The impact of subjective consumer knowledge on consumer behavioral loyalty through psychological involvement and perceived service quality: sports clubs

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Abstract
Purpose – The study advances an enhanced model encompassing psychological involvement, denoted as the psychological continuum model (PCM) and perceived customer service quality as intermediaries in the association between subjective customer knowledge (SCK) and behavioral loyalty. The purpose of this study is to assess the mediating role of psychological engagement and consumers’ perceived service quality in the relationship between SCK and behavioral loyalty among members of nonprofit sports service organizations. Additionally, the study aims to examine the impact of membership duration on the relationship between consumer knowledge and behavioral loyalty.

Design/methodology/approach – The study used a quantitative research design, and primary data were collected through a structured questionnaire from 527 members of nonprofit Chinese sports clubs who were selected using a simple random sampling technique. A 5-point Likert scale questionnaire was developed to measure all constructs in the intended research model. The suitability of the measurement model was analyzed by performing confirmatory factor analysis (CFA). Structural equation modeling (SEM) was used to analyze the data using AMOS-24.

Findings – The results of the overall direct effect indicate a significant influence of subjective knowledge on perceived service quality, perceived service quality significantly and positively influences psychological engagement; psychological engagement was found to be an important predictor of consumer behavioral loyalty.

Originality/value – The results offer information for nonprofit sports club (NPSC) managers who seek to increase the attractiveness and retention of their clubs’ members by establishing the importance of subjective consumer knowledge.

Keywords Behavioral loyalty, Knowledge about customers, Perceived quality of service, Psychological continuum model, Psychological involvement of consumers, Subjective knowledge of consumers

Paper type Research paper

Introduction
Understanding the factors influencing sports consumers’ behavioral intentions is crucial for sports organizations’ profitability (Shritharan, 2020). Customer knowledge, particularly subjective customer knowledge (SCK) (Baima et al., 2022), adds value when integrated into

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corporate data (Li, 2020), contributing to the company–customer relationship. The positive associations between customer-perceived service quality (Carlson et al., 2009), psychological engagement and behavioral loyalty are significant topics in contemporary science (Behnam et al., 2020a; Tsitskari et al., 2017), emphasizing the interconnectedness of these factors in consumer behavior (Parihar et al., 2019; Rocha and Gratao, 2018).

Psychological involvement, also known as psychological engagement, characterizes the extent of an individual’s interest, attention and emotional attachment to a specific activity, task, or situation. It denotes the depth and caliber of a person’s mental and emotional commitment within a particular context, and this phenomenon can be observed across different facets of life, such as work, education, relationships and leisure activities.

Here are some key components of psychological involvement:

(1) Interest and Attention: Individuals who are psychologically involved in an activity are likely to display a genuine interest and pay focused attention to what they are doing. They are more likely to be absorbed and engrossed in the task at hand (Ruihley and Li, 2021).

(2) Emotional Connection: Psychological involvement often involves an emotional connection or attachment to the activity. This emotional investment can lead to a greater sense of fulfillment, satisfaction and motivation (Oh and Abraham, 2016).

(3) Intrinsic Motivation: People who are psychologically involved in an activity are often driven by intrinsic motivation, meaning they engage in the activity because they find it inherently enjoyable, interesting, or personally meaningful (Xiao et al., 2014).

(4) Sense of Presence: Psychological involvement can create a sense of being present in the moment, with individuals fully immersing themselves in the experience and minimizing distractions.

(5) Personal Significance: The activity holds personal significance for individuals who are psychologically involved. They may see the task as aligned with their values, goals, or identity, contributing to a deeper sense of involvement.

Psychological involvement is a multidimensional construct and can vary across different individuals and situations. Understanding and nurturing psychological involvement is crucial in various contexts, including education, workplace productivity and personal well-being. In the realm of leisure activities, it often correlates with “flow,” a state of complete absorption and enjoyment (Rossi et al., 2020). A study highlights the importance of promoting sports activity and the connection between customer loyalty and sustained satisfaction in nonprofit sports clubs (NPSCs). The objective is to assess the mediating impact of psychological engagement and perceived service quality on the relationship between SCK and behavioral loyalty among club members.

**Literature review**

**Theoretical foundations of the study**

The literature review emphasizes the significance of marketing programs in sports club organization, stressing the need to invest in strategies that preserve the club and maintain a loyal customer base. The distinction between customer loyalty and brand loyalty is clarified, with the latter having a psychological basis. Retaining brand-loyal customers is more cost-effective, requiring fewer financial investments and a less aggressive pricing strategy compared to loyalty based on pricing policies.

Various tactics, including tracking trends, analyzing data and employing customer self-service, are used to maintain loyalty in a competitive environment. Online commerce,
features like Q&A sections and live streaming, contributes to shaping brand loyalty and perception. Overall, organizations leverage knowledge discovery processes in marketing campaigns to enhance brand perception, customer retention and appeal in NPSCs (Behnam et al., 2020a; Delshab et al., 2022; Koenigstorfer and Wemmer, 2022).

The psychological continuum model (PCM) was employed in this study due to its capacity to offer a valuable framework for comprehending individuals’ motivations for participating in sports clubs (Carlson et al., 2009). The PCM and the service profit chain (SPC) are theoretical frameworks used to understand the relationships between various factors in the context of customer loyalty and organizational success. However, it’s important to note that the specific terms “SCK” and “behavioral loyalty” are not widely recognized in the general literature, and their meanings may vary depending on the context in which they are used (Behnam et al., 2020a). Providing a general explanation of how psychological involvement and perceived customer service quality might mediate the relationship between certain factors and behavioral loyalty, drawing from established principles in marketing and psychology it could be explain some major points of the model.

