

Effects of Service Quality Factors of Yoga Clubs in Senior Welfare Centers on Customer Satisfaction and Revisit Intention

Kyung-Hwan Cho¹, Austin Kang², Yang-Hun Jung³

¹Department of Special Physical Education, Daelim University College, A 29 Imgok-ro, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea

²Department of Medicine, Seoul National University, Seoul, Republic of Korea, 28Yeongeon-dong, Jongno-gu, Seoul, Republic of Korea

³Department of Health, Exercise, and Rehabilitation, Yeosu University, 338 Sejong-ro, Yeosu-si, Gyeonggi-do, Republic of Korea

KEYWORDS

Service Quality Factors, Silver Yoga, Yoga Club, Senior Welfare Centers, Customer Satisfaction, Revisit Intention.

ABSTRACT

This study aimed to analyze the effects of service quality factors of yoga clubs in senior welfare centers on customer satisfaction and revisit intention. An online survey was performed from May 1 to 15, 2023, targeting the elderly aged 60 and older. This study utilized 182 valid copies from 190 participants experienced in silver yoga at five senior welfare centers in Korea. This study confirmed that women in their 60s, mainly from middle-class families, participated in silver yoga programs in senior welfare centers, and that they had been participating in yoga for less than a year, spent less than an hour per session, and attended two to three times per week. Also, the service quality factors that could affect the customer satisfaction of subjects participating in silver yoga classes were confirmed in the following order: health & hygiene ($\beta=.361$, $p<.001$), tangibles ($\beta=.293$, $p=.001$), and intangibles ($\beta=.272$, $p=.007$). Furthermore, health & hygiene ($\beta=.593$, $p=.001$) and tangibles ($\beta=.421$, $p<.001$) had a significant effect on revisit intention, but tangibles ($\beta=.091$, $p=.442$) did not. Customer satisfaction had a significant effect on revisit intention ($\beta=.891$, $p<.001$). The study identified that health & hygiene, and tangibles impact both customer satisfaction and revisit intention significantly, while intangibles affect revisit intention indirectly through customer satisfaction.

1. Introduction

The COVID-19 pandemic affected how people approach fitness, health, and overall well-being [1]. As societies adjust to the new normal, it is essential to understand the effects of service quality factors on customer satisfaction and revisit intention in the context of silver yoga to meet the evolving needs and expectations of older adults. Also, the COVID-19 pandemic underscored the significance of health and well-being, especially highlighting the myriad health challenges encountered by the elderly, which potentially diminish their life quality and expectancy [2]. Some of the main concerns faced by the elderly include lower physical function and well-being, difficulties with mental and emotional functioning and well-being, and more limited social functioning [3]. Promoting physical fitness among the elderly is crucial to lowering healthcare expenditures that will occur in the future for those with chronic health problems [4]. Yoga exercise has positive effects on the physical and mental health of the elderly with dementia living in long-term care facilities [5]. Silver yoga, with its focus on gentle movements, flexibility, and relaxation, has become an increasingly popular activity among the elderly to improve physical fitness, mental well-being, and overall quality of life [4, 5]. The silver yoga exercise program was created to address the reduced body flexibility experienced by the elderly and was reviewed critically by experts and pilot-tested with community-dwelling older adults [4]. In South Korea (hereafter referred to as Korea), silver yoga programs are mainly offered at yoga clubs in senior welfare centers, which comprise 95.1 percent of leisure and welfare facilities for the elderly [6]. Furthermore, by 2025, it is expected that 20.3 percent of Koreans will be older adults, making the country a super-aged society [7]. As of 2022, there are 59 senior welfare centers in Seoul, the capital of Korea [8]. They are mainly used by older adults with deteriorating health and limited activity levels and provide spaces for leisure where 10–20 older adults can spend their time on the floor. Many senior welfare centers run yoga clubs for the elderly, but some spaces are not suitable for older adults to stand up and exercise [6]. As a result, there is a need to review the customer satisfaction of seniors participating in the silver yoga program at the senior welfare centers. Customer satisfaction remains a critical outcome for any service industry, including silver yoga.

According to Oliver [9], satisfaction is “the consumer's fulfillment response” and it is determined by comparing the degree of service received from an experience with the level of service that was anticipated. Therefore, customer satisfaction can be defined as the emotional response that customers experience when they compare the actual performance or outcome of a product against their prior expectations [10], which encompasses a spectrum of customer reactions, including acceptance, relief, happiness, excitement, and delight [11]. A range of factors can influence consumer satisfaction, including the quality of the product or service, the ease of use and accessibility, the level of customer support, and the overall user experience [12]. Furthermore, Gröonroos [13] referred to service as “the interaction between the seller and the buyer that renders the service to customers,” stating that service quality could be commonly defined as the overall evaluation of service performance. In the context of the yoga industry, customer satisfaction is also influenced by service factors [14] and the post-COVID-19 era presents unique challenges, including concerns about health and hygiene [15]. Meanwhile, revisit intention can be defined as an individual's readiness or willingness to make a repeat visit the same destination [16]. Therefore, revisit intention is an essential factor to consider for the sustainability of the yoga industry [15]. With changing circumstances and potential disruptions in service delivery, maintaining customer loyalty and encouraging repeat visits is crucial for the long-term success of silver yoga programs [17]. While previous studies have explored service quality factors and customer satisfaction in various service contexts [18, 19], limited research has focused specifically on silver yoga provided by the yoga clubs in the senior welfare centers in the post-COVID-19 era.

