this connection, in the study entitled as "Exploring Dispositions Toward Online Reading: Analyzing the Survey of "Online Reading Attitudes and Behaviours" by Putman (2014) revealed a five-factor structure exhibiting a strong reliability with alpha coefficients ranging from .82 to .89 as a result of the exploratory factor analysis (EFA) to measure middle school students' attitudes and behaviours (cognitive and behavioural relationship, self-regulation, anxiety, value and online reading effect) towards online reading.

Survey of Online Reading Attitudes and Behaviours (SORAB) is a 71-item self-report tool developed as a general assessment of students' attitudes and behaviours towards online reading. The design of the items is based on previously validated tools that measure emotional structures (see Gambrell, Palmer, Codling, & Mazzoni, 1996; Hinson, DiStefano, Daniel, 2003).

Significance of the Study

The effect of online reading on learning is increasing with each day. Today's students are faced with different types of texts every day. These texts include nonlinear texts, hyper texts, and digital texts. Being literate today can often be expressed as using many new technologies such as blogs, wikis, messaging, using some combination of calls, Facebook, foursquare, Google Docs, Skype, Chrome, iMovie, Contribute, Basecamp. Over time, the definition of literacy has changed. One of the changing definitions of literacy is Maker literacy. Maker literacy is the creation and reproduction of products such as artworks and texts through some entertaining activities and workshops with the use of new technologies (Wohlwend, Scott, Yi, Deliman, & Kargin, 2018: 3). In other words, it aims to strengthen both the technology affiliation and creative developer skills of individuals mostly in early childhood periods. It can be said that maker literacy will play an important role in preparing students for the world that new technologies will shape. In a sense, it is a series of activities that develop



multiple literacy skills (Marsh, Kumpulainen, Nisha, Velicu, Blum-Ross, Hyatt, Jónsdóttir, Levy, Little, Marusteru, Ólafsdóttir, Sandvic, Scot, Thestrup, Arnseth, Dýrfjöröð, Jornet, Kjartansdóttir, Pahl, Péetursdóttir, & Thorsteinsson, 2017: 79).

Based on the changing definitions of literacy, Güneş (2013) stated that the amount of online reading students are engaged in is increasing day by day. While the Internet is changing the nature of literacy, many scholars are interested in examining the nature of changing literacy (Altay & Altay, 2017; Aydemir, 2017; Aydemir, Sakız, Doğan, & Aşıcı 2017; Bakla, Çekiç, & Demiröz, 2016; Baştuğ, 2015; Çifci & Ünlü, 2020a; Esmir & Ulusoy, 2015; Destebaşı, 2016; İnceçay, 2013; Kartal & Pekkanlı, 2011; Kayaoğlu & Akbaş, 2014; Keskin, 2014; Leu, Kinzer, Coiro, Castek, & Henry 2017; Street 2003; Yamaç 2018).

Hagood (2003) emphasizes that online literacy is a part of today’s world and that educators should not forget that Internet readers are at the centre of reading while doing research on reading. For these reasons, it becomes important to investigate the dimensions of online reading. In this context, it is possible that changes experienced in reading affect middle school students as well as all segments of society. It is thought that it is important to try to impart the habit of online reading starting from primary school and that the properly developed online reading habits will provide a great advantage in reading and writing in the digital world.

Considering the increase in the amount of online reading of students, the limited number of studies especially on middle school students constitutes the starting point of the current study. In this regard, the purpose of the current study is to adapt the “Online Reading Attitudes and Behaviours Scale” into Turkish and to conduct its reliability and validity studies.

METHOD

The study group of the current research is comprised of a total of 844 (480 females, 364 males) middle school students attending middle schools located in the Konak and Bornova districts in the city of İzmir in the 2019-2020 school year. The distribution of the participating students across the genders and grade levels is shown in Table 1:

Table 1. Demographic features of the participants

Grade level	Female Students		Male Students	
	f	%	f	%
6 th grade	143	.50	144	.50
7 th grade	172	.59	122	.41
8 th grade	165	.63	98	.37

All of the participating students attend state schools. The numbers of students from different grade levels are close to each other, with 294 seventh graders, 287 sixth graders and 263 eighth graders. The mean age of the participating students is 11.8 (standard deviation: .37).

