

**Research Article**

**An Investigation into the Antecedent and Consequences of Value Co-Creation in Fitness Services<sup>1</sup>**

*Fitness Hizmetlerinde Değeri Birlikte Yaratmanın Öncülü ve Sonuçları Üzerine Bir Araştırma*

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**Abstract**

Today, customers are considered both producers and consumers of services, and their participation in the service process provides significant value to both businesses and customers. In fitness centers, this participation takes the form of responsible, advocacy, and helping behaviors, influenced by members' self-efficacy. This study examined the antecedents and consequences of value co-creation behaviors among fitness service users. Self-efficacy was modeled as the antecedent variable, while customer loyalty, satisfaction with sport life, and life satisfaction were specified as outcome variables. Data were collected from 384 fitness center members in Istanbul, Ankara, Izmir, and Eskisehir (minimum one month of experience) using purposive sampling and a questionnaire, and analyzed via structural equation modeling. Results showed that self-efficacy fosters responsible, advocacy, and helping behaviors. Only advocacy significantly enhanced customer loyalty, whereas all three behaviors increased sport life satisfaction and life satisfaction. Sport life satisfaction further improved both life satisfaction and loyalty. The findings suggest that customer participation contributes not only to economic outcomes but also to individual well-being, emphasizing the multifaceted value of co-creation in fitness services.

**Key Words:** Value Co-Creation, Self-Efficacy, Customer Loyalty, Life Satisfaction, Fitness Services

**Öz**

Günümüzde müşteriler hizmetlerin hem üreticisi hem de tüketicisi olarak görülmekte; hizmet sürecine katılımları hem işletmeler hem de müşteriler için önemli değer yaratmaktadır. Fitness merkezlerinde bu katılım, üyelerin öz-yeterliliğinden etkilenen sorumlu davranış, savunuculuk ve yardımcı olma davranışları şeklinde ortaya çıkmaktadır. Bu çalışma, fitness hizmeti kullanıcıları arasında değeri birlikte yaratma davranışlarının öncülünü ve sonuçlarını incelemiştir. Öz-yeterlilik öncül değişkeni olarak ele alınırken, müşteri sadakati, spor yaşam memnuniyeti ve yaşam doyumu sonuç değişkenleri olarak modellenmiştir. Veriler, amaçlı örnekleme ile seçilen ve en az bir aylık deneyime sahip İstanbul, Ankara, İzmir ve Eskişehir'deki 384 fitness merkezi üyesinden anket yoluyla toplanmış; yapısal eşitlik modellemesi ile analiz edilmiştir. Bulgular, öz-yeterliliğin sorumlu davranış, savunuculuk ve

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yardımcı olma davranışlarını desteklediğini göstermiştir. Savunuculuk müşteri sadakatini anlamlı biçimde artırırken, üç davranışın tamamı spor yaşam memnuniyeti ve yaşam doyumunu artırmıştır. Spor yaşam memnuniyeti ayrıca yaşam doyumunu ve sadakati daha da yükseltmiştir. Sonuçlar, müşteri katılımının yalnızca ekonomik çıktılara değil, bireysel iyilik hâline de katkı sunduğunu ve fitness hizmetlerinde birlikte değer yaratmanın çok boyutlu niteliğini vurgulamaktadır.

**Anahtar Kelimeler:** Değerin Birlikte Yaratımı, Öz-Yeterlik, Müşteri Sadakati, Yaşam Doyumu, Fitness Hizmetleri

## 1. Introduction

The global fitness sector is currently experiencing unprecedented expansion, outpacing many other industries. While Europe adopted this trend later than some regions, the past two decades have seen gyms and health clubs achieve significant progress, with soaring member counts and revenue. In Türkiye, the foundations of the sports industry were laid in the 1980s, and interest in the sector rose during the 1990s with the opening of numerous health and sports facilities. From the 2000s onward, the launch of thousands of fitness centers across the country ushered in a period of rapid development. Unlike many other industries, the Turkish fitness sector has exhibited a continuous growth trend (Sekendiz, 2005). During the last decade, the industry expanded swiftly; in the past five years alone, fitness-center memberships have increased substantially.

