

## BEHIND-THE-SCREEN BONDS: THE MEDIATING ROLE OF PARASOCIAL RELATIONSHIPS IN PREDICTING LIVE SESSION PARTICIPATION AND EWOM IN OPEN AND DISTANCE LEARNING

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### ABSTRACT

This study, conducted within Anadolu University's Open Education System, examines the effects of learners' attitudes, subjective norms, and perceived behavioral control, as conceptualized in the Theory of Planned Behavior (TPB), on their intention to participate in live sessions and their intention to engage in electronic word-of-mouth (eWOM). It also tests the direct effect of parasocial relationships with instructors on these intentions, as well as their mediating role between TPB variables and behavioral intentions. Using the quantitative research method with a correlational research design, data were collected via an online survey from 475 open and distance learners who had attended at least one live session during the 2023–2024 fall semester. Data were analyzed using SPSS 25 and SmartPLS 4.0. Findings show that positive attitudes toward live sessions, high perceived behavioral control, and strong parasocial relationships significantly and positively influence both participation and eWOM intentions. Subjective norms had no direct significant effect but showed a significant indirect effect through parasocial relationships. The model demonstrates that parasocial relationships strongly predict behavioral intentions and serve as a key mediating variable, enhancing the effects of TPB variables. In conclusion, emotional bonds with instructors and screen-based social interactions strengthen participation and eWOM intentions. Interactive, learner-centered, and socially engaging strategies are recommended to enhance the effectiveness of live sessions in open and distance learning, capitalizing on digital communication opportunities.

**Keywords:** Digital communication, open and distance learning, instructional technologies, live sessions, parasocial relationships, eWOM, theory of planned behavior.

### INTRODUCTION

New communication technologies, which have become a key element of the digital age, are redefining concepts like visibility, interaction, and representation not only from individuals' perspectives but also from

institutions, content, and information flow. In particular, the development of digital communication through socio-technical systems is causing shifts in communication processes around platforms, algorithms, and media visibility (Petre et al., 2025). In light of this, the impact of digitalization on higher education cannot be limited to the use of technical tools; learners' communication habits, interaction patterns, and learning motivations are also directly influenced by this transformation. Indeed, the widespread adoption of digital communication technologies in higher education settings is reshaping access to information, participation levels, emotional attachment, and digital visibility (Stehle et al., 2024).

In line with this shift, the Anadolu University Open Education System, a pioneer in open and distance learning in Türkiye, is creating interactive learning environments that utilize synchronous learning technologies. In this context, live sessions can also be considered as an instructional technology that enables real-time interaction between instructors and learners. Specifically, live sessions offered through the Anadolium eKampus (the learning management system of the Anadolu University Open Education System) platform allow instructors to support the learning process through live narration, question-and-answer sessions, and learning reinforcement activities. These sessions planned for approximately 400 to 500 different courses each academic term, are conducted over 12 weeks following a systematic schedule (Ozturk et al., 2023). Such synchronous session implementations not just foster cognitive engagement but also promote emotional and interpersonal experiences for learners. This interactive format also helps describe the emotional attachment learners develop toward teaching staff using the concept of parasocial relationships in mass communication theory (Horton & Wohl, 1956; McLaughlin & Wohn, 2021).

The concept of parasocial relationships, which was initially considered only in the context of television, has become more visible in the digital age on synchronous video-based platforms, and the bonds formed with figures on the screen have blurred the boundaries between interpersonal and mass communication (Wohn et al., 2018; Beautemps & Bresges, 2022). This relationship, which can develop toward instructors in live sessions, can affect learners' attention and participation in the sessions; research shows that parasocial relationships have a significant impact on learning motivation (Beautemps & Bresges, 2022; McLaughlin & Wohn, 2021).

On the other hand, these interactions encourage individual participation and promote referential communication behaviors that contribute to other learners' participation in live sessions by sharing their positive experiences with the sessions or instructors on digital platforms. This trend, referred to as electronic word-of-mouth (eWOM) intention, is considered an effective factor in the reputation and desirability of higher education institutions (Rabah et al., 2024; Ismail, 2025; Prayustika et al., 2022).

In this context, the Theory of Planned Behavior (TPB), which is frequently used to explain individuals' intentions to perform a specific behavior, also provides a functional theoretical basis in online learning environments. According to TPB, behavioral intention is shaped by an individual's attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). The theory has been tested for validity in different contexts and provides a comprehensive explanatory power, particularly in understanding decisions to participate in live sessions in online learning (Tan et al., 2025; Vo & Nguyen, 2025; Molaei-Zardanjani et al., 2019).

This study aims to examine the effects of learners' attitudes, subjective norms, perceived behavioral control, and the level of parasocial relationships they develop with instructors in live sessions conducted in the Anadolu University Open Education System. It also examines their intention to participate in live sessions and their eWOM intention. The research problem is to reveal the effects of attitudes, subjective norms, perceived behavioral control, and parasocial relationships related to live sessions on both intentions. It is also to test theoretically and empirically whether parasocial relationships play a mediating role in the effects of attitudes, subjective norms, and perceived behavioral control on these two dependent variables. In this regard, the study proposes an original theoretical model that integrates TPB and parasocial relationships theory in the context of digital learning, aiming to contribute to the literature.

The original value of this research lies in being among the first to examine the effects of live sessions on learner behavior in the entirely online Open Education System within a theoretical and comprehensive framework. These live sessions are widely used not only for pedagogical purposes but also as learning materials developed with various institutional resources and designed with an emphasis on sustainability. In this regard, the findings on the effectiveness of live sessions may contribute to the development of digital teaching strategies, support evidence-based institutional decision-making, and guide further research in the field.

## CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Under this heading, the conceptual framework is examined, and the research hypotheses are addressed.

### TPB and Intention to Participate in Live Sessions

TPB is a theory developed to understand and explain individuals' intentions to perform a specific behavior. According to TPB, an individual's behavioral intention is determined by three basic constructs: attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). This theoretical framework has been successfully applied in various studies to explain individuals' behaviors in adopting new technologies, using online learning platforms, and participating in digital learning activities (Hadadgar et al., 2016; Rajaratnam, 2025; Vo & Nguyen, 2025).

Attitude refers to an individual's positive or negative evaluation of a particular behavior. Positive attitudes toward live sessions can directly influence learners' willingness and intention to participate in these sessions (Rajaratnam, 2025; Vo & Nguyen, 2025). In this scope, the interactive structure of live sessions, their accessibility, and their contribution to academic achievement are decisive factors in shaping attitudes. According to the theory, an individual's intention to exhibit a behavior is influenced by his/her attitudes toward that behavior (Tan et al., 2025). Learners' positive attitudes, such as finding live sessions helpful, easy, and flexible in achieving their learning goals, can increase their intention to participate in these sessions (Xu et al., 2024). In general, if learners believe they are able to use technology effectively, they are more likely to develop positive attitudes toward adopting that technology (Tan et al., 2025; Xu et al., 2024). These positive attitudes may increase the intention to use technology (Maria et al., 2011; Yan & Sin, 2014). Therefore, positive attitudes toward live sessions may increase learners' intention to participate in these sessions.

