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From expertise to action: the serial mediation of parasocial relationships and relationship quality in influencer–audience dynamics

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Abstract

Research on social media influencers has largely focused on the direct effects of source characteristics or on a single mediator. Meanwhile, the process by which audiences' cognitive evaluations translate into emotional, relational, and behavioral outcomes remains poorly explained. This study develops and tests a process-oriented model of influencer–audience dynamics in which parasocial relationships and relationship quality operate as serial mediators linking perceived influencer expertise to audience behavioral response. Data were collected from 249 followers of Instagram food influencers in Iran, and the proposed model was examined using partial least squares structural equation modeling (PLS-SEM). The findings showed that perceived influencer expertise positively and significantly affected parasocial relationships; parasocial relationships enhanced relationship quality; and relationship quality significantly predicted audience behavioral response. The serial mediation pathway from expertise through parasocial relationship and relationship quality to behavioral response was also supported. In addition, audience-engagement segmentation revealed two distinct patterns of relational involvement that differed significantly in perceived expertise, parasocial connection, relationship quality, and behavioral response. The results suggest that influencer effectiveness is not merely a consequence of source attributes, but rather the outcome of a gradual and relationship-oriented process in which perceived expertise first fosters parasocial connection, then develops into trust and loyalty, and ultimately leads to behavioral response. By integrating a process model of influencer communication with an analysis of audience heterogeneity, this study offers new insights on parasocial relationships and audience engagement in social media environments.

Keywords: Perceived expertise, parasocial relationships, relationship quality, behavioral response, social media influencers, audience segmentation, digital communications.

Introduction

In recent years, influencers have become significant figures in social media communication, fundamentally changing how audiences engage with information and content creators (Han & Balabanis, 2024; Wilkie et al., 2022, Hugh Wilkie et al., 2022).

Perceived expertise is a key factor shaping audience evaluations and responses (Ashraf et al., 2023), as audiences view knowledgeable influencers as more credible and meaningful (Filieri et al., 2023). Prior research has linked expertise to trust, purchase intentions, and behavioral responses (Kim & Kim, 2021). However, one important question remains: does expertise directly explain audience responses, or does it operate through relational processes? Previous studies have largely examined direct effects or isolated mediators, offering limited insight into how influencer characteristics translate into relationships and behaviors (Hugh Wilkie et al., 2022; Barari et al., 2026). From a communication perspective, influencer effectiveness depends not only on informational value but also on the relationships audiences develop. One key mechanism is the parasocial relationship—audiences' perceived familiarity and emotional attachment to media figures despite lacking direct interaction (Safwan & Ali, 2025). On social media, repeated exposure strengthens these psychological connections. Thus, perceived expertise may contribute not only to credibility but also to stronger parasocial relationships (Breves & van Berlo, 2025).

As parasocial relationships develop, they may evolve into more stable relational bonds. Relationship quality—comprising trust and loyalty—provides a framework for understanding this transformation (Chen, 2025). Trust reflects confidence in the influencer's credibility, while loyalty represents willingness to maintain engagement. Thus, relationship quality may link parasocial relationships to audience responses (Alim et al., 2026). Although influencer research has expanded rapidly, consensus remains limited on the communication process through which influencer characteristics lead to audience responses. Existing studies have examined these constructs largely as separate mechanisms rather than interconnected stages (Vrontis et al., 2021; Leite & Baptista, 2022). Consequently, less is known about how audiences move from initial evaluations to psychological connections and sustained relational bonds.

The present study conceptualizes influencer effectiveness as a sequential communication process rather than the outcome of isolated influencer characteristics. By integrating perceived expertise, parasocial relationships, and relationship quality into a unified framework, this study provides a more comprehensive explanation of how influence develops between influencers and audiences.

This study, conducted among Instagram food influencer followers in Iran, pursues three objectives: first, to clarify the communication mechanism through which influencer expertise contributes to audience responses; second, to integrate expertise, parasocial relationships, and relationship quality into a coherent theoretical framework; and third, to examine relationship quality as a higher-order construct composed of trust and loyalty in explaining audience behavioral responses.

2. Theoretical Background and Hypothesis Development

This section outlines the research's theoretical foundations and the relationships among the key constructs in the conceptual model. While previous studies have explored parts of the connections among influencer expertise, parasocial relationships, relationship quality, and behavioral responses, a cohesive understanding of how these variables interact within a communication process remains lacking. Drawing on communication and social media literature, this study treats

these four constructs not as independent variables but as components of a communication chain. This chain begins with the audience's perception of the influencer's expertise, progresses with the formation of the parasocial relationship, is reinforced by the quality of that relationship, and ultimately leads to the audience's behavioral responses. The main constructs are introduced and analyzed from a theoretical perspective. Guided by theoretical evidence and prior research, the paper explains the relationships among these constructs and develops research hypotheses.

2.1. Influencer Expertise

In communication research, expertise refers to the knowledge audiences attribute to a source, shaping their evaluation of the source's ability to provide accurate information (Andrews et al., 2025). What matters, however, is the audience's perception of that expertise (Barari et al., 2026). When audiences perceive an influencer as knowledgeable, they are more likely to regard their messages as credible (Duffett & Mxunyelwa, 2025). Prior research has largely examined expertise as a direct predictor of trust or purchase intention (Han & Balabanis, 2024), paying less attention to the communication mechanisms through which expertise shapes behavior. From a communication perspective, expertise serves as the starting point for relational processes, fostering a sense of closeness and psychological connection—known as parasocial relationships (Vu et al., 2025).

2.2. Parasocial Relationship

Parasocial relationships describe the psychological bond between audiences and media personalities (Sheng et al., 2025). Unlike traditional media, social media enables continuous interaction and access to influencers' personal lives, strengthening these connections (Lou, 2022). Even without direct contact, repeated exposure creates a sense of intimacy and psychological closeness (Riles & Adams, 2021). Recent research shows that parasocial relationships help influencer attributes shape audience attitudes and behaviors (Liu et al., 2024). Among other factors, expertise plays a significant role: when audiences perceive an influencer as knowledgeable, they are more likely to follow the influencer's content and maintain a mental connection (Kashian, 2026).