According to the *Deloitte European Health & Fitness Market 2019* report, the total turnover of the European fitness sector grew by 1.2 percent year-on-year, reaching € 27.2 billion. This figure encompasses not only EU member states but also countries such as Türkiye and Russia. While an average of 3.4 percent of Türkiye's population is a member of a fitness center, the figure for Europe as a whole is 9.9 percent (Rutgers et al., 2019). Türkiye increased its number of fitness-center members from 1.83 million in 2017 to 2.10 million in 2019, gaining 270,000 new memberships in just two years. Moreover, *European Health & Fitness Market 2018* data indicate that the number of fitness centers in the country has reached almost 2,000 (Hollasch et al., 2018). Following the global outbreak of Covid-19 in late 2019, the fitness industry experienced a sharp decline. The *European Health & Fitness Market 2022* report shows that the number of members in Europe, which stood at 65 million in 2020, fell to 56.3 million in 2022, while sector turnover dropped from € 28 billion to € 17.1 billion (Rutgers et al., 2022)—a decline of roughly 40 percent. The Turkish market was clearly affected in a similar fashion.

Against this backdrop, the present study originates from the need for managers to compensate for sectoral losses by adapting to changing customer behavior, identifying the factors that influence customer satisfaction and customer loyalty, and generating solutions together with customers through value co-creation (VCC). Ercsey (2016) emphasizes that, to facilitate this process, firms must provide customers with various opportunities that encourage them to co-produce services. When customers participate in the service process, they inevitably customize certain aspects of the service to suit their own needs. Consequently, they actively construct their experiences in coordination with service providers.

The primary objective of this research is to analyze “the antecedent and consequences of value co-creation in fitness services”, where active service interaction (customer–customer and customer–firm) occurs. In addition, the study aims to enrich the literature with a holistic model that examines the societal and economic outcomes of co-creation activities carried out with customer participation. While many previous studies have focused on customers' overall satisfaction with services, the present research conceptualizes sport life satisfaction—that is, satisfaction specific to the sporting-life domain—and contributes to the limited empirical work exploring the antecedent and consequences of VCC in highly interactive service contexts such as fitness centers.

While existing literature extensively explores customer behavior in service industries, there is a notable gap in research focusing on consumers' active participation in value co-creation within the context of fitness services (Al-Alak, 2010; Woratschek et al., 2014; Behnam et al., 2020; Behnam et al., 2021; Windasari et al., 2021). Understanding how to foster customer participation and citizenship behaviors is therefore crucial for firms seeking to enhance customer loyalty and mitigate losses. Cossio-Silva et al. (2016) argue that value co-creation is linked to behavioral outcomes such as “satisfaction and loyalty”, highlighting the importance of investigating its antecedent variables.

Depending on the service type, customer participation in service production can occur at low or high levels. In most cases, the inputs provided by customers comprise the information and guidance needed by the service provider; in other words, production cannot proceed without the customer. Innovative customers contribute their knowledge and experience to new service processes, and those with high self-efficacy possess the potential to co-create meaningful value with firms. Customers may also assist in defining service characteristics, quality-control procedures, and marketing activities. Through advocacy and word-of-mouth communication, they can support the service provider and act as partial employees involved in service production (Ercsey, 2017).

In light of these insights, policymakers aiming for behavior change and service providers alike must focus on creating, sustaining, and enhancing customer value, as the antecedents influencing individuals' behaviors and the behavioral patterns they adopt yield significant consequences for both parties. The research scope of the study has been delineated in line with these questions:

- a) In fitness-sector service firms, is customers' self-efficacy an antecedent of value co-creation?
- b) In fitness-sector service firms, are customer well-being and customer loyalty behavioral consequences of value co-creation?

To answer these questions, a research model and associated hypotheses were developed on the basis of the relevant literature. Data collected via a quantitative method were analyzed, and the findings are discussed in detail in the Discussion and Conclusion sections. Finally, practical recommendations for service firms, employees, and, more broadly, the economic sphere are offered, underscoring the study's practical contributions.

## 2. Conceptual Framework and Development of Hypotheses

Although the concept of VCC has attracted considerable attention in the broader literature, research that explicitly examines its antecedents and consequences within the marketing domain remains scarce. One seminal contribution is the *Customer "Value Co-Creation Behavior Scale"* developed by Yi and Gong (2013). The authors classify co-creation behaviors into two overarching categories: Customer Participation; "information seeking, information sharing, responsible behavior, personal interaction" and Customer Citizenship Behavior; "tolerance, feedback, advocacy, helping". Their study also identifies antecedent factors such as role clarity, competence, and motivation.