H1: Learners' positive attitudes toward live sessions have a positive effect on their intention to participate in them.

Subjective norms include the expectations of an individual's social environment (family, friends, teaching staff, etc.) and the desire to conform to these expectations (Ajzen, 1991). Guidance and support from learners' social circles regarding participation in live sessions may shape subjective norms and influence their intention to participate (Dijks et al., 2024). Indeed, learners, primarily through teaching staff, friends, or social media environments, may develop motivation to participate in such sessions based on the expectations shaped by these environments (Vo & Nguyen, 2025). Therefore, in the context of live sessions, peers or teaching staff emphasizing the importance of participation or creating social pressure in this direction may increase learners' intention to take part in them.

H2: Subjective norms positively affect the intention to participate in live sessions.

Perceived behavioral control includes an individual's belief in their ability to perform a specific behavior and their assessment of external factors that may hinder or facilitate it (Ajzen, 1991). Factors such as learners' access to technology, time management competence, and the ease of use of the platform shape this dimension and may directly affect behavioral intention (Hadadgar et al., 2016). The literature indicates that high perceived behavioral control has significant predictive power over behavioral intention (Yan & Sin, 2014). Therefore, perceived behavioral control may play a decisive role in shaping learners' intention to participate in live sessions.

H3: Perceived behavioral control positively impacts the intention to participate in live sessions.

### TPB and eWOM

eWOM refers to individuals sharing their opinions, suggestions, and evaluations of products, services, or experiences with others through digital media (Shu et al., 2025). Unlike traditional word-of-mouth communication (WOM), eWOM occurs in digital environments such as social media platforms, blogs, online forums, and user review systems. In this regard, eWOM is more permanent, measurable, and accessible to a broader audience (Xu et al., 2024; Ismail, 2025). In online environments such as open and distance learning, learners sharing their experiences through this type of digital communication constitutes an important area of study.

A positive learner attitude toward live sessions may indicate that the experience is considered valuable, practical, and effective. Such experiences often encourage learners to recommend them to others and share them on digital platforms. Studies in the literature have shown that individuals' positive evaluations of a product or service significantly increase their intention to share eWOM (Beck et al., 2023; Yang et al., 2024). Similarly, Dijks et al. (2024) found that learners' positive attitudes toward online learning directly influence their eWOM intention. Particularly in situations where there is a high degree of uncertainty in online learning processes, eWOM messages serve as an important reference for learners and shape their behavioral intentions toward learning platforms (Beck et al., 2023; Dijks et al., 2024). Therefore, learners who develop positive attitudes toward live sessions are more likely to share their experiences in online environments. In the context of live session environments, learners' tendency to share their views on these experiences in digital spaces influences both other learners' perceptions and the adoption of systems.

H4: Learners' positive attitudes toward live sessions positively affect eWOM intention.

According to TPB, individuals tend to form stronger intentions toward behaviors that are approved or encouraged by their social environment (Ajzen, 1991). Rahimi-Feyzabad et al. (2023) have shown that the intention to create and share content on social media is significantly related to individuals' perception of environmental approval. Similarly, Kusawat and Teerakapibal (2024) have emphasized that eWOM intention is shaped by community norms and social influence. Therefore, learners who receive positive feedback from their environment about the benefits of live sessions, or who believe such behaviors are socially approved, are more likely to share their experiences of these sessions with others.

H5: Subjective norms positively influence eWOM intention.

When learners believe they are able to use digital tools effectively and feel they have access to these tools, they may be more willing to engage in content-based actions such as eWOM intention (Prayustika et al., 2022). Xu et al. (2024) have found that perceptions of self-efficacy and ease of use regarding digital platforms play an important role in eWOM intention. Similarly, Prayustika et al. (2022) have emphasized that individuals' technical skills are a facilitating factor in eWOM behavior. Learners' willingness to share their live sessions experiences in a digital environment depends not only on their desire to share but also on their belief that they can do so (Shu et al., 2025). Thus, it is thought that individuals with high perceived behavioral control will have higher eWOM intentions.

H6: Perceived behavioral control positively affects eWOM intention.

## **TPB and Parasocial Relationships**

Parasocial relationships refer to the symbolic and emotional bonds that individuals develop with media characters (Rubin et al., 1985). Such relationships are shaped by viewers perceiving media figures as friends, trusting them, and feeling emotionally close to them without having met face-to-face (Qi et al., 2025). With digitalization, these relationships are no longer limited to traditional media such as television or radio; they are also established with social media users, YouTube content creators, and even instructors in online education environments (Beautemps & Bresges, 2022; Ilhan & Ciltas, 2023).

Especially in distance education-based structures such as the Open Education System, live sessions are environments where learners interact with instructors in a synchronized manner (Ozturk et al., 2023). Within this scope, the instructor's on-screen presence, presentation style, indirect interaction with learners, and personal narratives can lay the groundwork for the development of parasocial relationships among learners (Balci et al., 2020). Therefore, live sessions are not only technical sessions where information is transferred but also media representations in which social bonds based on digital interaction are established (Goksel, 2022).

Learners may develop a sense of familiarity and trust toward instructors over time by observing their attitude, expertise, narrative style, and communication style (Vo & Nguyen, 2025). The parasocial relationships formed during this process can shape learners' sense of ownership of the session, their continued participation, and their level of attention to the instructors' recommendations. In structures with a large learner body and limited physical contact, such as the Open Education System, these types of digital social bonds are a critical indicator for understanding learner engagement and learning motivation (Shabahang et al., 2024).

A positive attitude toward live sessions may lead learners to listen more attentively to the instructor, become more emotionally engaged in the session, and find the teaching process meaningful (Tukachinsky et al., 2020). Such positive experiences can also encourage learners to view the instructor not only as a source of information but also as a social figure. Over time, this may strengthen parasocial relationship indicators such as emotional closeness, desire for interaction, and familiarity toward the instructor (Ugurhan & Yasar, 2022). Kowert and Daniel Jr. (2021) state that the basis of viewer–familiar relationships lies in the individual’s positive evaluation and level of attention. Similarly, Beautemps and Bresges (2022) emphasize that learners’ positive experiences with instructors in digital environments strengthen parasocial bonds. In environments with limited physical contact, such as the Open Education System, the transformation of teaching staff into a “close figure” through live sessions may increase learners’ levels of parasocial relationship (Qi et al., 2025).

H7: Learners’ positive attitudes toward live sessions positively affect parasocial relationships.

