

Article

The Impact of Perceived Hapkido Service Quality on Exercise Continuation and Recommendation Intentions, with a Focus on Korean Middle and High School Students

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Abstract: This research analyzed the impact of quality of service as perceived by Hapkido students on their exercise continuation and recommendation intentions. It also identified the measures to reduce the rate of student dropout, strengthen competitiveness, and create more efficient marketing strategies for consumer patterns that are rapidly diversifying Hapkido. A questionnaire survey method was conducted with 300 middle and high school students aged 14–19 years having Hapkido training of three months to two years in Incheon and Bucheon during March–April 2019. Frequency, factor, reliability, correlation, and standard multiple regression analyses were conducted on the surveyed data. The conclusions are as follows. First, considering the impact of service quality on exercise continuation intention, service quality positively affects reliability, personification, and perceptual openness; in terms of possibility, it positively affects typicality, personification, and perceptual openness; and in terms of reinforcement, it positively affects reliability and perceptual openness. Second, examining the impact of service quality on recommendation intention positively affects reliability, personification, and perceptual openness. Third, exercise continuation intention positively affects recommendation intention.

Keywords: keyword 1; Hapkido 2; Service Quality 3; Quality on Exercise Continuation 4; Recommendation Intentions

1. Introduction

In Hapkido, a traditional Korean martial art, nature is considered the source of energy in human beings. Hapkido utilizes this energy of nature to train the mind and body by unifying them. Since 1948 in South Korea, 6,004 Hapkido divisions have been registered to the Korea Sports Council; moreover, the knowledge of it has been recognized with additional points on civil service tests by government agencies such as the National Police Agency and National Intelligence Service [1, 2]. This indicates the value of Hapkido, because it has been adopted as an essential martial art by national institutions with a positive influence on the youth's health, confidence, and leadership [3]. Hapkido training

relaxes tension and helps maintain mental and physical health. Moreover, it fosters the sense of fairness, duty, accomplishment, psychological stability, patience, self-control, willpower, self-esteem, and justice. It can also be effective for personality development as it can cultivate a sense of closeness, friendship, mutual respect, and concession through confrontation with a partner [4]. Hapkido provides important motivation for students who wish to pursue a career in national institutions, as well as improves the youth's education and physical ability in South Korea. However, despite the positive effects of adolescent personality education and physical improvement required in modern society, the number of Hapkido gyms is decreasing just like any other after-school programs due to a decrease in birth rate in Korea and a drop in private education spending due to the economic recession[5]. This has caused overwhelming competition such as giving away expensive gifts when the new students register and it prevents Hapkido from performing its original purpose which is nurturing and developing ones character[6].

This marketing strategy can be effective in attracting new students and maintaining them in a short period of time; however, it is difficult to achieve the training goals of the student if there has not been established a true long-term relationship. To continuously develop Hapkido, it is important to identify the consumers' rapidly changing needs to secure a variety of trainees for Hapkido training. In addition, efforts are needed to improve the quality of services, including providing high-quality educational programs, managing facilities at the Hapkido gymnasiums to fulfill the needs of trainees and parents, and developing the abilities of coaches and leaders.

Service quality is the quality perceived by the consumer as a comprehensive impression of the tangible and intangible services. In general, service quality is rated as friendly or superior when it meets or exceeds customer expectations, respectively [7]. This concept comprises psychological elements [8]; It is reported that the higher the quality of service is recognized, the higher the intention of re-registration and the higher the recommendation of others [9].

In other words, Hapkido students who maintain mutual trust through high quality of service not only have higher intentions for continuous training but also recommend registration of Hapkido to friends and acquaintances around them [10].

Even though research on service quality continues as part of sports marketing strategies in various martial arts and sports events in Korea but in the case of Hapkido, prior research is insufficient, unlike other martial arts and sports fields.

