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The Mediating Role of Lifelong Learning Motivation in the Relationship Between Virtual Risk Perception and Digital Well-Being

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This research aims to examine the potential mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being of (whom?). With a view to filling the gaps in the literature, this study examined how lifelong learning motivation can play a mediating role in understanding the effects of the risks individuals perceive in digital environments on their digital well-being. The findings of the research, obtained within a theoretical framework that combines psychological, educational, and digital technology perspectives, aim to shed light on new studies on improving individual well-being in the digital world and make a significant contribution to better understand the complex dynamics of the digital age and to properly maintain individuals' digital experiences. 140 people participated in the research. The research data was obtained by survey. In the 4-section questionnaire, the other sections except demographic information were obtained with the Virtual World Risk Perception (VWRP) Scale, Lifelong Learning Motivation (LLM) Scale and Digital Well-Being (DWB) Scale. Mediation analysis was performed on the obtained data with JAMOVI software. As a result of the analysis, it was determined that lifelong learning motivation fully mediates the relationship between virtual risk perception and digital well-being.

Introduction

Rapidly evolving digital environments significantly impact individuals' experiences in the digital world, and these interactions have profound effects on their personal well-being. This digital transformation becomes increasingly crucial as it reshapes individuals' daily lives

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and interactions, demanding adaptability to the complexity of the digital realm. Furthermore, understanding the relationship between individuals' virtual risk perception and digital well-being is essential in navigating this dynamic environment to maintain a healthy digital lifestyle. The research aims to contribute by revealing how lifelong learning motivation can play a pivotal role in this context, facilitating individuals to navigate the digital world consciously and securely.

According to a report prepared by OECD (2012), the Internet is a necessary infrastructure for economic and social interaction. Although it is beneficial for all users, it also brings various risks. In studies addressing online risks, the online risk framework is mostly designed for children. However, recent studies have shown that all age groups using the Internet are under various risks. While addressing online risks, different classifications have been made based on the role of the individual when faced with the risk, the source of the risk or the grouping of similar internet behaviours that may pose a risk. These classifications are of great importance in terms of increasing the diversity of online risks and providing different perspectives on the participants and variables examined in scientific research. Within the framework of the online risks addressed, unlike the online risks identified for children, technical security skills that children have not yet attempted or acquired, such as password transactions, data backup, financial transactions, damage to commercial reputation and profit, are addressed, and it is noteworthy that adults are at risk or at risk (Hasebrink et al., 2009; OECD, 2012; Byrne, et al., 2016; Digital Civility Study, 2018).

Apparently, Internet affects people's digital well-being by revealing the positive and negative opportunities it has recently offered. From this point of view, as a result of using the social media environment as an obsession far from the purpose, people are under the influence of an unrealistic life that is very different from their real lives and may not be satisfied with their lives, that is, their level of well-being may be low (Şahin et al., 2017). The fact that individuals mainly share only happy moments on social media platforms increases digital happiness because it leads to the desire to experience more happy moments and share more. Individuals who predominantly share good or happy moments fall behind in the concept of digital well-being because they avoid sharing when such moments are missing or not available (Leena et al., 2005; Beranuy et al., 2013; Stanovsek, 2018).

This study examines the complex relationships between the sub-dimensions of virtual risk perception and digital well-being, and virtual opportunity and digital satisfaction variables. It also investigates lifelong learning motivation, builds on the existing literature that explores the multifaceted dynamics of individuals' experiences in the digital domain. The study also addresses the potential mediating effect of lifelong learning motivation.

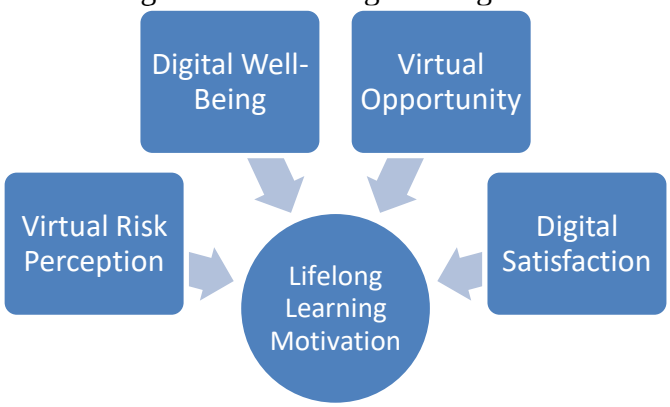

Figure 1. Research Design

Researchers have extensively investigated the importance of lifelong learning motivation in personal development and adaptation to the ever-evolving digital environment. Studies show that individuals with a strong motivation for continuous learning are more likely to effectively overcome the challenges presented by the virtual world. Lifelong learning motivation serves as a driving force that pushes individuals to discover new knowledge and interact with emerging technologies, contributing to their digital competence and adaptability.