Objectives

In the wake of the COVID-19 pandemic, it is academically and practically necessary to investigate service quality factors affecting customer satisfaction and revisit intention in silver yoga for older adults. Understanding these factors is crucial for adapting silver yoga programs to the health, well-being, and social needs of seniors, ensuring their continued engagement and the financial sustainability of such wellness programs. Therefore, this study aims to investigate the effects of service quality factors of the yoga clubs at senior welfare centers in South Korea on customer satisfaction and revisit intention among older adults in the current landscape.

2. Methodology

Research model and hypotheses

This study used the SERVQUAL model developed by Parasuraman et al. [20] to analyze the relationship between service quality, customer satisfaction, and revisit intention for silver yoga programs provided by yoga clubs in senior welfare centers. Parasuraman, Zeithaml, and Berry [21] identified ten key service quality dimensions: reliability, responsiveness, assurance, empathy, tangibles, accessibility, communication, competence, courtesy, and security. Parasuraman et al. [20] also developed the service quality measurement scale (SERVQUAL model), including five dimensions: reliability, assurance, tangibility, responsiveness, and empathy. Meanwhile, classification of service quality components may be presented in various ways according to measurement target areas. Anderson and Lindestad [22] divided service quality into three types: overall service quality and service quality for human services and facilities. Brady and Cronin [23] also divided service quality into three types: physical quality (surrounding factors, design factors, and social factors), consequential quality (waiting time, tangibles, attractiveness), and interaction quality (staff attitude and behavior, staff expertise). Maric et al. [24] developed a measurement model with two dimensions: tangibility (appearance of the staff, tools and equipment, ventilation, lighting, and other physical elements used to provide the services) and intangibility (interrelationship between staff and customers, including proper handling of customer complaints). Abdou et al. [15] also presented three service quality factors of tangibles, intangibles, and health & hygiene. Based on previous studies, this study divided the service quality factors of silver yoga provided by yoga clubs in senior welfare centers into three categories: tangibles (e.g., appearance of facilities, equipment quality, and overall aesthetics), intangibles (e.g., expertise and behavior of yoga instructors, personalized attention, and the overall

experience of practicing yoga) and health & hygiene (e.g., cleanliness, safety, and health protocols implemented in the yoga facilities). Further, customer satisfaction refers to the extent to which a product or service meets the customer's expectations, resulting in a repeat purchase and loyalty [25]. Thus, customer satisfaction can be defined as the degree to which participants' needs, expectations, and preferences are met by the silver yoga service provided by yoga clubs in senior welfare centers. In the context of senior welfare centers, especially in yoga clubs, customer satisfaction has become a crucial objective for maintaining long-term relationships with participants, since it fosters loyalty and repeat visits, which are essential for sustained engagement and operational success [26]. Tangibles can include the physical features of a service, such as the appearance of facilities, equipment quality, and overall aesthetics. Intangibles include aspects such as the expertise and behavior of yoga instructors, personalized attention, and the overall experience of practicing yoga. Health & hygiene factors pertain to the cleanliness, safety, and health protocols implemented in the yoga facilities [15]. To investigate the effects of service quality factors (tangibles, intangibles, and health & hygiene) of silver yoga provided by yoga clubs in senior welfare centers on customer satisfaction and revisit intention, the following research hypotheses can be formulated.

Hypothesis 1: Service quality factors (tangibles, intangibles, and health & hygiene) have a positive impact on customer satisfaction.

Revisit intention refers to a possibility of customers using the service, reflecting a customer's willingness or plan to return to a service or product after their initial experience and indicating the likelihood of repeat patronage and sustained engagement with the service provider [27]. Also, revisit intention can be defined as an individual's readiness or willingness to make a repeat visit to the same yoga club in a senior welfare center [16]. Thus, the intention to return within the next six months was referred to as revisit intention in this study. Furthermore, revisit intention is a critical predictor of customer loyalty and satisfaction [28]. Based on the previous research [20, 29], this study proposes the following hypotheses.

Hypothesis 2: Service quality factors (tangibles, intangibles, and health & hygiene) have a positive impact on revisit intention.

Hypothesis 3: Customer satisfaction influences revisit intention positively.

Therefore, this study presents the effects of service quality factors of yoga clubs operated in senior welfare centers on customer satisfaction and revisit intention, as shown in Figure 1.

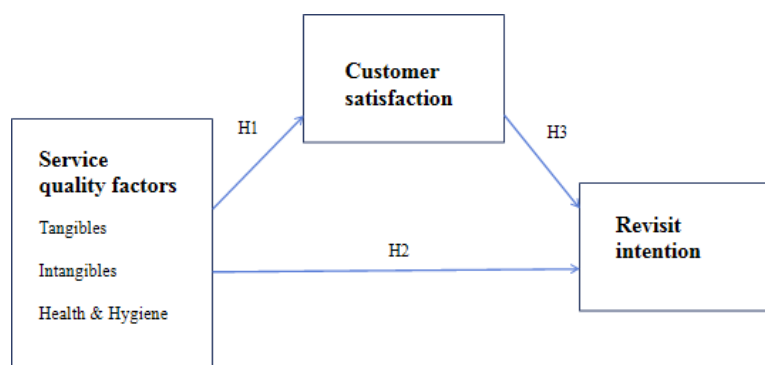


Figure 1. Research model

Research instrument

Table 1 delineates the questionnaire used in this study, which was divided into three distinct sections. The initial section of the questionnaire addressed participant demographics, encompassing gender, age,

educational attainment, household income, and the specifics of their participation, including duration, timing, and frequency. The second section aimed to explore service quality factors [15, 21, 24] for silver yoga provided by yoga clubs in senior welfare centers. The third section focused on identifying customer satisfaction [15, 30, 31] and revisit intention [15, 16, 32]. In total, the questionnaire consisted of a total of 25 questions. In this study, service quality factors, customer satisfaction, and revisit intention were quantified using a five-point Likert scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5).