The research model employed here is adapted from the framework proposed by Yousefian (2015) to align with the present study's purpose, context, and variables. Among the antecedents of VCC, only self-efficacy is considered. Situated at the core of Social Learning Theory, self-efficacy is conceptualized as a psychological construct that explains the extent to which individuals adopt specific behaviors (Bandura, 1986). A customer's level of self-efficacy is deemed critical for enacting behavioral change and participating effectively in fitness services. Accordingly, this study focuses on the self-efficacy levels of fitness-center customers and investigates the impact of this attribute on the VCC process.

Of the eight dimensions of co-creation behavior, three are selected for analysis: responsible behavior, helping, and advocacy. The study, therefore, seeks to ascertain the extent to which consumers act responsibly toward the adopted behavior, assist others in adopting it, and advocate both the behavior and the firm by incorporating it into their routines. These three dimensions are assumed to capture distinct facets of customer behavior and thereby contribute to the VCC process (Yi & Gong, 2013).

Drawing on the commitment- and trust-based perspective of Relationship Marketing Theory, customer loyalty is treated as a behavioral outcome of VCC, given the influence of interactions between parties on behavioral outputs (Nakıboğlu, 2014). Consistent with the primary goal of social marketing, identifying factors that enhance individual well-being offers substantial benefits at both the personal and societal levels. Thus, customer well-being is also considered another behavioral consequence of VCC.

Customer well-being is operationalized through two sub-dimensions: (1) life satisfaction, reflecting individuals' assessments of their overall quality of life, and (2) sport life satisfaction, measuring the satisfaction derived from participation in fitness services. The relationship between these constructs and

co-creation behaviors underscore their potential to generate positive outcomes for individuals and society alike.

## **2.1. Antecedent of Value Co-Creation**

### **2.1.1. Self-Efficacy**

Ability refers to possessing the skills and confidence necessary to accomplish a task (Jones, 1986). Research on self-efficacy indicates that customer participation behaviors require not only cognitive competence but also the belief that one can enact that competence. Individuals with low self-efficacy tend to experience a stronger sense of failure in complex tasks—and sometimes even in simple ones—yet self-efficacy is widely recognized as a robust predictor of behavior (Meuter et al., 2005).

Expertise denotes the customer's accumulated knowledge about how a given product should perform and an understanding of average performance across the category (Sharma & Patterson, 2000). Expert customers are more likely to take part in the co-production process because they can better assess where and how to contribute (Prebensen & Xie, 2017). Their desire to influence service outcomes further strengthens their motivation to participate (Auh et al., 2007).

Within the service-management literature, customers are viewed as the firm's "partial employees" (McColl-Kennedy et al., 2012). In this context, customer self-efficacy plays a regulatory role in customer–firm interactions; customers with high self-efficacy are more inclined to help other customers and to share their own experiences and knowledge (Liu & Huang, 2020).

Based on these findings, the following research hypotheses are proposed:

**H1:** Self-efficacy has a significant positive effect on responsible behavior.

**H2:** Self-efficacy has a significant positive effect on advocacy behavior.

**H3:** Self-efficacy has a significant positive effect on helping behavior.

## **2.2. Consequences of Value Co-Creation**

### **2.2.1. Customer Loyalty**

Loyal customers tend to repurchase from the same service provider whenever possible, recommend the firm to others, and maintain a favorable attitude toward it (Cossío Silva et al., 2016). Because customer loyalty is strongly associated with revenue growth and the long-term prosperity of the firm, it is a critical focal point for service providers (Sweeney et al., 2015). Active customer participation in the service process creates opportunities to build relationships that reinforce loyalty and reduce the likelihood of switching to competitors (Revilla Camacho et al., 2015).

Prior research has shown that a variety of factors positively influence customer loyalty, including voluntary service participation (Bettencourt, 1997), customer to customer support (Rosenbaum & Massiah, 2007), co-production in financial services (Auh et al., 2007), service employees' encouragement of customer organizational citizenship behaviors (Bove et al., 2009), joint value creation in travel services (Grissemann & Stokburger-Sauer, 2012), value creation efforts (Sweeney et al., 2015), customer citizenship behaviors (Revilla Camacho et al., 2017), cooperative members' engagement (Yacob et al., 2018b), perceived service quality in fitness centers (Dias et al., 2019), customer participation and citizenship behaviors (Lee et al., 2019), co-creation of value (Behnam et al., 2021), and customer experience quality (Eskiler & Şafak, 2022). Collectively, these findings support the widely accepted view that co-creation behaviors are positively linked to loyalty.

