THE MEDIATING ROLE OF SOCIAL MEDIA NEWS CONFIRMATION / TRUST IN THE EFFECT OF COVID-19 VACCINE LITERACY ON ATTITUDES TOWARDS VACCINATION

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ABSTRACT

The study aims to reveal the mediating role of trust in social media news in the effect of COVID-19 vaccine literacy on individuals' attitudes towards vaccination. Individuals living in the central districts of Konya province constitute the scope of the study. This study was conducted between February 01-28, 2022, and in the research model created in the context of the purpose of the study, COVID-19 Vaccine Literacy (X) is the independent variable, Attitudes Towards COVID-19 Vaccine is the dependent variable, and Confirmation / Trust in Social Media News is the mediating variable. The findings for the variables showed that the participants' vaccine literacy (Mean=3.28), social media confirmation/trust (Mean=3.05) and attitudes towards vaccination (Mean=3.43) had a value above the average. As the results of correlation analysis findings, a weak positive significant relationship between social media/confirmation trust and COVID-19 Vaccine Literacy (r=.248; p=.000<.001) was found. However, significant relationship between other variables was not found. The independent variables of the research, COVID-19 Vaccine Literacy and Social Media Confirmation/Trust, do not have a significant contribution in explaining the dependent variable Attitudes Towards COVID-19 Vaccine. Nevertheless, it was observed that COVID-19 vaccine literacy explained 0.6% variance of the change in individuals' confirmation and trust in social media news (R^2=.061). The mediating effect of Confirmation/Trust in Social Media news on attitudes towards Covid-19 vaccine was not found. This research is important in terms of being a study that contributes to the literature by examining the mediating role of social media news confirmation/trust in the effect of Covid-19 vaccine literacy, a type of literacy, on attitudes towards vaccination.

Keywords: Literacy; Vaccine literacy; Social media; Covid-19

AŞI OKURYAZARLIĞININ COVID-19 AŞISINA YÖNELİK TUTUMLARA ETKİSİNDE SOSYAL MEDYA HABERLERİNE DUYULAN TEYİT/GÜVENİN ARACI ROLÜ

ÖZ

Araştırmanın amacı, bireylerin COVID-19 aşı okuryazarlığının aşıya yönelik tutumlarına etkisinde sosyal medya haberlerine olan güvenin aracı rolünü ortaya koymaktır. Konya ili merkez ilçelerinde

yaşayan bireyler çalışmanın kapsamını oluşturmaktadır. Çalışma 01-28 Şubat 2022 tarihleri arasında gerçekleştirilmiştir. Çalışmanın amacı bağlamında oluşturulan araştırma modelinde COVID-19 Aşı Okuryazarlığı (X) bağımsız değişken, COVID-19 Aşısına Yönelik Tutumlar bağımlı değişken, Sosyal Medya Haberlerine Teyit/Güven aracı değişkendir. Değişkenlere yönelik bulgular katılımcıların aşı okuryazarlığı (Ort.=3,28), sosyal medya teyit/güven (Ort.=3,05) ve aşıya yönelik tutumlarının (Ort.=3,43) ortalamanın üzerinde bir değere sahip olduğunu göstermiştir. Korelasyon analizi bulgularına göre sosyal medya/teyit güven ile COVID-19 Aşı Okuryazarlığı arasında zayıf düzeyde pozitif yönlü anlamlı bir ilişki vardır (r=,248; p=,000<.001). Ancak diğer değişkenler arasında anlamlı bir ilişki bulunmamıştır. Araştırmanın bağımsız değişkenleri COVID-19 Aşı Okuryazarlığı ve Sosyal Medya Teyit/Güvenin bağımlı değişken COVID-19 Aşısına Yönelik Tutumları açıklamada anlamlı bir katkısının bulunmamaktadır. Yine de COVID-19 aşı okuryazarlığının bireylerin sosyal medya haberlerine teyit ve güvenlerindeki değişimin %0,6'lık varyansını açıkladığı görülmüştür (R^2=,061). COVID-19 Aşı Okuryazarlığının COVID-19 Aşısına Yönelik Tutumlar üzerindeki etkisinde Sosyal Medya Haberlerine Teyit/Güvenin aracı etkisi bulunmamaktadır. Bu Araştırma, bir okuryazarlık türü olan Covid-19 aşı okuryazarlığının aşıya yönelik tutumlara etkisinde sosyal medya haberlerini teyit/güvenin aracı rolünü inceleyerek literatüre katkı sunan bir çalışma olması bakımından önemlidir.

Anahtar Sözcükler: Okuryazarlık; Aşı okuryazarlığı; Sosyal Medya; Covid-19.

Introduction

Today, the latest developments in information and communication technologies, the use of social media has become quite widespread in the daily lives of individuals. In this process, social media is used as a tool during indispensable activities such as information search, provision, communication, education, consumption, business life, health, leisure and entertainment. In addition, as a result of the transformation of the endemicity of some diseases into pandemics, as the recent COVID-19 pandemic, individuals have started to carry out many of the above activities more through the internet and social media during pandemic periods (Yıldırım, 2020). According to another study conducted for the treatment of the COVID-19 pandemic, individuals formed an attitude towards deciding to use or refuse to use these drugs or vaccines developed as a result of the information they accessed through social media about drugs or vaccines developed for treatment purposes. The role of social media platforms is also known in communicating and disseminating anti-

vaccine arguments and inaccurate content and information about vaccination to a large number of people (Etesaminia & Bağcı Derinpınar, 2021).