2.3. Relationship Quality

In the literature on relationship marketing and communications, "relationship quality" refers to the strength, depth, and stability of a relationship between two parties (Sarmiento Guede et al., 2018). This concept is based on the idea that not all relationships have the same quality, and differences in relationship quality can shape how individuals perceive, feel, and act (Li et al., 2026). Generally, the higher the quality of a relationship, the more likely it is to endure and lead to positive behaviors. While researchers do not fully agree on the specific dimensions that define relationship quality, it is widely considered a multidimensional concept (Lasrado et al., 2023). Depending on the research context, researchers have proposed various components, such as trust, satisfaction, commitment, and loyalty, to measure relationship quality (Tangchua & Vanichchinchai, 2025). However, in audience-social media influencer interactions, not all of these dimensions hold equal importance. Relationships formed on social media differ significantly from traditional customer-organization relationships. Audiences typically lack direct experience with a service or sustained product use to evaluate satisfaction or commitment, as is common in classic business relationships. Instead, the relationship's persistence is primarily determined by the audience's trust in the influencer and

their willingness to continue engaging with that influencer (Wolor et al., 2024). Therefore, this study conceptualizes relationship quality using two primary dimensions: trust and loyalty. Trust reflects the extent to which the audience views the influencer's information, recommendations, and judgments as honest, reliable, and valid (Laaksonen & Vuong, 2025). Loyalty indicates the audience's readiness to maintain the relationship, consistently follow the influencer's content, and prefer it over offerings from other content producers (Qian & Mao, 2023). While each construct contributes to relationship quality, neither alone fully captures the dynamic between the audience and the influencer.

In this study, trust and loyalty are not treated as independent variables but as two interconnected dimensions of a second-order construct (Kousheshi et al., 2020). This approach enables a comprehensive examination of relationship quality, acknowledging the natural overlap between trust and loyalty in the conceptual model (Vieira et al., 2024). Additionally, defining relationship quality as a second-order construct aligns with the idea that many complex concepts in marketing and communications comprise multiple complementary dimensions. Examining them as a unified construct offers a more accurate understanding of the phenomenon under investigation. According to the model proposed in this study, relationship quality emerges after a parasocial relationship forms. A sense of closeness and psychological connection with the influencer lays the groundwork for building trust and loyalty, thereby enhancing the overall quality of the relationship. This improved quality is expected to show up in audience behavior, such as accepting recommendations, supporting the influencer, interacting with content, and other behavioral responses. The next section explores behavioral response and its relevance within the research's conceptual model.

2.4. Behavioral Response

The ultimate goal of communication processes is to create change in audience attitudes or behavior (Petty & Cacioppo, 2012). In social media, influencer success is measured by the ability to influence audience behavior, not merely by content visibility or follower count (Han & Balabanis, 2024). Behavioral response encompasses observable actions including purchase intention, content interaction, message sharing, recommendations, brand support, and continued following (Pan et al., 2025). These behaviors indicate that communication has moved beyond perception to actual action or behavioral intention.

Prior research has often explained behavioral responses directly through influencer characteristics such as expertise, attractiveness, or credibility (Han & Balabanis, 2024), while overlooking the communication processes linking these variables to behavior (Filieri et al., 2023). This study posits that behavioral responses result from a gradual communication process: perceived expertise fosters parasocial relationships, which enhance trust and loyalty and ultimately lead to behavioral responses such as accepting recommendations or making purchases.

Research on social media influencers has emerged as one of the most dynamic areas within communication, marketing, and consumer behavior studies over the past decade (Joshi et al., 2025). The rise of social media has allowed influencers to evolve from simple content producers to key players who inform, persuade, shape attitudes, and influence their audiences' decisions (Han & Balabanis, 2024). Researchers have sought to identify factors that explain influencer effectiveness, with characteristics such as expertise, credibility, authenticity, attractiveness,

trustworthiness, self-disclosure, and interaction quality receiving considerable attention. Despite this diversity, much past research has assumed that influencer characteristics directly influence audience attitudes or behaviors (Han & Balabanis, 2024). While these studies offer valuable insights, they often fail to fully address the communication process that links audience perceptions to behavioral outcomes (Barari et al., 2026). In social media environments, relationships between audiences and influencers typically develop gradually through ongoing communication experiences. In recent years, multiple studies have introduced mediating variables such as parasocial relationships, trust, loyalty, or relationship quality to explain this process (Alim et al., 2026). However, a literature review shows that researchers often study these constructs in isolation or within limited models, with fewer attempts to explain them as part of a coherent communication chain (Alim et al., 2026). Consequently, it remains unclear how perceived expertise leads to parasocial relationship formation, how this relationship enhances connection quality, and ultimately how this process shapes audience behavioral responses. This theoretical gap calls for an integrative model.

No single well-known theory in communication and consumer behavior can explain all stages of this process; each captures only part of the influencer influence mechanism (Han & Balabanis, 2024). Therefore, this study combines multiple theoretical perspectives. The journey begins with the audience's perception of the influencer's expertise. At this initial stage, Source Credibility Theory provides an effective framework for understanding how audiences make initial evaluations by assessing source characteristics, such as perceived expertise, before deciding whether to accept or reject a message (Pornpitakpan, 2004). The more expert an influencer appears, the more likely audiences are to take their content seriously, fostering ongoing interactions. However, Source Credibility Theory only accounts for the first stage; it does not explain how attention evolves into a lasting relationship (Han & Balabanis, 2024). At this point, Parasocial Relationship Theory becomes relevant, suggesting that continued exposure to a media figure can instill familiarity, intimacy, and psychological connection, even without real two-way interaction (Tukachinsky & Stever, 2019). This theory thus describes the link between initial evaluation and relationship development. However, forming a parasocial relationship does not end the process. Feeling close to an influencer does not inherently translate to a quality relationship or positive behaviors. To ensure lasting effects, the bond must evolve into one based on trust and a desire to maintain the relationship. Here, relationship marketing literature provides a framework for enhancing relationship quality (Alagarsamy et al., 2021), positing that successful relationships develop over time through the cultivation of trust, loyalty, and mutual commitment.

Thus, the present study considers these three theoretical perspectives as complementary frameworks, each explaining a segment of the influencer influence process. Source Credibility Theory delineates the initial evaluation stage; Parasocial Relationship Theory explains how this evaluation transforms into a psychological bond; and Relationship Marketing literature demonstrates how this bond evolves into a stable, high-quality relationship rooted in trust and loyalty (Lacap et al., 2024). The conceptual model assumes that audience behavioral responses are not directly influenced by an influencer's individual characteristics, but rather emerge through a gradual communication process. In this process, expertise serves as the starting point. However, it influences behavior only when it helps establish a parasocial relationship, which then enhances relationship quality and ultimately fosters the trust and loyalty necessary for behavioral responses (Garg & Bakshi, 2024). This process-oriented perspective distinguishes the current model from much previous research, which has examined these variables independently or through single mediators. At the same time, the present study views these connections as components of a unified

communication chain (Mohd-Any et al., 2026). Building on this theoretical framework, the study formulates and tests the relationships between constructs through the following hypotheses.