Data Collection Tool

The Online Reading Attitudes and Behaviours Scale includes a total of 53 items which can be read and understood by the participating students on their own. The first 31 items and the last 4 items in the scale are designed as four-point Likert scale of “Strongly Disagree”, “Disagree”, “Agree”, “Strongly Agree”. On the other hand, the remaining 14 items in the scale are designed to be responded with one of the following options; “Never”, “Rarely”, “Frequently” and “Always”. While the positive items in the scale are responded with one of the following response options: “Strongly Disagree=1”, “Disagree=2”, “Agree=3”, “Strongly Agree=4”, the last reversely coded 8 items in the scale are

responded with one of the following options: “Strongly Disagree=4”, “Disagree=3”, “Agree=2”, “Strongly Agree= 1”.

The scale items are subsumed under 5 factors developed to measure online reading attitudes and behaviours. These 5 factors are named as follows:

1. Effect: includes 6 items. A sample item: “I think children who are really good at using the Internet get better grades at school.”
2. Cognition: includes 11 items. Sample items: “I am confident that I can combine information from multiple websites in ways that make sense to others.”, “I am confident that I can determine whether the information on a website is reliable.”, “When I know I will be graded, I am more careful with my research using the Internet.”
3. Value: includes 14 items. Sample items: “Using the Internet is important for me.”, “I believe that using the internet for research and reading makes learning more interesting.”, “Using the Internet for research is beneficial because it saves time for people.”, “I believe the Internet makes it easy to obtain useful information.”.
4. Self-regulation: includes 14 items. Sample items: “When I have trouble understanding something on the Internet, I ask a friend or classmate for help.”, “When I am doing research on the Internet, I stop to think about whether my research is going well and change my strategy if necessary.”, “When I’m confused about something I’ve read on the Internet, I’ll go back to the previous screen.”.
5. Anxiety: includes 8 items. A sample item: “I feel helpless when I am asked to search for information on the Internet.”.

In the scoring of the scale, standardized values obtained from the division of the total scores belonging to the sub-scales by the number of items are used. The same scoring process holds true for the whole scale. In the applications, it will be decided whether the scorings will be performed on the basis of the sub-scales or the whole scale according to the correlation values between the dimensions of the scale.

Procedure

In the adaptation of the scale “Exploring dispositions towards online reading: Analyzing the survey of online reading attitudes and behaviours” developed by Putman (2014) into Turkish, the following stages were followed:

Translation of the scale from English to Turkish (1), evaluation of the translated scale (2), translation of the translated scale back to the original language (3), evaluation of the original version of the scale with the translated form (4) and giving the final form by obtaining expert opinion (5).

In the first stage, the scale, which was translated into Turkish by the researchers, was also checked by experts in English language and literature and educational sciences for full compliance with the original scale.

Then, the piloting of the scale was conducted on a total of 844 middle school students. By using the data obtained from the piloting, reliability and validity analyses of the scale were performed. During the process of analysing the reliability, validity and compliance with the original form, the opinions of an academician specialized on curriculum and instruction and an academician specialized on measurement and evaluation were sought.

As a result of the analyses, the adapted scale was found to be in compliance with the 53-item and 5-factor original structure of the scale. In this way, the final form of the scale was given and became ready for administration. The scale is shown in the Appendix section. In the analysis of the data collected through the data collection tool, exploratory factor analysis was conducted in SPSS (25) statistical software and Amos (24) program was used to test the structure of the scale by establishing



the structural equation model. As a result of all the analyses conducted on the scale, it was concluded that the scale is a measurement tool that can be used to determine middle school students' attitudes and behaviours towards online reading.

RESULTS

In the current study, exploratory and confirmatory factor analyses were conducted. The exploratory factor analysis was performed to determine the factor structure of the scale and item-factor relationships (Tabachnick & Fidell, 2001).

First, it was tested whether the data were suitable for the analysis and then the adequacy of the sample was tested and in this regard, the KMO value was found to be .859, the Barlett Sphericity value was found to be $\chi^2=17160.466$, the degree of freedom was found to be 1378 and the significance value ($p=.000$) was found to be lower than 0.1%. In addition, in the between-variables correlation analysis, no variable having "0" coefficient and a coefficient higher than ".90" was observed. No item having uncorrelated images was found. On the basis of these values, no item was discarded from the scale. In the first analyses, the residual value ratio of the scale was calculated to be 17% (Çokluk, Şekerciöğlü, & Büyüköztürk, 2010).