**Psychological involvement**

Psychological involvement refers to the degree of personal relevance and importance that a customer attaches to a product, service, or brand. High psychological involvement may lead to greater emotional attachment and commitment to a brand or service. Mediating the relationship between other factors (such as satisfaction, trust, or perceived value) and behavioral loyalty, psychological involvement can strengthen the emotional connection and drive repeat business (Parihar et al., 2019). Customer service quality is a crucial determinant of customer satisfaction and loyalty. Positive perceptions of customer service contribute to overall customer satisfaction. High-quality customer service can create positive emotional experiences, leading to increased customer loyalty (Rocha and Gratao, 2018).

**Mediation**

Psychological involvement and perceived customer service quality mediate satisfaction and trust’s impact on behavioral loyalty. Positive experiences boost involvement and high-quality service enhances loyalty (Behjati et al., 2012). The SPC links employee satisfaction, loyalty, internal service quality, external service value, customer satisfaction and organizational performance, with perceived customer service quality playing a crucial role. Tailor concepts to general context and conduct empirical studies for testing relationships in sport industry (Rossi et al., 2020). In general, psychological models in sports psychology often aim to understand and enhance the psychological factors that influence athletic performance (Beaton and Funk, 2008; Beaton et al., 2009, 2011). These models may cover areas such as motivation, stress and anxiety management, goal-setting, concentration and teamwork, among others (Delshab et al., 2022).

The concepts of motivation, stress and anxiety management, goal-setting, concentration and teamwork in sports psychology have been developed and studied by various researchers and practitioners over the years (Koenigstorfer and Wemmer, 2022). These concepts are not attributed to a single individual but have evolved through contributions from numerous experts in the field. Here are some key contributors and theories related to each concept:

1. **Motivation.** Albert Bandura: Bandura’s Social Cognitive Theory emphasizes the role of observational learning and self-efficacy in motivation (Bandura, 2015).

2. **Self-Determination Theory (SDT)** developed by Edward L. Deci and Richard M. Ryan, SDT focuses on the different types of motivation, including intrinsic and extrinsic motivation (Ryan and Deci, 2017).
(3) Stress and Anxiety Management. Yerkes-Dodson Law: Developed by Robert M. Yerkes and John D. Dodson, this law suggests that performance increases with physiological or mental arousal but only up to a point. Too much stress or anxiety can impede performance (Lupien et al., 2007).

Cognitive-Behavioral Approaches. Psychologists like Albert Ellis and Aaron T. Beck have developed cognitive-behavioral techniques that are applied to manage stress and anxiety (Mcleod, 2023).

Goal-Setting. Edwin Locke and Gary Latham: They are known for their Goal-Setting Theory, which emphasizes the importance of setting specific and challenging goals to enhance performance (Seijts and Latham, 2000).

(1) SMART Criteria. Often associated with goal-setting, the SMART criteria (Specific, Measurable, Achievable, Relevant, Time-bound) are widely used for effective goal formulation (Brown and Latham, 2000).

(2) Concentration and Selective Attention. Psychologists such as William James and John Dewey have contributed to the understanding of selective attention, which is crucial for maintaining concentration in sports (Li, 2020).

(3) Attentional Control Theory. Developed by Nideffer, this theory emphasizes the importance of attentional control in sports performance (Kent, 2007).

(4) Teamwork. Bruce W. Tuckman: Known for the Tuckman’s Stages of Group Development (forming, storming, norming, performing, adjourning), which highlights the stages that teams go through in achieving effective teamwork (Tuckman, 1991).

(5) Belbin Team Role Theory. Meredith Belbin’s theory identifies different roles within a team and how each role contributes to overall team effectiveness (Belbin, 2003).

These are just a few examples, and many more researchers and practitioners have made significant contributions to the understanding and application of these concepts in sports psychology (Risi, 2022). Keep in mind that the field continues to evolve and new theories and approaches may emerge over time.

PCM suggests that personal, psychological and environmental factors influence the psychological connection to activities from the customer’s perspective (Beaton et al., 2011). PCM acts as a bridge linking SCK to behavioral loyalty through psychological interaction and service quality perceived by a customer (Iyer et al., 2020). The research model is shown in Figure 1.

A general understanding and framework based on the concepts of psychological engagement, social capital and behavioral loyalty in the context of nonprofit organizations represents several points of attention that would be likely mentioned in the work.

![Figure 1. Hypothetical research model](image_url)

**Note(s):** Developed on the basis of Beaton et al. (2009, 2011), Beaton and Funk (2008), Behnam et al. (2016)
Social capital refers to the social networks, relationships and shared values that exist within a community or organization. It involves the connections and trust among individuals that can be leveraged for mutual benefit. Psychological engagement encompasses an individual’s emotional and cognitive commitment to an organization or cause (Beaton et al., 2009). It involves a sense of belonging, identification and personal investment in the organization’s goals and activities. Behavioral loyalty in the context of nonprofit sports service organizations might include factors such as continued participation, volunteerism, financial support and advocacy for the organization’s mission (Beaton and Funk, 2008).

Now, considering these elements, the role of psychological engagement in mediating the relationship between social capital and behavioral loyalty in nonprofit sports service organizations could be conceptualized as follows:

1. **Social Capital (SCK) → Psychological Engagement**

   Members who perceive a high level of social capital within the nonprofit sports service organization may feel a stronger sense of community, trust and shared values (Behnam et al., 2020a). This can contribute to increased psychological engagement among members.