2.5. Hypothesis Development

After outlining the theoretical foundations, this section examines how the research constructs relate to one another. Although prior research has examined each variable independently, no consensus remains on how they fit into a single communication process. This study seeks to clarify these relationships as a conceptual chain, drawing on communication and social media literature. In the proposed model, influencer expertise does not directly affect audience behavior; instead, it is transmitted through a series of communication processes. Specifically, perceived expertise lays the groundwork for parasocial relationship formation, which improves relationship quality and ultimately increases the likelihood of behavioral responses. The following sections clarify each proposed relationship and present the associated hypotheses.

2.5.1. The Relationship Between Perceived Expertise and Parasocial Relationship Formation

Although studies show that influencer characteristics affect audience responses, researchers have not reached full consensus on the underlying communication mechanisms (Han & Balabanis, 2024). We argue that perceived expertise does not directly lead to behavioral outcomes; instead, it first influences the relationship the audience establishes with the influencer. Forming a parasocial relationship requires ongoing interaction, which occurs when audiences value the influencer and are motivated to engage with their content (Lou, 2022; Tukachinsky et al., 2020). Expertise significantly drives this motivation, as audiences seek knowledgeable individuals for information and decision-making (Wang et al., 2025). Continued exposure fosters familiarity, which evolves beyond content evaluation into a sense of closeness and psychological connection (P. Breves & Liebers, 2025). Thus, perceived expertise increases the likelihood of forming a parasocial relationship by enhancing the audience's desire to continue interacting with the influencer. Accordingly:

Hypothesis 1: Perceived expertise positively and significantly affects parasocial relationship formation.

2.5.2. The Relationship Between Parasocial Relationship and Relationship Quality

In our model, parasocial relationship formation is not the end of the process but the foundation for transforming the relationship into a more stable one (Chen, 2025). A sense of closeness will not lead to lasting behavioral changes unless it results in more positive evaluations of the relationship. Stable relationships develop as positive communication experiences accumulate, helping the audience feel confident and willing to maintain the relationship (Qian & Mao, 2023). A parasocial relationship creates such a platform: when audiences feel they know the influencer and experience closeness, they are more likely to evaluate messages positively and continue the relationship (Kumar & Mathew, 2025). The parasocial relationship gradually evolves beyond a psychological bond, enhancing trust in the influencer and increasing the desire to maintain the relationship. Because relationship quality comprises trust and loyalty, the parasocial relationship enhances overall relationship quality by strengthening both dimensions. Thus:

Hypothesis 2: Parasocial relationship has a positive and significant effect on relationship quality.

2.5.3. The Relationship Between Relationship Quality and Behavioral Response

In this study, behavioral responses result not from a momentary decision but from relationship quality developed over time (Fang et al., 2024). Higher relationship quality correlates with a greater likelihood of desirable behaviors. Audiences do not base behavioral decisions solely on message characteristics; their overall perception of the relationship with the source significantly influences these decisions (Ashraf et al., 2023). When audiences trust an influencer and want to maintain the relationship, they are more likely to accept recommendations and engage in aligned behaviors. Relationship quality is a second-order construct comprising trust and loyalty, reflecting the overall strength of the relationship (Sánchez-García et al., 2007). A more favorable overall assessment enhances the audience's willingness to translate attitudes into actions. Thus, relationship quality serves as the final communication link preceding behavioral responses. When the relationship is rooted in trust and loyalty, the likelihood of desirable behaviors increases. Therefore:

Hypothesis 3: Relationship quality has a positive and significant effect on behavioral response.

2.5.4. The Sequential Indirect Effect of Expertise on Behavioral Response

Based on the three relationships outlined above, perceived expertise affects behavioral responses not directly, but through a step-by-step communication process. Expertise first establishes a parasocial relationship (H1); this parasocial relationship enhances relationship quality through trust and loyalty (H2); and high relationship quality increases the likelihood of positive behavioral responses (H3). Since expertise alone cannot fully explain audience behavior, this influence is mediated through a chain comprising both parasocial relationship and relationship quality. Therefore, perceived expertise has a positive and significant indirect effect on behavioral responses through sequential mediation. Accordingly:
H4**:** Perceived expertise has a positive and significant indirect effect on behavioral responses through the sequential mediation of parasocial relationship and relationship quality.

3. Methodology

3.1. Research Design

This study aims to investigate how influencer expertise impacts audience behavior on social media through various communication mechanisms. Given the complexity of the proposed research model, which includes multiple latent constructs and their interrelationships, we used a quantitative approach with an explanatory design. The study is categorized as applied research by purpose and uses a survey research method for data collection. We gathered data through a standardized questionnaire and analyzed it cross-sectionally. This cross-sectional design is appropriate for examining the relationships between variables at a specific moment in time.

To test the hypotheses, we used Partial Least Squares Structural Equation Modeling (PLS-SEM), as described by Hair et al. (2022). PLS-SEM is widely used in communication, marketing, and

consumer behavior research because it can simultaneously estimate the measurement and structural models, analyze latent constructs, and accommodate complex models.

We conducted data analysis using SmartPLS software. Following accepted PLS-SEM procedures, we first evaluated the measurement model using reliability and validity indices. Next, we examined the structural model using metrics including path coefficients, bootstrapping, the coefficient of determination (R^2), effect size (f^2), and model prediction indices, as outlined by J. F. Hair et al. (2019).
Once the data collection phase was completed, the final dataset was prepared for statistical analysis and entered into SmartPLS software to evaluate both the measurement and structural models according to standard Partial Least Squares Structural Equation Modeling (PLS-SEM) procedures.

3.2. Ethical Considerations and Data Collection Procedure

Before data collection began, the study's purpose and the intended use of the information were clearly explained to all participants. Participation was completely voluntary, and respondents provided informed consent before completing the questionnaire. They were assured that all information would be collected anonymously and would be used solely for research purposes. The questionnaire was distributed online, and only individuals who had followed at least one influencer on social media were allowed to participate. To improve data quality, we removed incomplete questionnaires and responses with invalid or inconsistent patterns before analysis.

3.3. Sample and Data Collection

This study's statistical population comprised social media users who had followed at least one influencer on a social platform. *We collected data from Instagram users residing in* ***Iran***. Because the study aimed to examine the audience's perceptions and behaviors toward influencers, we included only individuals who actively engaged with influencers' content and were familiar with their activities.
The researchers collected data through an online questionnaire. Before respondents completed the questionnaire, the research objectives were explained, and they were assured that their information would be used solely for research purposes. Responses were analyzed confidentially and anonymously. Participation was voluntary, and respondents could withdraw from the questionnaire at any stage. This study used convenience sampling because obtaining a complete list of social media users is challenging, a common approach in research on user behavior in online environments. Because participation was voluntary and recruitment was conducted online, the sample may be subject to self-selection bias. Individuals more interested in social media influencers or more active on Instagram may have been more likely to participate, which should be considered when interpreting the findings' generalizability. After removing incomplete questionnaires and invalid responses, we deemed 249 questionnaires suitable for statistical analysis.