The five-factor structure of the scale was found to explain 43.47% of the total variance. Varimax rotation was performed on the basis of the principle components analysis. The item-factor distributions and loading values of the scale obtained as a result of the exploratory factor analysis are presented in Table 2:

Table: 2 Results of the exploratory factor analysis for the online reading attitudes and behaviours scale

Items	Factors				
	1	2	3	4	5
Value 25	.878	-.027	-.001	-.042	.018
Value 7	.843	.038	-.052	-.017	.001
Value 24	.839	.004	-.025	-.019	.127
Value 20	.834	-.039	.003	-.067	-.028
Value 22	.822	.001	-.069	.037	.109
Value 21	.804	-.017	.016	-.048	-.047
Value 31	.793	.038	-.009	-.007	-.066
Value 27	.764	.003	-.060	.009	.179
Value 26	.744	.033	-.058	-.016	.241
Value 28	.742	-.056	.026	-.039	-.094
Value 29	.594	-.060	.104	-.030	-.035
Value 30	.557	.026	.044	.045	.036
Value 23	.514	.005	-.001	-.006	.165
Value 8	.455	.064	-.114	-.003	.079
Self-regulation 10	.009	.625	.117	.062	.032
Self-regulation 7	.027	.624	.079	.042	.026
Self-regulation 9	-.014	.622	.106	.049	.004
Self-regulation 6	-.024	.608	.055	-.020	.032
Self-regulation 8	-.012	.607	.146	.114	-.010
Self-regulation 12	.020	.590	.065	.074	.025
Self-regulation 3	.039	.554	.082	-.022	-.063
Self-regulation 14	-.052	.554	.185	-.087	.028
Self-regulation 13	-.045	.519	.123	-.002	.016
Self-regulation 1	-.017	.492	.110	.031	-.043



Self-regulation 11	-.007	.492	.105	-.054	-.012
Self-regulation 5	.047	.455	.089	-.087	-.024
Self-regulation 4	.037	.355	.095	-.004	.045
Self-regulation 2	-.012	.331	.001	-.128	-.043
Cognition 12	-.018	.156	.670	.076	-.042
Cognition 10	-.016	.166	.669	.047	-.031
Cognition 16	.004	.098	.649	.099	.019
Cognition 18	-.068	.114	.639	.077	-.033
Cognition 14	-.022	.013	.635	.161	-.008
Cognition 17	-.015	.191	.631	.008	-.046
Cognition 11	-.025	.102	.618	.036	.030
Cognition 19	-.010	.125	.587	.032	-.036
Cognition 15	-.003	.085	.542	.070	.096
Cognition 9	-.026	.219	.507	-.044	-.055
Cognition 13	.073	.233	.420	.088	-.024
Anxiety 2	-.017	-.060	.100	.786	.038
Anxiety 3	-.025	-.002	.099	.767	-.062
Anxiety 1	.013	-.093	.100	.738	.103
Anxiety 8	-.036	-.039	.151	.735	-.046
Anxiety 4	-.003	.016	.043	.651	-.024
Anxiety 6	-.057	-.023	.136	.570	.002
Anxiety 7	-.052	-.045	-.025	.570	.000
Anxiety 5	.029	.089	.011	.354	-.002
Effect 2	.123	.039	-.036	.029	.735
Effect 4	.076	.056	-.055	.010	.710
Effect 1	-.061	-.001	.038	-.002	.708
Effect 3	.064	-.012	-.045	.001	.672
Effect 6	.084	-.017	-.033	.014	.639
Effect 5	.157	-.066	.050	-.053	.629

As can be seen in Table 2, as a result of the exploratory factor analysis, the scale items are gathered under 5 factors. Moreover, it is seen that none of the items has a loading value lower than .32 and that the mean loading value is .63.

It is also seen that 14 items of the scale are gathered under the value dimension and the items in this dimension have loading values ranging from .878 to .455, and that another 14 items are gathered under the self-regulation dimension and the items in this dimension have loading values ranging from .625 to .331.

