

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

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## ABSTRACT:

**Background:** Member retention is critical for the operational sustainability of fitness centers. Prior evidence suggests that service quality, experience quality, and the recreation safety climate influence behavioral intentions, but prospective evidence on their impact on actual retention remains limited.

**Methods:** A prospective cohort study was conducted among new members (N = 80) at the Fitness Center of the Health and Sport Center, Universitas Negeri Yogyakarta, over three months. Baseline perceptions were measured using questionnaires for service quality, experience quality, recreation safety climate, and behavioral intentions. Analyses included descriptive statistics, Spearman's correlations, multiple linear regression, and binary logistic regression with  $\alpha = .05$ .

**Results:** Three-month retention was 63.7%. All predictors correlated significantly with behavioral intentions—service quality ( $p = .682$ ), safety ( $p = .581$ ), and experience ( $p = .454$ ), all  $p < .01$ . The regression model showed a significant joint contribution to behavioral intentions,  $F(3, 76) = 34.955$ ,  $p < .001$ . In the logistic model, service quality ( $B = 0.726$ ,  $OR = 2.07$ , 95% CI [1.33, 3.20],  $p = .001$ ) and behavioral intentions ( $B = 0.585$ ,  $OR = 1.80$ , 95% CI [1.11, 2.91],  $p = .018$ ) predicted 3-month retention, whereas experience quality and safety were non-significant ( $p > .05$ ). Model adequacy was good (Nagelkerke  $R^2 = .723$ ; Hosmer–Lemeshow  $p = .862$ ) with 88.8% classification accuracy.

**Conclusions:** Baseline perceptions of functional service attributes relate strongly to behavioral intentions, but short-term actual retention is chiefly predicted by service quality and behavioral intentions. These findings highlight that perceived service quality and behavioural intentions are the key early predictors of membership status within the first three months, whereas experiential and safety perceptions appear to influence retention indirectly by shaping intentions.

**KEYWORDS:** service quality; experience quality; recreation safety climate; behavioral intentions; member retention; fitness center; prospective cohort.

## I. INTRODUCTION

Since the end of the COVID-19 pandemic, the fitness industry across sectors has experienced significant global growth, marked by physical activity levels returning toward pre-pandemic baselines (Batrakoulis et al., 2023; Tison et al., 2022). Moreover, Jiang et al. (2025) report that physical activity in parts of Asia—such as China and South Korea—has surpassed pre-pandemic baseline levels, a trend attributed to the adoption of hybrid exercise models (Katewongsa, Widyastari, Haemathulin, Khanawapee, & Penmai, 2023). Nevertheless, Kercher et al. (2022) emphasize that technology-mediated or online training can complement services but may not be as effective as a substitute for fitness centers. Thompson (2023) further notes a shift back from online and home-gym workouts toward in-person exercise and other conventional modalities, alongside growing use of wearable technology. In this context, rising public awareness of the importance of an active lifestyle has driven rapid growth in participation in health/fitness clubs and fitness centers (Health and Fitness Association, 2024).

A number of studies have highlighted the positive trend in new registrations or memberships across fitness facilities and services, while cautioning that it must be managed carefully (Gjestvang, Tangen, Arntzen, & Haakstad, 2023). Notably, increases in new sign-ups are often not matched by providers' ability to sustain adequate member retention (Clavel San Emeterio, García-Unanue, Iglesias-Soler, Luis Felipe, & Gallardo, 2019; Oliveira et al., 2021). Member churn remains a persistent, multidimensional challenge for many fitness centers, with large proportions of members failing to remain beyond the first few months (Kopp,

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

Senner, Kehr, & Gröpel, 2020; Sperandei, Vieira, & Reis, 2016). churn depresses retention rates and undermines revenue stability, program effectiveness, and long-term operational continuity across fitness services, including fitness centers (Clavel San Emeterio et al., 2019).

One approach to understanding and improving retention is to examine behavioral intentions. Ajzen (1991) conceptualizes behavioral intention as a person's readiness to perform a given behavior and the immediate antecedent of action. In the fitness-center context, behavioral intentions shape members' likelihood of continuing to use services (García-Pascual, Prado-Gascó, Alguacil, Valantine, & Calabuig-Moreno, 2020). Evidence across service settings consistently indicates four major determinants of behavioral intentions: service quality, perceived value, customer satisfaction, and trust in the provider (Cronin, Brady, & Hult, 2000; García-Fernández et al., 2018; Huang & Kim, 2023; Yu et al., 2014). Service quality and perceived value frequently act as antecedents that form customer satisfaction (Cronin et al., 2000). In turn, high satisfaction and strong trust directly determine individuals' intentions to continue, recommend, or renew their engagement with the service (Fernando, David, & Sergio, 2023; Seyed Javadein, Khanlari, & Estiri, 2008). Consequently, behavioral intentions serve as a primary driver of member loyalty within fitness centers.