3.4 Measures

The research utilized a questionnaire created by the researcher, which was divided into two sections:

1. The first section collected demographic information, including age, gender, education, social class, and time spent using Instagram, through eight questions.

2. The second section assessed the primary research constructs, consisting of 34 items measured on a 5-point Likert scale, where "strongly disagree" is scored as 1 and "strongly agree" as 5. This section was grounded in theory and informed by previous studies. Table 1 provides a brief overview of the questionnaire development process.

Table 1. Questionnaire Development Process

Variable	Sample Question	Source	Number of Items
Expertise	"Food bloggers are knowledgeable about food".	Ohanian (1990)	4
Parasocial Relationship	"I feel like I have a face-to-face relationship with food bloggers".	Giles & Stever (2024)	9
Trust	"Food bloggers are trustworthy".	Ohanian (1990)	2
Loyalty	"If my food blogger moves to another platform, I will follow them too".	Zhong et al. (2021)	9
Behavioral Response	"I prioritize restaurants recommended by food bloggers".	Ajzen (1991) Malik et al. (2025)	10

As shown in Table 1, the questionnaire consisted of 34 items designed to measure six latent constructs. All items were adapted from established scales and were evaluated on a five-point Likert scale. In the first stage of the measurement model assessment, we measured trust with two items and loyalty with nine items. This approach aimed to ensure strong psychometric properties, specifically indicator reliability, internal consistency, and convergent validity, while maintaining the conceptual breadth of each construct. Detailed results regarding reliability and validity are provided in the measurement model evaluation section.

3.4. Data Analytical Approach

We conducted data coding, screening, missing-data treatment, descriptive statistics, correlation analysis, and data visualization in Python. The final dataset included responses from 249 participants and 34 Likert-scale questionnaire items. We addressed a limited number of missing item responses through within-construct person-mean substitution. Additionally, we replaced demographic values with missing entries using median imputation for age and mode imputation for gender and social class. We used Partial Least Squares Structural Equation Modeling (PLS-

SEM) to assess the proposed measurement and structural models. Given the conceptual nature of the questionnaire items, we viewed several first-order constructs as dimensions of broader theoretical concepts rather than entirely independent variables. We treated trust and loyalty as dimensions of consumers' relationship quality with food influencers, while Purchase Intention and Purchase Behavior represented sequential dimensions of consumers' behavioral responses. Consequently, we applied a reflective-reflective two-stage Hierarchical Component Model (HCM), following the guidelines of Sarstedt et al. (2019) and Hair et al. (2022).
In the first stage, we estimated the PLS-SEM model using the original questionnaire items (Q1–Q34). The first-order constructs—Expertise, Trust, Parasocial Relationship, Loyalty, Purchase Intention, and Purchase Behavior—were evaluated for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed through outer loadings, with values above 0.70 considered acceptable. Internal consistency reliability was measured using Cronbach's alpha (α) and Composite Reliability (CR), with values exceeding 0.70 indicating satisfactory reliability. Convergent validity was assessed using the Average Variance Extracted (AVE), with values above 0.50 considered acceptable. Discriminant validity was evaluated using the Heterotrait–Monotrait Ratio of Correlations (HTMT).

After validating the first-order measurement model, the latent variable scores were extracted and used as indicators for the higher-order constructs in the second stage. We defined trust and loyalty as dimensions of Relationship Quality, while specifying purchase intention and purchase behavior as dimensions of Behavioral Response. We assessed the higher-order measurement model using outer loadings, Average Variance Extracted, the Variance Inflation Factor (VIF), the Heterotrait–Monotrait Ratio of Correlations, and the Standardized Root Mean Square Residual (SRMR). To rigorously examine the fully mediated sequential mechanism linking Expertise, parasocial relationships, and relationship quality, we intentionally excluded direct paths from Expertise to Behavioral Response.

After validating the higher-order measurement model, we estimated the structural relationships among Expertise, Parasocial Relationship, Relationship Quality, and Behavioral Response. We assessed the significance of the proposed relationships using a bootstrapping procedure with 5,000 resamples. We tested the hypotheses using structural path coefficients, t-statistics, p-values, and confidence intervals. We evaluated the model's explanatory and predictive performance using the coefficient of determination (R^2), adjusted R^2, effect size (f^2), and Stone–Geisser's predictive relevance (Q^2). Additionally, we conducted mediation analysis to examine indirect effects among the constructs.

4. Results

4.1. Profile of Respondents

The final sample consisted of 249 respondents. The mean age was 32.84 years (SD = 10.05), with the largest age group being 25–34 years (36.5% of the sample). Most respondents were male (60.6%), and most held a high school diploma or a bachelor's degree (84.3%); furthermore, 77.5% of participants identified as middle class. Most respondents lived in large cities (55.4%) and reported using Instagram for at least one hour daily (79.1%). However, engagement with food

blogger content was more moderate, with 47.8% spending 30 minutes to one hour per week and 31.7% spending less than 30 minutes per week.

4.2. Descriptive Statistics and Correlations

Descriptive statistics showed that respondents generally held positive perceptions across all constructs, with the highest mean score recorded for Expertise (M = 3.86, SD = 0.80) and the lowest for Trust (M = 3.12, SD = 0.99). Skewness and kurtosis values were within acceptable ranges, confirming approximate normality. Table 2 presents the Pearson correlation coefficients among the study constructs. All correlations were positive and statistically significant ($p < 0.001$), ranging from 0.506 to 0.841. The strongest correlations were observed between Parasocial Relationship and Loyalty (r = 0.841) and between Purchase Intention and Purchase Behavior (r = 0.840). No correlation exceeded 0.90, indicating no multicollinearity concerns.

Table 2. Pearson Correlation Matrix

Construct	Expertise	Trust	Parasocial Relationship	Loyalty	Purchase Intention	Purchase Behavior
Expertise	1.000					
Trust	0.705	1.000				
Parasocial Relationship	0.730	0.793	1.000			
Loyalty	0.736	0.737	0.841	1.000		
Purchase Intention	0.585	0.590	0.675	0.798	1.000	
Purchase Behavior	0.506	0.541	0.605	0.674	0.840	1.000

Note: All correlations are significant at $p < 0.001$.

4.2.1. Assessment of Common Method Bias

To evaluate common method bias, we used the full collinearity approach proposed by Kock (2015), since we collected all variables from the same respondents through a single questionnaire. In this method, we regress each latent construct on a common latent factor and analyze the resulting variance inflation factor (VIF) values. All full-collinearity VIF values fell below the conservative threshold of 3.3, indicating that common method bias is unlikely to affect the validity of our findings.