When learners observe that their peers or social environment find a particular instructor or live sessions valuable and consider this interaction meaningful, they may become more willing and motivated to establish a connection with the same instructor in a digital environment. Hoffner and Buchanan (2005) have demonstrated that emotional closeness toward media figures, developed through the influence of the social environment, strengthens parasocial relationships. Similarly, McLaughlin and Wohn (2021) have noted that social norms and group effects shape viewer behavior on live streaming platforms and that these factors can increase parasocial relationships. In this regard, positive feedback and expectations from the environment increase the likelihood of learners developing social attachment toward the instructor and may elevate the level of parasocial relationships.

H8: Subjective norms positively affect parasocial relationships.

Learners who are highly confident in their technical proficiency, access to digital tools, and time management in live session settings are able to follow instructors more easily, make comments, and engage in digital communication. This sense of interactive competence may enable learners to observe instructors more closely and feel emotionally closer to them. McLaughlin and Wohn (2021) have emphasized that the perception of individual control and the freedom to interact are decisive factors in establishing parasocial relationships in digital environments. Similarly, Qi et al. (2025) have demonstrated that individuals’ feelings of behavioral competence shape helper and friend types of parasocial relationships and that these competencies are practical in developing emotional closeness. In this regard, the level of behavioral control perceived by learners in live sessions may affect the development of a parasocial relationship with the instructor.

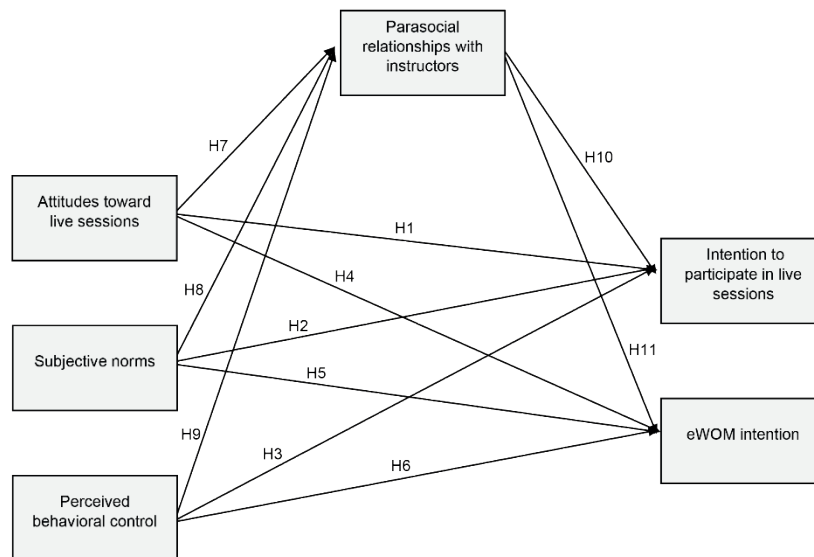
H9: Perceived behavioral control positively affects parasocial relationships.

The parasocial relationships established with the instructor in the Open Education System can act as an emotional catalyst for both learners’ intention to participate in live sessions and their eWOM intention. Xu et al. (2024) demonstrated that subjective norms and perceived behavioral control in the use of information and communication technologies are reinforced through eWOM. The same study emphasized that trust mediates this relationship and strengthens behavioral intention. Parasocial relationships are considered one of the fundamental sources of emotional trust (Qi et al., 2025). Wong et al. (2025) revealed that, in the context of online health communication, the parasocial relationships users develop with content creators strongly influence behavioral intentions.

H10: Parasocial relationships positively affect the intention to participate in live sessions.

H11: Parasocial relationships positively affect eWOM intention.

In the context of what has been discussed so far, the research hypotheses for the model without mediating effects are summarized in Figure 1.



**Figure 1.** Research Hypotheses without Mediating Effects

### TPB and Parasocial Relationships

Parasocial relationships may have indirect but meaningful effects on the cognitive components that shape individuals' behavioral intentions (Qi et al., 2025). In particular, parasocial relationships can strengthen the effects of variables such as attitude, subjective norm, and perceived behavioral control on intention through a mediating mechanism. In their study examining live streaming platforms, McLaughlin and Wohn (2021) have shown that the effects of attitudes and subjective norms gain meaning through the emotional bonds—namely, parasocial relationships—those viewers establish with content creators. Research conducted in an educational context confirms the power of TPB variables in explaining behavioral intention (Hadadgar et al., 2016) while reporting that the effects of these variables are mediated through intermediary mechanisms. Furthermore, Hadadgar et al. (2016) have noted that, specifically in the context of online medical education, perceived behavioral control and attitudes have significant effects on e-learning intentions, and that contextual factors can strengthen these effects. Similarly, Qi et al. (2025) have revealed that individuals' attitudes and perceived behavioral competence can shape the effect on behavioral intentions through parasocial relationships. Thus, parasocial relationships may play a mediating role in the effect of attitudes toward live sessions, subjective norms, and perceived behavioral control on learners' intention to participate in live sessions and their eWOM intention. Consequently, these effects may emerge indirectly through parasocial relationships established with instructors.

H12: Parasocial relationships mediate the effect of attitudes toward live sessions on the intention to participate in live sessions.

H13: Parasocial relationships mediate the effect of subjective norms on the intention to participate in live sessions.

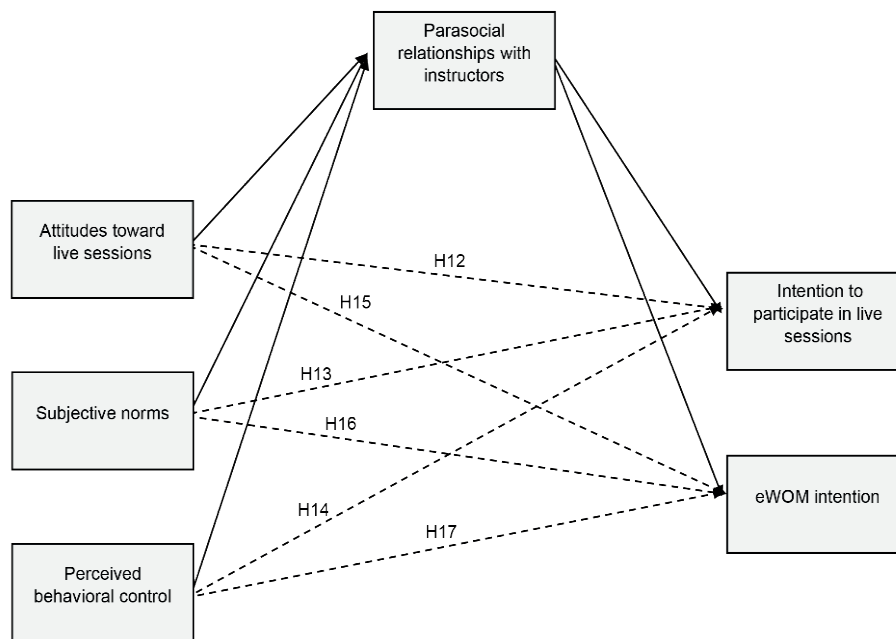
H14: Parasocial relationships mediate the effect of perceived behavioral control on the intention to participate in live sessions.

