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Modelling the Online Exercise Course Purchasing Behavior: Roles of Perceived Value and Identity

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Abstract

In the era of increasing public health awareness, the commercialization of online fitness courses is becoming increasingly high, and it is necessary to pursue the sustainable development of online fitness courses. The study aims to understand the path of perceived value and identity affecting Chinese consumers' online exercise course purchase decision. Through a comprehensive analysis of online survey data from 639 participants, who with consumption experience in this industry, and we utilized the statistic method and structural equation model to uncover that perceived value and identity orientation are key factors influencing purchase intention and behavior. In addition, intention mediates the relationships between perceived value, identity, and purchase behavior. The study highlights the importance of online exercise platforms to enhance perceived value and foster community identity. These findings provide important guidance for online exercise course providers, marketers, and platform developers who should focus on user needs, emphasize the unique value of the platform, and build an attractive community identity.

Keywords: Online exercise courses, buying behavior, Chinese consumers, perceived value, structural equation models

1. Introduction

Online exercise courses (OEC) have become an important part of the global exercise industry. Online exercise courses are structured fitness programs available via the internet, allowing users to engage in exercise routines from the convenience of their homes. These courses often include a variety of workouts such as yoga, high-intensity interval training (HIIT), and strength training, tailored to different fitness levels. Participants can access these courses through websites or mobile apps, often with options for live sessions with instructors or pre-recorded videos, providing flexibility and personalization to fit individual needs and schedules. This new way of exercise not only subverts the traditional exercise model, but also provides exercise enthusiasts with more convenient and flexible exercise choices (Padua, 2021). However, the market for online exercise courses is quite large, and becoming an excellent online sports course and attracting consumers is not an easy task (He et al., 2023).

The worldwide market of online exercise is predicted to attain a valuation of \$106.4 billion by 2030, and there is an annual growth rate of 26.72% from 2023 to 2030. As the exercise demographic increasingly transitions from offline to online platforms, and with the sustained rise in the number of active participants in online fitness, the future growth of China's exercise market is expected to be predominantly driven by the online sector (He et al., 2023). It is expected that the proportion of China's online exercise market size to the total size of the exercise market will reach 60.60% by 2026. At present, the online sports course market in China is huge, but it is relatively chaotic and the rules are not clear. Many consumers have raised doubts about service, brand, and value.

Online exercise courses, as a new way of exercise, have the advantages of flexible time and free place, and are favored by consumers (Montón-Martínez et al., 2024). However, the online exercise course market is also becoming more and more competitive, and consumers' purchasing behavior is affected by many factors. Existing studies have focused on course content, price, and convenience (Jiang et al., 2024), but a comprehensive understanding of influencers of online exercise course purchasing behavior in the Chinese market needs to be strengthened. This study aims to 1) understand the role of perceived value and identity in predicting the purchasing behavior to online exercise course; 2) explore the mediation role of intention to online exercise course; 3) implicate the marketers to promote the sustainable development of online exercise industry.

The follow-up sections of this paper will initiate an exhaustive review of existing literature, aiming to establish a robust background and theoretical framework for the research endeavor. Following this, emphasis will be directed towards delineating the research method. Subsequently, the penultimate section will systematically present the quantitative findings derived from the research, contextualizing them with respect to the research inquiries posed earlier. Finally, the concluding section will synthesize the findings, expound upon their significance, critically evaluate their theoretical and practical contributions, acknowledge the inherent limitations of the study, and proffer recommendations for prospective research directions.

2. Literature Review

2.1 Theoretical Approach

Consumer Value Theory (CVT) is central to understanding consumer behavior and marketing strategies (Kremel, 2023). CVT believes that consumers weigh the benefits and sacrifices to determine the value of a product or service in their purchase decision (Jakee & Jones-Young, 2021). This theory includes several dimensions, such as functional value (the function provided by the product or service), emotional value (the emotional experience of the purchase), social value (the effect of the purchase on social relationships), monetary value (the feeling of value associated with the price of the product or service), and cognitive value (the effect of the purchase on an individual's perception or self-image). In the field of online exercise classes, the application of CVT can help us understand consumers' choice and purchase behavior for different classes. By considering the various dimensions in CVT, exercise course providers can better meet consumer needs and develop more attractive marketing strategies.