4.3. Measurement Model Assessment

4.3.1. First-Order Measurement Model

The first-order measurement model was assessed based on indicator reliability, internal consistency, and convergent validity. As shown in Table 3, all outer loadings exceeded the recommended threshold of 0.70. Cronbach's alpha ranged from 0.800 to 0.928, and composite reliability (CR) ranged from 0.860 to 0.940, both exceeding the 0.70 threshold. Additionally, the

Average Variance Extracted (AVE) for all constructs ranged from 0.514 to 0.834, exceeding the 0.50 threshold. These results indicate satisfactory reliability and convergent validity for all first-order constructs.

Table 3. Reliability and Convergent Validity (First-Order Constructs)

Construct	Items	Cronbach's Alpha	CR	AVE
Expertise	4	0.847	0.897	0.685
Trust	2	0.801	0.909	0.834
Parasocial Relationship	9	0.876	0.902	0.514
Loyalty	9	0.928	0.940	0.636
Purchase Intention	6	0.800	0.860	0.515
Purchase Behavior	4	0.806	0.874	0.634

4.3.2. Higher-Order Measurement Model

Relationship Quality was defined as a second-order construct comprising Trust and Loyalty. Behavioral Response, by Contrast, included Purchase Intention and Purchase Behavior. As shown in Table 4, all second-order loadings were high and significant, ranging from 0.923 to 0.966. The Average Variance Extracted (AVE) values for Relationship Quality (0.869) and Behavioral Response (0.920) were well above the 0.50 threshold. Additionally, the Heterotrait-Monotrait ratio (HTMT) between Relationship Quality and Behavioral Response was 0.840, below the conservative threshold of 0.85, confirming discriminant validity. The Standardized Root Mean Square Residual (SRMR) value of 0.066 indicated an acceptable model fit.

In this study, Behavioral Response is defined as a higher-order construct that spans from behavioral intention to self-reported enactment, rather than solely an objective measure of behavior. This definition aligns with communication research, which views audience responses as evolving from evaluative intentions to reported actions within a broader engagement process.

Table 4. Second-Order Construct Loadings and AVE

Higher-Order Construct	Indicator/Lower-Order Construct	Loading	AVE
Relationship Quality	Trust	0.923	0.869
	Loyalty	0.941	
Behavioral Response	Purchase Intention	0.966	0.920
	Purchase Behavior	0.953	

The structural model was estimated using PLS-SEM with 5,000 bootstrap resamples. Table 5 summarizes the results of the hypothesis testing, and all hypothesized relationships were supported.

Table 5: Results of the Structural Model

Hypothesis	Path	β	t-value	p-value	Result
H1	Expertise → Parasocial Relationship	0.744	21.06	< 0.001	Supported
H2	Parasocial Relationship → Relationship Quality	0.879	66.04	< 0.001	Supported
H3	Relationship Quality → Behavioral Response	0.750	25.85	< 0.001	Supported

The model accounted for 55.3% of the variance in Parasocial Relationships, 77.2% in Relationship Quality, and 56.3% in Behavioral Response (refer to Table 6). All effect sizes (f^2) were large, and the Q^2 values were significantly above zero (0.547, 0.663, and 0.504, respectively), confirming the model's predictive relevance.

Table 6. Coefficient of Determination (R^2) and Predictive Relevance (Q^2)

Endogenous Construct	R^2	Adjusted R^2	Q^2
Parasocial Relationship	0.553	0.551	0.547
Relationship Quality	0.772	0.771	0.663
Behavioral Response	0.563	0.561	0.504

The serial indirect effect of Expertise on Behavioral Response through Parasocial Relationship and Relationship Quality was significant ($\beta = 0.490$, $t = 14.83$, $p < 0.001$), which supports the proposed sequential mediation mechanism.

Figure 1. PLS-SEM Structural Model

Figure 1 presents the estimated PLS-SEM structural model and shows the standardized path coefficients for all hypothesized relationships. It illustrates the sequential communication process in which perceived expertise influences behavioral response through parasocial relationships and relationship quality.

In this study, Behavioral Response is treated as a higher-order construct representing a continuum from behavioral intention to self-reported behavioral enactment, rather than solely an objective measure of behavior. This understanding aligns with communication research, which views audience response as progressing from evaluative intention to reported action within a broader engagement process. Table 7 presents the standardized construct scores for the two audience-engagement segments.

Table 7. Standardized Construct Scores Across Audience-Engagement Segments

Construct	Low Engagement (n = 111, 44.6%)	High Engagement (n = 138, 55.4%)
Expertise	–0.822	0.661
Parasocial Relationship	–0.902	0.725
Relationship Quality	–0.947	0.761
Behavioral Response	–0.762	0.613

Figure 2. Standardized Scores by Engagement Segment

Figure 2 illustrates the two engagement clusters identified using standardized latent variable scores. The figure clearly separates the Low Engagement and High Engagement segments across all four constructs: Expertise, Parasocial Relationship, Relationship Quality, and Behavioral Response. The High Engagement cluster consistently demonstrates above-average scores, while the Low Engagement cluster displays below-average scores across all dimensions.

From a communication perspective, the two audience segments seem to represent different modes of involvement, rather than simply varying levels of social media use. The High Engagement segment shows stronger alignment across cognitive evaluation (expertise), emotional connection (parasocial relationships), relational attachment (trust and loyalty), and behavioral orientation. In contrast, the Low Engagement segment shows a more detached pattern, with these dimensions comparatively weaker and less integrated.

To identify the characteristics that differentiate these two audience engagement segments, we conducted a decision-tree analysis using demographic and media-use variables. The results showed that weekly time spent browsing food-influencer pages was the strongest predictor of segment membership, accounting for 64.2% of predictive importance. Educational attainment followed, at 17.0%. General Instagram use was less informative than communication-specific exposure to food-influencer content. These findings suggest that stronger parasocial and relational engagement is more closely associated with the attention devoted to influencer content than with overall social media activity.

Figure 3. Decision Tree for Predicting Audience-Engagement Segment Membership

Figure 3 presents the decision tree used to predict engagement-cluster membership based on demographic and media-use characteristics. The tree illustrates that the weekly time spent browsing food-blogger pages serves as the primary criterion for splitting, followed by educational attainment, daily Instagram usage, and place of residence. This visual representation confirms the hierarchical importance of these predictors in distinguishing between the Low and High Engagement segments.

5. Discussion

This study aimed to explain how perceived food influencers' expertise influences audience behavior. The results showed that this relationship is not direct; instead, it is mediated by the formation of a parasocial relationship, which then strengthens overall interaction. All three main hypotheses, as well as the chain mediation, were supported.