H15: Parasocial relationships mediate the effect of attitudes toward live sessions on eWOM intention.

H16: Parasocial relationships mediate the effect of subjective norms on eWOM intention.

H17: Parasocial relationships mediate the effect of perceived behavioral control on eWOM intention.

The research hypotheses for the model with mediating effects are summarized in Figure 2.



**Figure 2.** Research Hypotheses with Mediating Effects

## METHOD

In this study, the correlational research design, a sub-model of quantitative research methods, was employed. This design aims to describe the current situation and reveal the relationships between specific variables (Creswell & Guetterman, 2021). The research model and mediating effects were tested through structural equation modeling (Hair et al., 2017). The study focused on open and distance learners who participated in live sessions at least once during the fall semester of the 2023–2024 academic year in the Open Education System. Learners’ attitudes toward live sessions, subjective norms, perceived behavioral control, and the levels of parasocial relationships they developed with instructors were evaluated. In addition, the effects of these variables on the intention to participate in live sessions and on eWOM intention were examined. The study group, data collection tools, and data analysis process related to the research design are presented in detail under the following subheadings.

### Participants

The study group consisted of open and distance learners who participated in live sessions at least once during the fall semester of the 2023–2024 academic year within the scope of the Open Education System. In this regard, purposive sampling was employed in the study (Creswell & Guetterman, 2021). An online survey form was administered to the relevant learners via the Anadolu eKampus platform during live sessions, and participation was voluntary. The fall semester lasted for a total of 12 weeks, and the data collection process was conducted throughout the semester.

### Data Collection Tools

The research survey form comprised three separate measurement tools, structured under the theoretical framework of the research and adapted to the study context by ensuring content validity. These measurement tools, in order, were the TPB scale, the parasocial relationships scale, and the eWOM intention scale.

The TPB scale, presented in the first section of the survey, was used to assess the attitudes of open and distance learners toward live sessions and their intention to participate in them. The scale consists of four sub-dimensions: attitude (attitudes toward live sessions), subjective norms, perceived behavioral control, and behavioral intention (intention to participate in live sessions). Comprising a total of 12 items, the scale is

structured using a five-point Likert-type rating (*1 = Strongly Disagree; 5 = Strongly Agree*) and was developed based on items created by Yilmaz and Dogan (2016) and Kutluk Bozkurt and Avcikurt (2019), which have undergone validity and reliability analyses.

The parasocial relationships scale, presented in the second section, aims to measure the level of parasocial relationships developed by open and distance learners toward instructors conducting live sessions. The scale has a unidimensional structure and consists of five items. All items are evaluated using a five-point Likert-type response scale (*1 = Strongly Disagree; 5 = Strongly Agree*), and the validity and reliability analyses were conducted by Ugurhan and Yasar (2022) as part of their adaptation into Turkish.

The eWOM intention scale, presented in the third section, was used to determine learners' intentions to recommend live sessions to individuals in their environment, friends, or other learners through digital platforms. This unidimensional scale consists of three items. It also employs a five-point Likert-type rating (*1 = Strongly Disagree; 5 = Strongly Agree*). Akin and Ozturk (2023) tested the validity and reliability of the Turkish version.

The process of adapting the three scales to the contexts of open and distance learning and digital communication, as well as ensuring their content validity, was carried out through a focus group discussion with the participation of three academics specializing in distance education and communication studies (Sousa & Rojjanasrirat, 2011). During the session, comprehensive feedback was obtained regarding the organization of the scale items in terms of content, the restructuring of statements to suit the context, and their final wording. The necessary adjustments were made immediately during the same session, and the scales were approved for use by each expert in terms of content validity. Thus, content validity was established.

The demographic information form, which constitutes the final section of the survey, contains questions regarding participants' gender, age, admission type, degree level, and average daily time spent on Anadolu eKampus during intensive study periods. Data collection started after obtaining approval from the Anadolu University Social and Human Sciences Scientific Research and Publication Ethics Committee.

## Data Analysis

Microsoft Excel software was used to combine, preprocess, and clean the data obtained in the study; statistical analyses were performed using SPSS 25 and SmartPLS 4.0. To assess the validity and reliability of the data collection tools, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and Cronbach's  $\alpha$  internal consistency coefficient were used. In testing the structural model developed within the scope of the research, variance-based structural equation modeling (PLS-SEM) was employed. Therefore, the research hypotheses were empirically tested through PLS-SEM.

## FINDINGS

Data were collected from a total of 477 participants. Before proceeding with the analysis, the assumption of normal distribution was examined using statistical tests. Mahalanobis distances were calculated for the items to assess multivariate normality; two (2) observations exceeding the critical chi-square value—considered significant at the  $p < .001$  level based on the number of items—were identified as outliers and removed from the dataset (Arifin, 2015, pp. 71–72). Following this process, the assumption of univariate normality was tested using the remaining 475 cases. Given that the sample size was  $n > 300$ , the criterion was based on each variable having an absolute skewness value not exceeding 2.0 and an absolute kurtosis value not exceeding 7.0. The evaluation indicated that none of the variables exceeded these threshold values (Kim, 2013, p. 53). Consequently, analyses conducted with the remaining 475 cases confirmed that the dataset met both univariate and multivariate normality assumptions (Kim, 2013; Arifin, 2015).

## Findings Related to Participants

Demographic information on the gender, age, admission type, degree level, and average daily time spent on Anadolu eKampus during intensive study periods among the study participants is presented in Table 1.

**Table 1.** Demographic characteristics of the participants

Demographic Characteristic	Group	n	%
Gender	Female	228	48.0
	Male	247	52.0
	Total	475	100.0
Age	18-29 years	203	42.7
	30-39 years	133	28.0
	40-49 years	72	15.2
	50 years and above	67	14.1
	Total	475	100.0
Admission Type	OSYS (Student Selection and Placement System)	188	39.6
	Second University	232	48.8
	Other (Vertical Transfer Exam, Bachelor's Completion, etc.)	55	11.6
	Total	475	100.0
Degree Level	Undergraduate	388	81.7
	Associate Degree	87	18.3
	Total	475	100.0
Average Daily Time Spent on Anadolu eKampus During Intensive Study Periods	Less than 1 hour	101	21.3
	1-2 hours	179	37.7
	3-4 hours	130	27.4
	5 hours and above	65	13.7
	Total	475	100.0

As shown in Table 1, the gender distribution of participants was pretty balanced, with women accounting for 48% and men for 52%. The majority of participants were aged 18–29 (42.7%), followed by those aged 30–39 (28.0%), 40–49 (15.2%), and 50 and above (14.1%). The highest proportion of registrations (48.8%) was among those enrolled in the Second University program, followed by 39.6% who registered through OSYS (Student Selection and Placement System) and 11.6% through other means. In terms of degree level, the majority of participants (81.7%) were enrolled in associate degree programs, while 18.3% were enrolled in undergraduate programs. Regarding average daily time spent on Anadolu eKampus during intensive study periods, the highest percentage was in the 1–2 hour range (37.7%), followed by 3–4 hours (27.4%), less than 1 hour (21.3%), and 5 hours or more (13.7%).