Additionally, the literature emphasizes the importance of virtual risk perception in shaping individuals' behaviors and attitudes in digital environments. The perception of high levels of virtual risk may lead individuals to adopt cautious approaches, affecting their online activities and decision-making processes. This research aims to expand this perspective by investigating how virtual risk perception interacts with lifelong learning motivation and subsequently influences digital well-being.

The concept of digital well-being is gaining importance in contemporary research, which emphasizes the holistic assessment of individuals' pleasure (satisfaction), security and responsibility, and well-being (overall quality of life) in the digital age. Understanding the mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being will contribute to a nuanced understanding of the factors that influence individuals' experiences in the digital environment.

Consequently, by investigating the interaction between lifelong learning motivation, virtual risk perception and digital well-being, the study aims to provide a comprehensive perspective on how these variables interact and affect individuals' experiences in the digital world.

Literature Review

In order to better understand the relationships among variables related to lifelong learning motivation, it is thought that it is useful to examine topics such as virtual risk perception, digital well-being, and lifelong learning motivation in the literature.

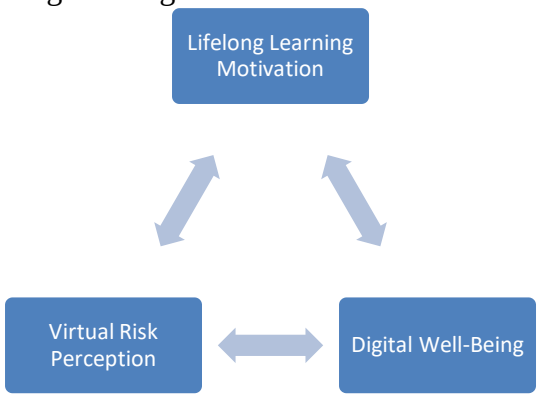

Figure 2. Theoretical Model

Virtual Risk Perception

The relationship between perception of virtual risk and its impact on various aspects of life has received significant attention in academic research. Virtual risk perception refers to individuals' subjective evaluations of potential risks in the digital or virtual environment. This perception can influence decision-making behavior and well-being. Various studies have

investigated the effects of virtual experiences in different contexts and shed light on their multifaceted impact.

Arar and Yurdakul (2022) investigated the relationship between cyberloafing and academic performance and emphasized that there is no statistically significant relationship between cyberloafing and academic performance perception, but they revealed the mediating role of cyberloafing in the same relationship.

By examining the relationship between the psychological well-being levels of healthcare professionals and virtual environment loneliness levels, it was emphasized that well-being and virtual experiences are interconnected. This study underlines the need to understand the potential effects of virtual environments on individuals' well-being (Şensoy & Çolak, 2020).

Additionally, the concept of "digitanomie" has been introduced by re-evaluating the concept of anomie in the context of internet media usage practices. This study aimed to investigate whether individuals' activities in digital and virtual spaces contribute to the state of digital anomie and to shed light on the potential social and psychological effects of virtual interactions (Kaya & Kılıç, 2021).

In conclusion, the synthesis of these studies highlights the multidimensional impact of virtual experiences and interactions on various aspects of life, including academics, health, psychological well-being, and social behavior. Understanding the complex relationship between virtual risk perception and its impacts is essential for addressing the challenges and opportunities presented by the digital and virtual environment.

Digital Well-Being

Digital well-being refers to the psychological, emotional and social well-being that individuals experience in digital environments. This concept is an important focal point for understanding the effects of digital interactions and technology use on individuals' general well-being. In a study conducted by Karaca and Lapa (2016), the sub-dimensions that make up the concept of psychological well-being were examined, and it was emphasized that elements such as establishing positive relationships with others, developing trustworthy relationships and empathy shape psychological well-being. In this context, it can be said that understanding how interactions in digital environments affect relationships between individuals emphasizes the importance of digital well-being.

Additionally, it is emphasized that stress and negative experiences in digital environments can affect individuals' well-being. In a study conducted by Polat (2022), it was stated that stress and indecision may have an impact on the well-being and general health of individuals. In this context, understanding how stress factors and negative experiences in digital environments affect individuals' psychological well-being is an important step to evaluate the effects of digital environments on health.

On the other hand, the effects of loneliness and virtual experiences in digital environments on well-being are examined. In a study conducted by Şensoy and Çolak (2020), it was stated that as individuals' psychological well-being levels increased, their virtual loneliness decreased. This is an important indicator for understanding how social interactions and experiences in digital environments affect psychological well-being.

Additionally, the relationship between digital well-being and learning tendencies is examined. In a study conducted by Cevher et al. (2016), it was emphasized that learning tendencies consist of elements such as motivation, persistence, competence in organizing learning and curiosity, and that it should be evaluated how these elements affect the digital well-being of individuals. In this context, understanding the effects of learning experiences in digital environments on individuals' digital well-being is an important issue in terms of education and technology integration.