While people can act together in social media environments, they also tend to constantly disseminate various information. Thus, people want to announce their thoughts and to be accepted to the masses. The focus of these posts on persuading others may cause deviations in the accuracy and axis of the message or news to be disseminated. These posts, especially in an important field such as health, can also lead to life-threatening consequences. At this point, the issue of trust in social media draws attention as an issue that should be emphasised with great importance. This situation has brought along the problem of trust in the consumption of information, news and messages received over time, making the issue of literacy important for these channels.

In this context, this study aims to reveal the mediating role of confirmation trust in social media news in the relationship between attitudes towards vaccination and vaccine literacy during the COVID-19 pandemic process experienced all around the world in December 2019 and in Turkey in March 2020. In this framework, firstly, the conceptual structure and related literature on social media, vaccine literacy, attitudes towards vaccination and trust and confirmation of social media news will be presented. Then, the findings obtained as a result of the appropriate analyses collected from the participants living in Konya province are presented.

1. Social Media as a Literacy Medium

Social media was undoubtedly seen as a computer-based form of communication mediated by the computer, as McIntyre (2014, p. 2) puts it. Although this situation continues today through computers with advanced features, the role of smartphones should not be forgotten. Social media is defined by Gruzd et al. (2012, p. 2341) as a web space where users produce content, including the two-way communication features of web 2.0, where media content is produced and disseminated through mutual interaction. It is also worth to express that social media has developed on the ideological and technological infrastructure created by Web 2.0 environments (2010, p. 61). Social media also has the role of empowering individuals since these platforms

enables individuals to connect, share, and form communities (Bertot et al., 2010, p. 266).

This situation allows individuals to come together and organise themselves for a purpose or a topic in social media and to spread various discourse and action expressions. Thus, social media environments come to the forefront with their constantly interactive and always up-to-date features, where the individual is active and always motivated to be active. Thanks to these features of social media environments, it can be said that communication and information sharing have gained a different dimension. In this sense, individuals who we assume do not have sufficient social media literacy may have prejudices or preconceptions against various medicines and especially vaccines produced without investigating what the messages shared on social media actually mean or without focusing on the trust of the message sufficiently.

2. Confirm and Trust Social Media News

The word trust is defined with expressions such as "the feeling of belief and attachment without fear, hesitation and doubt, confidence". As a result of the trust expressed in this definition as "attachment to anyone/someone/something without fear or doubt", the individual feels confident in his/her decisions. Since trust has been studied in various fields such as management, organisation, institutional and psychological disciplines, many definitions of trust have been put forward from different perspectives. Furthermore, trust is the determination to acknowledge 'vulnerability' to behaviour based on the expectation that a behaviour will be performed by the other person. Thus, trust is expressed as a psychological state.

In other words, trust can be defined as our conscious submission to the one who will perform the action. Trust is also a state of willingness to take risks that arises when a person takes risks by leaving himself vulnerable to something (Mayer et al., 1995, p. 712). Trust can also be defined as a person's confidence in all kinds of messages spread and produced by the other person without hesitation, by abandoning one's barriers and prejudices against the other

In recent years, social media has been predominant and people tend to follow news only from internet sources instead of using television or newspapers. While this situation brings with it explanations about corridors and security. Thus, there is also an issue of trust in social platforms (Warner-Søderholm, 2018, p. 303).

In the study conducted by Håkansson and Witmer (2015, p. 517) examining what kind of relationship there is between social media and trust, eight articles were evaluated. Accordingly, in eight of the articles included in that reseach, there was found a positive relationship between social media and trust, while two articles stated that there was no relationship between trust and social media. In addition, no study has found a negative relationship between social media and trust. So researchers reported in a study that only 20 per cent of social media users can trust news they read. (Warner-Søderholm et al., 2018, p. 303). In the researchers' own study, it was evaluated that social media users trust their networks and online news moreIt is also concluded that these individuals are more concerned about the well-being of others who use social media (Warner- Søderholm et al., 2018, p. 310). Cheng, Fu, and Vreede (2017, p. 32) found that the factors affecting individuals' trust in a social media are "quality of sharing, shared preferences, familiarity, privacy, topic, convenience, and time saving".

3. Literacy and Literacy Types

'Literacy', which is basically based on reading-writing actions, is a process that operates with the motivation of teaching individuals to use information effectively at various stages of their lives. The concept of literacy is encountered in a wide variety of fields of study as a result of the acquisition and use of various new forms of information in many different environments that are increasing and changing day by day, and the developments in information technologies (Önal, 2010, p. 103).

Literacy could be defined as the process of the individual's perceptions of all kinds of objects and events in all life environments, understanding and interpreting them, and as a result, attributing a meaning to the relationship forms of social life, accompanied by reading and writing skills. While the first meaning of this word, which is expressed as 'literacy' in English, emerged as the vocalisation of letters and the

reading of texts written with these letters, these meanings have expanded over time. Nowadays, it has gone beyond being an action that takes place only through writing symbols and has turned into an expression of communication skills and attitudes that are realised through the use of many different cognitive skills and language together (Aşıcı, 2009, p. 12).

