

Individuals' Habits of Trust and Verification in Social Media News and their Digital Literacy

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ABSTRACT

In this study, individuals' trust and verification of social media news and their digital literacy were examined according to the variables of gender, educational status and duration of social media engagement. 174 people participated in the study, which was designed with a cross-sectional design. The results of t-test, ANOVA and Kruskal Wallis-H analysis revealed that gender made a significant difference in digital literacy, corporate and individual trust scores. Educational status produced the same effect in corporate and individual trust scores. According to the findings of the correlation analysis, the duration of social media usage did not cause a significant difference in any of the variables. In addition, while the factors of trusting and verifying were related to each other at different levels, digital literacy was only associated with verifying.

INTRODUCTION

Along with the changes in the learning processes of individuals, there have been some transformations regarding their access to information. From now on, learners are expected to select the correct ones from the mixed information mass, confirm them and distinguish relevant and irrelevant within the scope of digital literacy, and accelerate the learning process through technology (Eshet, 2002; Holum & Gahala, 2001).

Digital literacy is the individual's competencies to seek, obtain, inquiry, and reproduce net information by interacting with various digital platforms (Bawden 2008). This process requires having the skills to use different technologies correctly (Hamutoğlu et al., 2017). Today, individuals of all ages receiving support directly or indirectly from digital tools and applications increase the need for them to have digital literacy skills. As a matter of fact, control mechanisms regarding data accuracy on the web are insufficient. The concept of digital literacy is important in order to overcome this inadequacy.

To explain in more detail, the fact that the internet has become fully interactive with the Web 2.0 technologies that lay the basis of the social networks allowed all users to produce and use information simultaneously. Thus, information has started to be produced from random sources, and the time spend on these environments has also increased. The rapid and easy production of information on the internet has gradually led to disinformation, and misinformation has spread rapidly (Evers, 2010). Due to the quickly appearing disinformation and false news, users prioritized confirming the news they are exposed to get the correct information and news (Kutlu & Doğan, 2020). Various platforms (teyit.org, snopes.com, dogrula.org, etc.) have been founded to confirm the news on behalf of users, countries have imposed sanctions (Abay, 2019), and educational applications have been developed (Cockburn, 2019). Thus, fact-checking efforts have significantly impacted the fight against fake news and disinformation. However, the inability to get results from these platforms in a short time (Foça, 2016) and the fact that individuals are not aware of news verification platforms emphasize the importance of gaining digital literacy skills (Ayhan & Araslı, 2019). Erkan and Ayhan (2018) stated that it is also necessary to increase individuals' digital literacy levels to prevent information pollution in addition to news verification platforms. They explained that the lack of digital literacy skills causes users to be unable to check the accuracy and spread false information. For this reason, it is important to raise awareness by gaining critical thinking skills and questioning the accuracy of the news they encounter, as well as verification platforms (Şencan, 2020). Thus, digitally literate users are anticipated to be able to reach the right news, be informed correctly, and make more accurate decisions. Göksel and Akgül (2021) argued that all levels of educational institutions should help individuals acquire this skill regarded as the necessity of the time, especially by adding courses such as digital literacy and social media literacy as compulsory courses to the curriculum of universities. In this context, the concept of digital literacy emerges as a primary concept in terms of trust and verification of social media news.

It is fundamental to investigate the relationship between the concepts of digital literacy, trust, and verification, as the time individuals spend on the internet is gradually increasing, and these concepts are so crucial in accessing the correct information. Based on the

literature, the issues of trust, verification, and digital literacy were examined by various variables such as gender (Argelagós & Pifarré, 2017; Göksel & Akgül, 2021; and Schmidt, Salomon, Elsweiler & Wolff, 2021), frequency of social media use (Kutlu & Doğan, 2020; Moon & Bai, 2020; and Yaşar & Uğurhan, 2021), and educational status (Khan & İdris, 2019; Kılıç & İspir, 2020; and Sterrett et al., 2019). However, no study was found to focus on the individuals' digital literacy and verification-trust habits in the same sample and discuss the relationship between them. Therefore, in this study in addition to examining the individuals' trust, verification, and digital literacy in social media news in terms of various variables, the relationships among these concepts were also investigated.