As a result, digital well-being is an important concept that shapes the psychological, emotional and social well-being of individuals' experiences in digital environments. Understanding the sub-dimensions of this concept and how it relates to factors such as stress, loneliness, learning experiences and social interactions in digital environments is an important step to evaluate the effects of digital environments on individuals' well-being.

Lifelong Learning Motivation

Lifelong learning motivation is defined as the desire of individuals to continuously acquire, develop and apply knowledge and skills. This concept covers individuals' attitudes towards learning, their motivation, and their continuous improvement efforts. In a study where teacher candidates' perceptions of lifelong learning were examined according to various variables, it was stated that lifelong learning can be considered as a basic form of behavior that continues from cradle to grave (Oral & Yazar, 2015). This is an important indicator for understanding how lifelong learning motivation is perceived by individuals as a continuous search for development at every stage of life.

On the other hand, in a study examining the lifelong learning tendencies of teacher candidates, the opinions of graduate students, who are considered as future practitioners of lifelong learning, regarding their lifelong learning competencies were examined (Güven & Yıldırım, 2021). In this context, understanding the role of lifelong learning motivation in individuals' educational processes and how they are perceived as future practitioners is important to highlight the importance of the concept of lifelong learning in education.

In a study where the issues affecting learners' lifelong learning processes were determined as motivation, personal development, professional development, socialization and self-management, understanding how lifelong learning motivation affects the learning processes of individuals is important in terms of the management and effectiveness of learning processes (Kir & Bozkurt, 2020).

As a result, lifelong learning motivation is an important concept that shapes individuals' search for continuous development and their attitudes towards learning processes. Understanding the role of this concept in educational processes and its effects on the management of learning processes is important for the development of education and training strategies.

Research Model and Correlations

The relationship between virtual risk perception and digital well-being

The Virtual risks, also known as online risks, and digital well-being, which includes digital

satisfaction and wellness, is a critical area of study in the context of the pervasive impact of digital technologies on individuals' lives. Research by Stiglic and Viner (2019) provides insights into the effects of screen time on the health and well-being of children and adolescents and highlights the multifaceted impact of digital engagement on various aspects of well-being, including mental health and physical fitness. This highlights the complex relationship between digital activities and overall well-being, shedding light on the potential risks associated with excessive screen time and its effects on digital well-being.

Additionally, the study by Lomanowska and Guitton (2016) addresses the concept of online intimacy and well-being in the digital age, highlighting the need for comprehensive research to understand the relationship between online experiences and individuals' well-being. It therefore highlights the changing nature of digital interactions and their potential impact on individuals' emotional and psychological well-being and underlines the importance of addressing virtual risks in the context of digital well-being.

In addition, Dennis's (2021) research examines digital well-being under pandemic conditions and highlights the growing concern about digital well-being in the face of unprecedented societal changes and increasing dependence on digital technologies. This underlines the need to address the risks and challenges that arise due to the dynamic nature of digital well-being. Bregenzer and Jiménez (2021) highlight the role of leadership and organizational factors in reducing the impact of virtual risks on individuals' well-being in digital work environments.

As a result, the relationship between virtual risks and digital well-being is a multifaceted and evolving field of study that encompasses the complex interaction between digital activities, mental and physical well-being, and social factors. Understanding this relationship is crucial to developing interventions and strategies to promote digital well-being and reduce potential risks associated with digital participation.

At this point, the effect of individuals' virtual risk perceptions (virtual opportunity) on digital well-being (digital satisfaction) was examined and the following hypothesis was created within this framework:

H1: «There is a positive linear relationship between virtual risk perception and digital well-being.»

The relationship between virtual risk perception and lifelong learning motivation

The relationship between virtual risks and lifelong learning is a complex and multifaceted field of study that covers various dimensions of human development and adaptation to the digital environment. The research conducted by Lock et al. (2021) emphasizes that heutagogy and lifelong learning are intertwined and underlines the applicability of these principles to both blended and online learning environments. This shows that individuals' abilities to cope with virtual risks and challenges are closely linked to their capacities for self-management and continuous learning, which are necessary to adapt to the evolving digital environment.

Additionally, the study by Bjursell et al (2021) explores the potential contribution of telework to lifelong learning and shows that flexible working arrangements, including virtual working, can support lifelong learning activities that take place in a variety of contexts such as the office, home, online meetings, and virtual reality. This highlights the dynamic relationship between virtual work environments and continuous learning and skill development

opportunities and underlines the importance of adapting to virtual risks through continuous learning.

In addition, Salleh et al. (2019) revealed that there are positive relationships between self-directed learning and social networking sites in the context of lifelong learning. This suggests that individuals' relationships with virtual platforms and technologies can influence their motivation for continuous learning and potentially shape their ability to understand and mitigate virtual risks.