Some of the types of literacy that emerge and continue to develop in different forms day by day in various disciplines can be expressed as computer, information, visual, digital, financial, health and vaccination literacy. It should be stated that information is at the core of each literacy type. In addition, in the literacy process, there are issues such as individuals applying information, following the rules indicated by information, following updates about information and taking an active role in the use of information (Önal, 2010, p. 114). Many new types of literacy such as media literacy and visual literacy have been added to the diversifications that emerged in literacy nomenclature such as computer literacy in the 80s and information literacy in the 90s, and many new literacy types such as media literacy and visual literacy have been added in the process and continue to be added (Onursoy, 2018, pp. 994-995).

With the introduction of computers into human life, the use of computers in various sectors has increased rapidly, especially after the nineties, and this has made computer literacy necessary for both those who produce information and data and those who consume information. Computer literacy, which is one of the types of literacy, is a way of ensuring that the individual is aware of computer technologies (Hoffman & Blake, 2003, p. 225). Individuals who have knowledge and equipment in computer technologies have started to be seen as computer literate and as a result of the equipment these individuals have, the spread of computer-based business processes in the society has accelerated and the circulation of information has become easier.

Information literacy, which is another type of literacy, is defined as gaining the appropriate knowledge and equipment to ask questions, interpret and evaluate the data obtained in order to reach more information about a subject (Kuhlthau, 1987, p. 22; Van Deursen & Van Dijk, 2011, p. 895; Uzun & Çelik, 2020, p. 1137). It is seen that the concept of information literacy has been associated with issues such as productivity

at work, quality of life, citizenship rights, democracy and integration with society, and acceptance in society over time (Kurbanoğlu, 2010, p.725). The benefits of information literacy can be expressed as the sum of skills that motivate and enable continuous learning such as using and understanding information and information technologies appropriately, increasing the level of productivity and efficiency in democratic societies and ensuring its continuity, adapting to rapidly changing and developing conditions, accessing and using information that can find solutions to problems encountered in business and private life, finding and analysing data (Polat, 2006, p.252).

As a result of the instant and rapid production of information over the internet after 2000, the production of digital content/texts through digital tools has become widespread. Along with the opportunities provided by the Internet, the concept of digital literacy, which is considered to be a grifty and comprehensive literacy such as using digital materials at an adequate level, designing meaningful texts, considering ethical elements while designing, and designing text content by taking demographic characteristics into account, has also entered daily use. The term of digital literacy that is expressed as the skill to access all kinds of content on the Internet and to use all kinds of digital resources and materials as a form of reading that focuses on the essence of the message with the transfer of reading habits to digital, is among the important literacy types of today (Karabacak, Sezgin, 2019, p. 322; Onursoy, 2018, pp. 997-998). Individuals with digital literacy can actively access and store the digital information they need to solve a problem they encounter. They can also analyse and evaluate the information they access according to their own needs and add new problems (Onursoy, 2018, p.1007).

As another type of literacy, financial literacy is defined as the individual's talent to know the meanings of concepts related to basic financial issues in daily life, to be aware of markets and processes, and to evaluate savings and consumption issues (Durmuşkaya & Kavas, 2018, p. 926; Kocabıyık & Teker, 2018, p. 119). The ability to interpret and analyse the meanings obtained from visuals and to produce conscious

visual messages corresponds to the concept of visual literacy (Tüzel, 2010, p. 693 and Yıldız, 2012, p. 75).

In the information society, when we consider the fact that information is produced in digital environments and disseminated through media tools, the media literacy status of the individual is also very important. The level of media literacy determines the individual's attitude towards the media texts that he/she follows in his/her daily life, whether over the internet or through radio, television and printed newspapers. In today's world, where the media always shapes the texts in a controlled manner, knowing/realising which text is produced for what purpose and the effect of the text on the individual's life is only related to the individual's media literacy. It can be stated that media literacy is not only reading/watching/listening to visual and auditory texts presented in media environments, but also having the skills of making sense of, structuring and analysing them.The media literate person has some restrictions, such as not being against the media, being able to use the media deliberately, emphasizing not only consuming the media but also producing in media environments, profiting from the products by passing them through cultural filters, and not viewing the media only as a means of magazine, politics, sports, and entertainment. They also target critical and aware readers rather than alienating them from the media. In line with these limitations, media literacy can be fully realised by complying with principles such as critical thinking, discrimination, security, power to facilitate life, accessing and using information sources (Maden et al. 2021, p.591).

Health literacy, which is one of the most well-known literacy concepts of today, is an education and training process that provides answers to various demands of individuals related to personal and social health, transfers health-related knowledge and skills to individuals and aims to make individuals more conscious about health. Health literate individuals can access the information they seek more easily and quickly, analyze and understand the information they read more easily, and use this information for the benefit of themselves and their environment. Thus, the people have the skills to improve both their own health and the health of others (Nutbeam, 1998, p. 353; Biasio, 2019, p. 2552)

3.1.   Vaccine Literacy

As a type of literacy, vaccine literacy is related to health literacy. According to Ratzan, obtaining information about vaccines is insufficient to define vaccine literacy. The basis of vaccine literacy is to establish a system that can reduce the confusion that may arise in order to present and share vaccines, which are seen as the most important element of health systems. This system aims to increase the use of the vaccine by humans. Thus, it is also stated that the ultimate goal of vaccine literacy is to ensure herd immunity (Ratzan, 2011, p. 229). Vaccine literacy is also defined as the process of increasing people's participation in vaccination through the production and sharing of information about vaccines. The basic elements of the concept of vaccine literacy include concepts such as "health literacy", "disease prevention", "education" and "vaccination" (Badua et al., 2022:1). Vaccine literacy seeks to improve people's attitudes towards vaccines. Thus, vaccine literacy aims to eliminate the ambivalence of the masses who are ambivalent about vaccination. Therefore, another main aim is to motivate anti-vaccine groups and promote vaccines by increasing people's confidence in these vaccines (Ratzan, 2022, p. 229). Vaccine literacy is a process that introduces the concept of vaccine literacy, what is intended by the concept to those who do not know the concept, and the importance of vaccination through various communication strategies. This concept is still encountered in rare studies. This situation can be a barrier to people not to have enough information about vaccines and to accept vaccines (Biasio, 2019, p. 2552).