Purpose of Research

In this study, the digital literacy of individuals to trust and verify social media news was investigated based on different variables. In line with this main purpose, this study seeks answers to the following research questions:

- 1-) Among the individuals' digital literacy, corporate trust, individual trust, and verification habits is there a difference by
 - a. gender
 - b. educational status
 - c. time spent on social media?
- 2-) What is the relationship between individuals' digital literacy, corporate trust, individual trust, and verification habits?

LITERATURE REVIEW

The reliability of the news, which became the subject of discussion with the emergence of the print media, gained extra importance with the commercialization and politicization of the media in the 20th century (Norris, 2011). To this end, social media's fast and instant communication structure is another factor that affects the reliability of the news (Bode & Vraga, 2015), and this accelerates disinformation. This part details related studies on trust, verification, and digital literacy.

Argelagós and Pifarré (2017) researched the digital literacy levels of secondary school students by gender and approached the concept of digital literacy as an information-problem solving process. In the research carried out with 40 participants, the problems experienced while completing the tasks given to the students and the status of completing these tasks were examined. The results revealed that male and female students faced similar problems and similar task performances. Researchers argued that to develop digital literacy skills, these skills should be involved in the curriculum in information-problem solving processes, this process should be structured, and students should be supported in solving their problems.

Göksel and Akgül (2021) analyzed the social media trust and verification habits of 481 undergraduate students studying in sports sciences by gender, age, time spent on social media, preferred social media platform, preferred news sources, and preferred sources to access information in their homework/research. The results indicated that verification scores of men compared to women and those who use social media for 30 minutes or less have significantly lower corporate trust scores. Besides, the corporate trust and verification scores of those who prefer scientific articles and theses in their homework/research and the individual trust scores of those who prefer websites are significantly higher than the other groups. No significant results were achieved for other variables.

Khan and İdris (2019) investigated 396 university students' ability to recognize misinformation in social media and the factors that affect the behavior of sharing the news without verifying. They concluded that the ability to recognize misinformation in social media is predicted by income and level of education, and the behavior of verifying the news are also related to digital literacy.

A study conducted by Kutlu and Doğan (2020) on the generation Y looked into the attitudes and behaviors of the relevant members towards fake news. They deduced that although users prefer social media for news consumption, they trust traditional media news, most of them do not have an idea about news verification platforms, and some of them share the news even though they doubt the accuracy of the news. Additionally, the researchers inferred that the level of trust in social media news differs by gender, education, social media usage frequency, and consumption frequency of social media news.

Schmidt et al. (2021) used gender, user type, and trust in social media as independent variables in their study to examine participants' Facebook use behaviors. The researchers analyzed the participants' reliance on misinformation on Facebook using these variables. The research results showed that the participants did not trust the social media news and did not react to such news. It was also deduced that those who use Facebook more often encounter false information, and the participants who rely on social media confirm the information with the comments below the post. In terms of gender, only women interacted with misinformation more, and besides, they emphasized the lack of results related to the effect of gender in the literature.

Warner-Søderholm et al. (2018) conducted a study to inquire whether users' perceptions of trust differed by gender, age, social media use, and the social media preference site for news flow. The findings showed that there were significant differences for all variables in trust behaviors of the participants.

Yaşar and Uğurhan (2021) investigated whether there is a significant relationship with demographic information by clustering users by their social media usage frequency. The study results suggested that the users had high levels of verification, the corporate trust was higher than the individual trust, there was a higher trust in well-known journalists, those who use social media more frequently had a more individual and corporate trust, and there was a negative correlation between the level of education and personal and corporate trust.

METHOD

Research Model

This study try to describe the universe through the sample data analyzed based on certain characteristics. Therefore, it is a survey type study, and the research data were collected cross-sectionally at one time (Creswell, 2014).

Study Group

The study group consists of 174 participants from different education levels. In order to provide speed and convenience to the researchers, the closest participants were reached on a voluntary basis through convenience sampling (Yıldırım & Şimşek, 2008). Graphs related to the gender of the study group, educational status, and the times spent on social media are given in Figure 1.