Also, the impact of lifelong learning on career sustainability amid digital transformation has been investigated by (Zhang et al., 2022), and the mediating effect of lifelong learning in the relationship between career competencies and sustainability has been highlighted. This shows that individuals' commitment to continuous learning can contribute to their long-term career success by increasing their capacity to adapt to virtual risks and technological developments.

As a result, the relationship between virtual risks and lifelong learning is a dynamic and evolving field of research that encompasses the interplay between digital environments, continuous skill development and adaptation to technological advances. Understanding this relationship is of great importance for individuals and organizations who want to overcome virtual risks and capitalize on the potential of lifelong learning in the digital age.

At this point, the effect of virtual risk perception (virtual opportunity) on lifelong learning motivation was examined and the following hypothesis was created within this framework:

H2: «There is a positive linear relationship between virtual risk perception and lifelong learning motivation.»

The relationship between lifelong learning motivation and digital well-being

The relationship between lifelong learning motivation and digital well-being is an important field of study that sheds light on the interaction between individuals' continuous learning tendencies and their general satisfaction and wellness in the digital field.

Additionally, the study by Sulak et al. (2022) examines the relationship between primary school teachers' digital literacy and lifelong learning tendencies and emphasizes that digital competencies and continuous learning are interconnected. This shows that individuals' digital literacy and lifelong learning motivation are intertwined, potentially affecting their digital well-being and adaptability to the digital age.

In addition, the study conducted by Bilgiç et al. (2021) emphasizes that the relationship between continuous learning and basic skills required in the digital age should be examined by investigating the effects of lifelong learning tendencies on critical thinking and computational thinking skills. This underlines the potential impact of lifelong learning motivation on individuals' cognitive abilities and ability to adapt to the digital environment, contributing to their overall digital well-being.

As a result, the relationship between lifelong learning motivation and digital well-being is a versatile and evolving field of study that covers the interaction between continuous learning tendencies, digital competencies, and the overall satisfaction and well-being of individuals in the digital age. Understanding this relationship is crucial to promoting digital well-being and

supporting the adaptation and success of individuals in the digital age.

At this point, the effect of lifelong learning motivation on digital well-being (digital satisfaction) was examined and the following hypothesis was formulated within this framework:

H3: «There is a positive linear relationship between lifelong learning motivation and digital well-being.»

The mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being

The mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being is a critical area of study that aims to understand the impact of individuals' continuous learning tendencies on their satisfaction and well-being in the digital environment. Research by Livingstone and Helsper (2009) highlights the role of online skills and internet self-efficacy in balancing opportunities and risks in young people's internet use, highlighting the importance of digital competencies in shaping individuals' online experiences and well-being. This underlines the potential mediating effect of lifelong learning motivation in improving individuals' digital skills and increasing virtual risk perception to improve digital well-being.

In addition, the study by Vissenberg et al (2022) explores the role of digital literacy and online resilience as facilitators of youth well-being and highlights efforts to improve media literacy and build online resilience to protect the well-being of children and youth online. This highlights the potential mediating role of digital literacy and resilience in reducing online risks and promoting digital well-being and underlines the importance of continuous learning in overcoming virtual challenges.

Adding to that, research by Livingstone et al. (2021) points to the importance of digital literacy development for young people's lives and well-being, as children and young people are exposed to potentially harmful online content, communication, behavior, or contractual threats. This underscores the need to understand the mediating mechanisms through which digital skills acquired through lifelong learning can influence individuals' well-being in the digital age.

Additionally, Staksrud et al.'s (2013) research examines how the internet skills of European young people aged 11-16 mediate between online risk and harm, shedding light on factors that change behavior and developing a user typology specifically related to online risk perceptions. This highlights the potential mediating role of internet skills in shaping individuals' responses to online risks and promoting digital well-being.

As a result, the mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being is a versatile and evolving field of study that covers the interaction between digital competencies, resilience, and individuals' overall satisfaction and well-being in the digital age. Understanding this relationship is crucial to developing interventions and strategies to promote digital well-being and reduce potential risks associated with digital participation.

At this point, the mediating effect of virtual risk perception (virtual opportunity) and lifelong

learning motivation on digital well-being (digital satisfaction) is discussed. In this context, the following hypothesis was formulated:

H4: «Lifelong learning motivation has a mediating effect on the relationship between virtual risk perception and digital well-being.»

Purpose and Importance of the Research

Understanding the effects of today's digitalization and ever-changing technological interactions on daily life and managing these experiences correctly has become a basic skill. Understanding the relationships between lifelong learning motivation, virtual risk perception and digital well-being clearly demonstrates the need to develop digital skills. Especially with the spread of online learning and innovative education platforms in recent years, individuals' motivation, risk perception and digital well-being play a critical role in distance education processes. Research conducted in this context can contribute to the development of more effective e-learning strategies and improving students' digital experiences.