Member loyalty is pivotal to the sustainability of fitness centers because it supports stable revenue and long-term growth. At the same time, the post-pandemic surge in participation has generated a wave of new memberships that may heighten early-stage churn, signaling that member loyalty has not yet consolidated (Yeomans, Karg, Nguyen, & McDonald, 2023). Properly leveraged, however, this influx of new members can help enhance service delivery in multiple dimensions, thereby increasing revenue, strengthening the long-term customer base, and creating operational stability that supports the continuity of fitness-center services (Kim & Kim, 2024; Sobreiro, Guedes-Carvalho, Santos, Pinheiro, & Gonçalves, 2021).

The extant literature on fitness-center services has primarily emphasized members' perceptions of service quality—often through the SERVQUAL framework—including staff reliability, responsiveness to complaints, cleanliness of facilities, and instructors' professionalism (Barbosa, Barbosa, Sabino, & Loureiro, 2022). These aspects are frequently linked to customer satisfaction and loyalty. More recent work, however, has begun to foreground affective and other dimensions (Calleja-González et al., 2018; Jeon, Kim, Han, Huang, & Kim, 2021; Sevilmiş, Doğan, Gálvez-Ruiz, & García-Fernández, 2024; Štajer et al., 2022), such as experience quality and the recreation safety climate, which also shape behavioral intentions. For example, Eskiler & Safak (2022) show that positive experiences during service use contribute significantly to intentions such as revisiting, while perceptions of safety and security in the exercise environment exhibit similar effects (Cheng, Chen, Hong, & Chen, 2022). These findings suggest that affective dimensions and risk perceptions play roles no less important than the functional aspects of service.

Although several studies have examined links between service quality, experience quality, and behavioral intentions, most have employed cross-sectional designs and have not assessed these relationships simultaneously or prospectively. Moreover, few investigations have comprehensively traced the roles of service quality, experience quality, the recreation safety climate, and behavioral intentions in predicting actual member retention. This gap warrants attention, particularly given the growing salience of member churn and its implications for operational stability. Accordingly, this study aims to determine the extent to which combined perceptions of service, experience, and safety are associated with behavioral intentions, and to test the potential of these factors to predict short-term (3-month) retention among new members.

## II. RESEARCH METHOD

### a. Research Design and Sampel

This study employed a quantitative approach with a prospective cohort design. The design enabled the researchers to assess whether new members' initial perceptions of service, experience, and the recreation safety climate could predict actual behavioral intentions operationalized as membership renewal after three months. The population comprised all new members who enrolled at the Fitness Center of the Health and Sport Center, Universitas Negeri Yogyakarta. A total of 80 participants were included: 47 men and 33 women (Mean age = 27.63, SD = 7.76), with the majority being employed (67.5%). Samples were selected using a total sampling technique, namely all new members who met the inclusion criteria during the specified enrollment period. Inclusion criteria were: (1) first-time registrants, (2) willingness to complete the baseline questionnaire, and (3) consent for their membership data to be tracked for three months.

### b. Data Collection Technique dan research instrumen

Data collection proceeded in two stages. The first stage involved administering questionnaires to measure baseline perceptions among new members who met the inclusion criteria: (1) service quality, assessed using an adapted Scale for Fitness-Club Service (Xu et al., 2021), (2) experience quality, measured with an adapted Experience Quality Scale for Fitness Centers (EQSFC) (Sevilmiş

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

& Doğan, 2023), 3) recreation safety climate, measured using the instrument developed by Cheng et al., (2022), dan 4) behavioral intention, measured using an adapted questionnaire aligned with the framework of Zeithaml, Berry, & Parasuraman (1996).

In the second stage, actual membership data were retrieved from the fitness center’s database three months after the baseline survey to determine whether respondents renewed their membership (retained) or did not (not retained). These data served as the indicator of actual loyalty (member retention).

