

The Mediating Role of Satisfaction in Distance Education in the Relationship between Attitude towards Distance Education and Online Motivation

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ABSTRACT

In this study, the attitudes of adult learners towards distance education were examined and the study motivation and satisfaction level of adult learners, which are two important factors affecting participation, continuation and even dropout, were examined. This study was conducted in a relational research design in quantitative research model and data were collected with the help of three relational scales. These scales are 'Attitude towards Distance Education Scale', 'Distance Education Satisfaction Scale' and 'Online Learning Motivation Scale'. In this study, there were 350 participants, 302 women and 48 men. Adult learners of distance pedagogical formation program were selected within the scope of *purposive sampling method*. *Regression analysis* was conducted with *the bootstrap method* to test the mediating role of motivational behavior in online learning in the effect of individuals studying via distance education on attitude towards distance education and satisfaction in distance education. Process macro developed by Hayes (2018) was used in the analysis. Accordingly, it was found that the indirect effect of attitude towards distance education on satisfaction with distance education was significant. Thus, it was determined that motivation in online learning mediates the relationship between attitude towards distance education and satisfaction with distance education. This study revealed that there is a significant positive relationship between attitude towards distance education and satisfaction with distance education. There is a significant positive relationship between attitude towards distance education and online learning motivation. There is a significant positive relationship between satisfaction with distance education and online learning motivation, and in the mediation model, it is seen that all path coefficients are significant in the mediation model of distance education students' attitudes towards distance education affecting their satisfaction with distance education through their online learning motivation.

Keywords: Adult education, distance education, motivation, satisfaction, participation

INTRODUCTION

Distance Education has been getting popularity with the advancement in technology. Within this popularity Distance Education concept is defined as a server to many groups in a modern society and the most remarkable one of the groups is the adults. The constant relationship between distance education and adult education is a field of study for many disciplines. Illeris (2010) explains that "computers and the Internet have opened a new learning space of rapidly growing importance, not least for adults". Distance education creates a new form of learning in adult education. "Clearly, technology and the information age that it spawned are changing the nature of adult learning" (Merriam et al., 2007).

Overall, while distance education is presented as a system that provides many benefits to adult learners, it is necessary to recognize and address its limitations and advantages in order to create an effective and inclusive learning environment for adult learners. "The instructional practices of faculty, course design and the opportunities for faculty-student interactions with the online environment can be predictors of student learning and satisfaction" (Grant and Thornton, 2007). Grant

and Thornton also reported that "unless faculty are provided opportunities to recognize and implement best teaching practices in online teaching environments, educational imperatives, such as students learning, retention and outcome assessments will be comprised."

To ensure the grantee of quality of distance education for adult learners, it is essential to use instructional design

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How to cite this article: Yalçınkaya D (2024). The Mediating Role of Satisfaction in Distance Education in the Relationship between Attitude towards Distance Education and Online Motivation. Pegem Journal of Education and Instruction, Vol. 14, No. 3, 2024, 126-133

Source of support: Nil

Conflict of interest: None

DOI: 10.47750/pegegog.14.03.12

Received: 19.10.2023

Accepted: 24.01.2023

Published : 01.07.2024

principles that focus on the needs and characteristics of adult learners. Adults' learning is so strictly depending on his or her life conditions and if they not find it meaningful they do not engage in learning and education (Merriam, et al., 2007). This is related with study motivation and need to learn. This includes designing courses that are relevant, engaging, and applicable to their personal and professional goals. In addition, course materials should be of high quality, regularly updated, and accessible in various formats to accommodate different learning styles and abilities (Granger, Bowman, 2003; Hannah, 2003; Holmberg, 1995).

All these elements are factors that increase motivation and determine the degree of satisfaction in distance education. As far as adults are concerned, for every adult, motivation is crucial for starting and continuing an education and they report that motivation is important to maintain educational goal achievement (Fernando et al., 2019). In discussions about the benefits and limitations of distance education, especially in adult learner-oriented programs, learners' level of satisfaction and study motivation are addressed when "the idea of lifelong learning can only be practiced successfully if sustainable ways to meet the needs of the adult learners can be developed and practiced" (Illeris, 2010).