Therefore, this study considers the characteristics of Hapkido in South Korea. Specifically, it analyzes the impact of service quality that is perceived by a particular age group of Hapkido students on exercise continuity and recommendation intentions. This research aims to provide basic data for the operation of Hapkido gymnasiums in South Korea and improve service quality.

2. Research Method

This study employs the following research procedures, tools, and data processing methods.

2.1. Research Subjects

This study was conducted with approval of the Research Ethics Committee to study the effect of the service quality as perceived by Hapkido trainees on their exercise continuation and recommendation intentions (INHA-IRB-20191029012). The subjects were 300 Hapkido students aged 14–19 years who had trained for three months to two years in Incheon and Bucheon. The survey duration was one month from March to April 2019.

The subjects were middle and high school students sampled using the convenience sampling method. The researchers explained the study's purpose and survey contents to the director of Hapkido who trained these middle and high school participants. After obtaining consent, the questionnaires were distributed. The questionnaires were collected directly by the investigator immediately after they were filled by the subjects using a self-administration method. Among the collected questionnaires, responses that were unsatisfactory or contrary to the study's purpose, were missing, or were not serious were excluded.

A total of 300 questionnaires were distributed, and 289 were finally used and analyzed; 11 were excluded based on the abovementioned criteria. The responses were assessed through data processing and statistical analysis. The demographic characteristics of the participants are shown in Table 1.

Table 1. Demographic characteristics

	Characteristics	Frequency (persons)	Ratio (%)
School year	1st grade in middle school	36	12.5
	2nd grade in middle school	41	14.2
	3rd grade in junior high school	35	12.1
	1st grade of high school	52	18.0
	2nd grade in high school	68	23.5
	Senior in high school	57	19.7
Participation period	Less than 3 months	17	5.9
	3~6 months	42	14.5
	6 months~1 year	100	34.6
	1~2 years	50	17.3
	More than 2 years	80	27.7
Degree of participation	Less than 3 times	34	11.8
	4 times	87	30.1
	More than 5 times	168	58.1
Motivation for participation	Friends' recommendation	56	19.4
	Self-motivation	102	35.3
	Parents' recommendation	73	25.3
	Siblings' recommendation	27	9.3
	Others (e.g., promotional materials and marketing)	31	10.7
Total		289	100%

2.2. Investigation Tool

A questionnaire was used as a survey tool in this study. All items in the questionnaire were organized according to the study purpose based on previous studies and theories. In addition, the questionnaire was reorganized by conducting a group meeting of experts after drafting based on various preceding research data to understand the effects of service quality as perceived by Hapkido students on their exercise continuation and recommendation intentions.

2.2.1. Service Quality

To measure the service quality factor in this study, the items used by Hwang [11], which were developed based on the five factors of Parasuramam et al. [12], were used after revising and supplementing them to suit this study's purpose. A total of 23 questions were used for the following subfactors of service quality: tangibility which is appearance of physical facilities and equipment (4 questions), reliability ability to perform the promised service accurately (5 questions), responsiveness which is willingness to help customers and provide prompt service (4 questions), confidence which is knowledge and courtesy of employees (5 questions), and empathy which is caring, individualized attention the firm provides its customers (5 questions). Each was measured on a five-point Likert scale.

2.2.2. Intention to Continue Exercise

The test tool to measure exercise continuation intention was the Exercise Adherence Questionnaire developed by Corbin and Lindsey [13]. The questions were taken from Lee et al. [14]; they were translated, modified, and supplemented according to this study's purpose.

A total of 14 questions for the following subfactors of persistence intention were used: possibility which is external motivational factors that help when trying to perform exercise planning (5 questions), tendency which is Internal motivators that help make exercise a part of everyday life. (5 questions), and reinforcement which is external motivation factors such as friends, co-workers, coaches, and professionals who help you continue to exercise regularly (4 questions). Each was measured on a five-point Likert scale.

