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Understanding elderly consumers' perceptions of wellness services: an HBM-informed study for fitness marketing in Vietnam

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***Abstract*—** Vietnam is entering a period of rapid population ageing, increasing demand for health and fitness services among older adults, yet the rate of older adults participating in gyms remains low. Based on an extended Health Belief Model (HBM) from a service marketing perspective, this study examines how psychological, socio-cultural, and service-related factors shape older adults' intention and behavior toward gym participation in urban Vietnam.
***Keywords*— Active ageing, cultural norms, health belief model, mixed-method research, urban ageing.**

I. INTRODUCTION

Vietnam is experiencing rapid population ageing. This demographic shift poses growing challenges for public health, social welfare, and urban planning. In Vietnam, participation rates of older adults in gym-based fitness programs in Vietnamese cities remain limited [5].
This study uses a mixed approach to explore perceived benefits, perceived barriers, and intended behaviors for actual participation in gym-based exercise programs.
The research paper is structured as follows: Section 2 presents a comprehensive literature review and research methods. Section 3 presents the research results and discusses, and Section 4 presents the conclusion.

II. LITERATURE REVIEW AND METHODOLOGY

A. Literature Review

Vietnam is undergoing a rapid demographic transition, with the proportion of people aged 60 and above increasing from 11.9% in 2019 and projected to exceed 25% by 2050 [6]. Yet, longer life expectancy does not ensure healthy ageing. Older adults continue to face chronic illness, functional decline, and growing mental health risks, making active ageing a rising public health priority [5], [9]. And participation in structured fitness services among older adults in urban Vietnam remains low due to financial difficulties, health concerns, lack of self-confidence, and age-related social stigma, along with limited age-friendly urban infrastructure [3], [7].
The HBM model [1], [2] explains health behavior through factors such as perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy. Although HBM has been widely applied in preventive health research, but its use in explaining older adults' participation in structured fitness services in Vietnam remains limited. This study addresses that gap by applying HBM to examine older adults' intention and actual participation in fitness services, while also considering the moderating role of cultural norms and informal wellness practices.
The research hypotheses are as follows:
H1: Perceived susceptibility positively influences intention to use.
H2: Perceived severity positively influences intention to use.
H3: Perceived benefits positively influence intention to use.
H4: Perceived barriers negatively influence intention to use.
H5: Cues to action positively influence intention to use.
H6: Self-efficacy positively influences intention to use.
H7: The intention to use fitness services positively influences actual participation in gym based fitness programmes.
H8 (discovery hypothesis): Cultural norms moderate the relationship between intention to use and actual participation.

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H9 (discovery hypothesis): Informal health practices moderate the relationship between intention to use and actual participation.

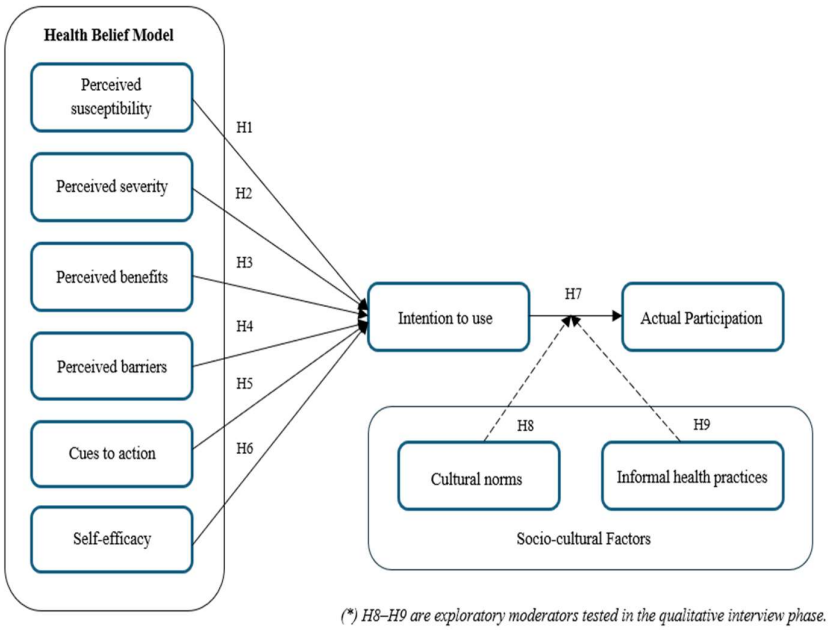

Figure 1. Conceptual model of older adult participation in healthcare services (*Source: Authors' analysis*)