Understanding the connections between lifelong learning motivation and digital well-being means exploring the effects of individuals' desire for continuous learning and their digital experiences on their personal well-being. This may suggest that individuals need to have strategies they can use to improve and maintain their quality of life. For these reasons, understanding the relationships between lifelong learning motivation, virtual risk perception, and digital well-being will help individuals and society act more effectively, safely, and satisfactorily in the digital world.

Various studies have investigated the mediating role in similar ways in various contexts. For example, Krok and Zarzycka (2020) investigated the mediating role of coping strategies in the relationship between COVID-19 risk perception and psychological well-being among healthcare personnel. Similarly, Afrashteh and Rezaei (2022) examined the mediating role of motivational strategies for learning in the relationship between formative assessment and academic well-being in medical students. These studies reveal results regarding mediating mechanisms in different fields.

Additionally, Naveed et al. (2022) investigated the mediating role of lifelong learning in the relationship between information literacy and job performance and emphasized the importance of lifelong learning in affecting these variables. Also, Wang and Liu (2022) shed light on the interaction between motivation and well-being by investigating the mediating role of resilience in the relationship between English learners' motivation and well-being.

Rehman et al. (2020) on the other hand, investigated the mediating role of social support and learning motivation in the relationship between burnout and psychological well-being, emphasizing the importance of support and motivation in reducing negative outcomes. Collectively, these studies underscore the importance of mediating factors such as coping strategies, motivated learning, and resilience in influencing well-being outcomes in a variety of contexts.

In summary, the literature on the mediating role of motivation in different relationships contains valuable information about the complex interaction with psychological factors. In this context, the aim of this research is to understand the mechanism between virtual risk perception and digital well-being and to explore the intervention of lifelong learning

motivation in this mechanism.

METHOD

In this section, research design, study group, data collection and data analysis are given.

Research Design

This study, relational design, one of the quantitative methods, was used to examine the direct or indirect relationships thought to exist between the variables discussed. Quantitative data create a general framework for the problem (Creswell & Clark, 2017). Structural Equation Model (SEM) was used to test the model. SEM analysis is the name of the statistical method used in many scientific fields (Kline, 2005).

In the nature of social sciences, there are many variables that cannot be directly observed. Variables that are theoretically assumed or known to exist and can be measured with the help of relevant indicators are unobservable variables (Şimşek, 2007). One way to reveal these structures, which are difficult to observe, almost like real objects, is to subject them to SEM analysis.

In SEM studies, the researcher(s) start with a theoretical framework. The most important feature of this theoretical framework is that it explains the relationship between the variables considered. Ultimately, the purpose of SEM is to reveal whether the established relationship patterns are verified through the collected data. The theoretical basis of the model that researchers will build must be established before it is tested with data (Şimşek, 2007).

Study Group

The study group of the research consists of a total of 140 people, 77 female and 63 male participants who can use digital technologies independently. Detailed information about the participants is included in the table below (see Table 1).

Table 1. Information About the Study Group

Variables	**Categories**	**N**	**%**
Gender	Female	77	55
	Male	63	45
Age	30 and under	26	18.58
	31-40 years old	72	51.42
	Over 40 years old	42	30
Education Level	High school	17	12.14
	Associate degree	14	10
	Undergraduate	91	65
	Postgraduate	18	12.86
	Total	140	100,0

In the literature, it is seen that young and middle age groups are used more intensively in studies conducted with similar variables such as virtual risk perception, virtual loneliness, and

cyber bullying. The average age of the study group is 34.2. The majority of the group has a bachelor's degree. Work experience is on average 12 years. The number of people who have no job is 24.

Data Collection Tools

Four data collection tools were used within the scope of this research. The first of these is the "Demographic Information Form" developed by the researcher to obtain personal information about the study group. The other three data collection tools are the Virtual World Risk Perception Scale, the Digital Well-Being Scale and the Lifelong Learning Motivation Scale. Detailed information about all data collection tools is presented below.

Demographic Information Form: This form, prepared to collect demographic information about the participants, includes questions on age, gender, education level and years of professional experience.

Virtual World Risk Perception *Scale (VWRPS)*: This tool consists of 26 items under 5 factors ("virtual corruption, virtual depreciation, virtual possibility, virtual opportunity and virtual awareness") by Arslankara and Usta (2018) in order to determine the risk levels of individuals in virtual environments. Factor analysis was performed within the scope of the validity studies of the scale. According to the KMO and Bartlett test values (KMO = .922, Bartlett = 3099.284, p = .000), it was deemed appropriate to perform factor analysis on the scale study. The Cronbach Alpha reliability coefficients for the sub-dimensions of the scale were measured as .63, .80, .68, .69 and .63 according to the factor order mentioned above, and the Cronbach Alpha value for the entire scale was determined as .82.