Social identity theory (SIT) plays a key role in understanding consumer behavior in online exercise course purchases (Wang et al., 2023). SIT emphasizes how individuals divide themselves into different social groups and argues that an individual's self-concept is derived in part from interactions with group members (Abbas et al., 2024). In the field of online exercise, consumer purchasing behavior is influenced by many factors, including social classification, social identity, social comparison, positive uniqueness, and so on (Pillai & Nair, 2021). Consumers may consider social interaction with other exercise enthusiasts and identification with a particular exercise group when choosing a exercise class. Therefore, understanding and applying SIT theory helps exercise course providers to better understand consumer needs and thus design more engaging and targeted courses and marketing strategies. By applying a combination of Consumer value theory (CVT), and social identity theory (SIT), we were able to gain insight into the key factors influencing Chinese consumers' online exercise course purchasing behavior. CVT emphasizes the balance between perceived benefits and sacrifices, which influences the decision-making process of consumers. Meanwhile, SIT examines the impact of group dynamics on individual self-concept and consumer behavior. Together, these theories constitute a comprehensive and detailed framework that provides an in-depth theoretical basis for studying consumer behavior on online exercise platforms.

2.2 Hypothesis Development

Perceived value plays a key role in consumer decision-making, especially in the area of online exercise classes (Windasari et al., 2021). Consumers' perceived value to a course is one of the main drivers of their purchase intention (Akkaya, 2021). Perceived value encompasses various factors such as the quality of course content, accessibility, personal health benefits, and convenience, and there is a strong correlation between perceived value and purchasing behavior; specifically, higher perceived value tends to enhance consumer purchase motivation. (Yang et al., 2021). Therefore, this research develops:

H1: *Perceived value positively influences the purchasing behavior for online exercise courses.*

Perceived value, fundamental in consumer behavior research, refers to a consumer's overall evaluation of a product's utility, based on their perceptions of what they receive compared to what they give (Nguyen et al., 2019). In the context of online exercise courses, perceived

value might encompass factors such as the quality of the content, the convenience of accessing the course, and the perceived efficacy of the workouts provided. Research across various fields, including e-commerce and e-learning, has consistently demonstrated that perceived value significantly influences purchase intentions. When consumers perceive high value in a digital service, their satisfaction tends to increase. This heightened satisfaction positively influences their behavioral intentions, including their intention to make a purchase. Saha et al. (2023), have explored this relationship within the realm of online services, providing robust evidence that enhancements in perceived value effectively boost purchase intentions. Hence, this study posits:

H2: *Perceived value positively affects purchase intentions toward online exercise courses.*

Social identity theory posits that people's self-concept is partially derived from their association with social groups, which substantially affects their behaviors and attitudes (Reimer et al., 2022). In the context of consumer behavior, social identity can significantly shape purchasing decisions, particularly in sectors where community affiliation enhances the product's value (Jang & Kim, 2022). This phenomenon has been well-documented in various fields such as sports, fashion, and branded communities, where consumers often purchase products to signal their group membership and maintain social identity. Research in these areas indicates that when consumers identify strongly with a particular group, they are more likely to purchase products associated with that identity to reinforce their membership within the group. Individuals strive for consistency between their identity and their behaviors. Studies such as those by Jibril et al. (2019) have demonstrated that strong identification with a brand or community can lead to increased purchase intentions and loyalty. Building on these insights, this study hypothesizes:

H3: *Identity has a positive impact on purchasing behavior towards online exercise course.*

Social identity theory offers a conceptual basis for examining how individuals' self-perceptions are shaped by their affiliations with various social groups, investigating the complex connection between group membership and individual identity (van den Broek et al., 2020). In various consumer contexts, such as sports fandom or brand communities, identification with a group has been shown to enhance loyalty and purchase behaviors (Valmohammadi et al., 2023). This effect is attributed to the alignment of personal identity with group characteristics, which increases the perceived value and relevance of associated products or services.