Accordingly, to examine the relationship between customer behaviors and loyalty in the fitness sector, the following hypotheses are proposed:

**H4:** Responsible behavior has a significant positive effect on customer loyalty.

**H5:** Advocacy behavior has a significant positive effect on customer loyalty.

**H6:** Helping behavior has a significant positive effect on customer loyalty.

### 2.2.2. Sport Life Satisfaction

Sullivan (2004) defines the principal aim of sport marketing as satisfying the needs of sport customers through sport goods and services; accordingly, the essence of sport marketing lies in the products and services presented to customers (Sullivan, 2004; Woratschek et al., 2014). Examining satisfaction within specific life domains is crucial for researchers who wish to uncover domain-level well-being effects (Diener et al., 2009). We conceptualize sport life satisfaction as a domain-specific component of well-being that can spill over to global life satisfaction in line with domain-satisfaction accounts.

Because it involves customers' active roles in the production and delivery of services, customer participation is a multidimensional and complex construct that contributes to VCC. Prahalad and Ramaswamy (2004) position customer participation squarely within the co-creation framework, while Yacob et al., (2018a) emphasize that such interaction can foster long-term relationships among all stakeholders in service firms. Understanding customer participation is therefore a strategic imperative for fitness-sector service providers.

When customers are actively involved in service delivery, organizational socialization levels rise, enhancing perceived service quality and customer satisfaction (Claycomb et al., 2001). Empirical findings across diverse contexts—organizational fit (Jones, 1986), employee participation in services (Yim et al., 2012), customer effort (Sweeney et al., 2015), customer participation in fitness centers (Dias et al., 2019), continuous use of wearable fitness technology (Windasari et al., 2021), and customer citizenship behaviors (Tran & Vu, 2021)—all reveal significant relationships with domain satisfaction.

Based on this literature, the following hypotheses are proposed for the fitness-services context:

**H7:** Responsible behavior has a significant positive effect on sport life satisfaction.

**H8:** Advocacy behavior has a significant positive effect on sport life satisfaction.

**H9:** Helping behavior has a significant positive effect on sport life satisfaction.

### 2.2.3. Life Satisfaction

Value co-creation occurs when consumers actively engage in defining and generating value so as to enhance the total value, they derive from the consumption experience (Ramaswamy & Ozcan, 2018). Prahalad and Ramaswamy (2004) regard customer participation as a fundamental form of co-creation, noting that it allows firms to understand customer needs and wants more fully, thereby improving service performance. Although the relationship between co-creation and customer well-being has drawn increasing attention, empirical evidence remains limited (Anderson et al., 2013).

Scholars have reported positive, significant links between life satisfaction and factors such as customer citizenship behaviors (Garma & Bove, 2011), customer value-creation efforts (Sweeney et al., 2015), co-creation behaviors (Hsieh et al., 2018), employee behavior and perceived service quality (Huang & Lin, 2020), customer self-determination (Shulga & Busser, 2021), and value creation in home-based settings (Cui & Meng, 2021). These findings suggest that co-creation behaviors can contribute to consumers' subjective well-being.

Accordingly, the following hypotheses are advanced for the fitness-services setting:

**H10:** Responsible behavior has a significant positive effect on life satisfaction.

**H11:** Advocacy behavior has a significant positive effect on life satisfaction.

**H12:** Helping behavior has a significant positive effect on life satisfaction.

### 2.2.4. Sport Life Satisfaction and Life Satisfaction

Campbell et al. (1976) argue that individuals consider multiple life domains—each weighed against personal standards—when forming judgments about overall life satisfaction. However, the outcomes of social comparisons are not always consistent across studies or individuals (Diener & Suh, 1997). Positive comparisons can bolster subjective well-being, whereas unfavorable comparisons may diminish it; for example, a fitness-center member might idolize a more experienced peer or, conversely, feel inadequate and withdraw from exercise.

Marketing activities can affect both quality of life and life satisfaction (Day, 1987; Grzeskowiak & Sirgy, 2007; Cui & Meng, 2021). Research that examines consumption's impact on life satisfaction typically focuses on behaviors with positive (e.g., diet, exercise) or negative (e.g., smoking, gambling) consequences (Cui & Meng, 2021). Diener et al. (2009) note potential interrelationships among components of subjective well-being and call for investigation of how satisfaction within one domain—such as sport life—might influence overall life satisfaction. Yet only a few studies have addressed this link (Sweeney et al., 2015; Shulga & Busser, 2021).