Digital Well-Being Scale (DWBS): The scale developed by Arslankara et al. (2022) to examine digital well-being states, as a result of the factor analysis carried out as a result of the KMO and Bartlett tests (KMO = .733, Bartlett = 900.800, p = .000). It consists of 12 items under three factors (digital satisfaction, safe and behavior, digital wellness). Cronbach Alpha reliability coefficients for the sub-dimensions of the scale were measured as .81, .73, .66 according to the factor order mentioned above, and the Cronbach Alpha value for the entire scale was determined as .79.

Lifelong Learning Motivation Scale (YBLMS): This scale was developed by Usta (2023). After conducting an exploratory factor analysis (KMO = .712 and Bartlett = 745.000, p = .000), confirmatory factor analysis was performed and the final version of the scale consisting of 11 items with 3 factors was obtained. Cronbach Alpha reliability coefficients for the subscales of the scale are .72, .61 and .60. The Cronbach Alpha value of the entire scale was determined as .66.

Analysis of Data

In the study, the theoretical model developed to explain the mediating effect of lifelong learning motivation on the relationship between virtual risk perceptions and digital well-being of individuals who spend time in digital technology and virtual environments was tested with SEM. Different parameters are used in the literature regarding fit statistics for SEM. Although there is no consensus on which parameters to use as a basis, it is recommended not to evaluate all parameters together (Garson, 2009; Uryan, 2010).

SEM, which allows different variables to be analyzed together in a structural model in terms of relationship, is a type of analysis that also takes into account errors caused by measurement (Bryne, 2006; Wan, 2002). In this way, the relationships between the variables can be explained by examining the compatibility of the established model and the data obtained. The compatibility between the established model and the data obtained is determined by looking at the indices as a result of the analysis.

Regression analyses in which there is only one dependent and independent variable and the relationship between these variables shows a linear course are called simple linear regression analyses (Alpar, 2011). There are some assumptions to apply simple linear regression analysis (Tabachnick, 2001). However, these assumptions are not required in mediation analysis. Mediation analyses are more flexible models than regression analyses. Namely, it is possible to construct mediation models suitable for all types of variables and their different combinations. Mediation analyses emphasise the causal relationship between variables and give the opportunity to analyse the strength of causality separately.

SPSS and JAMOVI software were used to analyze the data obtained. In structural equation modeling, the mediating roles of variables can be tested with different methods. Accordingly, in this test, the significance level of path c' is tested by using the unstandardized regression coefficients of paths a and b shown in Figure 3 and their standard errors. Accordingly, there are three comments to be made:

As the test result is significant and the regression coefficient of path c is insignificant, it is the exact mediator of lifelong learning motivation.

As the test was significant, but the regression coefficients between virtual risk perception and digital well-being were also significant, it was a partial mediator of lifelong learning motivation.

In the third case, the test result is not significant, indicating that lifelong learning motivation does not have any mediating role between virtual risk perception and digital well-being.

The models established for these steps are shown in Figure 3:

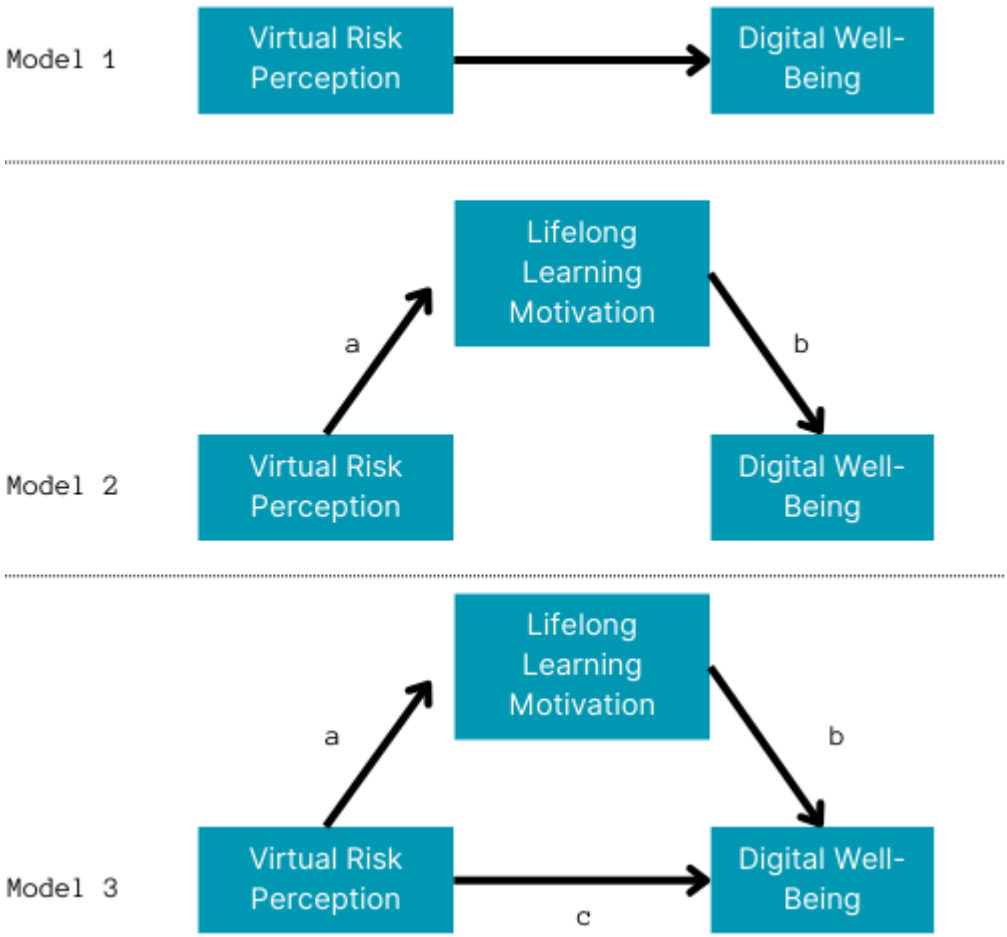

Figure 3. Mediation Model of Lifelong Learning Motivation for the Effect of Virtual Risk Perception on Digital Well-Being

In line with the purposes of the research, firstly the reliability analysis of the data collection tools was made, then the measurement model was analyzed and verified, and then the theory-based model regarding the mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being was tested and verified. In this regard, the findings of the analysis are given below.

Reliability Analyzes

Reliabilities of data collection tools were discussed on the basis of Cronbach Alpha and Mc Donald's w (Omega) coefficients. McDonald's w coefficient is called structural reliability (McDonald, 1985; Nunnally & Bernstein, 1994). The reliability analysis results conducted in this context are presented in Table 2.

Table 2. Reliability Analyzes

Scales	Lower Dimension	Number of items	a	w
Virtual World Risk Perception Scale	Virtual Opportunity	5	.81	.82
Digital Well-Being Scale	Digital Satisfaction	4	.90	.88
Lifelong Learning Motivation	All sizes	11	.89	.76

As seen in Table 2, according to Cronbach Alpha and McDonald's w (Omega) coefficients related to the reliability of the scales used in the study, it was determined that the reliability levels of all three scales were good (Tavşancıl, 2014).

FINDINGS

Mediation analysis was conducted to evaluate the mediating role of lifelong learning motivation in the link between virtual risk perception and digital well-being. Before the mediation analysis, the effects between the variables were examined with path analysis and results are presented in Table 3.

Table 3. Path Analyze

						95% Confidence Interval			
			Label	Estimate	SE	Lower	Upper	Z.	P
VirtualRisk	→	LifeLongLearning	a	0.5386	0.1153	0.313	0.765	4,671	< .001
LifeLongLearning	→	DigitalWellBeing	b	0.2346	0.0474	0.142	0.327	4,954	< .001
VirtualRisk	→	DigitalWellBeing	c	0.0192	0.0695	-0.117	0.155	0.277	0.782

The effects of independent variables on dependent variables in the study are given in Table 3. In this table, three different submodels were created in accordance with our model. In Model 1, the effect of virtual risk perception on lifelong learning motivation was measured. This effect was found to be positively significant (β = 0.5386, t=4.671, p<.001). Lifelong learning motivation has a positive significant effect on digital well-being (Model 2) (β = 0.2346, t=4.954, p<.001). The effect of virtual risk perception on digital well-being (Model 3) is not significant (β = 0.0192, t=0.277, p=.782). When the bootstrap confidence interval is examined, it is concluded that the first two models are significant and the other model is insignificant.

Table 4. Mediation Analyze

Total Effects c + a × b		**Direct Effects c**		**Indirect Effects of VRP on DWB a×b**					
Coefficient	p-value	Coefficient	p-value	Coefficient	SD	T value	P value	BI [2.5%;97.5%]	% Mediation
0.145	0.038	0.0192	0.782	0.1264	0.0372	3,399	0.000	0.05349; 0.199	86.8
			H4: VRP->LLM->DWB						

As seen in Table 4, the total effect of virtual risk perception on digital well-being along with lifelong learning motivation was found to be significant (H4: β = 0.1456, t=2.078 p<.05). With the inclusion of the mediator variable (LLM), the effect of virtual risk perception on digital well-being lost its significance (β = 0.0192, t=0.277 p=.782). The indirect effect of virtual risk perception on digital well-being through lifelong learning motivation was found to be significant (β = 0.1264, t=3.399 p<.001). Therefore, the significant relationships necessary for the mediator effect to occur have been identified. This shows that LLM fully mediates the relationship between VRP and DWB. The mediation percentage was determined to be a

strong 86%. It is also possible to read the same result as the bootstrap method confidence interval. Accordingly, since there is no 0 (zero) value in the confidence intervals of the indirect effect and the total effect, it is concluded that the relationships here are significant (β = 0.1264, SE= 0.0372, 95%CI= 0.05349; 0.199). The relevant data is shown graphically in Figure 4.