When consumers strongly identify with a group, they tend to participate in activities that reinforce their membership in that group, such as making purchases that reflect the group's values or norms. This relationship has been supported by research in fields like sports marketing, where fans purchase merchandise as a means of identity expression, and in brand communities, where members' loyalty is often tied to their identification with the brand. In the context of online exercise courses, Course identity in online exercise courses, including brand, uniqueness, and alignment with personal values, has been shown to have an impact on an individual's purchase intention (Ozuem et al., 2021). Identity as a subjective evaluation of the unique attributes of a course, which plays a crucial role in shaping purchase intentions (Sharma et al., 2022). Analogous to the effect of perceived usefulness on user satisfaction

observed in alternative frameworks, favorable perceptions of identity substantially motivate users to engage in the purchase of online exercise courses.

H4: *The identity has a positive impact on the purchase intention towards online exercise course.*

Purchase intention is a psychological construct that indicates a consumer's likelihood or willingness to buy a product or service in the future (Riaz et al., 2021). This concept is central to understanding consumer decision-making processes and is often used as a predictor of actual purchase behavior. Empirical research across various sectors, including retail, e-commerce, and service industries, consistently supports the notion that higher purchase intentions correlate strongly with increased purchase behaviors (Fülöp et al., 2023). Therefore, providing high-quality services can effectively enhance the perceived value of customers and promote the sales and development of online exercise courses.

H5: *The purchase intention towards online exercise course has a positive impact on the purchase behavior towards online exercise course.*

The mediating role of intention has been extensively validated across various academic disciplines, including marketing, psychology, and consumer behavior (Wang, 2020). Within these fields, empirical studies consistently demonstrate that intention serves as a crucial mediator between different constructs and actual behavior. Specifically, perceived value has been identified as a significant determinant of purchase intention, with consumers more inclined to express intent to purchase when perceiving higher value in a product or service (Ali & Bhasin, 2019). This relationship has been robustly established in prior research across diverse industries. Moreover, intention has been consistently shown to predict actual consumption behavior, with individuals expressing stronger intentions being more likely to engage in the intended behavior. The characterization of online exercise courses, including elements like branding and conformity with individual exercise objectives, is perceived as a substantial factor in enhancing their attractiveness (Hou et al., 2023). This kind of identity affects individuals' purchase intention, which is influenced by many factors, including course identity and personal desire. Purchase intention acts as an intermediary between course identification and actual purchase behavior. Hence, this research develops:

H6: *Purchase intention serves as an intermediary between perceived value and actual purchase behavior in the context of online exercise courses.*

The concept of purchase intention has been widely recognized as a pivotal determinant in consumer behavior studies, serving as a crucial link between various psychological constructs and actual purchase behavior (Pop et al., 2022). Building upon this theoretical foundation, we propose a hypothesis within the context of online exercise courses, suggesting that purchase intention towards such courses plays an intermediary role between identity and purchase behavior (Ahmad & Akbar, 2023). Identity, encompassing an individual's self-concept, values, and perceived role within a social context, has been identified as a significant driver of consumer behavior in numerous studies. Individuals who strongly identify with these values and aspirations are more likely to express intention to purchase online exercise courses, viewing them as congruent with their self-image and lifestyle goals. Individuals who identify strongly with health and fitness are more inclined to convert their purchase intentions into

tangible behavior, such as enrolling in online exercise courses, as a means of reaffirming and aligning with their self-concept and aspirational goals. Therefore, this research proposed:

H7: *Purchase intention towards online exercise course plays an intermediary role between identity and purchase behavior towards online exercise course.*

3. Methodology

3.1 Data collection

This study adopts a total of 629 participants with consumption experience of online exercise courses in the online questionnaire were selected using a convenient sampling strategy. We then measured the variables using a 5-point Likert scale. 1-5 means strongly disagree - strongly agree.