B. Methodology

1) Research Design

The study adopts a mixed-methods approach, combining a quantitative survey based on the Health Belief Model (HBM) with qualitative semi-structured interviews to analyse older adults' participation in healthcare services. This approach enables both rigorous testing of the HBM and a deeper exploration of socio-cultural factors influencing actual behaviour, thereby enhancing the reliability and practical applicability of the research.

2) Quantitative phase

The quantitative phase surveyed 356 Vietnamese adults aged 55–75 living in urban areas, with 320 valid responses retained, exceeding the minimum sample size required for Structural Equation Modelling (SEM) (Hair et al., 2020). Data were collected from January to August 2025 to test hypotheses H1–H7 regarding older adults' participation in healthcare services, focusing on a population that is increasingly engaged in healthcare and wellness programmes yet remains under-researched in Southeast Asia [9].

Purposive sampling ensured balance in gender, exercise experience, and income. The questionnaire was adapted from Champion's Health Belief Model Scale, using a five-point Likert scale to measure perceived susceptibility, severity, benefits, barriers, self-efficacy, and cues to action [2]. It also included demographic information, behavioural intention, and previous exercise participation. To ensure clarity, reliability, and cultural suitability, the questionnaire underwent forward–backward translation, pilot testing with 30 participants, and expert review by three specialists (Beaton et al., 2000).

3) Qualitative phase

The qualitative phase involved semi-structured interviews with 12 older adults living in urban areas to explore socio-cultural and contextual factors related to hypotheses H8–H9. The interviews focused on health perceptions, barriers and motivations for participation, socio-cultural norms, gender roles, public appearance, and preferences between formal and informal healthcare practices. This design aligns with previous qualitative studies applying the Health Belief Model (HBM) to older adults [4], [8] and was adapted to the urban Vietnamese context (Mason, 2018).

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The data were analysed using NVivo 12 through open and axial coding, combining HBM theory with empirical findings. The results helped clarify how cultural factors, informal healthcare practices, and public visibility moderate the relationship between intention and actual participation in healthcare services among older adults.

III. Result and Discussion

A. Quantitative sample (n=320)

A total of 320 valid responses were collected through an online survey, all of which were complete and suitable for analysis.

TABLE I: DEMOGRAPHIC CHARACTERISTICS OF THE QUANTITATIVE STUDY SAMPLE (N = 320)

Variables	Category	Frequency	Percent
Age	55–59 years old	148	46.3%
	60–64 years old	116	36.3%
	65–69 years old	53	16.6%
	≥70 years old	3	0.9%
Gender	Female	167	52.2%
	Male	153	47.8%
Marital status	Single	29	9.1%
	Married	266	83.1%
	Divorced	14	4.4%
	Widowed	6	1.9%
	Other	5	1.6%
Education Level	High school diploma	40	13.3%
	College degree	27	9.0%
	University degree	175	58.3%
	Postgraduate	43	14.3%
	Other	15	5.0%
Employment Status	Worker	30	9.4%
	Housewife	29	9.1%
	Officer/Business	103	32.2%
	Retired	151	47.2%
	Other	7	2.2%
Gym Status	Yes	128	40.0%
	No	192	60.0%

Source: Authors' analysis

B. Quanlitative sample (n=12)

To explore contextual and socio-cultural factors that may moderate participation in wellness activities, a purposive sample of 12 older adults was selected for in-depth interviews. Participants were randomly chosen from the survey sample and included both male and female respondents aged 55-70 living in major urban areas.

C. Outer loading

The measurement model was assessed using the two-step PLS-SEM procedure proposed by Hair et al. (2020).

All retained indicator outer loadings exceeded the recommended threshold of 0.70 (Hair et al., 2016), indicating that each construct explained a substantial proportion of variance in its corresponding observed variables.