### c. Data analysis

Data were analyzed sequentially to address the study objectives. First, descriptive analyses were conducted to characterize respondents and to summarize score distributions for each variable—service quality, experience quality, recreation safety climate, and behavioral intentions—providing an overview of new members’ baseline perceptions of the fitness center’s services. Next, associations between independent variables (service quality, experience quality, and recreation safety climate) and the dependent variable (behavioral intentions) were examined using Spearman’s rho. Multiple linear regression was then performed to test whether the independent variables jointly exerted a significant effect on the dependent variable. Finally, binary logistic regression was conducted to assess the extent to which baseline perceptions of service quality, experience quality, the recreation safety climate, and behavioral intentions predicted actual member retention, i.e., whether members renewed within three months. All analyses were performed in SPSS version 27 with the significance level set at  $\alpha = .05$ .

### III. RESULT

The descriptive analysis of new members’ baseline perceptions of service quality, experience quality, the recreation safety climate, and behavioral intentions showed mean scores of 103.50 (SD = 2.89), 55.51 (SD = 2.96), 100.41 (SD = 2.61), and 45.56 (SD = 2.81), respectively. These values indicate that, on average, members’ initial perceptions across the four variables tended to be at relatively high levels. Further details of the descriptive statistics for each variable are presented in Table 1.

**Table 1. Descriptive Statistics for Service Quality, Experience Quality, Recreation Safety Climate, and Behavioral Intentions**

| Variable                  | Min   | Max    | Mean   | Std. Dev |
|---------------------------|-------|--------|--------|----------|
| Service Quality           | 98,00 | 109,00 | 103,50 | 2,89     |
| Experience Quality        | 50,00 | 61,00  | 55,51  | 2,96     |
| Recreation Safety Climate | 95,00 | 105,00 | 100,41 | 2,61     |
| Behavioral Intentions     | 40,00 | 51,00  | 45,56  | 2,81     |

Based on the data in Table 1, of the 80 new members, 51 (63.7%) renewed their membership after three months, whereas 29 (36.3%) did not. By gender, 30 men and 21 women renewed, indicating a relatively balanced retention trend across genders.

**Table 2. Frequency Distribution of 3-Month Member Retention by Gender**

| Category     | Gender    |           | N         | %           |
|--------------|-----------|-----------|-----------|-------------|
|              | Men       | Women     |           |             |
| Not retained | 17        | 12        | 29        | 36,3%       |
| Retained     | 30        | 21        | 51        | 63,7%       |
| <b>Total</b> | <b>47</b> | <b>33</b> | <b>80</b> | <b>100%</b> |

The Spearman correlation analysis showed significant relationships between all independent variables and the behavioral-intentions (loyalty) outcome. Service quality exhibited a strong positive correlation with loyalty ( $\rho = .682, p < .01$ ), indicating that higher perceived service quality is associated with a greater likelihood of displaying loyal behaviors toward the fitness center. In addition, service quality was significantly correlated with experience quality ( $\rho = .371, p < .01$ ) and with safety ( $\rho = .359, p < .01$ ), suggesting that better service perceptions tend to co-occur with more favorable experiences and feelings of safety among members. Experience quality also showed a positive correlation with loyalty ( $\rho = .454, p < .01$ ) and was significantly associated with safety ( $\rho = .388, p < .01$ ). Finally, perceptions of safety—i.e., the recreation safety climate—were themselves significantly related to loyalty ( $\rho = .581, p < .01$ ).

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

**Tabel 3. Hasil Analisis Uji Spearman’s Rank Correlation Test**

| Variabel 1                | Variabel 2                | $\rho$  | p      | N  |
|---------------------------|---------------------------|---------|--------|----|
| Service Quality           | Experience Quality        | 0.371** | <0.001 | 80 |
| Service Quality           | Recreation Safety Climate | 0.359** | 0.001  | 80 |
| Service Quality           | Behavioral Intentions     | 0.682** | <0.001 | 80 |
| Experience Quality        | Recreation Safety Climate | 0.388** | <0.001 | 80 |
| Experience Quality        | Behavioral Intentions     | 0.454** | <0.001 | 80 |
| Recreation Safety Climate | Behavioral Intentions     | 0.581** | <0.001 | 80 |

**Notes:**  $\rho$  = Spearman’s rho Coefficient Correlation; p = Significance(2-tailed); N = Sample Size; \* p < 0.05, \*\* p < 0.01

The multicollinearity diagnostics in Table 4 indicate that all independent variables have Tolerance values > 0.10 and VIF < 10, suggesting no evidence of multicollinearity. Accordingly, all variables were deemed suitable for inclusion in the regression analysis.