3.2 Instrument

Perceived value is a subjective assessment that evaluates the worthiness of an online exercise course in relation to its cost. It encompasses various aspects such as the quality of course content, the expertise of the instructor, and the anticipated benefits upon course completion. This multifaceted concept is crucial in understanding how users gauge the utility of the course based on their investments (like time, effort, and money) and the benefits they expect to derive. Based on the study by Singh et al. (2021), the measurement of perceived value was adapted to fit the research context of online exercise courses. The adapted scale includes aspects such as the diversity and abundance of exercise options available, assessing whether the course offers a rich array of choices that meet various fitness needs. It also evaluates the cost-effectiveness, the balance between effort and reward, and the time efficiency of the course.

Identity, in the context of this study, is defined as a multifaceted construct that captures the uniqueness of an online exercise course, its branding, and how well it aligns with the user's personal identity or aspirations. Based on the Jiang et al. (2022), the measurement of the identity of online exercise courses was adapted to fit this specific research context. The operationalization of the identity construct is carried out through six distinct items, each designed to capture a different aspect of the course's identity from the user's perspective. These aspects include the user's sense of membership and belonging within the course community, their status as a long-term consumer reflecting loyalty, the perceived similarities in interests with other consumers, alignment with the values and societal image of the course, and agreement with the community-oriented values promoted by the course.

The intention to purchase OEC measures the likelihood of a user deciding to engage in such courses in the future. This construct is critical for understanding the decision-making process of users, incorporating elements like user satisfaction, cost considerations, and preferences for online versus traditional physical fitness options. Based on Singh et al. (2021), the study utilizes a series of detailed statements to accurately assess the intention to purchase.

Purchasing behavior is defined as the historical pattern of consumer engagement with online exercise courses. To effectively measure purchasing behavior, the study based on research of Rausch and Kopplin (2021). This construct is quantitatively assessed through four revised items, each designed to capture a different dimension of purchasing behavior.

3.3 Data analysis

This study adopts a comprehensive empirical approach to explore the influencers of the purchasing behavior towards OEC. First, descriptive statistical analysis is used to provide an overall overview of the data and lay the foundation for subsequent analysis. Then, reliability analysis will be conducted, and Cronbach's α coefficient will be used to evaluate the internal consistency between the scale and the questionnaire to ensure the reliability of the measurement tool. Next, confirmatory factor analysis aims to verify the structure and underlying constructs of the variable under test, providing insight into the relationships between observed variables. Finally, structural equation model is used to explore and describe complex relationships between observed and latent variables, including causal pathways and mediating effects (Reumers et al., 2024). Taken together, these data analysis methods will help to reveal the internal mechanism of online exercise course purchase behavior, and provide an important reference for formulating effective market strategies and improving consumer experience.

4. Results

4.1 Descriptive Analysis

Through the analysis of the survey data of 639 participants, it is found that the buying behavior of online exercise courses is affected by many factors. In terms of exercise class preferences, "Keep" was the most popular with 24.4 percent, followed by "jump rope every day" (20.3 percent) and "happiness Circle" (19.7 percent). This result reveals the diversity of online exercise program categories, with no one option dominating the market. Therefore, an individual's preference for a exercise course may be influenced by factors such as the type and content of the course, rather than a single factor.

Table 1. Essential Information.

		Frequency	Percent
	Dongdong	118	18.5
Which of the following online exercise class have you taken the most	Keep	156	24.4
	Jump Rope Everyday	130	20.3
	Circle of Happiness	126	19.7
	Huawei Sports Health	109	17.1
Gender	Male	335	53.3
	Female	304	46.7
	<20 years old	61	9.5
	20-30	192	30
Age	30-40	196	30.7
	40-50	80	12.5
	50-60	57	8.9
	>60	53	8.3
Area	Rural	178	27.9
	City	461	72.1
	<50,000 ¥	105	16.4
Annual Income	50,000-100,000 ¥	109	17.1
	100,000-150,000 ¥	97	15.2
	150,000-200,000 ¥	169	26.4
	More than 200,000 ¥	159	24.9
Education Level	Undergraduate degree or below	57	8.9
	Undergraduate	228	35.7
	Master	266	41.6
	PhD	88	13.8