The findings support the proposed hypotheses and suggest that influencer effectiveness should be viewed as a communication process rather than simply a result of source characteristics. The results indicate that perceived expertise becomes behaviorally relevant only when it contributes to the development of a parasocial bond, which can then evolve into a relationship marked by trust and loyalty.

The first finding revealed that perceived influencer expertise positively and significantly affects the development of a parasocial relationship. This aligns with previous research that highlights expertise as one of the most crucial characteristics of a message source in social media environments (Han & Balabanis, 2024; Wang et al., 2025). When audiences view an influencer as knowledgeable and experienced in a particular topic, they are more inclined to follow their content closely. This ongoing engagement fosters familiarity and psychological closeness. Thus, in this study, expertise not only predicts behavior but also serves as the starting point of the communication process.

The second finding indicated that the parasocial relationship strongly affects relationship quality. This outcome aligns with parasocial relationship theory and research on trust and loyalty in media interactions (Breves & Liebers, 2025; Qian & Mao, 2023). Feeling a connection to the influencer is not the only result; it becomes significant when it leads to trust and a desire to maintain the relationship. In this study, relationship quality was treated as a second-order construct comprising trust and loyalty, and the results showed that these two dimensions effectively capture the overall concept of relationship quality. This finding supports the notion that, in relationships between audiences and influencers, trust and loyalty have greater explanatory power than other traditional dimensions of relationship marketing.

The third finding illustrated that relationship quality positively and significantly affects behavioral responses. This aligns with previous research highlighting the role of trust and loyalty in consumer behavior and the acceptance of recommendations (Filieri et al., 2023; Alim et al., 2026). When audiences trust the influencer and are willing to sustain the relationship, they are more likely to take the influencer's recommendations seriously, leading to purchase intentions or actual purchase behavior.

The study's most significant outcome was confirming chain mediation. This finding indicates that perceived expertise influences behavioral responses through parasocial relationships and relationship quality. Many prior studies have examined these variables separately or with a single mediator (Leite & Baptista, 2022; Alim et al., 2026), while this study integrated them into a coherent communication chain. This integration is the study's main innovation, showing that an influencer's influence is not based on a momentary evaluation of a single characteristic. Instead, it results from a gradual process that begins with the perception of expertise, develops into a parasocial bond, solidifies through trust and loyalty, and ultimately leads to behavioral responses. The audience-engagement segmentation enhances our understanding by highlighting that not all followers experience the communication process the same way. Instead, distinct relational patterns emerge within the same social media environment. Some followers show a closely integrated configuration of expertise perception, parasocial connection, relationship quality, and behavioral response, while others remain relatively detached.

The findings suggest that integrating source credibility theory, parasocial relationship theory, and relationship marketing literature can create a cohesive framework for understanding influencer impact. Each perspective contributes to the overall process, and the results support their complementary nature. Additionally, conceptualizing relationship quality as a second-order construct—comprising trust and loyalty—simplifies the model and minimizes conceptual overlap between these two constructs.

From a practical perspective, the results indicate that follower count alone does not determine influencer effectiveness. Brands and marketing managers should focus on signs of expertise, ongoing audience engagement, and the quality of relationships formed. Influencers who produce only entertaining content may not have the same behavioral impact as those perceived as experts and as building trusting relationships. These implications should be understood in the specific context of food influencers on Instagram. In areas where audiences actively seek recommendations and valuable information, expertise may matter more than in influencer categories focused primarily on entertainment.

Furthermore, audience engagement segmentation shows that the communication process is not experienced uniformly by all followers. Instead, distinct relational patterns emerge within the same social media environment. Some followers show closely integrated relationships in their perceptions of expertise, parasocial connections, relationship quality, and subsequent behavioral responses. In contrast, other followers remain relatively detached from this process.

6. Limitations and Future Research Directions

Like any empirical study, this research has limitations that should be acknowledged as opportunities for future inquiry.

First, our data are cross-sectional, so that we can report associations rather than definitive cause-and-effect relationships. While we found that parasocial relationships predict relationship quality, individuals with higher relationship quality may also develop stronger parasocial bonds over time. A longitudinal design would have been better suited to establish temporal precedence, but resource constraints prevented this approach. Future researchers should consider time-lagged or experience-sampling methods.

Second, all measures were self-reported, introducing the possibility of social desirability bias—participants might have over-reported engagement or purchase behavior. Future studies could

strengthen confidence by combining survey data with digital trace data, such as actual clicks, likes, or purchase receipts where ethically feasible.

Third, our sample is not fully representative. Most participants were urban, male, middle-class, and active Instagram users, limiting generalizability to female-dominated audiences, rural users, or followers of influencers in non-food categories. Our convenience sampling approach may have introduced self-selection bias, as individuals more interested in food influencers might have been more willing to participate, potentially inflating effect sizes.

Fourth, we focused exclusively on Instagram and food influencers. Instagram's visual nature may amplify parasocial relationships compared to text-heavy platforms, and food content may foster stronger relational bonds than purely informational content. Caution is needed before generalizing to TikTok, YouTube, or other influencer categories.

Fifth, we only examined perceived expertise as the starting point of the relational chain. Other characteristics—such as authenticity, attractiveness, self-disclosure, or perceived similarity—might also trigger parasocial relationships through different mechanisms. Exploring these alternative pathways could reveal whether our model holds up across antecedents.

Finally, our two-step cluster analysis was exploratory rather than hypothesis-driven. We based the identified segments on post-hoc grouping without theoretically predefined criteria. Future research could adopt a theory-driven segmentation approach using variables like motivation for following influencers.

Despite these limitations, we believe our study offers a coherent and empirically supported process model. The outlined constraints do not undermine the core findings; rather, they highlight the need to replicate and extend the study in diverse contexts.

7. Conclusion

This study demonstrates that the relationship between perceived influencer expertise and audience behavioral responses is complex. Expertise serves as the foundation for developing a parasocial relationship, which in turn enhances trust and loyalty. A stronger relationship increases the likelihood of behavioral responses. Thus, influencer impact should be viewed as a multistage communication process rather than simply a result of an individual's characteristics.

By integrating literature on source expertise, parasocial relationships, and relationship quality, this study presents a clearer understanding of how audience cognitive assessments evolve into behaviors. The study indicates that expertise alone is not enough to motivate meaningful action from social media audiences. Instead, turning attention into behavioral responses relies on gradually building parasocial connections, trust, and loyalty. This underscores the inherently relational aspect of communication between influencers and their audiences.