The fact that vaccines are discussed by healthcare professionals on social media may also have an impact on vaccine literacy and individuals' attitudes towards vaccines. Daley and Glanz (2021:32) evaluated that communicating openly and honestly about COVID-19 vaccines can strengthen public trust. Thus, they stated that today's readership, which frequently uses social media environments, can be influenced by vaccine-related information disseminated through these environments. In the study of Glanz et al. (2017), it was concluded that disseminating Web-based vaccination information through social media platforms can positively contribute to vaccination behaviour.

Nath at al. (2021) conducted a study in Bangladesh to make sense of the situation in some low-income countries, examining how vaccine ambivalence, eHealth literacy and vaccine literacy are related to young adults' intention to receive COVID-19 vaccination. According to this study, it was revealed that eHealth literacy has a positive relationship with the intention to be vaccinated, while vaccine literacy does not have a significant relationship. In a study conducted in Israel, it was evaluated that the most preferred sources of information about vaccination were internet sources and health professionals. In the same study, it was also stated that parents who have higher vaccine literacy are tend to vaccinate their children more (Gendler and Ofri, 2021).

In a study conducted in Hong Kong, it was evaluated that the difficulties experienced by individuals in accessing information about health and vaccination, the inability of the participants to find vaccination information, and their inability to interpret and evaluate the information caused an increase in their difficulties in making vaccination decisions. It was concluded that health professionals and mass media should reduce complexity in communicating health messages, and facilitating access and understanding of older adults would increase the propensity to vaccinate and prevent the spread of infectious diseases (Zhang, Or, & Chung, 2020, p. 2). In an another study, it is stated that individual perceptions shape vaccination decision and those perceptions are reinforced by media, society, health and political system (Popa et al., 2022, p. 11). As reported in another study (Orlandi et al., 2022), people's functional literacy combined with a positive attitude towards science had a positive impact on vaccination rates.

3.2. Attitude towards vaccination

As in the history, vaccine hesitancy has caused outbreaks of infectious infections that threaten the general health of the public (Geoghegan, O'Callaghan, & Offit, 2020, p. 1). Low levels of health literacy are seen as a cause of vaccine hesitancy, but this is almost never discussed in research on this issue (Biasio, 2019, p. 2552).

Vaccine instability is used to describe the problems and delays that occur when vaccines are rejected by the masses despite vaccination efforts. Vaccine instability can

be influenced by different factors and varies according to time, place and vaccine types. Factors such as laxity, comfort and trust are also involved (Dubé et al., 2014, p. 6649). Although vaccine communication takes place according to personal and environmental conditions, it is important to reassure the masses about vaccines. The trust in vaccines ranges from the institution that conducts vaccination, the trust in the institution, to the level of knowledge of health personnel about vaccines (Michel & Goldberg, 2021, p. 698).

According to MacDonald (2015, p. 4162), vaccine ambivalence is expressed as a continuum between high demand for vaccines and refusal to be vaccinated. The process of vaccine ambivalence occurs in two dimensions: the undecided acceptance of a vaccine by an individual or a population and the demand for a specific vaccine by the population or individual.

In a study conducted in the United Kingdom, a correlation was found between confidence in the government's pandemic response and vaccine acceptance. the factors contributing to vaccine acceptance were assessed as individuals' broad acceptance of vaccination as a civic duty to protect their relatives and others. The group expressing opposition to vaccination stated that they experienced a trust problem and opposition because they did not trust the government's attitude towards the pandemic. In addition, the fact that they found the information disseminated by the government about the pandemic unreliable was also shared as another reason. In addition, it was also stated as another finding that those who expressed opposition to vaccination cited the negative developments related to vaccines in previous years as another reason (Jennings et al., 2021, pp. 10-14). In addition, in this study, it was evaluated that those who use social media environments such as youtube are reluctant to get vaccinated. Therefore, the researchers stated that government organizations, health officials and social media platforms should act responsibly and be sensitive about uncontrolled information (Jennings et al., 2021, p. 1).

Although there is no immunisation, opposition to vaccination at the social level is a dynamic process that changes according to time and conditions. For this reason, it is important to continuously monitor vaccine refusals and to determine the factors

affecting refusal according to regions (Karabay et al., 2021, p. 354). According to some studies, it is stated that vaccine hesitancy is influenced by beliefs and religious reasons as well as myths that vaccines will cause autism and brain damage (McKee & Bohannon, 2016, p. 106).