The gender distribution of the participants was relatively balanced, with slightly more men than women, accounting for 53.3 percent. Regarding age demographics, the predominant segment of respondents falls within the 20 to 40 age range, representing 60.7%. In terms of residential areas, the vast majority of participants (72.1%) live in urban areas. The income levels of the participants varied, with the most substantial cohort (26.4%) reporting annual incomes ranging from 150,000 to 200,000 yuan. Finally, with regards to the educational background of participants, a notable inclination towards higher education is observed, as evidenced by 41.6% of participants holding master's degrees and 13.8% holding doctoral degrees.

4.2 Reliability and Validity Analysis

Table 2 indicates the evaluation of the online exercise course, including the study variables of perceived value, identity, purchase intention, and purchase behavior. These variables were evaluated using Cronbach's α values (0.826 - 0.892), for internal consistency assessment. These high alpha values indicate that the measurement tools employed have a high validity in evaluating the structure of each variable. Of particular concern is the highest alpha rating

of 0.892 for the online exercise course, showing a robust confidence level for all six questions (Collier, 2020). Consistency reliability scores for the other variables are also above 0.8, indicating that the survey has good reliability in capturing various aspects of consumer participation in online exercise classes. These evaluation results provide a reliable basis for further research on the factors affecting the purchasing behavior of online exercise courses.

Table 2 Reliability Statistics.

Study variables	Number of questions	Cronbach's α
Perceived value	4	0.826
Identity towards the OEC	6	0.892
Intention to purchase the OEC	4	0.830
Purchasing Behavior of OEC	4	0.826

In the analysis of determinants impacting consumer choices for online fitness courses, the Kaiser-Meyer-Olkin (KMO)=0.945 (>0.9). This figure significantly surpasses the accepted norm of 0.6, confirming that the sample is highly appropriate for factor analysis with robust correlations among variables. Furthermore, the results from the Bartlett's test of sphericity were significant, showing a chi-square value of 8791.197, 378 degrees of freedom, and a p-value=0.000, affirming strong associations between the variables. These findings collectively support the use of factor analysis for investigating the factors influencing the purchasing decisions for online exercise courses.

Therefore, it can be concluded that the factor analysis method can effectively explore and understand the potential factors and structure of online exercise course purchasing behavior, which provides a strong support and reliable analysis basis for related research.

Table 3 KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.945
Bartlett's Test of Sphericity	Approx. Chi-Square	8791.197
	df	378
	Sig.	.000

4.3 Confirmatory Factor Analysis

Table 4 indicates that the model fit is robust. The $\chi^2/df = 1.362 (<3)$. RMSEA= 0.024 (<0.08). Additionally, the GFI, AGFI, NFI, TLI, and CFI all surpass the recommended level of 0.9, with values ranging from 0.942 to 0.986. These results demonstrate strong congruence between the model and the observed data, further validating the reliability and effectiveness of the study in exploring factors that influence purchasing behaviors for online exercise courses.

Table 4 Measure Model Fit Metrics.

Fit index	χ^2/df	RMSEA	GFI	AGFI	NFI	TLI	CFI
Reference standards	<3	<0.08	>0.9	>0.85	>0.9	>0.9	>0.9
Result	1.362	0.024	0.952	0.942	0.949	0.984	0.986

Table 5 presents an intricate analysis of the convergent validity appraisal within the online exercise course investigation, delineating the factor loadings, composite reliabilities (CR), and average variance extracted (AVE) for each latent construct and its corresponding observed manifestations. Each latent construct epitomizes a unique conceptual framework, encompassing dimensions such as perceived value, identity, purchase intention, and the purchasing behavior associated with online practice courses, all scrutinized across diverse observational metrics (e.g., PV1, PV2

denoting perceived value). The majority of these indicators exhibit factor loadings surpassing 0.7, indicative of a robust association between the observed manifestations and their respective latent variables, thereby ensuring a meticulous evaluation of structural attributes.