### Validity and Reliability of Scales

In the study, EFA, CFA, and Cronbach's  $\alpha$  reliability analysis were conducted to evaluate the validity and reliability of the TPB scale, the parasocial relationships scale, and the eWOM intention scale. In the EFA process, the maximum likelihood method was employed for factor extraction, and the Promax method was used for rotation (Hair et al., 2019). The results of Bartlett's Test of Sphericity and the findings related to the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy are presented in Table 2.

**Table 2.** Results of Bartlett’s test of sphericity and KMO measure of sampling adequacy

Scale	Factor	Bartlett’s Test of Sphericity			KMO Measure of Sampling Adequacy
		$\chi^2$	df	$p$	
TPB	1. Attitudes toward live sessions	5389.04	66	<.001	.898
	2. Subjective norms				
	3. Perceived behavioral control				
	4. Intention to participate in live sessions				
Parasocial Relationships	-	1317.517	10	<.001	.846
eWOM Intention	-	898.171	3	<.001	.737

As reported in Table 2, the results of Bartlett’s Test of Sphericity for both scales are statistically significant, and the KMO values for sampling adequacy are at levels considered “good” (Hair et al., 2019). The findings regarding the total variance explained, eigenvalues, EFA and CFA factor loadings, descriptive statistics, and Cronbach’s  $\alpha$  reliability coefficients for the scales are presented in Table 3.

**Table 3.** Findings of validity and reliability analyses

Scale, Factor, and Item	$s$	EFL	CFL	EV (E)	$\alpha$	
TPB → Attitudes toward live sessions						
ATT2	4.04	1.08	.904	.918	41.032	.902
ATT3	4.08	1.07	.815	.867	(4.923)	
ATT1	4.16	1.04	.793	.822		
TPB → Subjective norms						
SN2	3.62	1.20	.948	.920	15.015	.933
SN3	3.75	1.13	.864	.924	(1.802)	
SN1	3.61	1.17	.740	.881		
TPB → Perceived behavioral control						
PBC2	3.63	1.16	.945	.934	10.343	.935
PBC1	3.56	1.17	.910	.915	(1.241)	
PBC3	3.67	1.19	.798	.883		
TPB → Intention to participate in live sessions						
INT1	3.76	1.27	.924	.901	8.740	.931
INT2	3.87	1.20	.907	.921	(1.049)	
INT3	3.60	1.26	.874	.892		
Total Variance Explained				75.130		
Parasocial Relationships						
PSR3	3.91	1.08	.848	.829	68.439	.884
PSR1	3.79	1.08	.841	.735		
PSR2	3.65	1.10	.807	.812		
PSR5	3.87	1.16	.769	.775		
PSR4	4.20	1.04	.617	.605		
eWOM Intention						
EWOM1	3.89	1.19	.931	.815	83.251	.899
EWOM2	3.88	1.20	.851	.931	(2.498)	
EWOM3	3.78	1.26	.815	.851		

1 = Strongly Disagree; 5 = Strongly Agree; EFL = EFA Factor Loading; CFL = CFA Factor Loading; EV = Explained Variance; E = Eigenvalue;  $\alpha$  = Cronbach’s Alpha.

As presented in Table 3, the total variances explained for all scales used in the study exceed the acceptable threshold value of 40%, the EFA factor loadings are above .50, and Cronbach's  $\alpha$  reliability coefficients exceed the threshold value of 0.70 (Hair et al., 2019). Furthermore, the factor loadings obtained from CFA range between .605 and .934. These results indicate that the factor loadings are sufficiently related to the measurement variables and support construct validity.

**Table 4.** Goodness-of-fit indices for the scales

Scale	$\chi^2/df$	CFI	SRMR	RMSEA
TPB	3.400	.979	.034	.071
Parasocial Relationships	3.594	.944	.059	.075
eWOM Intention	-	-	-	-
Good Fit	<3	$\geq 0,95$	$\leq 0,05$	<0,05
Acceptable Fit	<5	$\geq 0,9$	$\leq 0,08$	<0,1

The goodness-of-fit indices presented in Table 4 fall within the acceptable and good fit ranges suggested in the literature (Hu & Bentler, 1999; Tabachnick & Fidell, 2012). These findings indicate that the scale does not present any issues in terms of model-level goodness of fit within the scope of CFA. However, model fit values could not be calculated for the eWOM scale due to its inclusion of only three (3) items (Hair et al., 2019).

**Table 5.** Goodness-of-fit indices for the scales

Scale	Factor	CR	AVE	1	2	3	4
TPB	Attitudes toward live sessions	.903	.756	<b>.870</b>	(.466)	(.424)	(.499)
	Subjective norms	.934	.825	.732	<b>.908</b>	(.754)	(.671)
	Perceived behavioral control	.936	.830	.675	.748	<b>.911</b>	(.743)
	Intention to participate in live sessions	.931	.819	.503	.422	.453	<b>.905</b>
Parasocial Relationships	-	.867	.570	-	-	-	-
eWOM Intention	-	.907	.752	-	-	-	-

*The bold values on the diagonal are the square roots of the AVE values. The coefficients below the AVE values indicate the correlation coefficients; the values in parentheses indicate the HTMT (Heterotrait-Monotrait ratio) values.*

Within the scope of construct validity, the convergent and discriminant validity of the scales were examined. CR and AVE values were used to evaluate convergent validity. According to the results, the CR values exceeded the recommended threshold of .70, and the AVE values exceeded the threshold of .50 (Hair et al., 2019). This indicates that the scales demonstrate sufficient convergent validity. Since the TPB scale consists of four factors, discriminant validity was assessed by calculating the square roots of the AVE values for each construct and comparing them with the correlation coefficients between the constructs. The findings revealed that, for all constructs, the square roots of the AVE values were higher than their correlation coefficients with other constructs. Furthermore, the HTMT (heterotrait–monotrait ratio) values were below the threshold of .90, supporting discriminant validity. As a result, both convergent and discriminant validity conditions were met, and it was concluded that all scales used in the study had construct validity (Hair et al., 2019, p. 788).

### Testing the Measurement Model

After confirming the validity and reliability of the scales, the research model was tested. The model was analyzed using PLS-SEM, and the evaluation process was carried out using a two-stage approach (Hair et al., 2019, p. 783). In the first stage, the research model was treated as a measurement model and evaluated according to convergent and discriminant validity criteria (Hair et al., 2017, p. 97). In the second stage, the structural model was analyzed, and the hypotheses developed within the scope of the research were tested.