2.2.3. Recommendation Intention

To measure the reasons for recommendations, based on the previous study by Kim et al. [15], the recommendation intention scale of Choi [16] was used. It was modified and supplemented to suit this study. It was measured using four questions using a five-point Likert scale.

2.3. Validity and Reliability

The feasibility verification methods in this study were as follows. First, the questionnaire was developed based on the literature and expert opinion gathering, expert meetings, and preliminary inspections. The completed draft questionnaire was reviewed by a group of experts who had doctorates or were professors in the sports management industry. Moreover, an exploratory factor analysis was conducted to verify the questionnaire's validity.

2.3.1. Validity Verification

First, exploratory factors were used to verify the validity. Maximum likelihood was used for factor extraction, and the exploratory factor analysis used principal component analysis and varimax rotation with a right-angle rotation method.

2.3.1.1 Service Quality

Service quality is composed of 23 measurement variables, based on previous studies. Principal component analysis was used for the extraction model, and the varimax method, a perpendicular rotation method that assumes independence between factors, was used. After specifying factor loadings of at least 0.5 and repeatedly performing factor analysis while considering commonality and the researcher's intention, five factors with eigenvalues of 1 or more for the 23 measurement variables were extracted. The Kaiser-Meyer-Olkin (KMO) coefficient for service quality was 0.888, which can be considered appropriate for factor analysis; the Bartlett's test of sphericity showed a value of 2,210.222; and $p < 0.001$. The explanatory power for the total variance of these factors was 55.746%. Table 2 presents the results.

Table 2. Service quality factor analysis results

Measurement item	Composition				
	Empathy	Responsiveness	Reliability	Tangible	Confidence
Empathy5	.761	.157	.176	.038	.085
Empathy1	.667	.394	.017	-.054	.127
Empathy3	.786	.137	.379	.015	.078
Empathy4	.651	.317	.080	.403	-.034
Empathy2	.612	.385	.291	.014	.037
Responsiveness2	.150	.719	.289	-.013	.118
Responsiveness4	-.043	.677	.364	.103	.286
Responsiveness1	.237	.672	.273	-.083	.297
Responsiveness3	.264	.624	.318	.264	.107
Reliability2	.233	-.110	.660	.346	.047
Reliability4	.311	.119	.640	.181	.057
Reliability5	.312	.014	.622	-.025	.201
Reliability3	.259	.082	.612	-.004	.041
Reliability1	.378	.047	.702	.290	.139
Tangible4	-.083	.385	.057	.684	.111
Tangible3	.209	.193	.167	.625	.113
Tangible2	.304	.328	-.077	.759	.077
Tangible1	.249	.266	.222	.701	-.043
Confidence5	.094	.364	.184	.200	.694
Confidence1	-.066	-.009	.000	.363	.677
Confidence3	.171	.099	-.036	.288	.646
Confidence2	.207	.049	.274	.230	.729
Confidence4	-.125	.262	.111	.201	.669
Eigenvalue	3.145	2.732	2.498	2.261	2.185

Total sample variance ratio	13.676	11.876	10.863	9.831	9.500
Kaiser-Meyer-Olkin coefficient	0.888				
Bartlett's test	Chi-square=2,210.222, df=253				
Significance probability	0.001				

2.3.1.2 Intention to Continue Exercising

Exercise continuation intention was composed of 14 measurement variables, based on previous studies. Principal component analysis was used as the extraction model, and the varimax method was also used. The factor analysis was performed repeatedly in consideration of the commonality and intention of the researcher, with a factor loading value of 0.5, three factors with eigenvalues of 1 or more for 14 measurement items were extracted. The KMO coefficient for the exercise continuation intention was 0.877, which can be considered appropriate for the factor analysis; the Bartlett's test of sphericity showed a value of 1,301.190; and $p < 0.001$. The explanatory power for the total variance of these factors was 57.708%. Table 3 presents the results.