The evaluation results of structural indicators are of great significance in the study of influencing factors of purchasing behavior of online exercise courses. The composite reliability (CR) values are all over 0.8, indicating that the structures have good internal consistency, which enhances the reliability of the measurement results. In addition, the mean variance extraction (AVE) value exceeds 0.5, indicating that most of the observed variance is attributable to the structure of the underlying variable. This means that the variance captured by the indicator has a higher proportion relative to the variance attributable to the measurement error, further strengthening the validity of the model. The excellent performance of these structural indicators provides a solid foundation for the research, strengthens the convergence validity of the model, and thus strengthens the understanding of the theoretical and practical significance of the factors affecting the purchasing behavior of online practice courses.

Table 5 Convergence Validity.

Latent variables	Observation indicators	Factor loading	CR	AVE
Perceived value	PVO1	0.755	0.828	0.547
	PVO2	0.701		
	PVO3	0.759		
	PVO4	0.741		
Identity	IDO1	0.794	0.892	0.580
	IDO2	0.767		
	IDO3	0.790		
	IDO4	0.749		
	IDO5	0.703		
	IDO6	0.764		
Intention to purchase the online exercise course	IPO1	0.732	0.831	0.552
	IPO2	0.769		
	IPO3	0.747		
	IPO4	0.722		
Purchasing behavior towards online exercise course	BPO1	0.735	0.827	0.544
	BPO2	0.743		
	BPO3	0.716		
	BPO4	0.755		

By evaluating the discriminant validity of the influencing factors model of online exercise course purchasing behavior, we found a satisfactory result. In the analysis, the square root of the mean variance (AVE) extracted for each potential variable exceeds the correlation with the other variables. For example, the AVE square root of the perceived value is 0.740, which exceeds the correlation with other structures, which ranges from 0.549 to 0.626. This pattern was validated across all potential variables, and the difference between each construct was statistically significant ($p < 0.001$). These results demonstrate the strong discriminant validity of the models, with each structure uniquely able to describe different aspects of online exercise course purchasing behavior. This clear division between structures provides us with the opportunity to deeply understand consumer behavior, providing a strong guide and foundation for the development of the online exercise class market.

Table 6 Discriminant Validity Test.

Latent variables	1	2	3	4	5
Perceived value	0.740				
Identity	0.549	0.762			
Intention to purchase the online exercise course	0.616	0.556	0.630	0.617	
Purchasing behavior towards online exercise course	0.626	0.553	0.592	0.533	0.633

4.4 Structural equation model

Table 7 explains the structural equation model showed good fit, χ^2/df ratio was lower than the threshold, RMSEA value was significantly lower than the standard, and other fitting indicators met or exceeded the recommended threshold. These results show that the structural equation model is effective in explaining the factors affecting the purchasing behavior of online exercise courses. The analysis of the consistency between the model and the observed data provides us with an opportunity to gain an in-depth understanding of the online exercise course market and provides important guidance for future research and market practice.

Table 7 Model Fit Metrics for Structural Equation Model.

Fit index	χ^2/df	RMSEA	GFI	AGFI	NFI	TLI	CFI
Reference standards	<3	<0.08	>0.9	>0.85	>0.9	>0.9	>0.9
Result	1.362	0.024	0.952	0.942	0.949	0.984	0.986

The structural equation model path test presented in Table 8 quantitatively assessed the relationships between perceived value, identity, intent to purchase online, and business process outsourcing. H1 ($\beta = 0.242$, $p < 0.001$) and H2 ($\beta = 0.252$, $p < 0.001$) confirmed the strong positive effects of perceived value on business process outsourcing and intent to purchase online, respectively. H3 ($\beta = 0.143$, $p = 0.003$) and H4 ($\beta = 0.183$, $p < 0.001$) demonstrated significant positive impacts of identity on business process outsourcing and intent to purchase online. Lastly, H5 ($\beta = 0.228$, $p < 0.001$) established a robust positive relationship between the intent to purchase online and business process outsourcing. These findings underscore the critical influence of perceived value and identity on online purchase intentions and outsourcing decisions, validating the model's effectiveness in exploring these dynamics.