Adult learners' motivation and satisfaction are crucial factors for the success of distance education. (Holmberg, 1995). This is not related with the system but it is related with the adult learners' characteristics. When adult learners are motivated and satisfied, they are more likely to involve in learning activities, complete the course requirements, and achieve their learning goals. Vicari and Silveria, (2003) explains that factor as; "We should keep in mind the peculiarities of distance education, mainly when it comes to the nature of its objectives and the characteristics of its clients, constituted mostly by young people or adults in a distributed establishment." "A great number of studies relieve that the strength of motivation goes hand in hand with the effectiveness of learning. Strong motivation leads to effective learning. "The students' success in distance education really depends on self-motivation" (Vicari, et al., 2003).

Attitude in distance education

In the most general definition, Çetin (2012) defines that "Attitude is a disposition that organizes an individual's thoughts, feelings and behaviors towards objects, ideas, institutions, events and other people. It belongs to the individual and ensures that the individual is consistent in his/her feelings, thoughts and behaviors." Based on this definition, it can be explained that attitude is a way of approaching and reacting to issues. Attitude in online education is related to all aspects of education in this environment, i.e. it includes

a wide range of practices and approaches, from course methodology and presentation to material use and student-teacher interaction and communication.

Sancez, Mejia and Bueno (2016) explain that attitude is structured by three dimensions. They are cognitive, affective and behavioral ones. Cognitive attitudes are perceptions and beliefs and affective attitudes are likes and dislikes, feelings or evoked emotions and behavioral attitudes are "actions or expressed intentions toward the object based upon the cognitive and affective responses". The effects of attitudes in online learning have been studied by many disciplines. In one of the research it is revealed that "The private university students' attitude is influenced by all factors except technical support" (Nasir, Neger., 2022). In a study "Results confirm a relationship between students' age, occupation and technology use in general, and between technology use and increased self-perceived confidence in digital competence in the distance language learning mode in particular." (Arrosagaray, Peitedado, Juste & Lopez., 2019). Silong and Samah (2002) in their research with working adults revealed that "the level of attitude among the respondents was only moderate. That is to say that a majority of them had moderate positive value towards online learning". In a study it is revealed that there is a significant positive relationship between the attitude towards distance education and motivation with distance education (Knowles et al, 2007). In another study, 574 undergraduate business students were examined at an Australian higher education institution. In the study the students' attitude toward online learning and its effect on their motivation and educational engagement were analyzed. In a similar study, the findings revealed that "Attitude to online learning mediated the relationships of both intrinsic motivation to know and extrinsic motivation with engagement, indicating that the design of online learning environments can play a role in enhancing learning experiences" (Ferret, J., Saville, A. K. et al., 2022).

In Turkiye, in a study of 500 undergraduate university students from a variety of disciplines, participants' motivation and attitudes were examined. The findings indicated that there is "statistically significant relationships between motivation and attitudes of the participants" (Genc, G., Kulusaklı, E., 2016). Similarly, Jiang et al. (2023) reported that in their study the findings revealed that online learning positively affected the learners' motivation, anxiety, and attitudes in distance education during the COVID 19 pandemic. Mubayrik (2022) in his research aimed to identify the attitudes of dental graduates toward distance learning and the findings revealed a positive attitude among graduates on the effectiveness of distance learning. In a study Yıldız (2011), findings indicated that pre-service teachers' experiences in

online synchronous learning environments and their pre-test and post-test attitudes towards distance education between the two groups showed a statistically significant difference in a positive direction. In addition, in a thesis study, Akkoloğlu (2022) found out that; When the relationship between the perceptions and attitudes of the students participating in distance education towards distance education is evaluated, it has been determined that there is a relationship between the perception score and the attitude score, which results in a high level of positive referral results. In a master's study conducted by Balci (2022) it was revealed that the attitudes of primary school teachers towards distance education are generally high but there are some other teachers that their attitudes are negative towards distance education.