TABLE II: OUTER LOADING OF INDICATORS

Construct	Indicator	Loading
Perceived Susceptibility	PS1	0.801

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	PS2	0.809
	PS3	0.731
Perceived Severity	PSE1	0.795
	PSE2	0.799
	PSE3	0.711
Perceived Benefits	PBE1	0.827
	PBE2	0.849
	PBE3	0.818
Perceived Barriers	PB1	0.759
	PB2	0.709
	PB3	0.799
	PB4	0.789
Cues to Action	CA1	0.825
	CA2	0.844
	CA3	0.830
	CA4	0.794
Self - Efficacy	SE1	0.821
	SE2	0.822
	SE3	0.828
	SE4	0.739
	SE5	0.781
Intention to use	IN1	0.811
	IN2	0.757
	IN3	0.759
	IN4	0.773
	IN5	0.759
Actual Participation	AP1	0.775
	AP2	0.802
	AP3	0.754
	AP4	0.797
	AP5	0.810

Source: Authors' analysis

Construct reliability and convergent validity

The reliability of the conceptual constructs was assessed using Cronbach's alpha (CA) and Composite Reliability (CR). The slightly lower CA values for Perceived Severity (0.657) and Perceived Susceptibility (0.680) were still considered acceptable for exploratory behavioural research (Nunnally & Bernstein, 1994).

TABLE III: RESULT OF RELIABILITY AND CONVERGENT VALIDITY

Construct	Cronbach's α	Composite Reliability (CR)	AVE
Perceived Susceptibility	0.680	0.824	0.610
Perceived Severity	0.657	0.813	0.592
Perceived Benefits	0.777	0.870	0.691

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Perceived Barriers	0.762	0.849	0.585
Cues to action	0.780	0.872	0.694
Self - Efficacy	0.860	0.900	0.642
Intention to use	0.835	0.833	0.603
Actual Participation	0.847	0.891	0.621

Source: Authors' analysis

D. Discriminant validity

Discriminant validity was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT) (Henseler et al., 2014).

Construct	1	2	3	4	5	6	7	8
1. Cues to Action	0.776							
2. Perceived Benefits	0.781	0.831						
3. Perceived Barriers	0.544	0.570	0.765					
4. Perceived Susceptibility	0.665	0.555	0.439	0.781				
5. Perceived Severity	0.620	0.553	0.467	0.616	0.769			
6. Self - Efficacy	0.763	0.689	0.473	0.605	0.553	0.802		
7. Actual Participation	0.798	0.697	0.554	0.627	0.612	0.785	0.788	
8. Cues to Action	0.756	0.703	0.476	0.537	0.586	0.625	0.688	0.833

TABLE IV: DISCRIMINANT VALIDITY
Source: Authors' analysis

E. Multicollinearity (VIF)

Multicollinearity among predictor variables was assessed using the Variance Inflation Factor (VIF) following Hair et al. (2016). Overall, the predictor variables demonstrated sufficient independence to ensure reliable structural model estimation.

TABLE V: COLLINEARITY ASSESSMENT (VIF)

Construct	VIF
Perceived Susceptibility	1.979
Perceived Severity	1.979
Perceived Benefit	2.755
Perceived Barriers	1.577
Cues to action	2.326
Self - Efficacy	2.325
Intention to use	–
Actual Participation	–

Source: Authors' analysis

F. Predictive Power (R^2)

The explanatory power of the model was evaluated using R^2 and adjusted R^2 values. According to behavioural research standards, an R^2 value above 0.20 is considered meaningful (Hair et al., 2016). The model demonstrated strong predictive accuracy for Intention to Use and moderate explanatory power for Actual Participation.

TABLE VI: R-SQUARED VALUES

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Dependent Variable	R^2	Adjusted R^2
Intention to use	0.775	0.771
Actual Participation	0.637	0.636

Source: Authors' analysis

G. Hypothesis Testing

Hypothesised relationships were tested using the bootstrapping procedure (5,000 resamples) in SmartPLS 4.0.