Table 8. Structural Equation Model Path Test.

Hypothesis	Path	Estimate	β	S.E.	C.R.	P	Results
H1	PV→BP	0.236	0.242	0.058	4.093	***	Supported
H2	PV→IP	0.241	0.252	0.055	4.406	***	Supported
H3	ID→BP	0.137	0.143	0.047	2.921	0.003	Supported
H4	ID→IP	0.173	0.183	0.046	3.781	***	Supported
H5	IP→BP	0.233	0.228	0.062	3.75	***	Supported

Note: PV: perceived value; ID: identity to online exercise courses; IP: purchase intention; and BP: purchase behavior. ***: $p < 0.001$

Table 9 presents the results of a mediation effect bootstrap test, evaluating the indirect effects within the online exercise course purchasing model. H6 examines the mediated relationship between perceived value, identity and behavior of purchasing online exercise course, demonstrated a significant indirect effect (Effect size = 0.056, SE = 0.027) with a 95% confidence interval ranging from 0.019 to 0.134, indicating robust support for this mediation path. Similarly, H7, assessing the mediation effect of identity (ID) on the pathway from IP to BP, also found significant support (Effect size = 0.040, SE = 0.021) with a 95% confidence interval from 0.010 to 0.099.

Table 9 Mediation Effect Bootstrap Test.

Hypothesis	Mediation path	Effect size	SE	Bias-Corrected		Results
				95%CI		
H6	PV→IP→BP	0.056	0.027	0.019	0.134	Supported
H7	ID→IP→BP	0.040	0.021	0.010	0.099	Supported

PV: perceived value; ID: identity to online exercise courses; IP: purchase intention; and BP: purchase behavior. ***: $p < 0.001$

Figure 1 portrays the diagram to explain the relationship between perceived value, identification, intention, and online exercise course purchase behavior. Through this model, we can determine the mediating role of intention in these relationships.

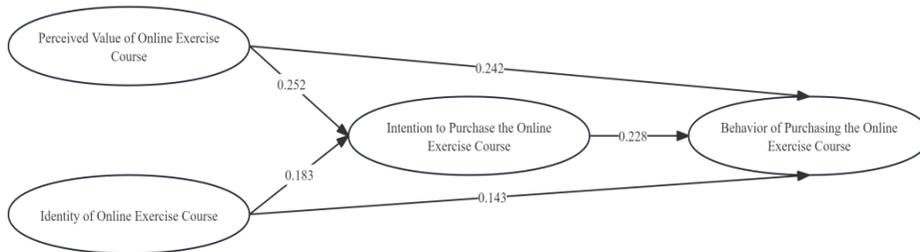


Figure 1. Structural Equation Model Diagram.

5. Discussion and Conclusion

5.1 Theoretical Implications

This research illustrates the consumers' perceived value and identity positively impact the purchase intention to online exercise courses, and then to affect the behavior of purchasing online education courses. Moreover, the intention plays the role of mediators. The findings not only highlight the importance of a theoretical framework, but also provide practical guidance for online exercise courses.

This research enriches consumer value theory by demonstrating how perceived value influences purchase intentions toward online exercise courses. The findings underscore the critical role of perceived benefits and costs in shaping consumers' decisions, highlighting that the value consumers attach to such digital offerings significantly drives their willingness to engage. By linking perceived value directly to purchase intentions, this study broadens the

understanding of consumer value theory, showing that the consumer's assessment of an online course's worth is a pivotal factor in the decision-making process.

Additionally, the study extends social identity theory by exploring how identification with a group affects purchasing behavior in the context of online education. The results reveal that consumers who identify with certain groups are likely to purchase online courses that align with the group's values, confirming that social identity can significantly influence consumer behavior. This application of social identification theory to online learning contexts provides deeper insights into how group affiliation can serve as a powerful motivator in educational purchase decisions, emphasizing the importance of targeting marketing strategies that resonate with the identity and values of specific consumer groups.