Table 3. Exercise continuity factor analysis results

Measurement item	Composition		
	Tendency	Possibility	Reinforcement
Tendency4	.611	.347	.024
Tendency5	.563	.367	.167
Tendency3	.548	.232	.497
Tendency2	.792	.079	.192
Tendency1	.784	.162	-.001
Possibility5	.297	.532	.026
Possibility3	.257	.725	.165
Possibility2	-.184	.716	.391
Possibility4	.245	.624	-.075
Possibility1	.386	.594	.195
Reinforcement1	.086	.106	.789
Reinforcement2	.105	.165	.692
Reinforcement3	.040	.261	.665
Reinforcement4	.379	.249	.578
Eigenvalue	3.090	2.575	2.413
Total sample variance ratio	22.075	18.396	17.237
Kaiser-Meyer-Olkin coefficient	0.877		
Bartlett's test	Chi-square=1,301.190, df=91		
Significance probability	0.001		

2.3.2. Reliability Verification

Cronbach’s α value, a measure of internal consistency, was used to analyze reliability for each measurement item. The results of all reliability analyses were 0.7, and so it was judged that there was no problem with the measurement tool’s reliability [17]. Table 4 presents these results.

Table 4. Reliability analysis results

Concept of measurement		Number of questions	Cronbach’s α
Service quality	Empathy	5	0.709
	Responsiveness	4	0.708
	Reliability	5	0.733
	Tangible	4	0.704
	Confidence	5	0.706
Sustainability	Tendency	5	0.724
	Possibility	5	0.727
	Reinforcement	4	0.736
Degree of recommendation		4	0.709

2.4. Data Processing

The computerized data processing method was utilized in this study using IBM SPSS 22.0. Frequency analysis was performed for the demographic analysis, and correlation analysis and regression were performed on service quality, exercise continuation intention, and recommendation intention. In addition, Cronbach’s α was used for the exploratory factor and reliability analyses to confirm the survey’s tool’s validity. The significance level of all statistical analyses was set at $p<0.05$.

3. Research Results

3.1. Correlation between Service Quality, Exercise Continuation Intention, and Recommendation Intention

Pearson’s product-moment correlation coefficient was calculated to analyze the correlations between empathy, responsiveness, reliability, tangibility, and confidence as subfactors of service quality; tendency, possibility, and reinforcement as subfactors variables of exercise continuation intention; and the recommendation intention. The results of the correlation analysis are presented in Table 5.

Table 5. Results of the correlation analysis

	Empathy	Responsive ness	Reliability	Tangible	Confidence	Tendency	Possibility	Reinforce- ment	Recommendati -tion intention
Empathy	1								
Responsiveness	.703**	1							
Reliability	.790**	.554**	1						
Tangibility	.601**	.432**		1					
Confidence	.664**	.338**	.674**	.308**	1				
Tendency	.336**	.674**	.774**	.575**	.624**	1			
Possibility	.532**	.553**	.546**	.570**	.474**	.443**	1		
Reinforcement	.443**	.452**	.439**	.664**	.665**	.501**	.409**	1	
Recommendati	.504**	.460**	.758**	.309**	.590**	.677**	.346**	.663**	1

on intention
***p*<.01.

All the above variables and subfactors showed a positive correlation. In detail, the correlation between each factor was significant: it was higher than 0.2 and lower than 0.8, which is the criterion for multicollinearity.

3.2. *Effect of Service Quality on the Exercise Continuation Intention*

The results of verifying the effect of service quality on exercise continuation intention’s subfactors of tendency, possibility, and reinforcement were verified by multiple regression analysis, and the results are shown in Table 6.