Although the study conducted by McKee and Bohannon reveals the findings regarding parents' refusal of vaccination against child vaccines for their children, the finding of "education" as the key concept they put forward in terms of preventing vaccine refusal is important. For this reason, it is emphasised that all kinds of health professionals have important duties such as educating the masses in preventing attitudes towards vaccine refusal. Similarly, Geoghegan et al. (2020, p. 7) state that healthcare professionals have important duties in preventing the path to anti-vaccination and that it is important for healthcare professionals to convey the message that vaccines are a life-saving intervention element with confidence. Dubé et al. (2014, p. 6652) state that opinion leaders who come to the fore especially in anti-vaccine groups, religious formations and groups of healthcare professionals also play a role in the increase in vaccine ambivalence. In the same study, it was also evaluated that rumours, misunderstandings, negative information disseminated through the media, especially television and the internet, played a role in vaccine hesitancy. Geographical barriers are also considered to be an obstacle to vaccine access, and political situations and instabilities such as war and migration in countries may also be among the reasons for vaccine instability.

In Genç's study (2021, p. 198), it was found that information about COVID-19 was obtained from doctors as the most reliable source, social media phenomena were the least trusted source; in addition, it was found that doctors were the most influential group in the participants' decisions to be vaccinated. It was also found in the same study that the most decisive factor in the vaccination decision was the guidance of healthcare professionals (93.8%) (Karabay et al., 2021, p. 353). It was evaluated that there was a positive and high correlation between education and vaccination in terms of increasing willingness to be vaccinated as the level of education increased (Elmaoğlu et al., 2021, p. 348). According to a study was conducted in Croatia, it was

evaluated that in all age groups, different forms of employment and education level are likely to be effective in the acceptance of the COVID-19 vaccine (Gusar et al., 2021, p. 8).

According to another study on the relationship between health literacy, which has an important position among today's literacy types, and vaccine literacy, which has become increasingly important in recent years, it has been evaluated that being health literate has a significant effect on individuals' attitudes towards vaccination practices (Yalman & Sancar, 2021, p. 271). Vaccine ambivalence, which has a complex nature, is both variable and shaped by many contextual factors. In order to overcome behavioural and sociodemographic factors related to vaccine ambivalence, a formula, abbreviated as the "five Cs" (Confidence/confidence; Complacency/comfort; Convenience/ease; Communication/communication; Context/context) has also been proposed. According to this formula, confidence in the vaccine and the effectiveness of the vaccine are defined as confidence, perception of low risk and disease risk is defined as complacency, barriers in accessing and receiving the vaccine are defined as convenience, sources of information about the vaccine are defined as communication, and sociodemographic characteristics are defined as context (Razai et al., 2021, p. 296). When the "communication" issue, which is also within the scope of this study, which draws particular attention in this formula, is evaluated by Razai et al., it is defined as combating an "infodemic" with "a few facts mixed with fear, speculation and rumour" reinforced through dijital communication technology in the context of ongoing uncertainties and information gaps of the world public opinion during the pandemic process. The existence and dissemination of numerous dubious information on social platforms was also considered to create a distrust of vaccines. In this sense, it is emphasized that addressing public concerns and building trust through a real transparent dialogue can only be achieved if supported by community participation.

In the study of Clark et al. (2022), it was revealed that the usage of dijital communitaion technologies especially social media platforms is generally a function that increases vaccine ambivalence, and it was stated that misinformation about vaccination is gradually increasing with social media. In this sense, it comes to the fore

that social media platforms should put forward more accountability efforts and even remove harmful and misinformed content.
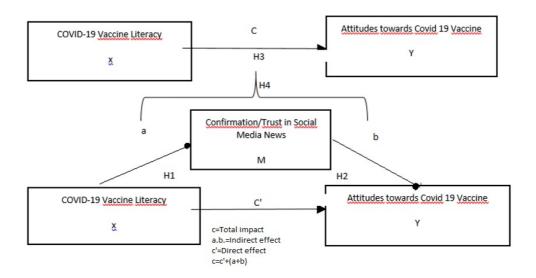
4. Method

4.1. Research Model and Hypotheses

The research model created in the context of the purpose of the study is shown in Figure 1.

Figure 1.

Research Model

According to the model shown above, COVID-19 Vaccine Literacy (X) is defined as the independent variable, Attitudes Towards COVID-19 Vaccine as the dependent variable, and Confirmation/Trust in Social Media News as the mediating variable. When the model is examined, the high level of COVID-19 Vaccine Literacy (X) of the participants causes a high level of Confirmation/Trust in Social Media News, which causes individuals to form positive attitudes towards COVID-19 Vaccine (Y). In other words, individuals with high vaccine literacy will have higher Confirmation/Trust in Social Media News, which will cause individuals to develop positive attitudes towards vaccination. Based on the theoretical expectation, the

hypotheses of the study were determined and expressed below. In this context, the following hypotheses were tested by calculating the indirect effect (a.b), direct effect (c′), total effect c, values through the research model.

H1: COVID-19 Vaccine Literacy has a significant positive effect on Confirmation/Trust in Social Media News.

H2: Confirmation/Trust in Social Media News has a significant positive effect on Attitudes Towards COVID-19 Vaccine.

H3: COVID-19 Vaccine Literacy has a significant positive effect on Attitudes Towards COVID-19 Vaccine.

H4: Confirmation/Trust in Social Media News has a mediating effect on the effect of COVID-19 Vaccine Literacy on Attitudes Towards COVID-19 Vaccine.