**H13:** Sport life satisfaction has a significant positive effect on life satisfaction.

### **2.2.5. Sport Life Satisfaction and Customer Loyalty**

In the service literature, satisfaction is a cognitive-affective appraisal of the extent to which a firm meets or exceeds customer expectations, whereas customer loyalty remains a critical strategic objective (Yacob et al., 2018a). According to Oliver (1999), loyalty refers to a strong and enduring commitment to repurchase or continue using a preferred product or service in the future, even in the face of situational influences and possible changes in behavior. When firms correctly identify and satisfy customer needs, the likelihood that customers will maintain their relationship with the brand increases (Jani & Han, 2015). Consequently, ensuring customer satisfaction is a primary priority for many service organizations (Yacob et al., 2018b).

A substantial body of research documents the positive link between customer satisfaction—treated here as an aspect of well-being—and loyalty: voluntary customer roles in services (Bettencourt, 1997); partial employee roles in retail (Keh & Teo, 2001); customer–employee synergies (Grissmann & Stokburger-Sauer, 2012); social-exchange behaviors in service improvement (Choi et al., 2014); customer effort in value creation (Sweeney et al., 2015); co-creation in fitness centers (Chiu et al., 2017); online value creation in waste management (Frempong, 2018); perceived service quality in fitness centers (Dias et al., 2019); and continuous use of wearable fitness technology (Windasari et al., 2021), among others. These findings indicate that increased sport life satisfaction can strengthen customer loyalty.

**H14:** Sport life satisfaction has a significant positive effect on customer loyalty.

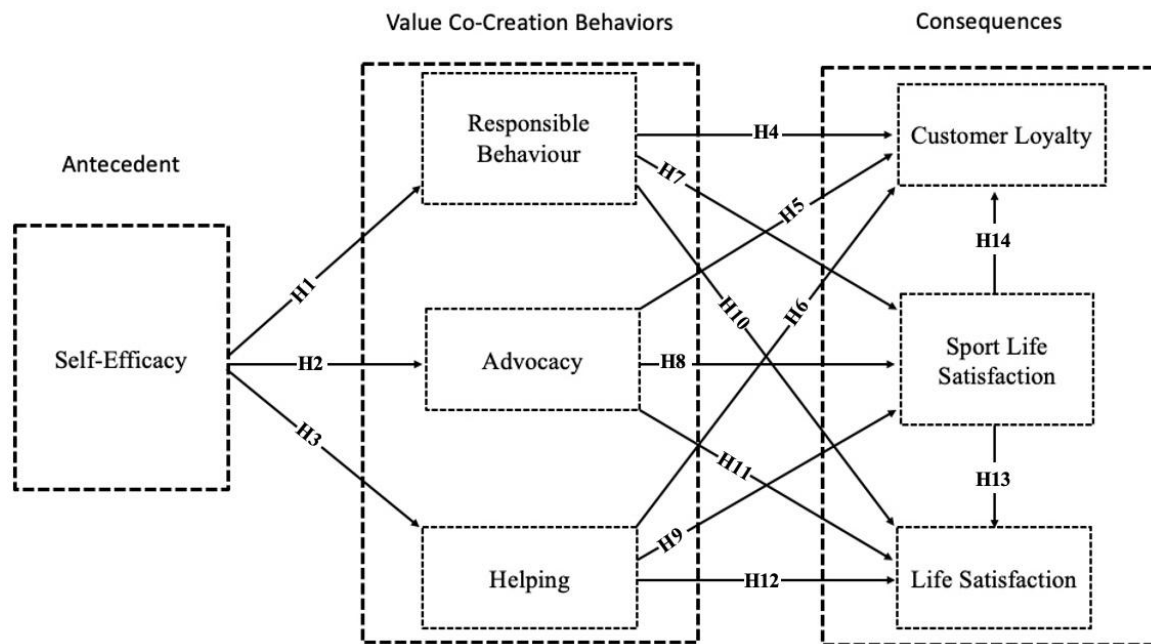
## **3. Method**

### **3.1. Purpose of the Study**

Customer value is “the perceived value of the exchange” between the benefits obtained from the goods and services offered and the sacrifices made in return for these benefits (Kanibir & Nart, 2006). With the transformation in service marketing today, customers are no longer passive recipients of the value offered; they have begun to take an active role in the VCC in line with their desires and needs. This development has transformed businesses from value providers to facilitators of value creation. The diversification of customer expectations, technological capabilities, and customer-customer interaction have made the processes of VCC more visible in the service sector. However, value is not always automatically co-created; when different stakeholders participate in the process, value definitions and expectations may also diversify. The main aim of this research is to examine and elucidate the VCC behaviors of customers in the fitness sector, the self-efficacy-based antecedent of these behaviors, and their outcomes, such as customer loyalty, sport life satisfaction and life satisfaction.