Eleven items of the scale are gathered under the cognition dimension and the items in this dimension have loading values ranging from .670 to .420. Eight items are gathered under the anxiety dimension and in this dimension, there is one loading value under .40 and the highest loading value is .786. Six items of the scale are gathered under the effect dimension and in this dimension, the highest loading value was calculated to be .735 while the lowest loading value was calculated to be .629.

Thus, it is seen that while the self-regulation and cognition sub-dimensions have the lowest loading values, the value and effect dimensions have the highest loading values and the anxiety dimension is located in the middle with its loading values.

Pearson Product-Moment Correlation coefficients were calculated and the level of independence of the sub-scales of the Online Reading Attitudes and Behaviours Scale from the whole scale was examined. The levels of correlation between the five sub-scales of the scale are given in Table 3.

**Table 3.** Correlations between the sub-scales of the online reading attitudes and behaviours scale

	Value	Self-regulation	Cognition	Effect	Anxiety
Value	1	.233**	.270**	.259**	.286**
Self-regulation		1	.452**	.527**	.212**
Cognition			1	.349**	.242**
Effect				1	.273**
Anxiety					1

As can be seen in Table 3, there are strong correlations between the second, third and fourth factors. Moderate correlations are observed between the first and fifth factors and the second, third and fourth factors. All the correlations observed are statistically significant at the level of 1%.

In order to investigate the scale's level of performing consistent measurements, Cronbach Alpha internal consistency values were calculated for the whole scale and the sub-scales. Bindak (2005) argues that the reliability in scales is an important requirement to establish the validity of the scale. Findings obtained for the reliability of the scale are given in Table 4.

Table 4. Reliability coefficients of the online reading attitudes and behaviours scale and its sub-scales

Sub-scale	Number of Items	Cronbach's Alpha internal consistency coefficient
Value	14	.92
Cognition	11	.83
Self-regulation	14	.81
Effect	6	.78
Anxiety	8	.78
Whole scale	53	.83

The internal consistency coefficient calculated for the whole scale is .83; it is .78 for the effect dimension, .83 for the cognition dimension, .92 for the value dimension, .81 for the self-regulation dimension, and .78 for the anxiety dimension. These values indicate that the scale is a reliable measurement tool.

In addition, in order to establish the reliability of the scale, the differences between the lower 27% (N=200, Mean=2.85, Std.Dev.=.34) and upper 27% (N=200, Mean=3.47, Std.Dev.=.31) groups were analysed. As a result of the analysis, it was concluded that there are significant differences between lower and upper groups ($t_{(742)}=24.35, p<.01$).

After the completion of the exploratory factor analysis, in order to test whether the structure predicted by the researcher was confirmed, a structural equation model was established and confirmatory factor analysis was conducted on the scale. As a result of the analyses, the goodness-of-fit indexes of the scale were found to be in the acceptable range (TLI: .902; CFI: .873, GFI: .896, RMSEA: .061). The findings related to the goodness-of-fit indexes are given in Table 5:

Table 5. Goodness-of-fit indexes for the reading attitudes and behaviours scale

Variable	χ^2	sd	χ^2/sd	GFI	AGFI	CFI	TLI	RMSEA
Scale			≤ 5	$\geq .85$	$\geq .80$	$\geq .90$	$\geq .90$	$\leq .08$
Online Reading Attitudes and Behaviours	4994.92	1315	3.80	.896	.878	.873	.902	.061