Table 6. Impact of service quality on exercise continuation intention

		Tendency				Possibility				Reinforcement			
		B	SE	β	t	B	SE	β	t	B	SE	β	t
Constant value		1.092	.163	-	6.573***	.736	.286	-	4.095***	0.943	.116	-	8.093***
Service quality	Tangible	.022	.093	.026	1.993	.220	.109	.227	4.997***	0.009	.152	.009	1.009
	Reliability	.244	.103	.231	4.993***	.111	.271	.094	1.009	0.057	.302	.044	1.984
	Responsive ness	.024	.028	.033	0.668	.061	.095	.075	.886	0.078	.931	.088	2.094
	Confidence	.292	.089	.278	5.985***	.228	.386	.194	3.971**	0.283	.042	.220	3.547**
	Empathy	.188	.126	.207	3.091**	.202	.493	.198	3.092**	0.368	.103	.331	6.003***
R ²		0.413				0.416				0.351			
F		39.849***				40.303***				30.587***			

*** *p*<.001, ***p*<.01

Regarding the effect of service quality on exercise continuation intention, tendency, possibility, and reinforcement all had statistically significant effects at a significance level of 0.001. In the regression model of exercise continuation intention, the F-value was 39.849. R²=0.413 for the regression equation showed 41.3% explanatory power, and reliability, confidence, and empathy were found to have significant effects on exercise continuation intention.

The regression model of the possibility of exercise continuation intention showed a value of 40.303. R²=0.416 for the regression equation showed 41.6% explanatory power, and tangibility, confidence, and empathy had a significant effect on possibility.

Finally, the regression model of the reinforcement of the exercise continuation intention showed a value of 30.587. R²=0.351 for the regression equation showed 35.1% explanatory power, and confidence and empathy had a significant effect on reinforcement.

3.3. *Influence of Service Quality and Exercise Continuation Intention on Recommendation Intention*

The results of verifying the effect of service quality on recommendation intention through multiple regression analysis are shown in Table 7. The effect of service quality on recommendation intention was statistically significant at a significance level of 0.001, and the F-value of the regression model was 14.657. R²=0.206 for the regression equation

showed 20.6% explanatory power, and reliability, certainty, and empathy had a significant effect on recommendation intention.

Table 7. Influence of service quality on recommendation intention

		Recommendation intention			
		B	SE	β	t
Constant value		2.392	.209	-	7.284***
Service quality	Tangibility	.123		.132	2.001
	Reliability	.268		.232	4.028***
	Responsiveness	.074		.068	1.739
	Confidence	.293		.261	5.002***
	Empathy	.327		.373	5.913***
R ²		.206			
F		14.657***			

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

The results of verifying the effect of exercise continuity intention on recommendation intention with multiple regression analysis are shown in Table 8. The effect of exercise continuity intention on recommendation intention was statistically significant at the significance level of 0.001, and the F-value of the regression model was 155.574. $R^2 = 0.352$ for the regression equation showed 35.2% explanatory power, and possibility and reinforcement had a significant effect on recommendation intention.

Table 8. Influence of exercise continuation intention on recommendation intention

		Recommendation intention			
		B	SE	β	t
Constant value		1.690	.119	-	4.927***
Intention to continue exercise	Tendency	.208		.201	2,114
	Possibility	.638		.593	12.694***
	Reinforcement	.364		.344	3.993**
R ²		.352			
F		155.574***			

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

4. Discussion

Although Korea's Hapkido market has developed rapidly in terms of quantity and quality, it has not been able to come up with a solution to overcome the slump in Hapkido due to the recent economic recession in Korea and the decline in birth rate.

The quality of service for Hapkido refers to programs that enhance the value and function of education to provide services related to the purpose of training. It is classified into tangibility, reliability, responsiveness, confidence, and empathy. Tangibility refers to external factors such as buildings, major facilities, and equipment evaluating Hapkido; reliability refers to the assessment of program batches and accuracy; and responsiveness involves problem solving, certainty, and comprehensive satisfaction, such as related to facilities and equipment, program, and leadership qualities [18].