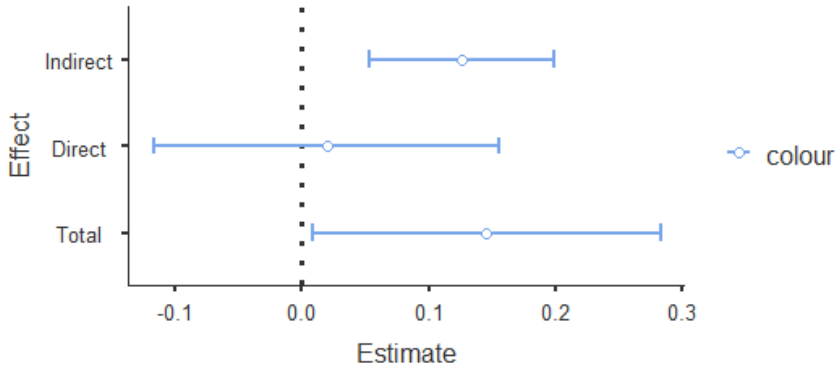

Figure 4. Graphical Representation of the Mediating Role of Lifelong Learning Motivation in the Relationship Between Virtual Risk Perception and Digital Well-Being

Conclusions, Discussions and Recommendations

The main purpose of this research is to find out whether lifelong learning motivation has a mediating effect on the relationship between the virtual opportunity variable, which is one of the sub-dimensions of virtual risk perception, and the digital satisfaction variable, which is one of the sub-dimensions of digital well-being, and if so, at what level. Because the mediating role of lifelong learning motivation in the relationship between virtual risk perception and digital well-being is a versatile and developing field of study that covers the interaction between digital competencies, well-being, and individuals' general satisfaction and security in the digital age. Understanding this relationship is crucial to developing interventions and strategies to promote digital well-being and reduce potential risks associated with digital participation. For this purpose, a survey was conducted by reaching 140 individuals from different age groups. The survey from which the research data was obtained consisted of 4 sections. Sections other than demographic information were collected using the Virtual World Risk Perception (VWRP) Scale developed by Arslankara and Usta (2018), Lifelong Learning Motivation (LLM) Scale developed by Usta (2023) and Digital Well-Being (DWB) Scale developed by Arslankara et al. (2022). The obtained data were first subjected to the normality test (Shapiro Wilk) and it was seen that the data exhibited normal distribution. The distribution data related to this is given in Table 5.

Table 5. Normality Test Results

	W	***p***
Virtual World Risk Perception (VWRP) Scale	.885	.243
Digital Well-Being (DWB) Scale	.744	.176
Lifelong Learning Motivation (LLM) Scale	.931	.074

Accordingly, it was observed that all three scales followed a normal distribution. In addition, when kurtosis and skewness values were analysed, it was found that the extremes were between -.352 and .245.

Table 6. Hypotheses of the Study

No	*Hypotheses*	*Status*
H1	There is a positive linear relationship between virtual risk perception and digital well-being.	Accepted
H2	There is a positive linear relationship between virtual risk perception and lifelong learning motivation.	Accepted
H3	There is a positive linear relationship between lifelong learning motivation and digital well-being.	Accepted
H4	There is an indirect positive linear relationship between virtual risk perception and digital well-being through lifelong learning motivation.	Accepted

The main hypothesis of the research is as follows. «Lifelong learning motivation has a mediating effect on the relationship between virtual risk perception and digital well-being.» Accordingly, as a result of the mediation test, it was seen that lifelong learning motivation was a full mediator variable on the relationship between virtual risk perception and digital well-being. In other words, it has been discovered that the effect of virtual opportunities on digital satisfaction occurs only with lifelong learning motivation.

Individuals' high-risk perception of virtual opportunities does not have a significant effect on their digital satisfaction. The greater the level of benefit perception that people expect from online platforms, the more they will spend time online. (Livingstone & Helsper, 2010). However, although there is a positive relationship, as the time spent online increases, the possibility of people being exposed to online security vulnerabilities or various threats increases (Hasebrink et al. 2011). Therefore, this situation may cause physical, psychological, and social difficulties based on internet addiction (Fumero et al. 2018). Wellness, one of the elements of digital citizenship, is accepted as well-being in the world of digital technology (Ribble, 2015). Many people, especially young individuals, are more vulnerable to mental health risks and addictions due to their low self-control skills and being prone to risky behavior (Diotaiuti et al. 2023). For this reason, adults should guide them to a healthy balance in their digital lives. When a different variable is included in this relationship, where no significant effect is observed, it is seen that the effect indirectly increases. The variable that creates this indirect effect is lifelong learning motivation. Lifelong learning motivation positively affects digital satisfaction. In other words, the effect of risk perception regarding virtual opportunities on digital satisfaction changes when lifelong learning motivation comes into play.

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