2. **Psychological Engagement → Behavioral Loyalty**

   Psychological engagement, characterized by emotional and cognitive commitment, may positively influence members’ behaviors. Engaged members are more likely to participate actively, contribute their time and resources and advocate for the organization’s goals (Baena-Arroyo et al., 2020).

   Psychological engagement serves as a mediator in the relationship between social capital and behavioral loyalty. In other words, the impact of social capital on behavioral loyalty is partially explained by the level of psychological engagement experienced by individual members. Nonprofit sports service organizations can enhance social capital by fostering a sense of community, facilitating communication and collaboration among members and promoting shared values.

   Strategies aimed at increasing psychological engagement, such as effective communication of the organization’s mission, recognition of members’ contributions and creating a positive organizational culture, may contribute to greater behavioral loyalty (Chen and Lin, 2019). To explore these relationships in a specific context, empirical research involving surveys, interviews, or other data collection methods would be necessary. The findings could provide insights into the dynamics of social capital, psychological engagement and behavioral loyalty within nonprofit sports service organizations (Chin, 1998).

   Moderators, in turn, manifest themselves as variables such as emotional brand attachment, a sense of belonging and exclusivity, which enhance (or diminish) the relationship between variables (assumptions). Thus, in the hypotheses under consideration, the mediation effect is established, and subsequently, the moderation factor is explored.

In the context of nonprofit sports service organizations, the relationship between SCK and behavioral loyalty can be mediated by perceived customer service quality. Let’s break down this relationship.

1. **SCK refers to the customer’s perception and understanding of the organization, its mission, activities and the value it provides. This knowledge is based on the customer’s subjective experiences, interactions and information about the nonprofit sports service organization (Jones et al., 2019).**

2. **Perceived customer service quality encompasses the customer’s evaluation of the organization’s service delivery, responsiveness, communication and overall**
experience. In the context of nonprofit sports service organizations, this may include aspects such as the quality of programs, events, communication with members and the effectiveness of support services.

(3) Behavioral loyalty involves the customer’s actual behaviors and actions that demonstrate commitment and support to the nonprofit sports service organization. This could include continued participation, volunteering, financial contributions and advocacy for the organization (Behnam et al., 2016, 2020a).

Now, let’s explore how perceived customer service quality acts as an intermediary in this relationship.

(1) SCK → Perceived Customer Service Quality.

Customers with a higher level of subjective knowledge about the nonprofit sports service organization are likely to have certain expectations. Their perceptions of the organization’s service quality may be influenced by their pre-existing knowledge and expectations.

(2) Perceived Customer Service Quality → Behavioral Loyalty

The quality of customer service experienced by individuals influences their behavioral loyalty. Positive perceptions of service quality contribute to increased satisfaction, trust and a sense of value, which in turn can lead to greater behavioral loyalty (Tuhin, 2018).

(3) Mediation Effect.

Perceived customer service quality serves as an intermediary or mediator in the relationship between SCK and behavioral loyalty (Adhikari and Panda, 2019). In other words, the impact of SCK on behavioral loyalty is partially explained by the perceived quality of customer service.

(4) Implications for Nonprofit Sports Service Organizations

Nonprofit sports service organizations should focus on providing accurate and comprehensive information to enhance customers’ subjective knowledge about the organization. Emphasizing and maintaining high levels of customer service quality can positively influence the loyalty of members, encouraging continued participation, support and advocacy (Martínez et al., 2010).

(5) Continuous Feedback Loop

Organizations should seek feedback from members to understand their perceptions of service quality and adjust their strategies accordingly. This creates a continuous feedback loop that can help improve both SCK and perceived service quality. Conducting surveys, interviews, or other research methods within the specific context of the nonprofit sports service organization can provide valuable insights into the nuances of these relationships and guide strategic decisions to enhance customer satisfaction and loyalty (Delshab et al., 2022).

The hypotheses of the study are as follows:

H1. Consumers’ subjective knowledge is positively related to the perceived quality of service.

H2. Perception of service quality is positively related to the psychological involvement of consumers.

H3. There is a positive correlation between psychological engagement and behavioral loyalty.
H4. Length of membership positively affects the relationship between consumer knowledge and behavioral loyalty (a sports club member with more years of membership will have higher behavioral loyalty than a new member).

An in-depth analysis of the presented hypotheses follows.

H1: Consumers’ subjective knowledge is positively related to the perceived quality of service

Hypotheses H1 and H2, rooted in the PCM framework, posit that attraction is influenced by diverse motivations, both intrinsic and extrinsic. Recognizing service quality as a key competitive advantage, active communication and customer observation enable companies to understand perceptions, assess knowledge and tailor services (Baena-Arroyo et al., 2020), ultimately bridging the gap between perceived and expected service to enhance customer satisfaction and encourage repeat purchases (Xinxin and Zhen, 2019), as suggested by this study.

H2: Perception of service quality is positively related to the psychological involvement of consumers

Increased competition in the sports club industry necessitates a heightened focus on customer satisfaction, examining the moderating role of expectations in the relationship between customer satisfaction and its drivers: perceived performance and value. The study reveals a positive correlation between customer psychological engagement and service quality, with higher customer satisfaction leading to increased psychological engagement, emphasizing the significance of understanding clients’ expectations and service projections (Dhasan and Aryupong, 2019).