In this study, reliability, tangibility, confidence, and empathy are highly correlated with exercise continuation intention. Moreover, it was found that the overall satisfaction with the qualities of the leader and the empathy with the leader and the students had a

positive effect on the intention to continue exercising. Therefore consistency and accuracy of programs, prepared environment for training, comprehensive satisfaction with leaders and students and empathy between them affect positively.

Studies on martial arts in South Korea, especially on the highly active Taekwondo gymnasiums, report that reliability of service quality affects reuse intention and sustainability of the service [18, 19]. Specifically, reliability, certainty, and empathy of service quality have a positive effect on continuation intention [20]. This indicates that improved reliability, conviction, and empathy of the Hapkido can lead to improvements in internal motivation that help exercise a part of everyday life, such as physical strength, athletic knowledge, belief, and confidence.

That is, in the case of Hapkido in South Korea, trainees will be motivated to continue exercise if there are improvements in service quality, such as the implementation of promised training programs, trust in Hapkido leaders' expertise, and programs offering understanding and enjoyment. As a result, it is believed that the exercise continuation intention of Hapkido trainees will be high and they will continue to exercise at regular intervals, resulting in positive effects on their health, physical condition, self-defense, physical improvement, and social relations.

Confidence, and empathy factors of service quality are also closely related to possibility through external motivation factors [20], such as programs, places, instruments, and equipment of exercise [21], which are important for athletic quality. This will help the students strengthen their skills, such as time management.

The confidence and empathy factors of service quality are causally related to the reinforcement factor [20], which indicates the role of family, colleagues, and leaders in encouraging regular exercise to continue. This shows that if there is good leadership in Hapkido, trust between students and leaders, and smooth communication, the students will continue their current Hapkido training, regardless of location, thus ensuring vitality and enjoyment of life.

According to Greenwell et al. [22], the reliability, confidence, and empathy subfactors of quality of service have a positive impact on the trainees' recommendation intentions, consumer behavior, and future plans. This supports the results of the present study[23]. Thus, reinforcement of reliability, confidence, and empathy in Hapkido has a positive effect on recommendation intention, which means an improvement in satisfaction with service quality and benefits to others[24].

In the case of the causal relationship between students' exercise continuation and recommendation intentions, the possibility and reinforcement among the subfactors of the former significantly affect the latter. These results are supported by Kim et al. [25], who conducted a similar study on boxing students reporting a positive effect on recommendation intention.

Therefore, for middle and high school students learning Hapkido in South Korea, the reinforcement of the ability to express satisfaction through exercise experience, improved physical strength, emotional stability, and trust between students and leaders had a positive impact on their recommendation intention.

Like other martial arts, Hapkido can train the mind and body of individuals; in particular, it has a great, positive influence on teenagers' emotional and physical improvement and career decisions. To revitalize Hapkido in South Korea, improving the quality of service for the smooth operation of Hapkido gymnasiums is thus very important.

5. Conclusion and Suggestions

This study examined the effects of service quality factors as perceived by Hapkido trainees on their exercise continuation and recommendation intentions. The perceived service quality is measured by deriving the causal relationship between exercise continuation intention and recommendation intention, as shown in the preceding research, to reduce the dropout rate and strengthen competitiveness.

The findings of this study can help promote exercise and present recommendations to improve the satisfactory effect of quality of service for students. Specifically, the sophistication of facilities, programs, employees, and Hapkido facilities, which are relevant to the tangible factors of service quality, shall also be improved, and performed to trust the promised services. In addition, immediate feedback should be provided to the requests of trainees, and a deep trusting relationship should be built based on professional guidance. Regarding leaders, communication with students should be maintained based on their requirements.

This study suggests that various efforts should be made to increase the reliability, tangibility, confidence, and empathy of the service quality in an effort to increase the exercise continuation and recommendation intentions of the trainees of Hapkido gymnasiums. However, this study has a limitation in that it does not consider parents' opinions on external education for middle and high school students in the Korean context. Therefore, future research may further find additional ways to revitalize the quality of service of the Hapkido market.

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