In evaluating the measurement model, the model's goodness-of-fit coefficients were first examined. In PLS-based structural equation modeling analyses, the SRMR value is recommended for evaluating model fit (Hensler et al., 2015, p. 195). In this scope, the obtained SRMR value of 0.047 indicates an excellent model fit (Hu & Bentler, 1999, p. 449). Additionally, Table 6 presents the standardized factor loadings of the measurement model, along with the AVE and CR coefficients.

**Table 6.** Evaluation of the measurement model

Scale	Factor	Item	Standardized Factor Loading	Convergent Validity	
				AVE	CR
TPB	Attitudes toward live sessions	ATT1	.899	.836	.939
		ATT2	.932		
		ATT3	.912		
	Subjective norms	SN1	.924	.882	.957
		SN2	.946		
		SN3	.947		
	Perceived behavioral control	PBC1	.940	.885	.959
		PBC2	.950		
		PBC3	.933		
	Intention to participate in live sessions	INT1	.934	.879	.956
		INT2	.942		
		INT3	.936		
Parasocial Relationships	-	PSR1	.869	.684	.956
		PSR2	.844		
		PSR3	.874		
		PSR4	.694		
		PSR5	.840		
eWOM Intention	-	EWOM1	.896	.832	.937
		EWOM2	.935		
		EWOM3	.906		

As shown in Table 6, the factor loadings of the scales included in the model are well above the threshold value of .50 (Hair et al., 2017, p. 102). Furthermore, the AVE and CR values exceed the threshold values recommended in the literature. These findings indicate that the measurement model does not present any issues in terms of convergent validity. Based on this result, two main criteria were examined to assess discriminant validity: (1) the square roots of the AVE values being higher than the correlation coefficients of the relevant construct with other constructs, and (2) the HTMT coefficients not exceeding the .90 threshold. The findings on discriminant validity obtained in this context are presented in Table 7.

**Table 7.** Findings on discriminant validity

Scales / Factors	1	2	3	4	5	6
1. Attitudes toward live sessions	<b>.914</b>	(.743)	(.599)	(.703)	(.499)	(.671)
2. Subjective norms	.681	<b>.939</b>	(.505)	(.660)	(.424)	(.754)
3. Perceived behavioral control	.540	.463	<b>.912</b>	(.609)	(.629)	(.544)
4. Intention to participate in live sessions	.632	.608	.551	<b>.827</b>	(.537)	(.644)
5. Parasocial Relationships	.459	.398	.577	.494	<b>.937</b>	(.466)
6. eWOM Intention	.617	.705	.500	.598	.437	<b>.941</b>

*The square roots of AVE values are presented in bold in the diagonal cells. The values in parentheses indicate the HTMT (Heterotrait-Monotrait ratio) values.*

As indicated in Table 7, the square roots of the AVE coefficients are higher than the correlation values of the relevant constructs with other constructs. In addition, all HTMT coefficients were found to be below the .90 threshold (Hensler et al., 2015, p. 129). These findings indicate that the scales included in the model are validly confirmed as part of the measurement model.

### Testing the Structural Model

In the testing phase of the structural model, the analysis was conducted using 5.000 bootstrap samples (Hair et al., 2017). The findings regarding the beta coefficients, *t*-values, adjusted *R*<sup>2</sup> values, and significance levels are presented in Table 8. Additionally, the findings related to the mediating effects in the model are presented in detail in Table 9.

**Table 8.** Direct effects

DV	Hypothesis	IV	<i>B</i>	<i>t</i>	<i>p</i>	Result	Adjusted <i>R</i> <sup>2</sup>
Intention to participate in live sessions	H1	Attitudes Toward Live Sessions → Intention to Participate in Live Sessions	.191	2.77	.006**	Supported	28.6%
	H2	Subjective Norms → Intention to Participate in Live Sessions	.023	.32	.749	Not Supported	
	H3	Perceived Behavioral Control → Intention to Participate in Live Sessions	.162	2.30	.021*	Supported	
	H10	Parasocial Relationship → Intention to Participate in Live Sessions	.290	4.13	<.001	Supported	
eWOM Intention	H4	Attitudes Toward Live Sessions → eWOM Intention	.255	3.79	<.001	Supported	37.5%
	H5	Subjective Norms → eWOM Intention	.011	.168	.867	Not Supported	
	H6	Perceived Behavioral Control → eWOM Intention	.176	2.95	.003**	Supported	
	H11	Parasocial Relationship → eWOM Intention	.291	4.56	<.001	Supported	
Parasocial Relationships	H7	Attitudes Toward Live Sessions → Parasocial Relationship	.345	6.37	<.001	Supported	48.3%
	H8	Subjective Norms → Parasocial Relationship	.201	3.32	.001**	Supported	
	H9	Perceived Behavioral Control → Parasocial Relationship	.244	4.17	<.001	Supported	

\*\**p*<.01; \**p*<.05.

According to the direct effects related to the structural model in Table 8, the explanatory power is 48.3% for parasocial relationships, 28.6% for the intention to participate in live sessions, and 37.5% for eWOM intention.

Regarding the intention to participate in live sessions, attitudes toward live sessions (*B* = 0.191; *p* = .006), perceived behavioral control (*B* = 0.162; *p* = .021), and parasocial relationships (*B* = 0.290; *p* < .001) were found to have positive and significant effects. In contrast, subjective norms did not have a significant effect on the intention to participate in live sessions (*p* > .05). Therefore, H1 and H3 were supported, but H2 was not supported.

As for eWOM intention, attitudes toward live sessions (*B* = 0.255; *p* < .001), perceived behavioral control (*B* = 0.176; *p* = .003), and parasocial relationships (*B* = 0.291; *p* < .001) were found to have significant and positive effects. In contrast, subjective norms did not have a significant effect on eWOM intention (*p* > .05). Thus, H4, H6, and H11 were supported, whereas H5 was not.

Lastly, attitudes toward live sessions ( $B = 0.345$ ;  $p < .001$ ), subjective norms ( $B = 0.201$ ;  $p = .001$ ), and perceived behavioral control ( $B = 0.244$ ;  $p < .001$ ) have a significant and positive effect on parasocial relationships. Accordingly, H7, H8, and H9 were supported.