H3: There is a positive correlation between psychological engagement and behavioral loyalty

Participation in the sports services industry involves customer engagement in sports, recreational activities, organizations and sporting goods (Happ et al., 2020). Recent research underscores a strong correlation between psychological loyalty, commitment and conventional engagement continuity, emphasizing the role of behavioral engagement in increasing customer loyalty, with fairness in pricing and service quality positively influencing consumer commitment (Dhasan and Aryupong, 2019; Ostrowski, 2021; Parihar et al., 2019).

H4: Length of membership positively affects the relationship between consumer knowledge and behavioral loyalty

Customer retention is crucial for organizational success and profitability (Chen and Lin, 2019; Dhrup and Surujjal, 2010), with a reduction in customer rejections having a more significant impact on a company’s profitability than cost reduction or market share increase (De Toni et al., 2017). In the context of sports and club attendance, prolonged customer retention is vital for higher company profits (Pedersen et al., 2020), as satisfied and loyal customers tend to promote the club through word of mouth and purchase additional services (Chakraborty and Bhat, 2018).

The relationship between SCK and behavioral loyalty in nonprofit sports service organizations is dynamic and influenced by membership duration (Beaton et al., 2009). In the
early stages, limited SCK can strongly impact behavioral loyalty, with exploratory behavior playing a key role (Shritharan, 2020). In mid- to long-term membership, deepening knowledge and the emergence of relationship factors become significant contributors (Ruihley and Li, 2021). Over the long term, institutional loyalty, influenced by consistency and trust, may dominate the relationship (Rossi et al., 2020). Tailored communication and relationship-building strategies at different stages can enhance member satisfaction and loyalty. Regular assessments and feedback mechanisms are crucial for understanding evolving member needs and adapting engagement strategies over time (Rocha and Gratao, 2018).

The dynamics of SCK and behavioral loyalty also vary across membership durations, emphasizing the importance of strategic approaches. In the early stage, positive early experiences and clear communication are crucial for setting the foundation of loyalty (Li, 2020). Mid-term membership sees the evolution of relationships and the emergence of additional factors influencing loyalty. In the long term, institutional loyalty, consistency and trust become dominant, with the relationship’s strength dependent on the organization’s ability to manage experiences effectively. Organizations need to focus on tailored engagement strategies, continuous communication and sustained positive experiences to maintain behavioral loyalty (Parihar et al., 2019).

Furthermore, the interaction dynamics between psychological engagement, perceived service quality and membership duration shape behavioral loyalty. In the early stage, positive perceived service quality contributes to the development of psychological engagement (Ostrowski, 2021). As membership progresses, sustaining service quality is essential for maintaining psychological engagement. Long-term membership witnesses a reciprocal relationship and mutual reinforcement between psychological engagement and perceived service quality (Oh and Abraham, 2016). Strategic onboarding and continuous improvement in service quality are recommended for enhancing overall member satisfaction and commitment (Ma and Kaplanidou, 2019). Regular assessments of psychological engagement, perceived service quality and behavioral loyalty provide insights for adjusting organizational practices throughout the membership journey (Baima et al., 2022).

Thus, the study built a model for studying loyalty by examining the relationship between membership duration, behavioral loyalty, perceived quality and consumer knowledge.

Methods
Purpose of the study
This study aims to evaluate the mediating role of psychological engagement and consumer-perceived service quality in the relationship between SCK and behavioral loyalty among members of NPSCs. Loyalty in the sports club industry is crucial for sustained existence, reducing the need for extensive advertising and pricing policies, with a positive impact cascading through customer reactions and attracting new patrons. Understanding different types of customer loyalty, including genuine brand loyalty, false loyalty and latent loyalty, is essential for achieving research objectives, and methods like customer lifetime value (CLV) help ascertain the profitability of brand-loyal customers, though not specifying the degree or type of loyalty. This indicator is determined by the formula:

$$CLV = t * c * f,$$

Where t represents the duration of the customer’s interaction, c is the average cost of acquired services during time t and f is the frequency of purchases per unit of time.
More often, the data obtained through calculations of this indicator are expressed in percentages. In this case, it becomes necessary to calculate the number of repeat customers to assess current customer loyalty.

\[
\text{RCR} = \frac{\text{quantity of repetitive customers}}{\text{total number of brand loyal customers}}
\]

Both of these metrics allow for an objective assessment of consumer loyalty.

Furthermore, a commonly used statistical indicator involves the use of a questionnaire for club users. This indicator is known as net promoter score (NPS), which reflects the subjective inclination (or the opposite) of customers toward interacting with the sports club. These questionnaires are often in the form of electronic surveys with rating questions on various parameters on a scale of up to 10 points. Subsequently, the overall score is calculated among brand-loyal customers and non-loyal customers using the formula:

\[
\text{NPS} = \frac{\% \text{ brand - loyal customers}}{\% \text{ non - loyal customers}}.
\]

Certainly, factors such as customer churn rate and bonus calculation indicators are taken into account in the analysis; however, their influence on the overall analytical picture is indirect.