**Table 4. Multicollinearity Diagnostics**

| Variabel                  | Tolerance | VIF   | Keterangan           |
|---------------------------|-----------|-------|----------------------|
| Service Quality           | 0,545     | 1,836 | No multicollinearity |
| Experience Quality        | 0,699     | 1,431 | No multicollinearity |
| Recreation Safety Climate | 0,675     | 1,481 | No multicollinearity |
| Behavioral Intentions     | 0,420     | 2,380 | No multicollinearity |

• **Notes:** Tolerance > 0.10; VIF < 10.

Multiple linear regression (Table 5) was used to examine the joint effects of service quality, experience quality, and safety (recreation safety climate) on loyalty. The model significantly explained variance in loyalty,  $F(3, 76) = 34.955$ ,  $p < .001$ , indicating that the three predictors collectively have a significant effect on members’ behavioral intentions.

**Table 5. Multiple Linear Regression (ANOVA Table)**

| Model        | Sum of Squares | df | Mean Square | F      | Sig.   |
|--------------|----------------|----|-------------|--------|--------|
| 1 Regression | 360,451        | 3  | 120,150     | 34,955 | <0,001 |
| 1 Residual   | 261,236        | 76 | 3,437       |        |        |
| Total        | 621,688        | 79 |             |        |        |

Binary logistic regression was conducted to examine the extent to which service quality, experience quality, recreation safety climate, and behavioral intentions predicted membership retention after three months. In brief, service quality and behavioral intentions emerged as significant predictors of 3-month retention. Service quality showed a positive regression coefficient ( $B = 0.726$ ,  $p = .001$ ) with an odds ratio (OR) of 2.067, indicating that higher perceived service quality was associated with roughly double the odds of renewal. Behavioral intentions was also a significant predictor ( $B = 0.585$ ,  $p = .018$ ;  $OR = 1.795$ ). By contrast, experience quality and recreation safety climate were not significant ( $p > .05$ ). Overall, the model classified cases with high accuracy, correctly predicting 88.8% of outcomes.

**Tabel 6. Hasil Analisis Uji Binary Logistic Regression**

| Variabel                  | B     | S.E.  | Wald   | df | p     | Exp(B) | 95% CI Exp(B) – Lower | Upper |
|---------------------------|-------|-------|--------|----|-------|--------|-----------------------|-------|
| Service Quality           | 0,726 | 0,223 | 10,560 | 1  | 0,001 | 2,067  | 1,334                 | 3,202 |
| Experience Quality        | 0,032 | 0,164 | 0,037  | 1  | 0,847 | 1,032  | 0,748                 | 1,424 |
| Recreation Safety Climate | 0,098 | 0,188 | 0,270  | 1  | 0,603 | 1,103  | 0,763                 | 1,595 |

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

|                       |          |        |        |   |       |       |       |       |
|-----------------------|----------|--------|--------|---|-------|-------|-------|-------|
| Behavioral Intentions | 0,585    | 0,247  | 5,628  | 1 | 0,018 | 1,795 | 1,107 | 2,909 |
| Constant              | -119,185 | 37,007 | 10,373 | 1 | 0,001 | 0,000 | -     | -     |

## Model fit and classification (summary statistics)

- Omnibus Test of Model Coefficients:  $\chi^2(4) = 60,020$ ,  $p < 0,001$
- Cox & Snell  $R^2 = 0,528$ , Nagelkerke  $R^2 = 0,723$
- Hosmer and Lemeshow test  $\chi^2 = 3,950$  ( $df = 8$ ;  $p = 0.862$ )
- The model was able to correctly predict the output for 88.8% of all data.
- $N = 80$

Taken together, these results indicate that stronger baseline perceptions of service quality and higher behavioral intentions meaningfully increase the likelihood of short-term membership retention, whereas perceived experience quality and recreation safety climate—as measured here—did not add significant predictive value.

## IV. DISCUSSION

This study aimed to evaluate the effects of service quality, experience quality, and the recreation safety climate on behavioral intentions and to predict actual member retention over a three-month period. Spearman’s correlations indicated that all independent variables were significantly associated with loyalty (behavioral intentions), with service quality showing the strongest association ( $\rho = .682$ ,  $p < .01$ ), followed by safety ( $\rho = .581$ ,  $p < .01$ ) and experience quality ( $\rho = .454$ ,  $p < .01$ ). Multiple linear regression reinforced these findings, demonstrating that the three variables jointly explained a significant portion of the variance in loyalty among members,  $F(3, 76) = 34.955$ ,  $p < .001$ . However, in the subsequent binary logistic regression predicting actual retention, only two variables emerged as significant predictors: service quality ( $B = 0.726$ ,  $p = .001$ ) and loyalty ( $B = 0.585$ ,  $p = .018$ ). In contrast, experience quality and safety did not show direct, significant effects on renewal behavior ( $p > .05$ ).