Table 1. Composition of the questionnaire

Category		Items	References
Participants' demographic characteristics		Gender, age, educational level, Monthly income per household	(-)
Service quality factors	Tangibles	(T1) The physical facilities and accessories in a yoga retreat were visually appealing	Abdou et al. [15] Parasuraman, Zeithmal & Berry [21], Maric et al. [24]
		(T2) The appearance of the physical facilities was in keeping with the type of services provided	
		(T3) This yoga club had comfortable furniture, fixture, and an appropriate atmosphere. promise to do so.	
		(T4) The staff was well dressed and have a neat, professional appearance	
	Intangibles	(IT1) When the staff promises to do something by a certain time, they do so.	
		(IT2) The staff shows a sincere interest in solving guests' complaints.	
		(IT3) The staff provides services at the time they promise to do so.	
		(IT4) The staff are never too busy to respond to your requests.	
		(IT5) The staff are able to understand your specific needs.	
		(IT6) The yoga club has staff who give you personal attention.	
		(IT7) The staff has the skills and adequate knowledge to perform the service professionally.	
		(IT8) The behavior of staff instilled confidence among guests.	
		(IT9) The staff tell you exactly the right schedule of the services to be performed.	
	Health & hygiene	(HH1) Protective masks and hand sanitizer were available for all guests and staff.	
		(HH2) The yoga club had a space where you could sit 1m away from the person next to you.	
		(HH3) Rooms, bathrooms, and public areas were usually cleaned and well sanitized.	
Customer satisfaction (3)		(S1) The yoga club and its staff met all our expectation.	Abdou et al.[15], Gatian [30], Oliver [31]
		(S2) Compared with other centers, the	

Revisit intention (3)	level of satisfaction in this place was amazing.	Abdou et al. [15], Tosun et al. [16], Lee et al. [32]
	(S3) Overall, I am satisfied with my experience at this yoga club.	
	(R1) If I have a chance, I will visit this yoga club again.	
Total	(R2) I will continue to visit this yoga club.	
	(R3) I will certainly recommend this center to my friends and acquaintances.	
22 Questions		

Table 2 presents the exploratory factor analysis (EFA) that was conducted to confirm the validity and reliability of the research instrument. Utilizing principal components factor analysis and varimax rotation, this study identified three factors—tangibles, intangibles, and health & hygiene—with factor loadings above .5 and eigenvalues exceeding 1.0, accounting for 73.485 percent of the total variance. In addition, Cronbach's α of all the items was .7 or more, indicating high reliability. Moreover, Kaiser-Meyer-Olkin (KMO) values of each variable were all greater than .7, showing that the selection of variables is good [33]. Bartlett's Test of Sphericity also showed that the factor analysis model is suitable. Therefore, the results of the EFA indicate that the research instrument used in this study is valid.

Data collection

The target population was the elderly who had participated in silver yoga programs provided by the yoga clubs in senior welfare centers in Korea. Five yoga clubs in senior welfare centers offered silver yoga programs to the participants for a monthly fee of about 20-30 dollars for the elderly aged 60 or older. The silver yoga programs in yoga clubs at the five senior welfare centers were composed as shown in Table 3. The elderly in silver yoga programs practiced the protocol specially designed for senior citizens, which included simple warm-ups (jathis), breath body movement coordination practices (kriyas), static stretching postures (asanas), breathing techniques (pranayamas), relaxation, and simple chanting [34]. This study gathered data using a self-administered questionnaire and obtained informed consent from the participants in line with ethical guidelines, such as the Helsinki Declaration [35]. The informed consent included the purpose of this study, the procedures involved, any potential risks or discomforts, the anticipated benefits, the voluntary nature of participation, and how their data would be used and protected. A convenience sampling method was utilized, where participants were recruited based on their availability and willingness to participate in this study. An online survey was conducted from May 1 to May 15, 2023, targeting the elderly aged 60 and older. A total of 190 respondents who were practicing silver yoga programs provided by yoga clubs in five senior welfare centers located in the metropolitan area were recruited. Ultimately, 182 copies (response rate of 95.7%) were used for the final analysis. The eight dropouts were those who did not complete all the answers to the questionnaire.