**Study sample**
To test the hypotheses, relevant data were collected from members of NPSCs operating in the province of Sichuan, China. After the establishment of the National Youth Supports Club in 1999, which is considered the most representative NPSC, there has been a significant increase in NPSCs in the Sichuan province. According to Tao (2013), till 2012, approximately 1,300 NPSCs were operating, and in 2005, there were hardly 400. The current study is cross-sectional, and the survey method was used to collect the primary data from the target respondents, which were selected using a simple random sampling technique. The survey was conducted by distributing questionnaires at NPSCs operating in Sichuan Province. Initially, a request was formulated for the administrations to ask club visitors to participate in the anonymous survey. After obtaining consent to distribute the invitation, a request was sent to the clubs for visitors and distributed to e-mail addresses. A total of 1,126 visitors responded with consent. The survey was conducted in Chinese, and the necessary materials were translated into English by a translator to describe the study and its results. The respondents of the current study were NPSC members; 1,000 questionnaires were distributed among respondents, of which 527 were correctly completed. Therefore, the overall response rate was 53%. The demographic details of the respondents are presented in Table 1.

**Research methods and tools**
A questionnaire was developed to measure all constructs in the hypothesized research model, as shown in Figure 1. All measurement items were adopted from past valid studies, and respondents were asked to respond on a 5-point Likert scale (item statements are presented in Table 2). The construct of subjective knowledge was measured using a 4-item measurement scale adapted from the study of Iyer et al.’s (2020). To assess perceived service quality, a 15-item scale derived from Behnam et al.’s (2020b) research was employed. Psychological involvement was measured by adopting a 9-item measurement scale from the study of Beaton et al. (2011). The construct of behavioral loyalty was measured using a 3-item measurement scale that was previously used by Evanschitzky and Wunderlich (2006) and Behnam et al. (2020a).

Before going for hypotheses testing, the internal consistency, indicator reliability, discriminant and convergent validities were tested as suggested by Chin (1998).
The measurement model fitness was analyzed by performing confirmatory factor analysis (CFA). In addition, the study hypotheses are tested by conducting structural equation modeling (SEM), a method chosen as useful in the social sciences because it allows one to analyze the relationship between observed and unobserved variables. As proof one can cite the results of the theoretical works of many foreign specialists, according to which it is modeling by structural equations that are considered effective for conducting research in the field of prediction, analysis and study of components within the framework of the whole (Behjati et al., 2012). Furthermore, the indirect conditional effect of the moderator was also determined using Hayes' process macro. All data analyses were performed using SPSS-26 and AMOS-24. Using the SEM capabilities of AMOS, the results were examined for fit. The fit indices do not have a single statistical test value that determines the correct model given the sample data, but the criteria are formulated to range in value from 0 (not fit) to 1 (perfect fit). Model compliance is achieved at $\chi^2/df = 2.64$, root mean square error approximation (RMSEA) = 0.056, incremental fit index (IFI) = 0.92, Tucker–Lewis index (TLI) = 0.91, comparative index index (CFI) = 0.92, which allowed concluding that there was an acceptable correspondence. The initial loading method was used to provide an approximation of the sampling distribution of the statistics of interest. Macros \(<http://www.afhayes.com/>\) calculates the initial bootstrap in SPSS. The method provides point estimates and confidence intervals with which to assess the significance or non-significance of the mediation effect (Hayes, 2022). Internal consistency of designs was tested based on Cronbach’s alpha values, which should be above 0.70 (Hulland et al., 2018). Convergent validity was defined by values of average variance extracted (AVE) and cumulative reliability (CR) with a recommended threshold of 0.50 and 0.60, respectively (Bagozzi and Yi, 1988). Discriminant validity is set at the construct level if its AVE value is greater than 0.50.
<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>( \lambda )</th>
<th>Mean</th>
<th>SD</th>
<th>( \alpha )</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Knowledge</td>
<td>I know what a good sports clubs’ service is</td>
<td>0.708</td>
<td>3.99</td>
<td>1.17</td>
<td>0.78</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>I am confident in my ability to assess the level of sports clubs’ services</td>
<td>0.759</td>
<td>4.08</td>
<td>1.07</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>I trust my judgment when determining the service failure</td>
<td>0.780</td>
<td>4.12</td>
<td>1.06</td>
<td></td>
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<tr>
<td></td>
<td>I am confident in my ability to recognize service problems in sports clubs</td>
<td>0.813</td>
<td>4.10</td>
<td>1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Service Quality</td>
<td>My club’s facilities are attractive</td>
<td>0.639</td>
<td>4.16</td>
<td>0.90</td>
<td>0.92</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>My club’s facilities are spacious</td>
<td>0.844</td>
<td>3.83</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My club’s facilities are clean</td>
<td>0.839</td>
<td>3.84</td>
<td>1.09</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>The equipment of my club is in good condition</td>
<td>0.820</td>
<td>3.75</td>
<td>1.06</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>My club environment (temperature, air) is good</td>
<td>0.803</td>
<td>3.88</td>
<td>1.01</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Staff respond quickly to customer needs</td>
<td>0.770</td>
<td>3.62</td>
<td>1.13</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Staff work with enthusiasm</td>
<td>0.744</td>
<td>3.57</td>
<td>1.14</td>
<td></td>
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<tr>
<td></td>
<td>Staff are educated</td>
<td>0.758</td>
<td>3.86</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff help customers feel comfortable</td>
<td>0.712</td>
<td>3.77</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff are experts</td>
<td>0.716</td>
<td>3.85</td>
<td>1.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My club’s sport programs help me increase my energy</td>
<td>0.510</td>
<td>3.71</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My club’s sport programs help me improve my health</td>
<td>0.503</td>
<td>3.89</td>
<td>1.09</td>
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<tr>
<td></td>
<td>My club’s sport programs help me blow off some steam</td>
<td>0.604</td>
<td>3.69</td>
<td>1.17</td>
<td></td>
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<td></td>
<td>My club’s sport programs help me improve my psychological well-being</td>
<td>0.648</td>
<td>3.86</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My club’s sport programs help me improve my fitness</td>
<td>0.516</td>
<td>3.64</td>
<td>1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological involvement</td>
<td>Being a member of this club is one of the most satisfying things I do</td>
<td>0.798</td>
<td>4.07</td>
<td>0.95</td>
<td>0.81</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>I really enjoy my club</td>
<td>0.717</td>
<td>4.20</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compared to other activities visiting this club is very interesting</td>
<td>0.891</td>
<td>4.31</td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I find a lot of my life is organized around this club</td>
<td>0.787</td>
<td>4.36</td>
<td>0.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>This club has a central role in my life</td>
<td>0.716</td>
<td>4.41</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A lot of my time is organized around this club</td>
<td>0.736</td>
<td>4.20</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Going to this club says a lot about who I am</td>
<td>0.735</td>
<td>4.29</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>When I go to this club, I can really be myself</td>
<td>0.629</td>
<td>4.33</td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel like this club is part of me</td>
<td>0.598</td>
<td>4.37</td>
<td>0.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Loyalty</td>
<td>When I have an option, I choose mostly this club</td>
<td>0.824</td>
<td>3.99</td>
<td>1.06</td>
<td>0.89</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>I have frequently attended this club in the past 12 months</td>
<td>0.938</td>
<td>3.94</td>
<td>1.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My extent of preference to this club increased as compared to its competitors in the past 12 months</td>
<td>0.897</td>
<td>3.95</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership Duration</td>
<td>Continuous, number of years</td>
<td>4.10</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note(s):** \( N = 527; \) \( \lambda \) = standardized loads; SD = standard deviation; \( \alpha \) = Cronbach’s alpha; AVE = average variance extracted