**Table 9.** Mediating effects

Hypothesis	Mediating Effects	<i>B</i>	<i>t</i>	CI 2.5%	CI 97.5%	<i>p</i>	Result
H12	Attitudes Toward Live Sessions → Parasocial Relationships → Intention to Participate in Live Sessions	.100	3.09	.047	.171	.002**	Supported
H13	Subjective Norms → Parasocial Relationships → Intention to Participate in Live Sessions	.058	2.45	.018	.110	.014*	Supported
H14	Perceived Behavioral Control → Parasocial Relationships → Intention to Participate in Live Sessions	.071	3.51	.035	.114	<.001	Supported
H15	Attitudes Toward Live Sessions → Parasocial Relationships → eWOM Intention	.100	3.41	.049	.164	.001**	Supported
H16	Subjective Norms → Parasocial Relationships → eWOM Intention	.058	2.46	.018	.109	.014*	Supported
H17	Perceived Behavioral Control → Parasocial Relationships → eWOM Intention	.071	3.25	.033	.117	.001**	Supported

\* $p < .05$ . CI = Confidence Intervals (Bias Corrected)

Table 9 presents the mediating effects in the structural model. According to these results, parasocial relationships mediate the effects of attitudes toward live sessions ( $B = .100$ ;  $p = .002$ ; CI 2.5% = .047; CI 97.5% = .171), subjective norms ( $B = .058$ ;  $p = .014$ ; CI 2.5% = .018; CI 97.5% = .110), and perceived behavioral control ( $B = .071$ ;  $p < .001$ ; CI 2.5% = .035; CI 97.5% = .114) on the intention to participate in live sessions. Therefore, H12, H13, and H14 were supported.

Similarly, parasocial relationships mediate the effects of attitudes toward live sessions ( $B = .100$ ;  $p = .001$ ; CI 2.5% = .049; CI 97.5% = .164), subjective norms ( $B = .058$ ;  $p = .014$ ; CI 2.5% = .018; CI 97.5% = .109), and perceived behavioral control ( $B = .071$ ;  $p = .001$ ; CI 2.5% = .033; CI 97.5% = .117) on eWOM intention. Thus, H15, H16, and H17 were supported.

## DISCUSSIONS

The study examined, within the framework of TPB, the effects of learners' attitudes toward live sessions, subjective norms, and perceived behavioral control on their intention to participate in live sessions and eWOM intention. In addition, the study investigated the influence of the parasocial relationships learners develop toward instructors in the context of live sessions conducted within the Open Education System. The research model was designed to test the mediating role of parasocial relationships in both behavioral intentions. Data were collected from learners who had participated in at least one live session and analyzed using the PLS-SEM method. By integrating TPB with parasocial relationships theory, the study proposes a unique theoretical framework for explaining learner behavior in digital learning environments, aiming to provide both theoretical and practical contributions.

The findings indicate that learners' attitudes toward live sessions are a strong predictor of their participation intention. Perceiving sessions as useful, engaging, interactive, and conducive to learning increases voluntary participation. This outcome supports Ajzen's (1991) TPB, which posits that a positive attitude toward a specific behavior directly influences behavioral intention. The results also align with the findings of Hadadgar et al. (2016) and Xu et al. (2024). Hadadgar et al. (2016) have reported that positive evaluations of online modules enhance voluntary participation, with attitude exerting a significant effect on intention. Similarly,

Xu et al. (2024) have demonstrated that favorable attitudes in digital learning environments strengthen behavioral intention. Based on these insights, it is recommended that live session content be redesigned to ensure greater relevance, engagement, and perceived benefit for learners, incorporating real-life examples, interactive presentations, and application-oriented activities.

Perceived behavioral control has shown a positive and significant effect on both learners' participation in live sessions and their eWOM intentions. In this context, learners' access to technology, time management skills, and proficiency in using online platforms directly influence their participation decisions. High perceived control not only strengthens individuals' participation behaviors but also their tendency to share experiences. This finding aligns with previous research emphasizing the decisive role of self-efficacy in shaping behavioral intentions in digital learning environments (Rahimi-Feyzabad et al., 2023; Dijks et al., 2024; Vo & Nguyen, 2025). For example, Rahimi-Feyzabad et al. (2023) have noted that perceived control has a more substantial effect when considered alongside self-efficacy. Similarly, Dijks et al. (2024) and Vo & Nguyen (2025) have demonstrated that individuals' digital competencies and technical access levels play a critical role in intention formation. In this regard, it is recommended that live session platforms be designed to be user-friendly and accessible, that guide content be provided to facilitate understanding of basic functions, and that visible technical support services be offered. Additionally, providing micro-content such as short instructional videos on time management and digital skills may positively influence behavioral intentions by enhancing learners' perceptions of control.

However, subjective norms had no significant effect on either participation in live sessions or eWOM intentions. This suggests that open and distance learners base their decisions more on personal motivation than on environmental expectations. Similarly, Vo and Nguyen (2025) have found that subjective norms did not influence behavioral intention, attributing this to individuals' tendency to refer to the actual behaviors of people in their environment rather than to social pressures. Rahimi-Feyzabad et al. (2023) have also noted that the effect of subjective norms may vary depending on contextual factors such as learning style, age group, and an individual's approach to learning responsibility. The current findings indicate that, within the Open Education System context, learners' decisions are shaped predominantly by observed behaviors and internal motivations. In digital learning environments that progress at one's own pace and rely heavily on individual responsibility, limited sensitivity to external social pressures is an expected outcome. By contrast, Yan and Sin's (2014) study on teachers found that subjective norms significantly influenced behavioral intentions, with expectations of social approval from school administrators, colleagues, and family members strengthening intentions toward inclusive practices. This difference highlights that subjective norms tend to be more influential in groups that are highly responsive to institutional norms. In contrast, autonomous and digitally oriented decision-making styles are more prevalent among open and distance learners.

Although the effect of subjective norms on the intention to participate in live sessions and on eWOM intention is not directly significant, it becomes significant indirectly through parasocial relationships. This indicates that normative expectations from the social environment are internalized via emotional attachment to the instructor rather than by directly guiding behavior. When open and distance learners develop a sense of closeness to the instructor, they are more likely to adopt cues from their social environment, which in turn shapes their behavioral intentions. In this regard, parasocial relationships can be seen as a mediating mechanism that transforms and activates the influence of subjective norms. Therefore, in online learning environments where the direct effect of subjective norms is limited, indirect forms of interaction—such as emotional bonds and media-based relationships—may play a more decisive role.

The positive attitudes toward live sessions positively affect parasocial relationships, indicating that learners view these classes not only as a means of knowledge transfer but also as a space for social interaction. Indeed, Marx et al. (2021) have found that podcast speakers sharing their personal feelings and thoughts with listeners increased the level of parasocial relationships. The research emphasizes that audio-based content not only provides cognitive information but also has the potential to create social closeness and emotional bonds. Similarly, Kowert and Daniel Jr. (2021) have noted that when media users evaluate their digital interaction experiences positively, they can form stronger parasocial bonds with media figures. Qi et al. (2025) have shown that positive attitudes contribute to higher levels of intimacy through parasocial relationships. In light of these findings, live sessions in open and distance learning environments should be designed not only to be cognitive but also conducive to emotional and social bonding. In order to support learners' positive attitudes

toward live sessions and their emotional closeness to instructors, academic staff can be encouraged to share their personal experiences and feelings within appropriate limits. This can help create a more sincere and interaction-based communication climate in digital learning environments. In addition, it is recommended that instructors receive in-service training to develop their digital communication skills, that interactive presentation techniques be promoted, and that the use of cameras to create visual and auditory belonging be encouraged. These strategies can both strengthen learners' emotional bonds with instructors and increase their intention to participate in live sessions and motivation to learn. At the same time, the social closeness that develops in this context can also support learners' tendency to share their online experiences using eWOM with others.