Table 3. Silver yoga protocol

Category	Subcategory1	Subcategory2	Subcategory
Warm-ups	Jathis	(-)	(-)
Breath body movement coordination practices	Kriyas	(-)	(-)
Static stretching postures	Asana	Standing	Veera asana
			Tada asana

			Ardhakati and kati chakra asana
			Ardha utkat asana
		Sitting	Vakra asana
			Paschimottana/purvottana asana
			Chatuspada kriya/vyagraha pranayama
			Nava kriya.
		Prone	Bhujanga asana/bhujangini mudra
			Makara asana
		Supine	Pawanamukta series.
			Pada uttana series
			Sethu kriya
Breathing techniques	Pranayamas	Chandra nadi	(-)
		Pranava	(-)
		Bhramari	(-)
Hand gesture or position	Mudras	Brahma mudra	(-)
Relaxation & simple chanting	Relaxation	Savitri pranayama in shava asana	(-)
		Marmanasthanam/kaya kriya	(-)
	Chanting	Chakra awareness sequence.	(-)

Data analysis

This study conducted statistical analyses of the data collected using the SPSS 22.0 (IBM Corp., Armonk, NY, USA). In this study, frequency analysis, reliability and validity analysis, and correlation analysis of each variable were performed. Also, analysis of variance (ANOVA) was employed to examine the differences between the means of three groups (tangibles, intangibles, health & hygiene). Bonferroni post-hoc tests, pairwise comparisons, were used to compare them after conducting ANOVA. The purpose of Bonferroni post-hoc tests is to identify specific group differences and determine which groups significantly differ from each other. Lastly, this study conducted regression analysis to verify the hypotheses. The significance level was established at two-sided $p < .05$.

3. Result and Discussion

General characteristics of subjects

Table 4 shows the demographic and yoga participation characteristics of the study subjects. The demographic analysis shows that of the 182 respondents, 144 (79.2%) were female, 117 (64.3%) were in their 60s, 98 (53.8%) had a high school diploma, and 123 (42.7%) had a monthly household income between \$3,000 and \$5,999. When analyzing the characteristics of respondents' yoga participation, 114 had participated for less than a year (62.6%), 100 exercised for more than 30 minutes but less than 60 minutes per session (54.9%), and 106 participated 2-3 times per week (58.2%)

Table 4. General characteristics

Category		Frequency	Percentage (%)
Gender	Male	38	20.8
	Female	144	79.2

Age	60~69years	117	64.3
	70~79years	52	28.6
	≥80years	13	7.1
Educational level	Junior high school graduation (≤9 years)	14	7.6
	High school graduation (10~12years)	98	53.8
	University graduation (13~16years)	63	34.6
	Graduation from graduate school (≥17years)	7	3.8
Monthly income per household	<\$3,000	77	26.7
	\$3,000~\$5,999	123	42.7
	\$6,000~\$8,999	68	23.6
	≥\$9,000	20	6.9
Participation period	< 1 year	114	62.6
	1≤years<2	43	23.6
	≥2 years	25	13.8
Participation time	<30minutes	45	24.7
	30≤minutes<60	100	54.9
	60≤minutes<90	32	17.5
	≥90minutes	5	2.7
Participation frequency (per week)	≤1	53	29.1
	2~3	106	58.2
	≥4	23	12.6

Descriptive statistics

Table 5 presents the outcomes of the descriptive statistical analysis and the ANOVA test. The mean and standard deviation of T1 was 3.93 ± 1.01 , while that of T3 was $3.70 \pm .92$. However, there was no statistically significant difference in the measured values for the four items related to tangibles ($F=2.281$, $p=.078$). In addition, there was no statistically significant difference in the result values of other sub-variables (intangibles, health & hygiene) related to service quality ($F=1.952$, $p=.051$; $F=.679$, $p=.506$, respectively). There was no significant difference among the items for customer satisfaction ($F=2.072$, $p=.128$) nor those measuring revisit intention ($F=.031$, $p=.973$). Table 6 demonstrates a statistically significant difference between the measured values: tangibles ($3.77 \pm .95$), intangibles ($3.47 \pm .81$), and health & hygiene ($3.96 \pm .87$) ($F=15.683$, $p<.001$).

Table 5. Results of descriptive statistics and ANOVA test

Category		Items	Mean ± Standard deviation	F	p
Service quality factor	Tangibles ^a (3.77±.95)	(T1) The physical facilities and accessories in a yoga retreat were visually appealing	3.93±1.01	2.281	.078
		(T2) The appearance of the physical facilities was in keeping with the type of services provided	3.74±.89		
		(T3) This yoga club had comfortable furniture, fixture, and an appropriate atmosphere.	3.70±.92		
		(T4) The staff was well dressed and have a neat professional appearance	3.71±1.19		
	Intangibles ^b	(IT1) When staff promise to do something by a certain time, they keep	3.54±.86	1.952	.051

	(3.77±.95)	their promise.			
		(IT2) The staff shows a sincere interest in solving guests' complaints.	3.47±.92		
		(IT3) The staff provides services at the time they promise to do so.	3.46±.94		
		(IT4) The staff are never too busy to respond to your requests.	3.39±.91		
		(IT5) The staff was able to understand your specific needs.	3.38±.89		
		(IT6) The yoga club had staff who give you personal attention.	3.36±.85		
		(IT7) The staff has the skills and adequate knowledge to perform the service professionally.	3.47±1.02		
		(IT8) The behavior of staff instilled confidence among guests.	3.56±.94		
		(IT9) The staff tells you exactly the right schedule of the services to be performed.	3.64±.89		
	Health & Hygiene ^c (3.96±.87)	(HH1) Protective masks and hand sanitizer were available for all guests and staff.	3.91±1.09	.679	.506
		(HH2) The yoga club has a space where I can sit 1m away from the person next to me.	4.02±.91		
		(HH3) Rooms, bathrooms, and public areas were usually cleaned and well sanitized.	3.98±.94		
Customer satisfaction (3.75±.83)		(S1) The yoga club and its staff have met all our expectation.	3.64±.83	2.072	.128
		(S2) Compared with other centers, the level of satisfaction in this place was amazing.	3.75±.89		
		(S3) Overall, I am satisfied with my experience at this yoga club.	3.84±.97		
Revisit intention (3.86±.84)		(R1) If I have a chance, I will visit this yoga club again.	3.87±.92	.031	.973
		(R2) I will continue to visit this yoga club.	3.82±.82		
		(R3) I will certainly recommend this center to my friends and acquaintances.	3.86±.92		