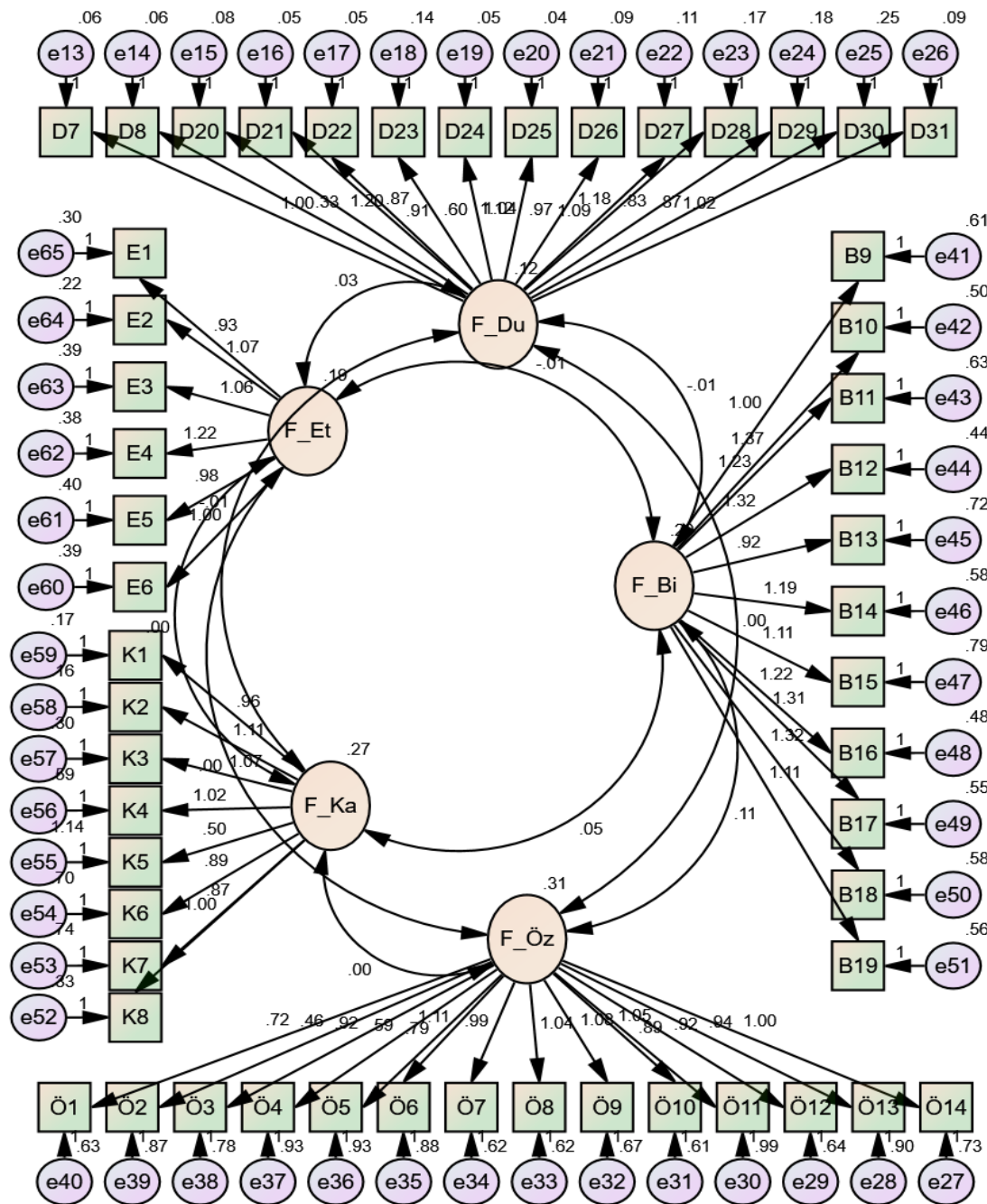


Figure 1. Path diagram for the factor-item structure of the online reading attitudes and behaviours scale

F_Öz=Self-Regulation; F_Ka=Anxiety; F_Bi=Cognitive & Behavioral Engagement; F_Et=Efficacy for Online Reading; F_Du=Value/Interest.

DISCUSSION and CONCLUSION

The current study was conducted to adapt the scale “Exploring dispositions towards online reading: Analyzing the survey of online reading attitudes and behaviours” developed by Putman (2014) into Turkish and to conduct the reliability and validity analysis of this adapted scale to be used to



determine middle school students' online reading attitudes and behaviours. A positive and strong correlation was observed between the original English scale and the Turkish form of it ($r=.94, p<.01$).

In the current study, within the context of reliability studies, it was investigated whether the items could distinguish between the lower 27% and upper 27% groups and it was concluded that each item can discriminate and that there are significant differences between the groups. The internal consistency coefficients calculated for the whole scale and its sub-scales were found to be high.

The sample size was determined to be adequate for exploratory factor analysis and various tests were conducted to check the construct validity of the scale. The factor loadings of the items in the scale were found to be generally higher than .50 and that the factor loadings of just two items were found to be close to the bottom line while the others were found to have high values. The scale items were observed to be gathered under five groups and these groups were named as value, self-regulation, cognition, effect and anxiety considering the original scale.