4.2. Population and Sampling

The data to be used to test the research hypotheses were collected in Konya province, which represents the target population. Ethics Committee Permission dated 14 January 2022 and numbered 2022/24 was obtained from Necmettin Erbakan University in order to conduct the study. According to the results of Turkish Statistical Institute (TÜİK) address-based population registration system 2021, the population of Konya province is 2,277,017 people (TÜİK, 2022). The minimum sample size to represent the population with 95% confidence interval and 5% sampling error was determined as 384 (Gürbüz & Şahin, 2016, p. 132). In this process, simple random sampling technique was used to reach the sample amount representing the universe. The data of the research were collected from 385 participants between 01-28 February 2022.

4.3. Data Collection Tools

A structured questionnaire form was designed to obtain the study's data. This questionnaire consists of four parts, including the question items of the scales that have been previously validated and reliable in the relevant literature and questions to collect socio-demographic data in order to collect data for the independent, mediator and dependent variables shown in the research model.

COVID-19 Vaccine Literacy was used as the independent variable in the study. In this study, the "COVID-19 Vaccine Literacy Scale" developed by Biasio et al. (2021) and adapted into Turkish by Durmuş et al. (2021), which focuses on how participants access information about the COVID-19 vaccine and their ability to learn about and understand the vaccine, was used. The scale consists of two sub-factors, functional skills and communicative/critical skills, and 12 statements.

The variable of Confirmation/Trust in Social Media News was determined as the mediating variable. The "Social Media Confirmation/Trust Scale" which was developed by Çömlekçi & Başol (2019) was used to measure the confirmation/trust levels of social media users towards the news they access from social media platforms. The scale consists of 10 statements and 3 sub-factors (Confirmation, Trust in Organizational Social Media Posts, Trust in Individual Social Media Posts).

The Attitudes Towards COVID-19 Vaccine variable was considered as the dependent variable in the study. Consisting of 9 items and two sub-dimensions (positive and negative attitudes), the "Attitudes Towards COVID-19 Vaccine Scale" was developed by Geniş et al. (2020). The scale consists of two sub-factors (Positive Attitude and Negative Attitude) and 9 statements.

4.4. Data Analysis Methods

The findings were obtained by using appropriate analysis techniques for the data collected through the data collection tool. Exploratory and confirmatory factor analysis were applied to reveal the validity status of the research and Cronbach's alpha values were calculated to measure the reliability level of the scales. The relationships between COVID-19 Vaccine Literacy, Attitudes Towards COVID-19 Vaccine and Confirmation/Trust in Social Media News were examined, and the existence of the mediating effect of Confirmation/Trust in Social Media News in the relationship between COVID-19 Vaccine Literacy and Attitudes Towards COVID-19 Vaccine was evaluated with Process Macro. The last evaluation was made to determine the significance of the mediating effect. For this, the evaluation was carried out through bootstrap results. In the calculation made by applying the bootstrap technique, if the

BootLLCI and BootULCI values in the confidence interval do not contain zero, the indirect effect resulting from the analysis is considered statistically significant (Hayes, 2018).

4.5. Findings on Demographic Data

The gender, age, education, income and vaccination status of the participants are given in Table 1. In this framework, it was determined that the average age of the participants was 38.43, 219 were male (56.9%), 224 (58.2%) were associate's/undergraduate graduates, 185 (48.1%) had an income between 4501-9000 TL, and 318 (82.6%) had COVID-19 vaccination.

Table 1

Findings on Demographic Variables

Variable		N	%
Gender	Female	166	43,1
	Male	219	56,9
Education Level	Primary School	6	1,6
	Middle School	3	,8
	High School	54	14,0
	Associate's Degree/Bachelor's Degree	224	58,2
	Postgraduate	95	24,7
	No	3	,8
Income Level	4500 TL and below	109	28,3
	4501-9000	185	48,1
	9001 TL and above	91	23,6
Vaccination Status	No	67	17,4
	Yes	318	82,6

Relational Analysis Findings

Before conducting appropriate statistical analyses on the data obtained, it was understood whether the data had a normal distribution or not by looking at the skewness and kurtosis values. In a normal distribution, these values should be between +1.0 and -1.0 (Gürbüz & Şahin, 2016, p. 218). The skewness and kurtosis values of the variables used in this study are shown in Table 2. When the table is examined, it is seen that the data have a normal distribution for each variable.

Table 2

Skewness and Kurtosis Values for Variables

Variables	Skewness	Kurtosis
COVID-19 Vaccine Literacy Scale	-,128	,680
Social Media Confirmation/Trust Scale	-,581	,733
Attitudes Towards COVID-19 Vaccine Scale	-,370	-,547

In order to determine the structural validity of the COVID-19 Vaccine Literacy, Confirmation/Trust in Social Media News and Attitudes Towards COVID-19 Vaccine scales, exploratory factor analysis was conducted using principal component analysis and "varimax" axis rotation technique. The results of the exploratory factor analysis are shown in Table 3. According to the results of the exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) sampling adequacy value of the COVID-19 Vaccine Literacy scale was .81, the KMO value of the Confirmation/Trust in Social Media News scale was .83, and the KMO value of the Attitudes Towards COVID-19 Vaccine scale was .89. According to these results, it was determined that the sample size was sufficient for factor analysis for all scales used in the study. In addition, according to Barlett's test of sphericity, it was determined that the correlation relations between the items were significant for factor analysis (p<.001).