TABLE VII: STRUCTURAL PATH ANALYSIS

Hypothesis	β	t-value	p-value	Significance
Intention → Actual Participation	0.798	18.543	0.000	Significant
Perceived Benefits → Intention	0.271	5.469	0.000	Significant
Perceived Susceptibility → Intention	0.164	3.950	0.000	Significant
Self-Efficacy → Intention	0.265	5.055	0.000	Significant
Cues to Action → Intention	0.262	5.847	0.000	Significant
Perceived Barriers → Intention	0.045	1.168	0.243	Not significant
Perceived Severity → Intention	0.048	1.089	0.276	Not significant

Source: Authors' analysis

The results indicate that Cues to Action, Perceived Benefits, Perceived Susceptibility, and Self-Efficacy significantly influence Intention to Use, while intention strongly predicts Actual Participation, confirming its mediating role. In contrast, Perceived Barriers and Perceived Severity were not statistically significant.

These findings reflect the urban Vietnamese context, where low-cost and socially embedded physical activities such as walking/light jogging (44.4%), cycling (25.7%), and yoga/meditation (18.7%) are widely practiced, reducing the influence of perceived barriers and health threat perceptions. This aligns with previous studies highlighting substitution effects in culturally familiar and health-conscious populations.

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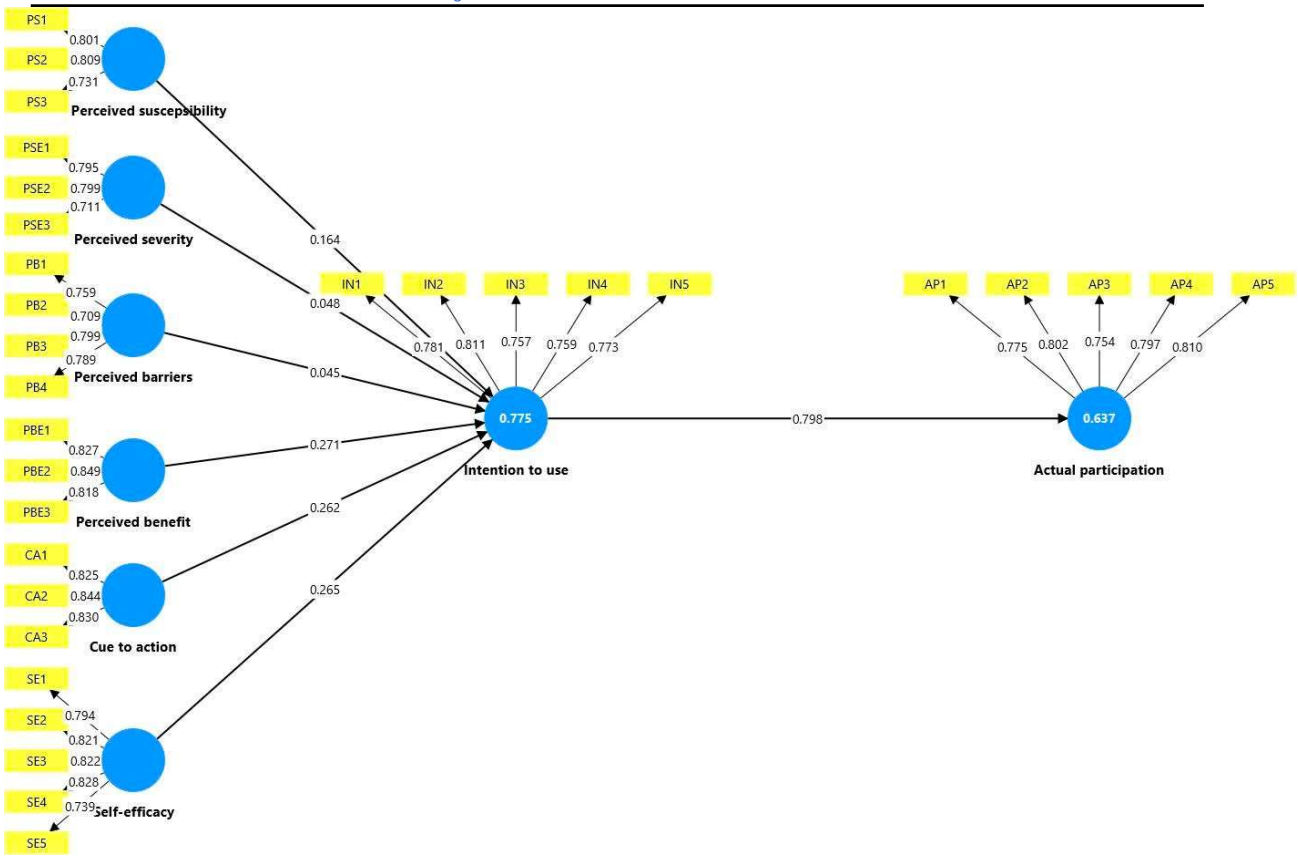