Correlation analysis

Table 6 presents the correlation analysis of independent and dependent variables. Tangibles had a significant correlation with intangibles ($r=.861$), health & hygiene ($r=.849$), customer satisfaction ($r=.792$), and revisit intention ($r=.741$) ($p<.001$). In addition, intangibles had a significant correlation with health & hygiene ($r=.869$), customer satisfaction ($r=.782$), and revisit intention ($r=.711$) ($p<.001$). Moreover, health & hygiene had a significant correlation with customer satisfaction ($r=.621$) and revisit intention ($r=.612$) ($p<.001$). Lastly, customer satisfaction also had a significant correlation with revisit intention ($r=.711$) ($p<.001$). The results of correlation analysis show that service quality factors of yoga clubs in senior welfare centers (tangibles, intangibles, health & hygiene) had positive correlations with customer satisfaction and revisit intention.

Table 6. Results of correlation analysis

Category	Tangibles	Intangibles	Health & hygiene	Customer satisfaction	Revisit intention
Tangibles	1				
Intangibles	.861***	1			
Health & hygiene	.849***	.869***	1		
Customer satisfaction	.792***	.782***	.621***	1	
Revisit intention	.741***	.711***	.612***	.711***	1

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

Validating hypotheses

Table 7 presents the result of multiple regression analysis of service quality factors of yoga clubs in senior welfare centers for customer satisfaction. The explanatory power of the model (Adjusted R^2) was 74 percent and was statistically valid ($F=175.31$, $p < .001$). Among the service quality factors of yoga clubs in senior welfare centers, tangibles ($\beta = .293$, $t=3.452$, $p=.001$), intangibles ($\beta = .272$, $t=2.701$, $p=.001$), and health & hygiene ($\beta = .361$, $t=5.001$, $p < .001$) affected user satisfaction significantly. As a result, health & hygiene ($\beta = .361$) had the greatest influence on customer satisfaction, followed by tangibles ($\beta = .293$) and intangibles ($\beta = .272$). This suggests that the yoga clubs at senior welfare centers that provide silver yoga programs should pay attention to health & hygiene first and ensure that the quality of service for tangibles and intangibles does not deteriorate.

Table 7. Effects of service qualities on customer satisfaction.

Category	Unstandardized coefficients	Standardized coefficients	Standard error	t	p
	B	β			
(Constant)	.471		.151	3.159	.002
Tangibles	.261	.293	.072	3.452	.001
Intangibles	.278	.272	.101	2.729	.007
Health & hygiene	.342	.361	.072	5.001	<.001
$R^2=.75$, Adjusted $R^2 = .74$, $F=175.31$, $p < .001$					

Table 8 presents the result of multiple regression analysis of service quality factors of yoga clubs at senior welfare centers for revisit intention. The explanatory power of the model (Adjusted R^2) was 61 percent and was statistically valid ($F=92.701$, $p < .001$). Among the service quality factors of yoga clubs in senior welfare centers, tangibles ($\beta = .421$, $t=4.051$, $p < .001$), and health & hygiene ($\beta = .593$, $t=3.482$, $p=.001$) affected revisit intention significantly. However, intangibles ($\beta = .091$, $t=.0772$, $p=.442$) did not have a significant effect on revisit intention. This suggests that the yoga clubs at senior welfare centers that provide silver yoga programs should improve the service quality of health & hygiene ($\beta = .593$) and tangibles ($\beta = .421$) to increase revisit intention.

Table 8. Effects of service qualities on revisit intention

Category	Unstandardized coefficients	Standardized coefficients	Standard error	t	p
	B	β			
(Constant)	.929		.191	4.982	<.001
Tangibles	.368	.421	.089	4.051	<.001
Intangibles	.101	.091	.132	.0772	.442
Health & hygiene	.588	.593	.153	3.482	.001
$R^2=.62$, Adjusted $R^2 = .61$, $F=92.701$, $p < .001$					

Table 9 presents a linear regression analysis to determine if customer satisfaction predicts the intention to revisit significantly. The explanatory power of the model (Adjusted R^2) was 78 percent and was statistically valid ($F=714.21$, $p<.001$). According to the results, customer satisfaction had a significant effect on revisit intention ($\beta=.891$, $t=26.723$, $p<.001$). This suggests that intangibles, one of the service quality factors that did not directly affect revisit intention, can increase revisit intention by mediating customer satisfaction.