These results suggest a divergence between the factors that shape behavioral intentions and those that actually drive behavior (member retention)(Sheeran & Webb, 2016). According to the Theory of Planned Behavior (Ajzen, 1991), intention is the immediate antecedent of action. Within this framework, service quality likely informs members’ rational evaluations of reliability, efficiency, and professionalism, which in turn strengthen intentions and propel concrete actions such as renewing a membership (Cronin et al., 2000). Loyalty, operationalized through behavioral intentions, also proved to be a tangible predictor of retention, indicating that stronger intentions indeed translate into actual behavior (García-Pascual et al., 2020).

By contrast, experience quality and the recreation safety climate, although relevant to intention formation, did not exert sufficiently strong direct effects on actual retention (Yeomans, Karg, & Nguyen, 2024). This may reflect their more affective and contextual nature: pleasant experiences and feelings of safety can enhance immediate comfort yet may be insufficient to trigger a deliberative renewal decision, which is also shaped by external constraints such as cost, time availability, competing commitments, and promotional policies (Cheng et al., 2022). Moreover, including loyalty as a predictor in the logistic model clarifies a potential mediation pathway: the effects of experience and safety on retention likely operate indirectly through behavioral intentions (Garbarino & Johnson, 1999). Once loyalty enters the model, the direct contributions of experience and safety may be absorbed by this mediating construct and thus become non-significant.

Methodological considerations may also explain the non-significant predictive effects of experience and safety. High and relatively homogeneous perception scores (high means with low dispersion) can produce ceiling effects, reducing the variability needed to explain retention outcomes (Salman, Kopp, Thomas, Ring, & Fatehi, 2020). In addition, the relatively short observation window (three months) may be insufficient to capture longer-term influences of experience and perceived safety on realized loyalty.

This study contributes to bridging the literature on the links between service perceptions and actual loyalty in an institutional fitness-center context. The consistent finding that service quality and behavioral intentions predict retention underscores the primacy of functional attributes and intention strength in member-retention strategies. For managers, these results imply that improving core service quality—for example, facility reliability, staff responsiveness, and frictionless renewal processes—should be a top priority. Meanwhile, experience quality and safety remain important as hygiene factors that shape initial comfort and intentions; however, their impact on actual decisions may need reinforcement through follow-on strategies such as commitment nudges, systematic reminders, and default/one-click renewal pathways.

# The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

Nevertheless, several limitations warrant caution. First, the three-month window limits inferences about medium- and long-term loyalty dynamics. Second, all perceptual data were collected via a single baseline questionnaire, which may introduce perception bias and common-method variance. Third, the study was conducted at a single fitness center within a higher-education institution, which may have distinctive characteristics that limit generalizability to commercial settings.

For the future studies, longer-horizon longitudinal designs with repeated measures of intentions and behavior are recommended to capture dynamic changes in loyalty. Models that integrate mediators such as satisfaction, perceived value, and place attachment should be developed to reflect more complex causal pathways. Intervention-based experiments could also test the effectiveness of digital retention strategies—e.g., automated reminders, default renewal settings, and light behavioral nudges. Finally, external validation across different types of fitness centers and more diverse member populations would strengthen the generalizability and practical relevance of these findings within the broader fitness industry.

## V. CONCLUSIONS

This prospective cohort study shows that baseline perceptions of service quality, experience quality, and the recreation safety climate are positively associated with members' behavioral intentions. However, for actual 3-month retention, only service quality and behavioral intentions emerged as significant predictors, whereas experience quality and the safety climate did not exert a direct effect on renewal behavior. These findings highlight a gap between the antecedents of intention and the drivers of realized behavior, positioning functional service attributes—reliability, efficiency, professionalism, and frictionless renewal processes—as the primary levers of short-term retention. Accordingly, affective dimensions such as positive experiences and feelings of safety help shape intentions but, on their own, are not strong enough to trigger actual renewal decisions without supportive, behaviorally informed follow-up strategies.

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## The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

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## The Role of Service Quality, Experience Quality, and Recreation Safety Climate in Shaping Behavioral Intentions: A Prospective Study of Member Retention at the Fitness Center

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