**Source(s):** Developed by the authors

---

**Table 2.** Measurement values
Discriminant validity was established through values of the square root of AVE and maximum shared variance (MSV). For discriminant validity, the square root of the AVE must be higher than the correlations, and the MSV must be lower than the AVE.

**Ethical issues**
In collecting the questionnaire data, all results were collected under assigned code numbers. The personal data of the sample participants are not disclosed.

**Results**
At the first stage of the study, the internal consistency of the constructs was checked, which was determined based on Cronbach’s alpha values (Table 2).

The results, presented in Table 2, show that the alpha values of all investigated constructs exceed 0.70, which allows one to conclude that there is acceptable internal consistency. In the next step, validity and reliability were checked (Table 3).

All item loadings range from 0.51 to 0.94, indicating good indicator reliability. Convergent validity in terms of extracted average variance (AVE) and CR values exceeds the recommended threshold of 0.50 and 0.60, respectively; discriminant validity is set at the construct level. The results in Table 3 established discriminant validity, as all MSV values are lower than AVE, and the square root of AVE is higher than the correlations. In the next step, discriminant validity was further investigated using the heterotrait-monotrait (HTMT) correlation, and the results are shown in Table 4.

Results show that all values are less than the recommended threshold of 0.85 for strict discriminant validity. The study then determines if the hypothetical model is suitable for the data collected. The suitability of the measurement model was analyzed by conducting a CFA, a structural equation simulation was conducted. The results are shown in Table 5.

Indices of compliance with the original measurement model ($\chi^2$/df = 4.72, RMSEA = 0.084, IFI = 0.81, TLI = 0.79, CFI = 0.81) show poor model matching. Large samples make the $\chi^2$ test overly sensitive and are more likely to indicate a lack of fit in the

<table>
<thead>
<tr>
<th>Constructs</th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Perceived Service Quality</td>
<td>0.932</td>
<td>0.502</td>
<td>0.038</td>
<td>0.709</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Psychological Involvement</td>
<td>0.785</td>
<td>0.547</td>
<td>0.106</td>
<td>0.385***</td>
<td>0.740</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Subjective Knowledge</td>
<td>0.793</td>
<td>0.561</td>
<td>0.334</td>
<td>0.267***</td>
<td>0.325***</td>
<td>0.749</td>
<td></td>
</tr>
<tr>
<td>4-Behavioral Loyalty</td>
<td>0.917</td>
<td>0.787</td>
<td>0.334</td>
<td>0.195***</td>
<td>0.241***</td>
<td>0.085</td>
<td>0.887</td>
</tr>
</tbody>
</table>

Table 3. Validity and reliability results

**Note(s):** Diagonal elements (in italic) are the square root of AVE; MSV = maximum shared variance;
CR = cumulative reliability

**Source(s):** Developed by the authors

<table>
<thead>
<tr>
<th>Constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Perceived Service Quality</td>
<td>$I$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Psychological Involvement</td>
<td>0.391</td>
<td>$I$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Subjective Knowledge</td>
<td>0.271</td>
<td>0.333</td>
<td>$I$</td>
<td></td>
</tr>
<tr>
<td>4-Behavioral Loyalty</td>
<td>0.212</td>
<td>0.230</td>
<td>0.116</td>
<td>$I$</td>
</tr>
</tbody>
</table>

Table 4. HTMT analysis

**Source(s):** Developed by the authors
data model. This requires modifying the model to improve the structure fit and thus estimate the most likely relationships between the variables. The structural analysis program already contains structure modification indices, which can make minor changes. The modification indices are the result of releasing fixed parameters; they led to a change in the $\chi^2$ criterion. Changes that improved the model were marked in the program as potential changes that could be made to the model. Following the modification indices, a good model fit was achieved in the revised measurement model ($\chi^2$/df = 2.64, RMSEA = 0.056, IFI = 0.92, TLI = 0.91, CFI = 0.92), which satisfies the criteria for model conformity (Hu and Bentler, 1999). In the last step, after conducting a preliminary analysis of correlations, reliability and validity, hypothesis testing was conducted. Tables 6 and 7 show the results of the hypothesized relationships.