Online learning motivation

Motivation is an emotional state required for learners to adapt themselves to any learning activity. Tohidi and Jabbari (2012) define motivation "Powering people to achieve high levels of performance and overcoming barriers in order to change". Holmberg (2005) claims that "It is clear that qualities such as willpower, self-discipline and so on are linked to motivation". Motivation is defined and explained by dividing it into various types. These are grouped as intrinsic motivation and extrinsic motivation. In learning actions that take place in online environments, motivation is studied as a situation that depends on the characteristics of the environment. Holmberg, (1995) states that "Intrinsic motivation is a crucial condition for learning" also adds "Emotional involvement in the study promotes deep learning and goal attainment" Adult learners often have a great number of responsibilities and commitments that's why they tend to distance education. Holmberg (1995) expresses that "Older, mature, and well-informed students may be assumed to be less likely than younger students to enroll unless they are strongly motivated". Motivation as a factor effecting learners' involving in distance education is studied by many researches. In the study conducted by Yoo and Huang (2013) it is reported that four motivational factors (intrinsic motivation, short-term extrinsic and long-term extrinsic motivation and technology causes and affects attitudes to participation in distance education. The instructors in distance education must care learners' motivation and learning environments has an effect on learners' motivation (Sarsar, 2012). Adult motivation in online learning is depend on purpose of enhancing proficiency to improve him/her and the discrepancy between present and wished level of proficiency is a stimulating motivation (Abdullah et al., 2008). Motivation can reverse the high dropout rates in online classes for adults so the

administrators of online programs must focus on motivation. Motivation was found to lead to persistence in adult learners (Park, et al., 2009). Studies related to variables similar to our research are as follows. In a qualitative case study Meşe and Sevilen (2021) indicated that participants have negative perceptions for online teaching and the participants believe that online teaching has a negative impact on their motivation and it is because of the some factors such as lack of social interaction, a discrepancy between expectations and content, and some structural inadequacy and learning environment. In a research conducted by Goulmaris (2015) '*The Relation between Distance Education Students' Motivation and Satisfaction*' was analyzed. The results were indicative that the students found the lesson satisfactory they were motivated and participated in it. Harnett et al. (2011) in their research found out that learners in distance education were not intrinsically motivated on the contrary of general idea that the motivation is intrinsic instead the research revealed that learner motivation was complex, multifaceted and sensitive to situational conditions. Researches about motivation in distance education and level of satisfaction relations it is confirmed that "students who have higher levels of motivation to learn also have higher levels of satisfaction with the educational process, and, higher quality performance in a distance education system" (Hannay and Newvine, 2006. Akt.; Marjerison, et al., 2020). From this point of view, it would be appropriate to explain satisfaction in distance education.

Satisfaction in distance education

The concept of satisfaction can be defined as "The relationship between the expectations of individuals and the performance they perceive from goods or services" (Aktepe et al., 2009). Since satisfaction is directly related to success in education, it is investigated in every type of education and in education that takes place in online environments, and the factors that affect student satisfaction positively or negatively and solutions are revealed.

Adult learners have a number of challenges such as work and family commitments (Park & Choi, 2009). In many studies it is investigated that adult learners' satisfaction is a remarkable sign of the quality of education (Moore & Kearsley, 1996). Therefore, some studies to seek what and how adult learners' satisfaction is developed in distance education are conducted. In a study it was revealed that an instructor needs to take into consideration the following predictors for satisfaction when planning an online course for adults; "Learning content, Knowledge acquisition,

Instruction, Learning Platform, Course design, Ability to transfer, Instructor presence and social support” (Zher Ng & Baharom, 2018). In another study undertaken in a Malaysian University, revealed that adult learners’ preferences towards satisfaction in a web-based learning environment, the learners were moderately satisfied for involving I-class system. The results of this study also revealed that “adult learners preferred to access i-class system at home and using their own laptop”. A local library or a café were not preferred by the learners and this also supports the Knowles’ idea (1990) that “adults are self-directed learners and normally they decided when and how to learn. (Baharudin et al. 2013). In the study at a public college in the southeast area of the United States about examining online adult learners programming to address their needs it is revealed that; “the overall results suggest that students experienced a high degree of satisfaction with the online adult learner-focused courses” (Todd et al., 2015). In Kauffman’s review (2015), it was revealed the fact of the learners was satisfied when their expectations were met in a distance education program and this satisfaction motivated them. In this review a number of factors which affect satisfaction in adult focused online learning environment including learning outcomes, learner characteristics, and instructional design were examined. Salı (2008) explains the motivational design theory and suggests the instructional processes need to be configured with attempts to increase satisfaction of the students besides attention, relevance and confidence in distance education.