### **3.2. Research Model**

Figure 1. illustrates the conceptual framework constructed specifically for this study.

**Figure 1. Research Model**

### 3.3. Population and Sample

Drawing on Grönroos and Voima (2013), genuine value in service firms is generated across two intersecting spheres of interaction: the customer sphere and the joint sphere. In this framework, fitness providers serve as platforms that enable diverse stakeholders to integrate operant and operand resources, thereby facilitating value co-creation (VCC). Accordingly, the present study focuses on individuals in Türkiye who patronize fitness services. Evidence from participatory sport contexts likewise shows that engaging customers as co-creators improves experiential value and strengthens satisfaction- and loyalty-related outcomes (Jiang et al., 2025).

Owing to temporal and budgetary constraints, data were collected from a representative sample rather than the entire population. Because the research design incorporated exploratory factor analysis, multiple regression, and structural equation modeling, sample-size determinations conformed to established multivariate guidelines. A minimum of 200 respondents is typically recommended for factor analysis, and a common heuristic suggests securing at least ten respondents per scale item (Gürbüz & Şahin, 2018). Based on the initial 36-item instrument, the target sample size was set at approximately 360; following item diagnostics, one advocacy item was removed due to cross-loading, yielding a 35-item instrument for the CFA/SEM analyses. Our final sample of 384 therefore exceeds both the  $\geq 200$  rule of thumb and the  $\geq 10$  respondents-per-item guideline ( $\geq 350$  for 35 items).

Eligibility was limited to individuals with at least one month of fitness-service experience to ensure meaningful engagement with both facility staff and fellow members. Considering inaccessible complete membership databases and the necessity of specific participation experience, purposive sampling was employed to intentionally select respondents who best fulfilled the study's criteria (Gürbüz & Şahin, 2018).

### 3.4. Sampling Process

Prior to data collection, requisite ethical approval was secured from the Human Research Ethics Committee of Zonguldak Bülent Ecevit University (Decision No. 29809; 14 July 2020). In light of the study's objectives, anticipated sample size and questionnaire format, a structured survey instrument was deemed most appropriate for primary data collection. Due to the unavailability of comprehensive membership rosters, participants were recruited through purposive sampling at large, fully equipped fitness centers in the Turkish metropolitan regions of Istanbul, Ankara, Izmir and Eskisehir.

Eligibility criteria required at least one month of prior fitness-service engagement to ensure respondents possessed sufficient familiarity with facility operations, equipment and peer interactions. Surveys were administered in person at facility entry or exit points, thereby avoiding interference with exercise sessions; an online alternative was also provided for those who preferred digital completion.

Fieldwork was conducted between 2 August 2020 and 17 April 2021, yielding 442 returned questionnaires (Istanbul = 132; Ankara = 112; Izmir = 104; Eskisehir = 94). Following the removal of incomplete or invalid responses, the final dataset comprised 384 usable cases, thus satisfying the predetermined sample-size requirement.

### 3.5. Data Collection Instruments and Analysis

The measurement instrument comprised three sections. The first section captured demographic characteristics—gender, age, marital status, education level, membership duration, facility-usage frequency and time spent at the facility—as employed in prior research (Ferrand et al., 2010; Theodorakis et al., 2014; Chiu et al., 2015; Yousefian, 2015; Chiu et al., 2017; Lee et al., 2019; Chiu et al., 2019; Dias et al., 2019; Behnam et al., 2021). The second section consisted of 16 five-point Likert-type items assessing the three dimensions of value co-creation (VCC)—responsible behavior, advocacy and helping—and the antecedent construct of self-efficacy. The third section comprised 19 five-point Likert-type items measuring sport life satisfaction, life satisfaction and customer loyalty as outcomes of self-efficacy and VCC (total scale length = 35 items; 1 = Strongly Disagree to 5 = Strongly Agree).

**Self-Efficacy Scale:** Five items were adapted from Jones (1986) and Yim et al. (2012) to operationalize self-efficacy as an antecedent of VCC behaviors.