With the change in reading attitudes and dispositions, existing literacies have begun to be redefined in the 21st century. Research continues on cognitive skills and strategies related to the use of new literacies, but information on disposition and affective variables is very limited (Putman, 2014).

Putman (2014) developed a five-factor structure (value, self-regulation, cognition, effect and anxiety) to determine students' attitudes and behaviours towards online reading. It was found that students' attitudes towards reading digital texts had a significant effect on students' achievement (Divya & Haneefa, 2020). Students' participation in reading, either positively or negatively, is affected by their attitudes towards reading. Positive dispositions or attitudes, beliefs become the basic measure of successful reading and learning for students, especially in the digitalized information age (Coiro, 2012).

Given that Internet is available almost anywhere and that most of the research examining the various structures in online inquiry is done on culturally homogeneous examples, it is important to start thinking about the differences in how these variables manifest themselves in various international contexts.

Cross-cultural comparisons will be important to meaningfully understand how students in countries that focus on online research and reading comprehension participate in information seeking activities. As the studies conducted in this direction has gathered momentum in Turkey (Altay, & Altay, 2017; Aydemir, Sakiz, Doğan, & Aşıcı 2017; Baştuğ & Keskin, 2012; Çifci & Ünlü, 2020b; Destebeşi, 2016; Esmer & Ulusoy, 2015; Güneş, 2010; İnceçay, 2013; Kayaoğlu & Akbaş, 2014; Keskin, 2014; Odabaş, 2017; Yamaç & Öztürk, 2019; Yamaç, 2019; Yaman & Dağtaş 2013), the scale whose reliability and validity has been established is thought to be used by researchers who want to conduct research on online reading attitudes and behaviours.

The findings obtained from the validity and reliability studies of the scale have proved that this measurement tool is valid and reliable enough to determine middle school students' online reading attitudes and behaviours. The researchers of the current study are of the opinion that findings that can contribute to literature have been obtained in the study.

Limitations of the Study

The study group of the current research is comprised of 844 middle school students attending ten different state schools in different districts of the city of İzmir in the 2019-2020 school year and participating in the study on a volunteer basis.

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APPENDICES

Online Reading Attitudes and Behaviours Survey [Çevrimiçi Okuma Tutumları ve Davranışları Ölçeği]

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	I feel confident that I can use a browser (like Safari, Explorer, or Firefox) to navigate the Internet [İnternette gezinmek için bir tarayıcı (Safari, Explorer veya Firefox gibi) kullanabileceğim konusunda kendime güvenirim].				
2	I feel confident that I can open a web address directly by typing in the address				