The results of the studies show that motivation and satisfaction are interrelated. In the study conducted by Park and Choi (2009) it can be seen easily of distance education, losing motivation for online learners is not difficult so the course is needed to be designed to stimulate learners’ interaction and participation and surely meet the expectations. “Therefore, an online course needs to be designed in ways to guarantee learners’ satisfaction and be relevant to learners’ needs”. From the findings it can be summed that satisfaction level plays a crucial role on participation, persistence or dropouts in adult focused online courses. Satisfaction can have interrelated relationships and coefficient with other elements of distance education.

In this context, the results of this research will be important in terms of giving direction to adult focused distance education studies and determining the order of importance of the factors to be studied in this guidance research by examining the adult learners’ attitudes towards distance education and the roles of study motivation and satisfaction level of adult learners as two important factors affecting adult participation in distance education, persistence and even dropout of adults. In this context, it is thought to seek answers to the following research questions in our study.

1. Is there a significant relationship between attitude satisfaction and motivation?
2. Is there a mediating role of online learning motivation in the relationship between attitude towards distance education and satisfaction with distance education?

METHOD

The research was conducted using the relational survey method. The research consists of *Pedagogical Formation Trainees* studying at Selcuk University in the 2022-2023 academic years. Convenience sampling method was used in the research. 86.3% (302) of the participants were female (86.3%) and 13.7% were male (48).

Data collection tools

Attitude scale towards distance education:

The “distance education attitude scale”, which was used to determine the attitudes of individuals towards distance education, was developed by Arslan (2021). The scale has 5 sub-dimensions: “Satisfaction with the Facilities Offered by the University in Distance Education”, “Attitude towards Lecturers in Distance Education”, “Attitude towards Online Exams”, “Communication and Access in Distance Education”, “Comparison of Distance Education and Face-to-Face Education”. The scale consists of 22 items. In addition, the scale was created with a Likert-type five-point rating system (1=Strongly Disagree and 5=Strongly Agree).

Satisfaction scale in distance education:

It was developed by Kafes and Yıldırım (2021). The scale consists of 8 items. In addition, the scale consists of two dimensions: “Interaction” and “Accessibility”. It consists of a 5-point scale (1=Never Disagree and 5=Totally Agree).

Motivation scale in online learning:

The scale was developed by Chen and Jang (2010) and adapted into Turkish by Ozbasi, Cevahir, and Ozdemir (2018). In addition, the scale consists of seven sub-dimensions and 28 items. Although the scale is a 7-point Likert-type scale, some items of the scale need to be reverse coded as in the original scale. These items are items numbered 5, 12, 19 and 26. The lowest score for this scale consisting of seven sub-dimensions is 28 and the highest score is 196.

FINDINGS

In this section, in accordance with the purpose of the study, the findings and interpretations related to the results of the analysis of the sub-problems of the study are given respectively. As a result of t-tests conducted according to the

age and gender of university students, no significant difference was found between the groups in terms of research variables.

Table 1: Correlation analysis results for mediation test N=350

Variables	1.	2.
1.Attitude towards distance education		
2. Distance education satisfaction	.47***	
3. Online learning motivation	.24**	.24**

*p<.05, **p<.01, ***p<.001

As seen in Table 1, there is a significant positive relationship between the attitude towards distance education and satisfaction with distance education ($r = .47; p < .001$). There is a significant positive relationship between attitude towards distance education and online learning motivation ($r = .24; p < .01$). There is a significant positive relationship between satisfaction with distance education and motivation for online learning ($r = .24; p < .01$).

In the Figure 1, it is seen that all path coefficients are significant in the mediation model of distance education students' attitudes towards distance education affecting distance education satisfaction through their motivation in online learning. Attitude towards distance education predicts motivation in online learning positively ($\beta = .41, p < .001$), motivation in online learning predicts distance education satisfaction positively ($\beta = -.04, p < .01$), and attitude towards distance education predicts distance education satisfaction positively ($\beta = .25, p < .001$). The indirect effect was found to be (Indirect effect=.02 95% CI [.01, .04]).

As a result, when the above values are considered, it is seen that motivation in online learning has a partial mediating role between attitudes towards distance education and satisfaction with distance education. From this point of view, it can be said that individuals' attitude towards distance education will increase their satisfaction with distance education together with motivation in online learning. At the same time, it can be said that attitude towards distance education will increase motivation behavior in online learning. In addition, the findings regarding the lower and upper limits of bootstrapping confidence intervals are given in Table 2.