Declarations

Ethics approval and consent to participate

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. The study protocol was approved by the Ethics Committee of Kerman University of Medical Sciences and Health Services (Ethics Code: IR.KMU.REC.1405.336). All participants were informed about the study's purpose and the intended use of the information. Participation was completely voluntary, and informed consent was obtained from all individual participants prior to completing the online questionnaire. Participants were assured that their information would be collected anonymously, used solely for research purposes, and that they could withdraw at any stage.

Consent to participate

Informed consent was obtained from all individual participants included in the study.

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Competing interests

The authors declare no competing interests. However, it should be noted that the first author (B. Garrusi) is affiliated with the Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, which provided the funding for this study.

Data availability

Data availability: The de-identified dataset (CSV format), the survey instrument, and the analysis code used in this study are provided as supplementary files with this submission. Due to ethical and privacy restrictions, the raw dataset containing potentially identifying information is not publicly available.

Figure legends

Figure 1. PLS-SEM Structural Model

PLS-SEM structural model with standardized path coefficients for the hypothesized relationships. Expertise influences behavioral response through serial mediation of parasocial relationship and relationship quality.

Figure 2. Standardized Scores by Engagement Segment

Standardized latent variable scores for Low and High Engagement segments across all four constructs. High Engagement shows above-average scores; Low Engagement shows below-average scores across all dimensions.

Figure 3. Decision Tree for Predicting Audience-Engagement Segment Membership

Decision tree predicting engagement-cluster membership using demographic and media-use characteristics. Weekly food-blogger browsing time is the primary split criterion, followed by education, daily Instagram use, and residence.