The factor loadings obtained as a result of CFA for the COVID-19 Vaccine Literacy scale vary between .79 and .62; the factor loadings obtained for the Social

Media Confirmation/Trust Scale vary between .90 and .59; and finally, the factor loadings obtained for the Attitudes Towards COVID-19 Vaccine Scale vary between .91 and .62. It was determined that the factors related to the COVID-19 Vaccine Literacy scale explained 51.878% of the total variance, the factors related to the Social Media Confirmation/Trust scale explained 64.110% of the total variance, and finally the factors related to the Attitudes Towards COVID-19 Vaccine scale explained 72.891% of the total variance. According to these results, it was determined that the scales have validity values.

Table 3

Exploratory Factor Analysis Results for the Scales

Variables	Number of Statements	Self Values	Total Explained Variance (%)	KMO Sampling Adequacy	Bartlett's Test of Sphericity
COVID-19 Vaccine Literacy	12	4,015	51,878	,812	,000
Social Media Confirmation/Trust	10	3,806	64,110	,831	,000
Attitudes towards COVID-19 Vaccine	9	5,127	72,891	,895	,000

The first level one-factor structure of all scales used in the study was tested with confirmatory factor analysis (CFA). Confirmatory factor analysis results and reliability analysis results are given in Table 4. According to these results, it can be said that the predicted theoretical structure of the scales was confirmed. According to the reliability analysis results, the reliability coefficient of the COVID-19 Vaccine Literacy Scale was Alpha (α)=0.78; the reliability coefficient of the Social Media Confirmation/Trust Scale was Alpha (α)=0.81; and the reliability coefficient of the Attitudes Towards COVID-19 Vaccine Scale was Alpha (α)=0.90. In this sense, it is possible to evaluate that the reliability levels of the scales are high.

Table 4

Fit Indices and Reliability Coefficients of the Scales Obtained as a Result of Confirmatory Factor Analysis

	COVID-19 Vaccine Literacy Scale	Social Media Confirmation/Trust Scale	Attitudes Towards COVID-19 Vaccine Scale
Fit Statistic	Values	Values	Values
(x^2/sd)	3,100	2,468	3,609
NFI	,912	,963	,974
NNFI(TLI)	,906	,964	,960
IFI	,938	,978	,981
CFI	,938	,978	,981
RMSEA	,074	,062	,082
GFI	,944	,966	,962
Cronbach's Alpha	,782	,813	,904

The means of participants' COVID-19 Vaccine Literacy levels, Social Media Confirmation/Trust levels and Attitudes towards COVID-19 Vaccine and the relationships between these variables were evaluated by multiple correlation analysis (Table 5). The findings regarding the means show that the participants' vaccine literacy (Mean=3.28), social media confirmation/trust (Mean=3.05) and attitudes towards vaccination (Mean=3.43) have a value above the average. According to the correlation analysis findings, there is a weak positive significant relationship between social media/confirmation trust and COVID-19 Vaccine Literacy (r=.248; p=.000<.001). However, no significant relationship was found between other variables.

Table 5

Arithmetic Averages and Correlation Coefficients

Variables	Averages	COVID-19 Vaccine Literacy	Social Media Confirmation/Trust	Attitudes Towards COVID-19 Vaccine
COVID-19 Vaccine Literacy	3,28	1		
Social Media Confirmation/Trust	3,05	,248**	1	
Attitudes Towards COVID-19 Vaccine	3,43	,093	,075	1

*Note. **Correlation is significant at 0.01 level (2-tailed). N= 395*

Multiple regression analysis was conducted to determine the extent to which the independent variables of the study, COVID-19 Vaccine Literacy and Social Media Confirmation/Trust, determine the dependent variable, Attitudes Towards COVID-19 Vaccine (Table 6). The results of the analysis revealed that the independent variables did not have a significant contribution in explaining the participants' Attitudes Towards COVID-19 Vaccine ($p>.05$).

Table 6

Multiple Regression Analysis Results

Independent Variables		Beta (ß)	t	p
COVID-19 Vaccine Literacy		,079	1,501	,134
Social Media Confirmation/Trust		,055	1,053	,293
	R	,107		
	R^2	,011		
R^2 (Adjusted)		,006		
	F	2,209		

The research model shown in Figure 1 was analyzed in Process Macro and the research hypotheses were questioned. The results of the analysis are shown in tables

below and the findings are interpreted. According to the findings shown in Table 7, it is seen that the independent variable COVID-19 Vaccine Literacy has a significant and positive effect on the mediating variable, i.e. Confirmation/Trust in Social Media News (ß= .061, 95% CI [.1634/.3748]; p<.05). Since the confidence interval for the effect does not include zero, it is concluded that the effect is significant. COVID-19 vaccine literacy explains 0.6% variance of the change in individuals' confirmation and trust in social media news (R^2=.061). **Hypothesis 1 is accepted.**

Table 7

The Effect of COVID-19 Vaccine Literacy (X) on Confirmation/Trust (M) in Social Media News

Variables	R-sq	Beta (ß)	se	t	p	LLCI	ULCI
COVID-19 Vaccine Literacy →Confirmation/Trust in Social Media News (pathway a)	,061	,269	,053	5,006	,000	,1634	,3748

When the findings in Table 8 are analyzed, the mediating variable, Confirmation/Trust in Social Media News, does not have a significant effect on the dependent variable, Attitudes Towards COVID-19 Vaccination (ß= ,086, 95% CI [-.0754/.2491]; p>.05). According to this result, H2 hypothesis is rejected. According to the table, the direct effect value (c′) of COVID-19 Vaccine Literacy on Attitudes Towards COVID-19 Vaccine is .134. The direct effect value is not statistically different from zero at 95% bootstrap confidence interval (ß=.134; 95% CI [-.0416/.3107]; p>.05). According to this finding, it is concluded that there is no significant relationship between the two variables.