Table 9. Effects of customer satisfaction on revisit intention

Category	Unstandardized coefficients	Standardized coefficients	Standard error	t	p
	B	β			
(Constant)	.491		.133	3.769	<.001
Customer satisfaction	.896	.891	.032	26.723	<.001
$R^2=.79$, Adjusted $R^2 = .78$, $F=714.21$, $p<.001$					

Discussion

Yoga is reported to be a relatively low-risk, high-yield approach to improving overall health and well-being [5]. For this reason, yoga has gradually gained popularity among the elderly [36]. In this study, participants practiced the protocol specially designed for senior citizens, called silver yoga. Yoga clubs in five senior welfare centers in South Korea provided silver yoga programs that included simple warm-ups, breath body movement coordination practices, static stretching postures, breathing techniques, relaxation, and simple chanting [35]. This study examined the effects of service quality factors (tangibles, intangibles, and health & hygiene) of yoga clubs in senior welfare centers on customer satisfaction and revisit intention. The results are as follows.

First, upon examining the respondent characteristics with the highest response frequencies per item, the study revealed that predominantly, women in their sixties holding a high school diploma and earning a monthly household income between \$3,000 and \$5,999 were the ones engaging in silver yoga programs at senior welfare center yoga clubs. In other words, the population group that mainly uses the silver yoga program at yoga clubs in senior welfare centers is women in their 60s belonging to the middle class. Roland et al. [36] found that yoga was generally effective at improving fitness aspects in older adults, reporting that interest in yoga grew, especially among older adults.

Groessel et al. [2] suggested that yoga interventions may offer greater benefits for female veterans compared to male veterans in the treatment of chronic back pain. Their results indirectly support the findings of this study that women in their 60s are the main participants in silver yoga programs in yoga clubs at senior welfare centers.

Second, respondents had been participating in the silver yoga program in yoga clubs at senior welfare centers for less than one year. In addition, most of them performed two to three times a week, 30 minutes to one hour per session. This suggests that they do not consistently participate in silver yoga programs. In other words, the fact that there are many new participants can be interpreted as there not being many seniors who perform regular and continuous yoga exercises. Therefore, it is necessary to prepare a plan to encourage their continued participation because silver yoga programs are helpful to the mental and physical health of older adults [4].

Our finding is also supported by the results of Lee et al. [32], who also revealed that regular and continuous yoga exercise could be beneficial to physical and mental health. Third, among the service quality attributes (tangibles, intangibles, and health & hygiene) of silver yoga programs in yoga clubs at senior welfare centers, respondents' ratings of intangibles (e.g., professionalism and friendliness of

the instructors, the quality of instruction, and the atmosphere of the classes) were significantly lower than those of tangibles (e.g., facilities, equipment, and ambiance) and health & hygiene (cleanliness, safety measures, and proper sanitation practices). Abdou et al. [15] evaluated modeling the relationship between perceived service quality, tourist satisfaction, and tourists' behavioral intentions amid the COVID-19 pandemic, reporting that participants' evaluation of service quality factors was in order of health & hygiene, tangibles, and intangibles, which was consistent with the results of this study. Fourth, all service quality characteristics (tangibles, intangibles, health & hygiene) of silver yoga programs in yoga clubs at the senior welfare centers affected customer satisfaction significantly. In particular, health & hygiene had the highest impact on customer satisfaction. This suggests that customer satisfaction with the silver yoga program after the COVID-19 pandemic is influenced by health & hygiene.

The findings of this study are consistent with the results of previous studies [37, 38] that found that hygiene service quality had a significant effect on customer satisfaction during the COVID-19 pandemic. Fifth, among service quality factors, tangibles and health & hygiene, excluding intangibles, affected revisit intention significantly. Conversely, intangibles did not directly affect the respondents' revisit intention but had an indirect impact through customer satisfaction. Therefore, to increase participants' intention to revisit yoga clubs (to increase the number of regular participants rather than new participants), this study suggests that the service quality for tangibles, intangibles, and health & hygiene should be improved.

Our findings are similar to the research results of Ren et al. [39], who reported a high revisit intention rate could help maintain a high number of visitors for tourist destinations. In particular, since participants' evaluation of intangibles was the lowest, improving the service quality of intangibles for silver yoga programs is necessary. This study highlights significant academic and practical implications regarding silver yoga programs for seniors in Korea.

Academically, it contributes to the understanding of the demographic engagement in silver yoga, primarily middle-class women in their 60s, aligning with previous findings on yoga's benefits for older adults and particular effectiveness among female participants. Our examination of service quality factors (tangibles, intangibles, and health & hygiene) in relation to customer satisfaction and revisit intention enriches the literature on wellness service quality, especially in the context of senior welfare.

Practically, our findings suggest that it is crucial to address the intangible aspects of service quality, such as the professionalism and friendliness of instructors and the overall class atmosphere, to increase customer satisfaction and revisit intention. Given the post-COVID-19 landscape, health & hygiene are paramount concerns, significantly influencing customer satisfaction and underscoring the need for stringent sanitation practices to reassure participants. Furthermore, the study underscores the necessity of fostering continuous engagement among seniors, pointing towards a gap in maintaining long-term participation in such wellness programs. Therefore, yoga clubs and senior welfare centers should focus on improving all dimensions of service quality, particularly intangibles, to boost the mental and physical well-being of the elderly, thereby contributing to a healthier, more active senior population

4. Conclusion and future scope

In conclusion, this study demonstrates the significant impact of service quality factors on customer satisfaction and revisit intention in silver yoga programs at senior welfare centers. The findings

highlight that while tangible and health & hygiene factors play a crucial role in customer satisfaction, intangible aspects such as instructor professionalism and class atmosphere need improvement. This is essential for fostering long-term engagement among senior participants, especially women in their 60s, who are the primary users of these programs. Looking ahead, enhancing the intangible aspects of service quality can help increase the number of regular participants, promoting sustained involvement in yoga for older adults. Future research should explore more detailed strategies to improve the professionalism and friendliness of instructors and create a welcoming class environment. Additionally, given the post-COVID-19 era's emphasis on health & hygiene, ensuring consistent sanitation and safety measures will remain critical. These improvements could lead to greater physical and mental health benefits for seniors, contributing to a healthier, more active aging population.