The results of the overall direct effect indicate a significant effect of subjective knowledge on perceived service quality ($\beta = 0.267, p < 0.001$), which supports hypothesis H1. Hypothesis H2 was also proven, that is, perceived service quality significantly and positively affects psychological engagement ($\beta = 0.385, p < 0.001$). Moreover, the results show that hypothesis H3, which states that psychological engagement is an important predictor of consumer behavioral loyalty, was valid as a result of the analysis ($\beta = 0.241, p < 0.001$).

The initial load method was used to test the indirect influence of consumers’ subjective knowledge on their behavioral loyalty through service quality and psychological engagement. The standardized coefficient ($\beta$) of the overall indirect effect indicates a significant mediation of service quality ($\beta = 0.297, p < 0.001$) and psychological engagement ($\beta = 0.329, p < 0.001$) between subjective knowledge and behavioral loyalty relationships. Results of the conditional indirect effect of membership duration are presented in Table 8, which shows significant moderation.

<table>
<thead>
<tr>
<th>Measurement models</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>RMSEA</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Model (original)</td>
<td>2036.03</td>
<td>431</td>
<td>4.72</td>
<td>0.084</td>
<td>0.81</td>
<td>0.79</td>
<td>0.81</td>
</tr>
<tr>
<td>Measurement Model (revised)</td>
<td>1067.88</td>
<td>405</td>
<td>2.64</td>
<td>0.056</td>
<td>0.92</td>
<td>0.91</td>
<td>0.92</td>
</tr>
</tbody>
</table>

**Source(s):** Developed by the authors

<table>
<thead>
<tr>
<th>Relationships</th>
<th>$\beta$</th>
<th>SE</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Knowledge $\rightarrow$ Perceived Service Quality</td>
<td>0.267</td>
<td>0.05</td>
<td>***</td>
</tr>
<tr>
<td>Perceived Service Quality $\rightarrow$ Psychological Involvement</td>
<td>0.385</td>
<td>0.05</td>
<td>***</td>
</tr>
<tr>
<td>Psychological Involvement $\rightarrow$ Behavioral Loyalty</td>
<td>0.241</td>
<td>0.06</td>
<td>***</td>
</tr>
</tbody>
</table>

**Note(s):*** $***p < 0.001$

**Source(s):** Developed by the authors

<table>
<thead>
<tr>
<th>Relationships</th>
<th>$\beta$</th>
<th>SE</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Knowledge $\rightarrow$ Perceived Service Quality $\rightarrow$ Behavioral Loyalty</td>
<td>0.297</td>
<td>0.08</td>
<td>***</td>
</tr>
<tr>
<td>Subjective Knowledge $\rightarrow$ Psychological Involvement $\rightarrow$ Behavioral Loyalty</td>
<td>0.329</td>
<td>0.06</td>
<td>***</td>
</tr>
</tbody>
</table>

**Note(s):*** $***p < 0.001$

**Source(s):** Developed by the authors

**Table 5.** Confirmatory factor analysis (CFAs)

**Table 6.** Total direct effect

**Table 7.** Total indirect effect
The results indicate a low effect of consumer knowledge on their loyalty to the club ($\beta = 0.079$, $p < 0.05$) (for consumers with less than three to four years of membership). Consumer knowledge affects their loyalty to the club ($\beta = 0.145$, $p < 0.01$) in the case of membership of three to four years. Moreover, this effect of consumer knowledge on their loyalty to sports clubs becomes more significant with longer membership ($\beta = 0.181$, $p < 0.001$). As a consequence of the above, it can also be argued that hypothesis H4 is valid, which means that the length of membership has a positive effect on the relationship between consumer knowledge and behavioral loyalty so that a sports club member who has more years of membership will have higher behavioral loyalty than a new member. Consequently, all hypothesized relationships are well supported by the study results, and based on the results, all hypotheses are accepted.

**Discussion**

This study investigates how consumers’ subjective knowledge influences their behavioral loyalty in NPSCs, considering perceived service quality and psychological loyalty as mediators (Behnam et al., 2020b). Building on prior research on membership length’s impact (García-Fernández et al., 2016), the authors respond to marketers’ calls to test the model in diverse markets, focusing on Chinese NPSC to provide regional insights (Tseng, 2016). The study addresses a gap by evaluating SCK from the customer perspective within the context of the Chinese nonprofit sports services industry (Behnam et al., 2020b).

The generalizability of mediation models across different types of nonprofit organizations or industries depends on various factors. While certain principles of mediation may have broad applicability, it’s crucial to consider the specific context, characteristics and dynamics of each nonprofit organization or industry (Xinxin and Zhen, 2019). Here are key considerations:

1. **Context-Specific Factors:** the nature of nonprofit organizations can vary widely, from social services to healthcare, education, arts and sports. Each sector has unique characteristics that may influence the applicability of mediation models (Xinxin and Zhen, 2019).

Factors such as the type of services provided, target demographics, organizational goals and the nature of stakeholder relationships can significantly impact how mediation models manifest in a specific context.

2. **Stakeholder Characteristics:**

Nonprofit organizations interact with diverse stakeholders, including donors, volunteers, clients and community members. The dynamics and relationships with these stakeholders can differ based on the organization’s mission and activities.