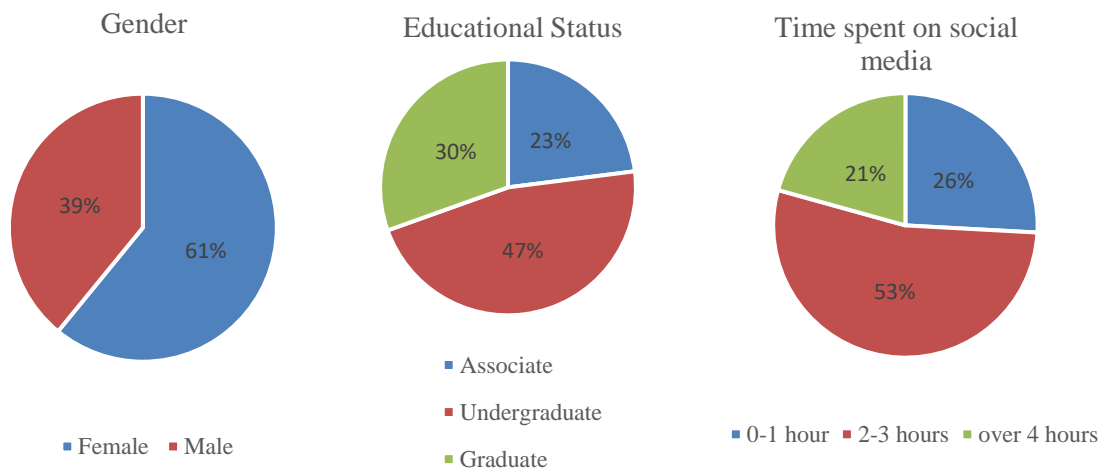


Figure 1. Distribution of the study group by gender, educational status, and time spent on social media

Data Collection Tools and Implementation Process

Within the scope of the research, the social media verification/trust scale and the digital literacy scale were applied, as well as the items including the demographic characteristics of the participants regarding gender, educational status, and time spent on social media. The scales were distributed through online forms.

Social media verification/trust scale: Developed by Çömlekçi and Başol (2019), the factor number of the scale was determined as three as a result of the explanatory and confirmatory factor analyses conducted with the data of 763 participants. The first factor is trust in corporate social media news, the second is trust in individual social media accounts, and the third is verification. There are 10 Likert-type items on the scale. The Cronbach's α reliability coefficients of the factors were calculated as 0.83, 0.67, and 0.65, respectively, and 0.71 for the entire scale. The Cronbach's α coefficient of the scale was recalculated as 0.81 with our study participants.

Digital literacy scale: It was developed by Ng (2012) and adapted into Turkish by Üstündağ, Güneş, and Bahçivan (2017). There are 10 Likert type items that predict digital literacy in terms of technical, cognitive and socio-emotional aspects. The validity and reliability analyses of the scale were conducted with 979 participants. The results indicated that the scale structure consisted of a single factor and the Cronbach's α reliability coefficient was 0.86. In our study, the reliability coefficient was recalculated as 0.89.

DATA ANALYSIS

In order to analyze whether trust, verification, and digital literacy scores differ by the determined variables, first of all, the conditions of providing the assumptions of normality and homogeneity of variances were tested. While Trochim and Donnelly (2006) asserted that the range of ± 2 in the skewness and kurtosis coefficients is acceptable limits, Büyüköztürk (2007) argued that unless these values show excessive violations in social sciences, the assumption of normality would be provided. Our study determined that the skewness and kurtosis values of the participants' gender, educational status, time spent on social media, trust, verification, and digital literacy scores were within the acceptable range. Homogeneity of variances was tested with Levene's test. t-test or one-way analysis of variance (ANOVA) was used in cases where this assumption was met, and Kruskal-Wallis-H analysis was used in opposite cases. Pearson correlation analysis was also used to examine the relationship between trust, verification, and digital literacy scores.

FINDINGS

Individuals' Digital Literacy, Corporate Trust, Individual Trust, and Verification Habits By Gender

The homogeneity of the variances was tested with Levene's test, and it was found that this assumption was also met in addition to the normality. Hence, the effect of gender on participants' digital literacy, corporate trust, individual trust, and verification habits was analyzed by t-test. The results are presented in Table 1.