Reference

- [1] Lesser, I. A., & Nienhuis, C. P. The impact of COVID-19 on physical activity behavior and well-being of Canadians. *International Journal of Environmental Research and Public Health*. 2020; 17(11):3899. <https://doi.org/10.3390/ijerph17113899>
- [2] Groessl, E. J., Schmalzl, L., Mazzi, M., & Iszak, F. Yoga for low-income older adults: Silver age yoga. *Journal of Yoga & Physical Therapy*. 2013; 3(131):1-6. <https://doi.org/10.4172/2157-7595.1000131>
- [3] Stathi, A., Fox, K. R., & McKenna, J. Physical activity and dimensions of subjective well-being in older adults. *Journal of Aging and Physical Activity*. 2002; 10(1):76-92. <https://doi.org/10.1123/japa.10.1.76>
- [4] Chen, K. M., Chen, M. H., Hong, S. M., Chao, H. C., Lin, H. S., & Li, C. H. Physical fitness of older adults in senior activity centres after 24-week silver yoga exercises. *Journal of Clinical Nursing*. 2008; 17(19):2634-2646. <https://doi.org/10.1111/j.1365-2702.2008.02338.x>
- [5] Fan, J. T., & Chen, K. M. Using silver yoga exercises to promote physical and mental health of elders with dementia in long-term care facilities. *International Psychogeriatrics*. 2011; 23(8):1222–1230. <https://doi.org/10.1017/S1041610211000287>
- [6] Choi, M. J., & Sohng, K. Y. The effects of floor-seated exercise program on physical fitness, depression, and sleep in older adults: A cluster randomized controlled trial. *International Journal of Gerontology*. 2018; 12(2):116-121. <https://doi.org/10.1016/j.ijge.2017.06.003>
- [7] Jeon, H., & Kong, J. Exploring Factors Associated with Perceived Changes in Severity of Elder Abuse: A Population-Based Study of Older Adults in Korea. *International Journal of Environmental Research and Public Health*. 2022; 19(16):10033. <https://doi.org/10.3390/ijerph191610033>
- [8] Yun, M. R., Lee, S. J., Song, M., Seo, K., Ko, H., Choi, S., & Yu, B. Health service challenges at senior centres in an urban South Korean community: A mixed-method approach focusing on nurses' roles. *Journal of Nursing Management*. 2022; 30(7):3295-3303. <https://doi.org/10.1111/jonm.13768>
- [9] Oliver, R. L. Conceptualization and measurement of disconfirmation perceptions in the prediction of consumer satisfaction. *Refining Concepts and Measures of Consumer Satisfaction and Complaining Behavior*. 1980; 2-6.
- [10] Kotler, P. *Marketing Management*. Upper Saddle River, NJ: Prentice Hall; 2000.
- [11] Hoyer, W. D., & MacInnis, D. J. *Consumer Behaviour: A Marketer's Tool*. Cengage Learning India; 2010.
- [12] Bungatang, B., & Reynel, R. The Effect of Service Quality Elements on Customer Satisfaction. *Golden Ratio of Marketing and Applied Psychology of Business*. 2021; 1(2):107-118. <https://doi.org/10.52970/grmapb.v1i2.102>
- [13] Grönroos, C. A service quality model and its marketing implications. *European Journal of Marketing*. 1984; 18(4):36-44. <https://doi.org/10.1108/EUM00000000004784>
- [14] Law, K. M. Y. What Drive the Consumers to Buy Yoga Studio Services. Evidence from Hong Kong. *Journal of Yoga & Physical Therapy*. 2015; 5(199):2. <https://doi.org/10.4172/2157-7595.1000199>
- [15] Abdou, A. H., Mohamed, S. A. K., Khalil, A. A. F., Albakhit, A. I., & Alarjani, A. J. N. Modeling the relationship between perceived service quality, tourist satisfaction, and tourists' behavioral intentions amid COVID-19 pandemic: Evidence of yoga tourists' perspectives. *Frontiers in Psychology*. 2022; 13:1-18. <https://doi.org/10.3389/fpsyg.2022.1003650>
- [16] Tosun, C., Dedeoğlu, B. B., & Fyall, A. Destination service quality, affective image and revisit intention: The moderating role of past experience. *Journal of Destination Marketing & Management*. 2015; 4(4):222-234. <https://doi.org/10.1016/j.jdmm.2015.07.001>