#### *Value Co-Creation Scale:*

- **Responsible behavior:** Four items adapted from Yi and Gong (2013).
- **Advocacy:** Three items adapted from Yi and Gong (2013), with the third advocacy item removed due to cross-loading and reliability concerns. Accordingly, Advocacy was modeled as a two-indicator latent construct; for identification we constrained the two standardized loadings to be equal and fixed the latent variance to 1.
- **Helping:** Five items adapted from Yi and Gong (2013) and Verleye et al. (2014).

**Sport Life Satisfaction Scale:** Seven items adapted from Yousefian (2015).

**Life Satisfaction Scale:** Five items from Diener et al.'s (1985) Satisfaction with Life Scale.

**Customer Loyalty Scale:** Seven items adapted from Zeithaml et al. (1996).

Scale reliability was assessed via Cronbach's alpha (Özdamar, 2015). The self-efficacy scale yielded  $\alpha = 0.88$ . For VCC dimensions,  $\alpha = 0.85$  for responsible behavior,  $\alpha = 0.88$  for advocacy (post-removal of the problematic item),  $\alpha = 0.87$  for helping and an aggregate  $\alpha = 0.85$  for the combined VCC scale. Outcome variables demonstrated  $\alpha = 0.86$  (customer loyalty),  $\alpha = 0.89$  (sport life satisfaction) and  $\alpha = 0.93$  (life satisfaction), all exceeding the  $\geq 0.70$  threshold and confirming strong internal consistency. Data analyses were conducted using IBM SPSS Statistics 25.0 for descriptive and inferential statistics and IBM SPSS Amos 24.0 for structural equation modeling. Exploratory factor analysis (EFA) was performed using principal components extraction with Varimax rotation; however, it should be noted that Principal Component Analysis (PCA) is technically different from true EFA. For strict factor analysis, Principal Axis Factoring (PAF) or Maximum Likelihood (ML) extraction would be more appropriate. In this study, the PCA results are interpreted cautiously to represent the underlying latent constructs.

## 4. Findings

### 4.1. Participants' Demographic Characteristics

Table 1 presents the demographic profile of participants (gender, age, marital status, education, membership duration, facility usage frequency, and average time per visit).

**Table 1. Distribution of Participants by Fitness Center Membership Characteristics**

		Frequency	%
<b>Gender</b>	Male	280	72.9
	Female	104	27.1
<b>Age</b>	≤19	40	10.4
	20–29	211	54.9
	30–39	96	25.0
	≥40	37	9.6
<b>Marital Status</b>	Married	90	23.4
	Single	294	76.6
<b>Education Level</b>	High School	67	17.4
	Associate Degree	75	19.5
	Bachelor's Degree	197	51.3
	Graduate Degree	45	11.7
<b>Fitness Center Membership Duration</b>	1-6 months	59	15.4
	7-11 months	61	15.9
	1-1.5 years	55	14.3
	More than 1.5 years	209	54.4
<b>Frequency of Fitness Center Usage</b>	Once a week	10	2.6
	2 times a week	27	7.0
	3 times a week	98	25.5
	4 times or more	249	64.8
<b>Duration of Fitness Center Use</b>	Less than 1 hour	24	6.3
	Between 1 and 2 hours	294	76.6
	Between 2 and 3 hours	53	13.8
	3 hours or more	13	3.4
<b>Total</b>		<b>384</b>	<b>100</b>

An examination of the participants' overall profiles revealed that 72.9 % were male, 54.9 % were between 20 and 29 years of age, 76.6 % were single, and 51.3 % held a bachelor's degree. Regarding fitness-center membership characteristics, 54.4 % had been members for more than 1.5 years, 64.8 % used the facility four times per week or more, and 76.6 % typically spent between one and two hours per visit.

#### 4.2. Measurement-Model Findings

The research model comprises three sets of constructs: the antecedent “self-efficacy”; the co-creation behaviors “responsible behavior, advocacy, and helping”; and the behavioral outcomes “sport life satisfaction, life satisfaction, and customer loyalty”. Reliability and validity were assessed through exploratory and confirmatory factor analyses (EFA and CFA), and Cronbach's alpha coefficients were subsequently calculated.