Table 1. T-Test Results of Variables by Gender

Variable	Gender	X	df	t	p
Digital Literacy	Female	35.96	172	2.633	.009*
	Male	39.03			
Corporate Trust	Female	9.42	172	-2.905	.004*
	Male	8.25			
Individual Trust	Female	7.55	172	-2.507	.013*
	Male	6.68			
Verification	Female	14.61	172	-.317	.751
	Male	14.43			

Table 1 shows that gender does not have a significant effect only on verification scores ($T_{(172)} = -0.317$, $p = 0.751 > 0.05$). The effect sizes of significant differences are $\eta^2_{\text{digitalliteracy}} = 0.039$, $\eta^2_{\text{corporate trust}} = 0.049$, and $\eta^2_{\text{individual trust}} = 0.03$. Besides, mean scores indicate that these significant results are in favor of men in digital literacy and women in corporate and individual trust.

Individuals' Digital Literacy, Corporate Trust, Individual Trust, and Verification Habits by Educational Status

According to the results of Levene's test, the variances of digital literacy, corporate, and individual trust variables are homogeneously distributed. Therefore, these variables were analyzed with ANOVA and the verification variable with the Kruskal-Wallis-H test. The findings are shown in Table 2 and Table 3.

Table 2. ANOVA Results of Variables by Educational Status

Variable	Source of variation	Sum of squares	df	Mean squares	F	p
Digital Literacy	Between groups	182.363	2	91.182	1.579	.209
	Withing groups	9877.131	171	57.761		
	Total	10059.494	173			
Corporate Trust	Between groups	76.143	2	38.071	5.779	.004*
	Withing groups	1126.576	171	6.588		
	Total	1202.718	173			
Individual Trust	Between groups	49.822	2	24.911	5.067	.007*
	Withing groups	840.730	171	4.917		
	Total	890.552	173			

According to Table 2 and Table 3, the educational status of individuals has a significant effect only on their trust scores. Based on the post-hoc tests to judge between which groups the differences occur, the associate degree level in corporate trust is lower than the undergraduate and graduate levels, and again the associate degree level in individual trust is lower than the graduate level. Furthermore, the effect size of this significant result for corporate trust ($F_{(2,171)} = 5.779$, $p = 0.004 < 0.05$) is $\eta^2 = 0.063$, and it is $\eta^2 = 0.056$ for individual trust ($F_{(2,171)} = 5.067$, $p = 0.007 < 0.05$).

Table 3. Kruskal Wallis-H Test Results for Verification Habits by Educational Status

Variable	Educational Status	N	X	df	X ²	p
Verification	Associate	40	13.13	2	3.938	.140
	Undergraduate	81	15.05			
	Graduate	53	14.83			

Table 3 reflects that individuals' verification habits for social media news do not differ significantly by educational status ($X^2_{(2)} = 3.938$, $p = 0.14 > 0.05$).

Individuals' Digital Literacy, Corporate Trust, Individual Trust, and Verification Habits By The Time Spent On Social Media

Levene's test results for all variables suggested that the variances were homogeneously distributed. The effect of the time spent on social media was analyzed with ANOVA, and the results are reported in Table 4.

Table 4. ANOVA Results of Variables by Time Spent on Social Media

Variable	Source of variation	Sum of squares	df	Mean squares	F	p
Digital Literacy	Between groups	95.428	2	47.714	0.819	0.443
	Withing groups	9964.066	171	58.269		
	Total	10059.494	173			
Corporate Trust	Between groups	17.650	2	8.825	1.273	0.283
	Withing groups	1185.068	171	6.930		
	Total	1202.718	173			
Individual Trust	Between groups	3.462	2	1.731	0.334	0.717
	Withing groups	887.090	171	5.188		
	Total	890.552	173			
Verification	Between groups	3.934	2	1.967	0.136	0.873
	Withing groups	2467.285	171	14.429		
	Total	2471.218	173			

According to Table 4, time spent on social media has no significant effect on any of the scores of digital literacy ($F_{(2,171)}=0.819$, $p=0.443>0.05$), corporate trust ($F_{(2,171)}=1.273$, $p=0.283>0.05$), individual trust ($F_{(2,171)}=0.334$, $p=0.717>0.05$), and verification ($F_{(2,171)}=0.136$, $p=0.873>0.05$).

The Relationship Between Digital Literacy, Trust, and Verification Habits

The relationship between trusting and verifying the news, which is expected to be correlated with digital literacy, was tested with Pearson correlation analysis, and the results are presented in Table 5.