The positive effect of subjective norms on parasocial relationships shows that the guidance and approval learners receive from their social environment shape the emotional bond they develop with the instructor. Tukachinsky et al. (2020) have revealed that the parasocial relationships individuals establish with media figures are influenced by factors such as guidance from their social environment and social expectations. The study emphasizes that social incentives based on social norms have the potential to increase an individual's emotional attachment to a media figure. Similarly, McLaughlin and Wohn (2021) have shown that the parasocial relationships live broadcast viewers feel toward broadcasters are significantly strengthened by social guidance from friends and online community members. These studies indicate that parasocial relationships are shaped by the social context beyond being an individual experience. In this scope, applications aimed at increasing digital interaction among learners in the Open Education System may strengthen the influence of subjective norms and support the development of parasocial bonds. In particular, moderated online chat areas activated before and after live sessions encourage social interaction among learners and create a normative learning atmosphere. Interactive bulletin boards, updated weekly, display learners' contributions to the course (e.g., short comments, questions, suggestions), thereby providing social encouragement within the community. In addition, "peer support groups" based on voluntary participation foster both academic cooperation and social bonding. Such practices not only increase group interaction but also enable individuals who observe the participation of other learners to reevaluate their participation intention in line with social norms and develop a stronger parasocial relationship with instructors.

The positive effect of perceived behavioral control on parasocial relationships shows that learners' perceptions of self-efficacy in accessing live sessions, using technology, and managing time strengthen not only participation and eWOM intentions but also emotional attachment to the instructor. Beautemps and Bresges (2022) have found in their study conducted in online learning environments that learners' access to digital content and technical proficiency levels positively influenced the parasocial relationships they established with the media figure in the teaching position. The researchers emphasize that when individuals feel competent and in control, both their participation in the learning process and their emotional closeness to the instructor increase. Similarly, Wong et al. (2025) have shown that interaction with the content and the feeling of control deepen the parasocial relationships with the media figure. In this context, it is vital to develop holistic approaches that support learners' perceptions of control in the Open Education System. Providing short, guide-like micro-education content related to the operation of live session platforms, especially when shared before the session, reduces uncertainty and reinforces feelings of self-efficacy. Accessible technical support services during live sessions increase learners' confidence in the environment. In addition, interactive forums integrated into sessions strengthen both social interaction among learners and their emotional connection to the instructor. However, a simultaneous moderation mechanism must be in place to prevent misuse of these areas. Moreover, adopting a more open, warm, and responsive communication style in digital environments supports not only participation intention but also emotional attachment and learning motivation (Beautemps & Bresges, 2022). To this end, short-term professional development programs aimed at improving the digital communication skills of instructors are recommended. It is anticipated that all these practices will enrich the online learning experience by increasing learners' levels of participation, sharing, and emotional connection.

It was found that parasocial relationships with instructors had a significant positive effect on both the intention to participate in live sessions and eWOM intention. This finding is consistent with previous studies that emphasize the effect of parasocial relationships on behavioral outcomes. For example, Uğurhan and Yasar (2022) have shown that parasocial relationships positively influence individuals' behavioral intentions and strengthen behavioral tendencies. Similarly, Beautemps and Bresges (2022) have stated

that individuals' emotional closeness to media figures in online environments plays a decisive role in their intentions and behaviors. In this regard, strengthening parasocial relationships established with instructors in open and distance learning environments is considered a strategic element that positively influences learner behaviors. The number of participants in live sessions varies depending on the structure of the class, the instructor's recognition, and the weekly program intensity, which directly shapes the forms of interaction. Therefore, communication strategies that support parasocial relationships should be flexibly adapted according to the participant profile of the class. In courses with limited participation, direct communication, individual feedback, and specific responses to learner contributions are possible; however, in courses with high participation, it is recommended that instructors adopt a more inclusive language of interaction through general expressions of appreciation, collective feedback, and occasional personal or social sharing. In addition, structures such as forums, comment sections, and question-and-answer boards, where learners interact indirectly with instructors on online platforms, should be actively used. Creating a sustainable interaction environment through such tools strengthens parasocial relationships that learners feel toward the instructor. In order to carry out this process more effectively, it is also important to plan in-service training for instructors that covers digital communication and interaction strategies. All of these practices not only increase participation in live sessions and eWOM intention but also strengthen learners' sense of belonging and commitment to the digital learning environment.

## CONCLUSION

The study findings indicate that attitude is the strongest predictor of intention to participate in live sessions. Perceiving live sessions as practical, interactive, and conducive to learning increases voluntary participation. Perceived behavioral control also had a significant effect on the intention to participate in live sessions and eWOM intention. Access to technology, digital skills, and time management competence directly influence these behaviors. On the other hand, while the direct effect of subjective norms was not significant, their indirect effect through parasocial relationships was found. This shows that social expectations are internalized through emotional bonds rather than directly guiding behavior. The results reveal that parasocial relationships have a strong, positive effect on the intention to participate in live sessions and on eWOM intention. This bond increases learners' sense of belonging and interaction levels in digital environments. Therefore, it is recommended that instructors strengthen their digital communication skills, foster sincere interaction, and develop user-friendly platforms.

## LIMITATIONS AND FUTURE RESEARCH

This study makes important contributions to the literature by examining the mediating role of parasocial relationships in open and distance learners' intention to participate in live sessions and their eWOM intention. However, the study has some limitations. First, the study population is limited to learners who participated in live sessions conducted under the Open Education System at least once during the fall semester of 2023–2024. Therefore, the fact that the sample is limited to a single semester and context may restrict the generalizability of the findings to other semesters or contexts. Future studies comparing participation profiles across different semesters could contribute to understanding the effects of time-dependent variability. Additionally, this study treated all live sessions holistically, without considering possible differences between them. Variables such as the structure of the class, the instructor's recognition, or the interaction strategies used may influence learners' parasocial relationship levels. Thus, it is thought that in-depth analyses conducted with sub-samples focusing on different class types in future research would yield more detailed results. Finally, the research was conducted solely based on quantitative data. Collecting qualitative data on learners' parasocial relationship experiences and the emotional or social dimensions of these experiences could contribute to a more multidimensional understanding of the subject. Notwithstanding these limitations, the study's findings reveal the influence of digital communication and interaction on learner behavior in the context of the Open Education System and provide a theoretical foundation for proposing future theories and further research.

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