<table>
<thead>
<tr>
<th>Membership duration</th>
<th>Boot IE</th>
<th>Boot SE</th>
<th>BLL CI 95%</th>
<th>BUL CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>−1 SD</td>
<td>0.079*</td>
<td>0.02</td>
<td>0.034</td>
<td>0.111</td>
</tr>
<tr>
<td>Mean</td>
<td>0.145**</td>
<td>0.03</td>
<td>0.097</td>
<td>0.221</td>
</tr>
<tr>
<td>+1 SD</td>
<td>0.181***</td>
<td>0.03</td>
<td>0.124</td>
<td>0.278</td>
</tr>
</tbody>
</table>

**Table 8.** Conditional indirect effects

**Note(s):** ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; IE: indirect effect; BLL: boot lower limit; BUL: boot upper limit; CI: confidence interval**

**Source(s):** Developed by the authors
The factors influencing behavioral loyalty, such as perceived service quality and psychological engagement, may vary in importance and nature across different stakeholder groups (Xiao et al., 2014).

(3) Industry-Specific Dynamics:

Certain industries have unique characteristics and challenges. For example, a healthcare nonprofit may face different considerations compared to an environmental conservation nonprofit (Xinxin and Zhen, 2019).

The nature of the service, the emotional connection with the cause, and the expectations of stakeholders may differ, affecting the generalizability of mediation models.

(4) Cultural and Regional Variations:

Cultural and regional differences can influence how individuals perceive and engage with nonprofit organizations. Mediation models may need adjustments based on cultural nuances and regional preferences.

(5) Organizational Size and Structure:

The size and structure of nonprofit organizations can impact how mediation models operate. Small, community-based organizations may have different dynamics than large, international nonprofits. Resource constraints, leadership styles and organizational agility can influence the implementation and effectiveness of mediation models.

(6) Research Context and Methodology:

The generalizability of mediation models can also depend on the robustness of the research methodology and the specific population studied. If the study has a narrow focus or specific sample characteristics, the generalizability may be limited.

(7) Continuous Evolution:

Nonprofit organizations and industries are dynamic, evolving entities. Changes in technology, social trends and external factors may influence the applicability of mediation models over time.

In summary, while certain principles of mediation may have broad relevance, it’s essential to exercise caution when generalizing across different types of nonprofit organizations or industries. Researchers and practitioners should consider the unique aspects of each context, conduct context-specific studies and be open to adapting models to fit the specific dynamics of the organization or industry under consideration (Hu and Bentler, 1999).

The study reveals a significant direct effect of service quality on consumers’ psychological involvement in the NPSC environment, contributing to existing research on service quality outcomes (Behnam et al., 2020a; Jones et al., 2019; Ma and Kaplanidou, 2019). Hypotheses testing yielded positive and significant influences: first, consumers’ subjective knowledge positively affects their perception of service quality, aligning with studies in other service markets (Behnam et al., 2016, 2020a, b). Second, service quality has a positive impact on psychological interactions with customers, consistent with previous research highlighting service quality as a factor in increasing customer engagement (Choudhary et al., 2019). The third hypothesis affirms a positive effect of psychological engagement on consumer behavioral loyalty, emphasizing the importance of fostering a connection between consumers and sports clubs (Leckie et al., 2016). Additionally, the study shows that long-term memberships play a regulatory role, indicating higher engagement and loyalty among members with extended durations, supporting the notion that customer time in a sports
center predicts loyalty (Adhikari and Panda, 2019; Tuhin, 2018). The findings suggest that sports clubs should implement activities to enhance consumer association with the club and create an inviting atmosphere, thereby encouraging long-term engagement and loyalty (Elmose-Østerlund and Van der Roest, 2017; Martínez et al., 2010).

Conclusions

This research analyzes a loyalty model, revealing the link between customers’ future intentions, psychological engagement and perceived service quality in the context of NPSCs. The study emphasizes the importance of consumer knowledge and service quality as predictors of psychological engagement, offering insights for NPSC managers to enhance member attractiveness and retention by aligning knowledge strategies with marketing and customer relationship approaches.

Practical implications

Nonprofit sports service organizations can enhance their effectiveness in customer relationship management (CRM) by implementing several practical implications. Early engagement and communication are crucial, necessitating comprehensive onboarding processes and regular communication channels to shape SCK and establish long-term relationships. Prioritizing perceived service quality involves regular assessment, staff training and feedback mechanisms, while nurturing psychological engagement requires evolving engagement programs and a positive organizational culture. Segmentation, continuous monitoring and adaptation, along with building institutional loyalty through community collaboration, educational initiatives and personalized communication, can further strengthen CRM strategies, deepen member engagement and enhance behavioral loyalty. Organizations should adapt these recommendations to their specific context, emphasizing continuous improvement and member satisfaction. Leveraging consumer knowledge and engagement strategies, understanding member profiles and implementing effective onboarding, orientation and educational initiatives contribute to creating a positive member experience, fostering long-term commitment and increasing organizational impact.

The study, limited to one city in China and focused on NPSCs, suggests avenues for future research testing the proposed model across diverse geographic regions and club types. To address limitations, future studies may explore perspectives beyond consumers, including those of clubs, managers and coaches, while considering additional variables such as subscription prices, consumer trust, satisfaction, word of mouth, club innovation, frequency of attendance and club image, providing valuable insights for sports club managers, marketers and researchers specializing in consumer behavior in sports services and events, particularly those based on the PCM model.

References


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