Regression analysis was conducted with bootstrap method to test the mediating role of motivation behavior in online learning in the effect of individuals receiving distance education on the attitude towards distance education and satisfaction with distance education. Process macro developed by Hayes (2018) was used in the analysis. The results of the

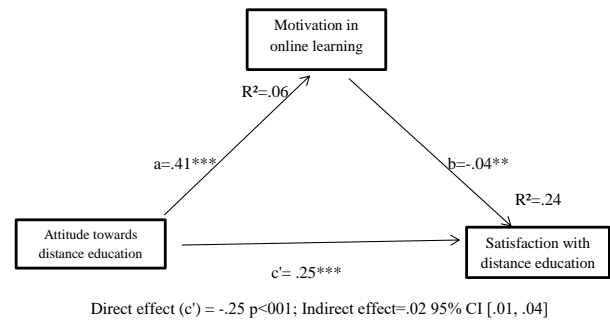


Fig. 1: The mediation model

Table 2 Regression results for mediation test N=350

Variables	Motivation in online learning				Distance education satisfaction			
	β	SH	LLCI	ULCI	β	SH	LLCI	ULCI
Attitude towards distance education (X)	.41***	.09	.23	.59	.25***	.03	.20	.30
Motivation in online learning (M)					.04**	.02	.01	.07
	R²=.56				R²=.24			
	F(1;348) 20,36 ;p .001				F(2;347) 55.58;p .001			
	Attitude towards distance education → Motivation in online learning → Satisfaction in distance education							
	Bootstrap indirect effect $\beta=.02$ % 95 GA [.01, .04]							

*p<.05, **p<.01, ***p<.001, n=350, SH= Standard Error LLCI= Lower confidence interval, ULCI= Upper confidence interval, Bootstrap resampling = 5000, reported as unstandardized beta coefficients (β).

analysis are given in Table 2. Accordingly, it was found that the indirect effect of attitude towards distance education on distance education satisfaction was significant. Thus, it was determined that motivation in online learning mediates the relationship between attitude towards distance education and satisfaction with distance education Indirect effect=.02 95% CI [.01, .04]. Bootstrap confidence interval values cover "0". Therefore, the hypothesis of the study was supported.

DISCUSSION

As a result of t-tests conducted according to the age and gender of university students, no significant difference was found between the groups in terms of research variables.

There is a significant positive relationship between students' attitudes towards distance education and satisfaction with distance education. This result was found to be consistent with some studies; Sancez, Mejia and Bueno (2016), Silong and Samah (2002), (Abdullah et al., 2008) (Arrosagaray, Peitedado, Juste ve Lopez., 2019), (Todd et al., 2015). On the contrary, some studies indicate negative attitudes towards distance education as in Balci (2022). In some other studies it is revealed that attitudes are dependent on some practices in distance education such as (Yıldız (2011), (Mubayrik, 2022).

There is a significant positive relationship between attitude towards distance education and online learning motivation. When the literature is examined, it is seen that there are studies such as (Knowles et al., 2007), Yoo and Huang (2013), (Ferret, Saville, et al., 2022) and (Genc & Kulusaklı, 2016) in which similar results are obtained. Mese and Sevilen (2021) and also Jiang et al. (2023) can be given as examples.

There is a significant positive relationship between satisfaction with distance education and online learning motivation and attitude towards distance education predicts motivation in online learning positively, motivation in online learning predicts satisfaction with distance education positively, attitude towards distance education predicts satisfaction with distance education positively. From this point of view, it is determined that motivation in online learning mediates the relationship between attitude towards distance education and satisfaction with distance education. Bootstrap confidence interval values for indirect effect include "0". Online learning motivation has a mediating role in the relationship between attitude towards distance education and satisfaction with distance education. Accordingly, it was found that the indirect effect of attitude towards distance education on distance education satisfaction was significant. Thus, it was determined that motivation in online learning mediates the relationship between attitude towards distance education and satisfaction with distance education. Therefore, the

hypothesis of the study was supported. In Kauffman's review (2015) the similar results are shown. In the researches such as; Goulimaris (2015), Salı (2008), Choi (2009) and (Baharudin et al. 2013) the similar results were obtained. In the study conducted by Baharudin, it is seen that adults' motivation and satisfaction is affected by some factors and these can develop the attitudes towards distance education practices.

Data availability

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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