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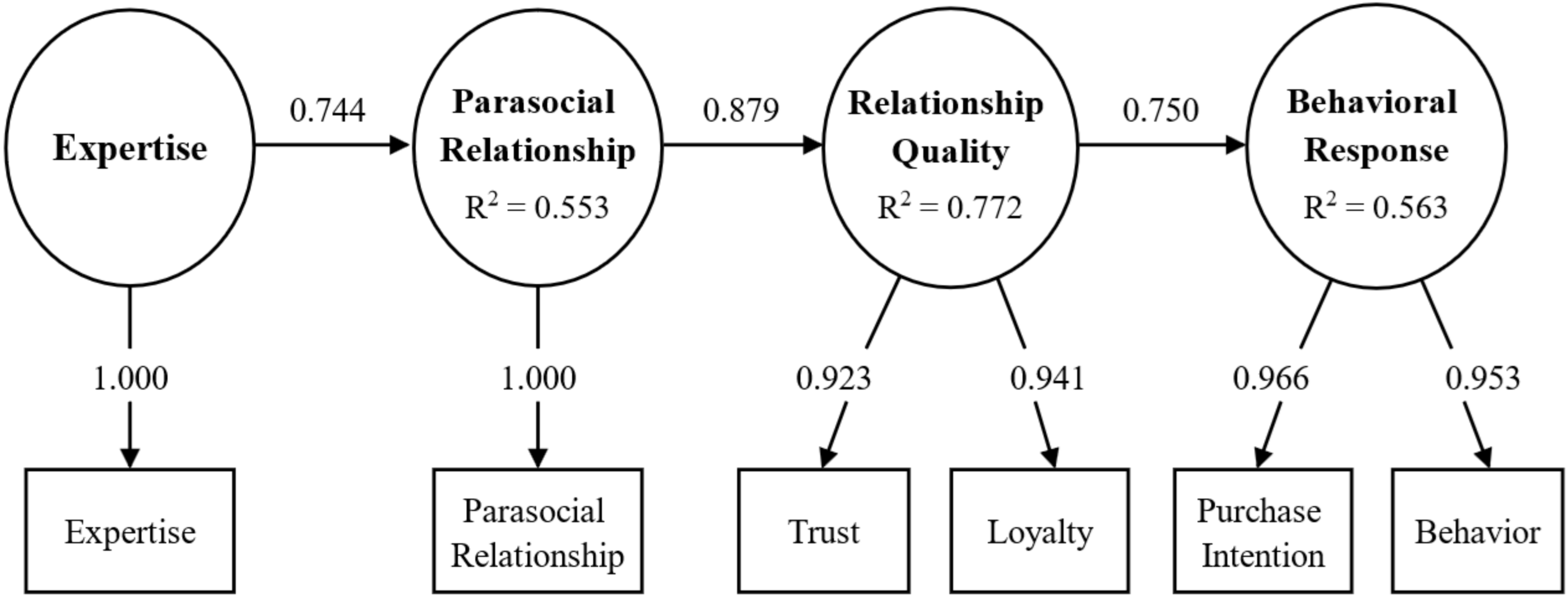
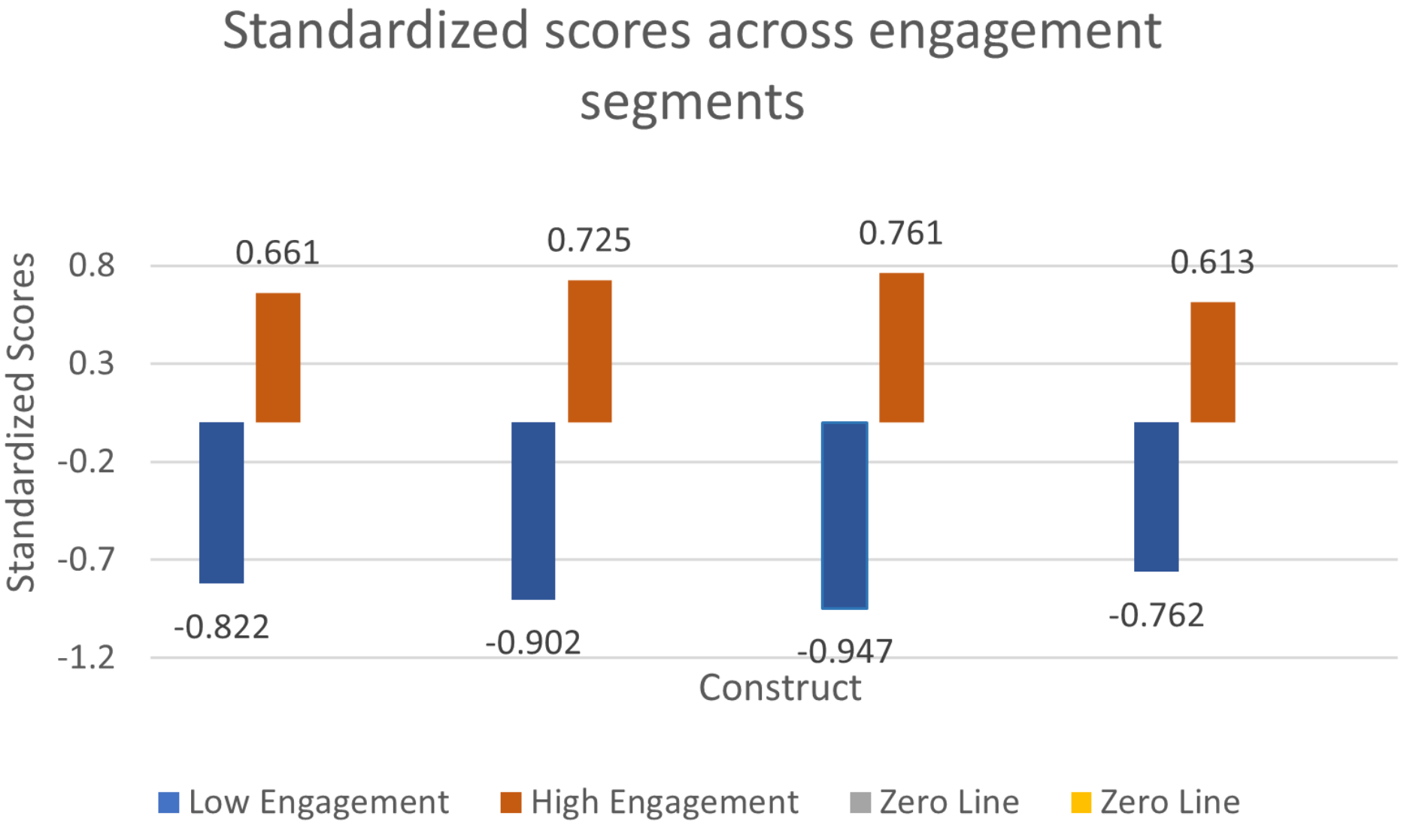
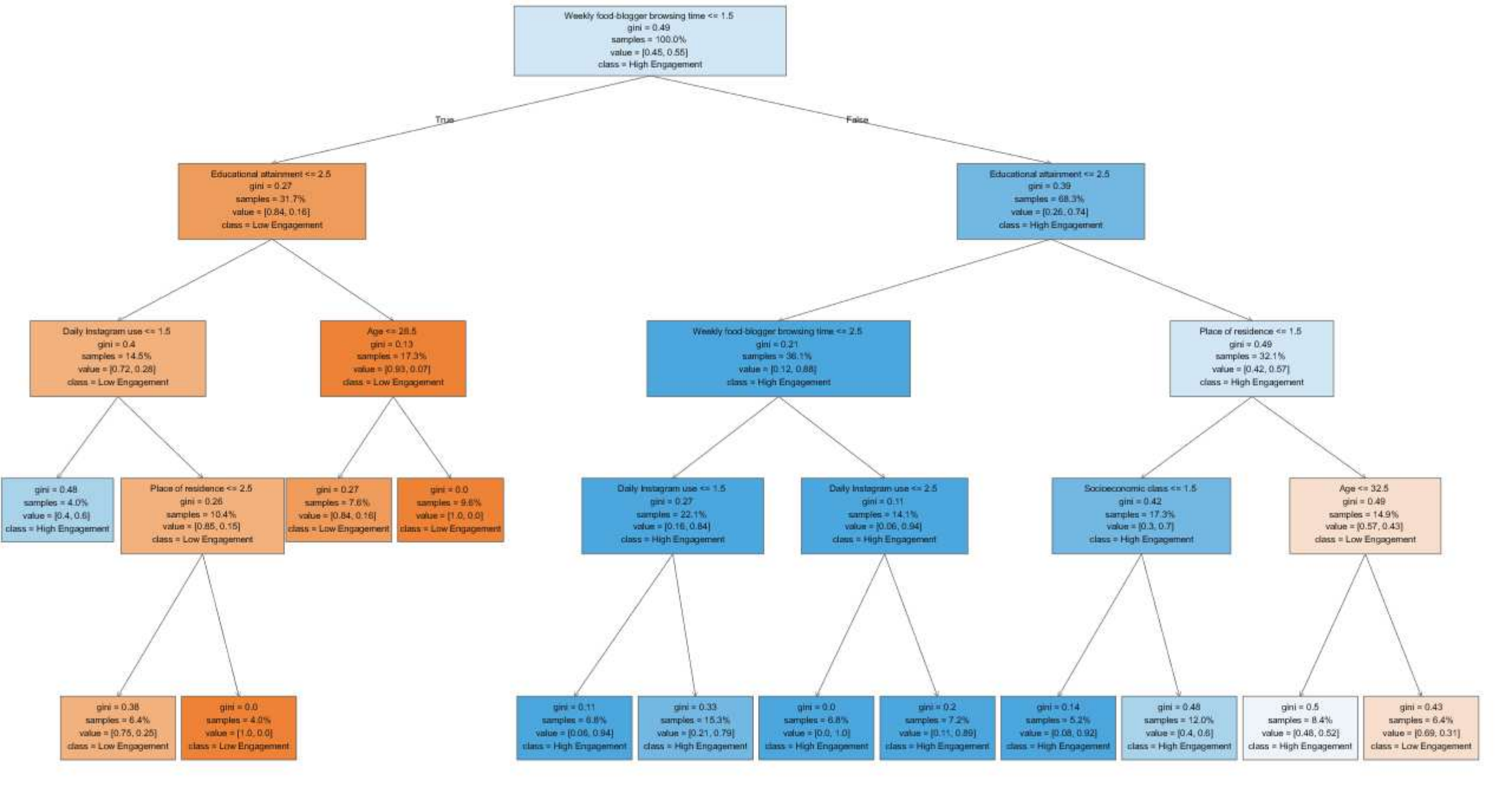


Serial indirect effect: Expertise → Parasocial Relationship → Relationship Quality → Behavioral Response = 0.490


Standardized scores across engagement segments
Standardized Scores
0.8
0.3
-0.2
-0.7
-1.2
0.661
0.725
0.761
0.613
-0.822
-0.902
-0.947
-0.762
Construct
Low Engagement
High Engagement
Zero Line
Zero Line


Weekly food-blogger browsing time <= 1.5
gini = 0.49
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class = High Engagement
True
False
Educational attainment <= 2.5
gini = 0.27
samples = 31.7%
value = [0.84, 0.16]
class = Low Engagement
Educational attainment <= 2.5
gini = 0.39
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Daily Instagram use <= 1.5
gini = 0.4
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Age <= 28.5
gini = 0.13
samples = 17.3%
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class = High Engagement
gini = 0.43
samples = 6.4%
value = [0.69, 0.31]
class = Low Engagement

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- ResearchQuestionnare.docx
- Itemnumbersanddistributionofquestionnairevariables..docx
- CodeDocumentation.pdf
- food21.csv
- output1.csv
- SourceCode1.pdf
- SourceCode1.ipynb
- SourceCode2.ipynb
- SourceCode2.pdf