In conclusion, our research not only validates some aspects of the underlying theory, but also provides novel insights, especially in the context of online practical courses. By highlighting the specific application of these theoretical frameworks to digital consumer behavior, we provide a valuable addition to the literature. This in-depth understanding helps us better understand the underlying mechanisms of online exercise course purchasing behavior, provides guidance for practice, and provides new directions for future research.

5.2 Practical Implications

This study uncovers how perceived value and identity significantly influence purchase intentions and behaviors in the context of online exercise courses, with purchase intention serving as a mediating factor. The implications of these findings are manifold and extend across several stakeholders in the online education ecosystem. For platform developers, enhancing the perceived value through superior content quality and technological features is paramount. Additionally, strengthening the alignment of the platform's identity with the users' personal and social ideals can enhance user engagement and loyalty. Marketers can leverage these insights for more effective segmentation and targeting by crafting campaigns that highlight the unique attributes and community aspects of the platforms. Strategic planners are advised to focus on long-term engagement strategies that not only retain but also expand user bases through continuous value addition and community-building efforts. Furthermore, these findings offer a directive for educational researchers to delve deeper into identifying the specific elements of perceived value and identity that influence user behaviors. For policymakers, the study underscores the importance of establishing standards that promote user satisfaction and engagement, ensuring that online platforms adhere to high educational and operational quality. Collectively, these insights provide a robust framework for enhancing strategic decision-making and fostering environments that align with consumer expectations and preferences within the digital fitness education sector.

5.3 Conclusion

This research models the determinants influencing consumer behavior in online exercise courses, employing structural equation modeling to assess the interactions among perceived value, identity, purchase intention, and purchasing behavior. The findings confirm that perceived value and identity significantly influence both intention and actual purchasing actions within the realm of online fitness courses. The mediation analysis further underscores

the pivotal role of purchase intention in bridging perceived value and identity with purchasing actions, emphasizing its importance in the consumer decision-making process.

Despite these insights, the study faces certain limitations. The reliance on self-reported data may lead to biases due to subjective perceptions or inaccurate memories of respondents. Additionally, the sample's representativeness might be limited, as it does not fully capture the varied demographic characteristics of online exercise course consumers, which may restrict the wider applicability and generalizability of the findings. Moreover, the cross-sectional nature of the study limits the ability to establish causal relationships and to thoroughly explore how consumer behavior evolves over time.

In forthcoming investigations, it is imperative to utilize longitudinal methodologies to meticulously scrutinize the evolving trends in consumer behavior within online exercise courses. This entails not only widening sample sizes but also ensuring a heterogeneous demographic representation to bolster the robustness and applicability of research outcomes. Moreover, the incorporation of diverse qualitative approaches, including in-depth interviews and focused group discussions, holds the potential to yield nuanced insights into the multifaceted factors affecting the consumer behavior in this context. Furthermore, delving into cutting-edge technologies like virtual reality and artificial intelligence promises to enrich our comprehension of how these innovations influence consumer engagement within online exercise environments. Lastly, conducting comparative analyses spanning across various online exercise platforms will facilitate a deep understanding of the intricate competitive dynamics and discerning consumer preferences that shape this burgeoning market landscape. The results offer valuable insights into the various factors that influence consumer behavior in the online exercise course sector, highlighting their significant theoretical and practical implications. Through meticulous scrutiny of its constraints and leveraging its discoveries as a foundation, forthcoming research initiatives have the potential to enhance and elaborate upon our comprehension of this dynamic and swiftly evolving domain, fostering continued advancement in academic inquiry and practical application alike.

Authors' contribution

G.J, and S.J: conceptualization and writing—original draft preparation.

G.J: methodology, formal analysis, and writing—review and editing.

All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Data Availability Statement

You can request access to the dataset by contacting SJ at jiang.song@rmutr.ac.th. While datasets are not easily accessible due to the interests of collaborators and privacy concerns, and even some datasets are confidential, we encourage more individual scholars or experts to request access to these datasets for academic reference or other related needs. Please contact SJ at the email address provided and specify your request.

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