- [17] Cho, K. H., Park, J. B., & Jung, Y. H. Effects of Service Quality Characteristics of Neighborhood Sports Facilities on User Satisfaction and Reuse Intention of the Elderly during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*. 2022; 19(21):14606. <https://doi.org/10.3390/ijerph192114606>
- [18] Raza, M. A., Siddiquei, A. N., Awan, H. M., & Bukhari, K. Relationship between service quality, perceived value, satisfaction and revisit intention in hotel industry. *Interdisciplinary Journal of Contemporary Research in Business*. 2012; 4(8):788-805.
- [19] Lee, J. H., Kim, H. D., Ko, Y. J., & Sagas, M. The influence of service quality on satisfaction and intention: A gender segmentation strategy. *Sport Management Review*. 2011; 14(1):54-63. <https://doi.org/10.1016/j.smr.2010.02.002>
- [20] Parasuraman, A., Zeithaml, V. A., & Berry, L. SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*. 1988; 64:12-40.
- [21] Parasuraman, A., Zeithaml, V. A., & Berry, L. A conceptual model of service quality and its implications for future research. *Journal of Marketing*. 1985; 49:41-50. <https://doi.org/10.2307/1251430>
- [22] Andreassen, T. W., & Lindestad, B. Customer loyalty and complex services: The impact of corporate image on quality, customer satisfaction and loyalty for customers with varying degrees of service expertise. *International Journal of Service Industry Management*. 1998; 9(1):7-23. <https://doi.org/10.3389/fpsyg.2022.1003650>
- [23] Brady, M. K., & Cronin Jr, J. J. Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*. 2001; 65(3):34-49. <https://doi.org/10.1509/jmkg.65.3.34.18334>
- [24] Marić, D., Marinković, V., Marić, R., & Dimitrovski, D. Analysis of tangible and intangible hotel service quality components. *Industrija*. 2016; 44(1):7-25. <https://doi.org/10.5937/industrija1-8437>
- [25] Oliver, C. Sustainable Competitive Advantage: Combining Institutional and Resource-Based Views. *Strategic Management Journal*, 1997;18:679-713.
- [26] Jia, S. Leisure motivation and satisfaction: A text mining of yoga centres, yoga consumers, and their interactions. *Sustainability*. 2018; 10(12):4458. <https://doi.org/10.3390/su10124458>
- [27] Zeithaml, V. A., Berry, L. L., & Parasuraman, A. The behavioral consequences of service quality. *Journal of Marketing*. 1996; 60(2):31-46. <https://doi.org/10.2307/1251929>
- [28] Lamai, G. H., Thavorn, J., Klongthong, W., & Ngamkroekjoti, C. Critical factors influencing revisit intention of large restaurant chains in Myanmar. *Journal of Distribution Science*. 2020; 18(12):31-43. <https://doi.org/10.15722/jds.18.12.202012.31>
- [29] Kop, A. E. Destination Marketing for Yoga, Meditation, Spa, and Ayurveda. In *International Handbook of Skill, Education, Learning, and Research Development in Tourism and Hospitality*. Springer Nature Singapore; 2024. pp.1-16.
- [30] Gatian, A. W. Is user satisfaction a valid measure of system effectiveness? *Information & Management*. 1994; 26(3):119-131. [https://doi.org/10.1016/0378-7206\(94\)90036-1](https://doi.org/10.1016/0378-7206(94)90036-1)
- [31] Oliver, R. L. Conceptualization and measurement of disconfirmation perceptions in the prediction of consumer satisfaction. *Refining Concepts and Measures of Consumer Satisfaction and Complaining Behavior*. 1980; 2-6.
- [32] Lee, J. A., Kim, J. W., & Kim, D. Y. Effects of yoga exercise on serum adiponectin and metabolic syndrome factors in obese postmenopausal women. *Menopause*. 2012; 19(3):296-301. <https://doi.org/10.1097/gme.0b013e31822d59b3>
- [33] Hair, J. F., Ringle, C. M., & Sarstedt, M. Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*. 2013; 46(1-2):1-12. <https://doi.org/10.1016/j.lrp.2013.01.001>
- [34] Bhavanani, A. B., & Ramanathan, M. Single session of integrated “silver yoga” program improves cardiovascular parameters in senior citizens. *Journal of Intercultural Ethnopharmacology*. 2015; 4(2):134-137. <https://doi.org/10.5455/jice.20141228065658>
- [35] Whitaker, D. K., Brattebø, G., Smith, A. F., & Staender, S. E. The Helsinki Declaration on Patient Safety in Anaesthesiology: putting words into practice. *Best Practice & Research Clinical Anaesthesiology*. 2011; 25(2):277-290. <https://doi.org/10.1016/j.bpa.2011.02.001>
- [36] Roland, K. P., Jakobi, J. M., & Jones, G. R. Does yoga engender fitness in older adults? A critical review. *Journal of Aging and Physical Activity*. 2011; 19(1):62-79. <https://doi.org/10.1123/japa.19.1.62>
- [37] Gunaydin, Y. Service quality in hospitality businesses and its effect on revisit intention during the

Covid-19. *Journal of Tourism Theory and Research*. 2022; 8(2):37-46.

- [38] Yu, J., Seo, J., & Hyun, S. S. Perceived hygiene attributes in the hotel industry: customer retention amid the COVID-19 crisis. *International Journal of Hospitality Management*. 2021; 93:102768. <http://doi.org/10.1016/j.ijhm.2020.102768> (ThaiJO).
- [39] Ren, J., Su, K., Zhou, Y., Hou, Y., & Wen, Y. Why return? Birdwatching tourists' revisit intentions based on structural equation modeling. *Sustainability*. 2022; 14(21):14632. <https://doi.org/10.3390/su142114632>