Table 5. The Relationship between Corporate Trust, Individual Trust, Verification, and Digital Literacy Variables

		Corporate Trust	Individual Trust	Verification
Individual Trust	r	.478**		
	p	.000		
Verification	r	.261**	-.057	
	p	.000	.456	
Digital Literacy	r	-.019	-.098	.294**
	p	.807	.198	.000

Table 5 demonstrates that the participants' habit of verifying social media news has a positive low level but statistically significant relationship only with digital literacy ($r=0.294$; $p=0.000<0.05$) and corporate trust ($r=0.261$; $p=0.000<0.05$). This result exhibits that those who rely more on corporate sources tend to confirm their social media news more, and the habit of verification increases as the level of digital literacy increases. Another significant relationship was found between corporate and individual trust scores at a moderate level ($r=0.478$; $p=0.000<0.05$).

DISCUSSION AND CONCLUSION

Within the scope of the research, first of all, individuals' habits of trusting/verifying social media news and their digital literacy were investigated in terms of different variables, and then the relationships of these concepts were analyzed. The research results in terms of gender exhibited a significant difference in favor of men in digital literacy and women in corporate and individual trust. According to Büyüköztürk (2007), this difference has a medium effect size ($\eta^2=0.049$) in corporate trust and low effect size ($\eta^2=0.03$ and $\eta^2=0.039$) in individual trust and digital literacy. Similarly, in the literature, past research reported a significant difference in trust scores, higher in women (Maddux & Brewer, 2005; Sterrett et al., 2019; Warner-Söderholm et al., 2018; Yaşar & Uğurhan, 2021) and an insignificant difference between gender and verification (Khan & İdris, 2019; Schmidt et al., 2021). Contrary to similar results, some studies conclude that digital literacy and trust do not differ by gender (Argelagós & Pifarré, 2017; Schmidt et al., 2021). These contradictory results imply that the low effect size of significant results may be lost over different samples. Hence, there is a need to increase the number of studies to reach more stable conclusions.

Besides gender, this study determined that educational status had a moderately significant effect on trusting social media news in corporate and individual perspectives ($\eta^2=0.063$ and $\eta^2=0.056$), and this effect was placed between associate degree and undergraduate and graduate education levels. Yaşar and Uğurhan (2021) also revealed that individuals with high school or lower education have significantly lower levels of corporate trust. Although Sterrett and colleagues (2019) showed that education levels have a statistically significant effect on trusting social media news, Kılıç and İspir (2020) reported that education level has an effect on verification, not trust. Khan and Idris (2019) found a significant but weak correlation at the level of 0.231 between the verification of information from social media and the educational status. Diverse findings in the literature may be due to the weakness of the relationship between concepts.

While it was expected that the scores of trust, verification and digital literacy in social media news would differ by the time spent on social media, no significant difference was reported in any of these variables. Moon and Bai (2020) similarly stated that the time spent does not affect digital literacy. While Yaşar and Uğurhan (2021) suggested that corporate and individual trust was affected by the time spent, Göksel and Akgül (2021) revealed that only corporate trust did so. They explained that groups with “less than half an hour” or “less than an hour” of time spent had a significant effect. The interpretation of the findings of this study and the previous studies together, while the time spent on social media does not affect verification and digital literacy, trust scores increase as the time spent on social media increases. However, more research is needed to generalize the results about the extent to which this increase is significant on which types of trust scores.

Consequently, the relationships among all concepts were examined, and it was concluded that verification was weakly correlated to digital literacy and corporate trust ($r=0.29$, $r=0.261$), and corporate trust was moderately correlated to individual trust ($r=0.478$). Similarly, Yaşar and Uğurhan (2021) argued that individual and corporate trust had a weak relationship with verification, while Schmidt et al. (2021) asserted that it had a weak relationship at the level of 0.32 with trust and verification. In addition to existing studies on the scope of digital literacy (Lee, Kim & Lee, 2014; Moon & Bai, 2020), future research on the place of trust and verification habits, which also have different types of literacy in terms of digital literacy, are expected contribute to the relevant literature.

Ethics and Consent: Ethics committee approval for this study was received from the Ethics Committee of Ondokuz Mayıs University (Date: July 28, 2022; Approval Number: 2022/717, Decision Number:7).

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