Table 8

The Effects of Confirmation/Trust in Social Media News (M) and COVID-19 Vaccine Literacy (X) on Attitudes Towards COVID-19 Vaccine (Y)

Variables	R-sq	Beta (ß)	se	t	p	LLCI	ULCI
Confirmation/Trust in Social Media News → Attitudes towards COVID-19 Vaccine (pathway b)		,086	,082	1,052	,293	-,0754	,2491
COVID-19 Vaccine Literacy → Attitudes towards COVID-19 Vaccine (pathway c)	,011	,134	,089	1,501	,134	-,0416	,3107

According to Table 9, the confidence interval for the total effect of the independent variable, COVID-19 Vaccine Literacy, on the dependent variable, Attitudes Towards COVID-19 Vaccine, is statistically insignificant since it is zero (0) (ß=.157; 95% CI [-.0128/.3286]; p>.05). **According to this result, hypothesis H3 is rejected.**

Table 9

Total Effect of COVID-19 Vaccine Literacy (X) on Attitudes Towards COVID-19 Vaccine (Y)

Variables	R-sq	Beta (ß)	se	t	p	LLCI	ULCI
COVID-19 Vaccine Literacy → Attitudes towards COVID-19 Vaccine (pathway c)	,008	,157	,086	1,818	,069	-,0128	,3286

The Mediating Role of Confirmation/Trust in Social Media News on the Effect of COVID-19 Vaccine Literacy on Attitudes Towards COVID-19 Vaccine was evaluated according to the findings of the indirect effect analysis shown in Table 10.

Accordingly, the fact that the confidence interval for the indirect effect covers zero (0) (BootLLCI= -,024; BootULCI= ,076) shows that there is no Mediating Role of Confirmation/Trust in Social Media News in the relationship between the two variables. **According to these findings, H4 hypothesis is rejected.**

Table 10

The Mediating Role of Confirmation/Trust in Social Media News on the Effect of COVID-19 Vaccine Literacy (X) on Attitudes Towards COVID-19 Vaccine (Y)

X-Y-M	Effect	BootSE	BootLLCI	BootULCI
COVID-19 Vaccine Literacy → Attitudes Towards COVID-19 Vaccine → Confirmation/Trust in Social Media News	,023	,025	-,024	,076

Conclusion

The COVID-19 pandemic, which has been the main agenda item of both our country and the whole world as of March 2020 and whose effects and process are still ongoing, has caused individuals to spend more time on social media platforms. In the attitudes towards vaccination, which is seen as the most important means of surviving the COVID-19 pandemic conditions, the importance of individuals' literacy status and levels emerges. In this sense, individuals can develop positive or negative attitudes towards vaccination in the face of content produced on social media, which is a channel of literacy. At the beginning of these reactions, attitudes that indicate mistrust towards vaccines and vaccination processes, such as anti-vaccination and vaccine rejectionism, emerge as situations that affect individuals and societies.

In this study, the mediating role of social media confirmation/trust in the effect of COVID-19 vaccine literacy on attitudes towards vaccination was examined. As a result of the findings of the study, the first results are on COVID-19 vaccine literacy and confirmation and trust in social media news. In this context, it was concluded that COVID-19 vaccine literacy has a positive effect on the change in confirmation and trust in social media news. This result, when considered in the context of confirmation

and trust of news about vaccines on social media, is in line with Daley and Glanz's (2021: 32) assessment that communicating effectively, transparently and honestly about vaccines can help maintain and even increase public trust in vaccines and gain public support.

Another result of this study is that confirmation/trust in social media news does not have a significant effect on attitudes towards COVID-19 vaccination. In Orlandi's (2022) study, it was concluded that "social media does not have a high level of influence on attitudes towards vaccination. On the other hand, this result does not coincide with the findings of Popa et al. (2022); Clark et al. (2022) and Glanz et al. (2017) that social media is effective in attitudes towards vaccination.

Also, the findings of the study revealed that COVID-19 vaccine literacy did not have an effect on attitudes towards COVID-19 vaccine. When compared with the studies conducted in the literature, according to the finding of the study conducted by Nath et al. (2021), the result that vaccine literacy is not associated with the intention to receive vaccine is similar to the result of this study. However, as in the study of Gendler and Ofri (2021) and Yalman and Sancar (2021), there are also results in the literature that there is a relationship between vaccine literacy and positive vaccine attitude.

Finally, it was determined that there was no mediating role of confirmation/trust in social media news between these two variables. This result may be partially related to the finding that, in the absence of high social media penetration, having above-average literacy levels, combined with positive attitudes towards science, leads to attitudes towards vaccination reaching the level desired by health institutions and authorities (Orlandi et al., 2022).

The scope of this study is limited to the relationship between vaccine literacy and social media trust/confirmation with vaccination attitude. In future studies, it should be taken into consideration that many factors such as cultural differences, education, religious beliefs, age, source of vaccine information, and the risks posed by the disease may be determinative in relation.

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