	[Bir web adresini doğrudan adresi yazarak açabileceğim konusunda kendime güvenirim].				
3	I feel confident I can use the “back” and “forward” buttons to move between web pages [Web sayfaları arasında geçiş yapmak için “geri” ve “ileri” düğmelerini kullanabileceğim konusunda kendime güvenirim].				
4	I feel confident that I can use a search engine (like Google) to locate material during research [Araştırma sırasında materyal bulmak için arama motoru (Google gibi) kullanabileceğim konusunda kendime güvenirim].				
5	I feel confident understanding terms/words related to the Internet [İnternet ile ilgili terimleri / kelimeleri anlama konusunda kendime güvenirim].				
6	I feel confident trouble shooting Internet problems [İnternet problemlerini giderme konusunda kendime güvenirim].				
7	I feel confident that I can find information on the Internet much faster than I can when I use a book to search [İnternette kitap kullanarak yapabildiğimden çok daha hızlı bilgi bulabileceğim konusunda kendime güvenirim].				
8	When I search for information on the Internet, I remember it better [İnternette bilgi araştırdığım zaman bu edindiğim bilgiyi daha iyi hatırlarım].				
9	I am confident that I can think of a question to ask about content before reading/searching on the Internet [İnternette okuma / araştırma yapmadan önce konu ile ilgili bir soru oluşturabileceğim konusunda kendime güvenirim].				
10	I am confident I can skim the results of an Internet search page to see what link might be best [Hangi bağlantının en iyi olabileceğini görmek için internet arama sayfası sonuçlarını gözden geçirebileceğim konusunda kendime güvenirim].				
11	I am confident that I can read the search summaries of websites carefully to understand the meaning of information on the website [Web sitesindeki bilgilerin ne anlama geldiğini anlamak için web sitelerinin arama özetlerini dikkatlice okuyabildiğim konusunda kendime güvenirim].				
12	I am confident that I can skim a website to decide whether or not the information is useful for my question [Verilen bilginin araştırdığım soru için yararlı olup olmadığına karar vermek için bir web sitesini gözden geçirebileceğim konusunda kendime güvenirim].				
13	I can stay focused on the information I need from a website rather than getting distracted by things I do not need [İhtiyacım olmayan şeylerin dikkatimi dağıtması yerine, bir web sitesinden ihtiyaç duyduğum bilgilere odaklanabilirim].				
14	I am confident that can make a prediction about where a website link might lead if I click on it [Bir web sitesi bağlantısının üzerine tıkladığımda nereye yönlendireceğine dair bir tahminde bulunabileceğim konusunda kendime güvenirim].				
15	I am confident I can use knowledge of how a webpage is set up to help locate information on it [Web sayfası üzerindeki bilginin yerini bulmak için bir web sayfasının nasıl kurulacağı bilgisini kullanabileceğimden eminim].				
16	I am confident I can use the search engine located within a website to find information on the site [Bir web sitesine yerleştirilmiş olan bir arama motorunu, sitedeki bilgileri bulmak için kullanabileceğim konusunda kendime güvenirim].				
17	I am confident that I can combine information from more than one website in a way that makes sense to other people [Birden fazla web sitesinde bulunan bilgileri başkalarına anlamlı gelebilecek şekilde birleştirebileceğim konusunda kendime güvenirim].				
18	I am confident that I can determine if information on a website is a reliable and trustworthy [Bir web sitesindeki bilgilerin güvenilir olup olmadığını belirleyebileceğim konusunda kendime güvenirim].				
19	I am more careful in my research using the Internet when I know that I am going to be graded [Notlandırılacağımı bildiğim zaman, interneti kullanarak				



	yaptığım araştırmalarımnda daha dikkatli olurum].				
20	I prefer to use the Internet for research because it helps my grades [Derslerdeki başarıma fayda sağladığı için İnterneti tercih ederim].				
21	Once I start researching information on the Internet, I cannot stop because I want to find the answers [İnternette bilgi araştırmaya başladığımda, kendimi durduramam çünkü aradığım cevabı bulmak isterim].				
22	I would rather complete research on the Internet than using a book or magazine [Araştırmayı bir kitap ya da dergiden ziyade internette tamamlamayı tercih ederim].				
23	I would rather read on the Internet than read a book during free time [Boş zamanlarımda kitap okumaktan ziyade internet üzerinde okuma yapmayı tercih ederim].				
24	Reading a book or magazine is more relaxing than reading on the Internet [Bir kitap veya dergi okumak, internette okumaktan daha rahatlatıcıdır].				
25	I think kids who do not use the Internet miss out on a lot of important information [İnterneti kullanmayan çocukların birçok önemli bilgiyi kaçırdığını düşünüyorum].				
26	I think kids who are really good at using the Internet get better grades in school [İnternet kullanımında gerçekten iyi olan çocukların okulda daha iyi notlar aldığını düşünüyorum].				
27	Everyone should know how to use the Internet [Herkes interneti nasıl kullanacağını bilmeli].				
28	Being able to use the Internet is important to me [İnterneti kullanabilmek benim için önemlidir].				
29	I believe using the Internet for research and reading has made learning more interesting [İnterneti araştırma ve okuma için kullanmanın öğrenmeyi daha ilgi çekici hale getirdiğine inanıyorum].				
30	Using the Internet for research is beneficial because it saves people time [İnterneti araştırma için kullanmak faydalıdır çünkü insanlara zaman kazandırır].				
31	I believe the Internet makes it easier to get useful information [İnternetin faydalı bilgiler edinmeyi kolaylaştırdığına inanıyorum].				