Figure 2: Illustrates the structural model, highlighting the central role of motivational factors in shaping intention, which subsequently drives actual participation (*Source: Authors' analysis).*

H. Thematic insight within the HBM framework

Qualitative data were analysed using thematic analysis, with the Health Belief Model (HBM) serving as the interpretive framework. The findings indicate that constructs such as Perceived Benefits, Perceived Barriers, Cues to Action, and Self-Efficacy are shaped by socio-cultural contexts.

Perceived benefits were mainly associated with maintaining health and relaxation, as one participant noted: "Exercise helps me stay flexible and keeps my mind relaxed" (P3, female, 63). In contrast, perceived barriers were not only financial but also related to social norms and personal comfort. For example, one participant stated: "I would rather save money for my grandchildren than spend it on exercise" (P1, male, 59).

Cues to action were primarily driven by social influences, such as encouragement from friends: "My friends invite me to walk with them, so I feel more motivated" (P8, male, 65). Meanwhile, self-efficacy was strengthened when activities were familiar, accessible, and community-based.

I. Moderating role of contextual factors (H8-H9)

Qualitative findings provide interpretive evidence for the moderating role of contextual factors in the relationship between intention and actual behaviour.

For H8 (Cultural Norms), factors such as gender expectations, modesty, and family responsibilities may weaken the translation of intention into behaviour. One participant shared: "I don't feel comfortable exercising with men; I feel embarrassed when the gym is crowded" (P3, female, 57). Similarly, family responsibilities influenced participation decisions: "I would rather spend money on my grandchildren than buy a gym membership" (P1, male, 59). However, social support could transform these norms into motivation: "When my neighbours invite me to walk, I feel happier and more motivated" (P8, male, 65).

For H9 (Informal Wellness Practices), activities such as walking, Tai Chi, and yoga were preferred due to their familiarity and low cost. One participant explained: "I've practiced Tai Chi in the park for years—it feels natural and relaxing" (P5, female, 63), while another stated: "I don't need a gym;

walking every morning is enough for me" (P10, male, 70). These activities help sustain perceived benefits, enhance self-efficacy, and reduce barriers.

Overall, the findings suggest that the relationship between intention and behaviour is strongly shaped by socio-cultural conditions, providing qualitative support for H8–H9.

IV. Conclusion

This study examines how the Health Belief Model (HBM) explains wellness participation among older adults in Vietnam using a mixed-methods approach. The findings confirm that cues to action, perceived benefits, perceived susceptibility, and self-efficacy significantly influence behavioural intention, which in turn strongly predicts actual participation, reinforcing its mediating role. In contrast, perceived barriers and perceived severity were not statistically significant.

Qualitative insights further reveal that wellness behaviour is strongly shaped by socio-cultural factors, including collectivist values, gender norms, family responsibilities, and preferences for informal, low-cost activities such as walking groups, Tai Chi, and community-based exercise. These findings suggest that health behaviour in later life is not driven solely by individual cognitive evaluation, but also by socially negotiated meanings and cultural expectations.

The study contributes to the HBM by demonstrating that its constructs operate within broader socio-cultural contexts, where factors such as cultural norms and informal wellness practices influence how intention is translated into behaviour. Practically, the findings highlight the importance of culturally sensitive, socially embedded, and economically accessible wellness programmes to promote active ageing.

Despite its contributions, the study is limited by its focus on an urban sample and a relatively small qualitative dataset. Future research should expand to more diverse populations, incorporate additional socio-cultural variables, and explore longitudinal or cross-cultural designs to further validate and extend the model.

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