Please indicate how often you do the following: ("Never" "Sometimes" "Often" "All the Time")

		Never	Sometimes	Often	All the Time
1	When I have trouble understanding something on the Internet, I re-read the task [İnternette bir şeyi anlamada sorun yaşadığımda, görevi tekrar okurum].				
2	When I have trouble understanding something on the Internet, I go ask a friend or classmate for help [İnternette bir şeyi anlamada sorun yaşadığımda, yardım almak için bir arkadaşşıma ya da sınıf arkadaşşıma sorarım].				
3	While I am conducting research on the Internet, I stop and think about how well I am doing and change strategies if necessary [İnternette araştırma yapıyorken durup araştırmamın iyi gidip gitmediğini düşünürüm ve gerekirse stratejimi değiştiririm].				
4	When I become confused about something I am reading on the Internet, I scroll back to previous screens [İnternette okuduğum bir şey hakkında kafam karıştığımda, önceki ekrana geri dönerim].				
5	Before I begin to research on the Internet, I look to see if I can break the task into smaller pieces to make it easier [İnternette araştırmaya başlamadan önce, işi kolaylaştırmak için görevi daha küçük parçalara ayırabilir miyim diye bakarım].				
6	If I am doing researching something on the Internet, I can motivate myself				



	even if the topic is boring [İnternette bir şey araştırıyorsam, konu sıkıcı olsa bile kendimi motive edebilirim].				
7	When I have completed an Internet project, I think about how well it went and what I could change [Bir internet projesini tamamladığımda, ne kadar iyi gittiğini ve neleri değiştirebildiğimi düşünürüm].				
8	I always think about the information I am reading on the Internet to help me understand if it matches the required information I am looking for [Aradığım gerekli bilgilerle eşleşip eşleşmediğini anlamama yardımcı olması için internette okuduğum bilgiler hakkında her zaman düşünürüm].				
9	When I encounter difficulties on the Internet, I work through them by telling myself that I can complete the task [İnternette zorluklarla karşılaştığımda, kendime bu işi tamamlayabileceğimi söyleyerek üzerinde dikkatle çalışırım].				
10	Before I start a task on the Internet, I organize myself and think about how I will accomplish the task [İnternette yapacağım bir işe başlamadan önce kendimi hazırlarım ve bu işi nasıl tamamlayacağım hakkında düşünürüm].				
11	Before using information from a website to answer my question, I check to see if the author is reputable [Sorumu yanıtlamak için bir web sitesindeki bilgileri kullanmadan önce, yazarın bilinen biri olup olmadığını kontrol ederim].				
12	Before beginning an Internet search about a topic, I think about what I know about that topic [Bir konu ile ilgili internette araştırmaya başlamadan önce, konu ile ilgili ne bildiğimi düşünürüm].				
13	When I navigate to a website on the Internet, I tend to read the whole page before clicking on any hypertext (links) [İnternetteki bir web sitesine gittiğimde, herhangi bir köprü metni (link) üzerine tıklamadan önce bütün sayfayı okuma eğilimindeyimdir].				
14	Before beginning an Internet search about a topic, I think about whether I know how to find information on it [Bir konu hakkında internet araştırmasına başlamadan önce, bu konu hakkında nasıl bilgi bulacağımı bilip bilmediğim hakkında düşünürüm].				

Please indicate which of the following best represents your feelings about each question.
("Strongly Disagree" "Disagree" "Agree" "Strongly Agree")

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	Researching information on the Internet intimidates me [İnternette bilgi araştırmak beni korkutur].				
2	Researching information on the Internet makes me feel tense [İnternette bilgi araştırmak beni gergin hissettirir].				
3	I feel helpless when asked to research information on the Internet [İnternette bilgi araştırmam istendiğinde kendimi çaresiz hissedirim].				
4	I cannot relax when I am reading/researching on the Internet [İnternet üzerinde okurken / araştırırken rahat hissetmem].				
5	I believe it is easy to get lost when I am using the Internet for research [İnterneti araştırma için kullandığımda konudan sapmamın (kendimi kaybetmemin) kolay olduğuna inanırım].				
6	Sometimes I worry that other kids do not think I can read on the Internet as well as they can [Bazen diğer çocukların internette onlar kadar iyi okuma yapamayacağını düşünmelerinden kaygılanırım].				
7	I go out of my way to avoid using the Internet [İnterneti kullanmaktan kaçınmak için fazlasıyla çaba sarf ederim].				
8	I feel anxious about using the Internet [İnterneti kullanma konusunda endişeli hissedirim].				