Prior to factor extraction, sample adequacy and data suitability were verified via the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity (Field, 2000). The KMO value exceeded the recommended 0.70 threshold, indicating that the correlation matrix was appropriate for factor analysis (Altunışık et al., 2012). Exploratory dimensionality was examined with principal components analysis (PCA) using Varimax rotation (Kaiser normalization); because PCA is not a common-factor EFA, these results were used only to screen dimensionality, and the latent structure was subsequently evaluated with CFA. The analysis returned significant KMO and Bartlett statistics and showed that the total variance explained surpassed 50 % for every scale, confirming that the items accounted for more than half of the constructs' variance and possessed strong representational power (Yaşlıoğlu, 2017). All communalities were above 0.40 (Field, 2000). In the CFA, most factor loadings exceeded the 0.50 guideline and were significant ( $p < 0.001$ ), while two SLS items (SLS1 = 0.43; SLS3 = 0.46) were slightly below 0.50 but retained for content coverage and acceptable measurement properties. In the exploratory stage (PCA with Varimax), loadings were at acceptable levels. Detailed statistics are presented in Table 2.

**Table 2. Measurement-Model Results**

Structure	EFA Factor Load	CFA Factor Load	C	E	EV (%)	$\alpha$
Antecedent of Value Co-Creation (KMO=0.87; $\chi^2$ =1035.88; df= 10; P<0.001)						
Self-Efficacy						
SE1	0.84	0.79	0.70	3.42	68.43	0.88
SE2	0.90	0.90	0.81			
SE3	0.86	0.84	0.74			
SE4	0.75	0.66	0.57			
SE5	0.77	0.69	0.59			
Value Co-Creation Behaviors (KMO=0.82; $\chi^2$ =2210.80; df= 55; P<0.001)						
Responsible Behavior						
RB1	0.83	0.72	0.69	4.51	41.01	0.85
RB2	0.86	0.78	0.76			
RB3	0.85	0.75	0.74			
RB4	0.71	0.62	0.61			
Advocacy						
AD1	0.89	0.88	0.78	2.15	19.61	0.88
AD2	0.91	0.88	0.78			
Helping						
HE1	0.77	0.66	0.68	1.35	12.30	0.87
HE2	0.82	0.69	0.72			
HE3	0.86	0.76	0.78			
HE4	0.79	0.64	0.68			
HE5	0.77	0.64	0.68			
Consequences of Value Co-Creation (KMO=0.91; $\chi^2$ =4724.45; df= 171; P<0.001)						
Sport Life Satisfaction						
SLS1	0.52	0.43	0.53	7.75	40.77	0.86
SLS2	0.69	0.54	0.66			
SLS3	0.63	0.46	0.58			
SLS4	0.81	0.71	0.75			
SLS5	0.84	0.75	0.76			
SLS6	0.78	0.63	0.66			
SLS7	0.71	0.58	0.58			
Life Satisfaction						
LS1	0.74	0.65	0.65	2.70	17.19	0.89
LS2	0.82	0.73	0.76			
LS3	0.86	0.78	0.79			
LS4	0.84	0.75	0.77			
LS5	0.79	0.65	0.69			
Customer Loyalty						
CL1	0.78	0.72	0.78	2.13	11.22	0.93
CL2	0.87	0.82	0.85			
CL3	0.75	0.65	0.73			
CL4	0.84	0.78	0.82			
CL5	0.82	0.72	0.79			
CL6	0.72	0.58	0.68			
CL7	0.76	0.65	0.75			
C= Communality; E= Eigenvalue; EV=Explained Variance; $\alpha$ = Cronbach's Alfa; $\chi^2$ (chi-square), Bartlett.						

C= Communality; E= Eigenvalue; EV=Explained Variance;  $\alpha$ = Cronbach's Alfa;  $\chi^2$  (chi-square), Bartlett.

A confirmatory factor analysis (CFA) was performed to assess how well the proposed seven-factor measurement model fit the observed data (Çokluk et al., 2010; Hair et al., 2014). The resulting goodness-of-fit indices are reported in Table 3.

**Table 3. Goodness-of-Fit Indices of the Measurement Model**

Fit Index	Good Fit	Acceptable Fit	Obtained Value	Sources
Chi-Square / Degrees of Freedom ( $\chi^2/df$ )	$\leq 3$	$\leq 4-5$	<b>2.06</b>	Byrne (2012)
Root Mean Square Error of Approximation (RMSEA)	$\leq 0.05$	<b>0.06–0.10</b>	<b>0.05</b>	Browne & Cudeck (1992); Hu & Bentler (1998)
Standardized Root Mean Square Residual (SRMR)	$\leq 0.05$	<b>0.06–0.10</b>	<b>0.06</b>	
Comparative Fit Index (CFI)	$\geq 0.95$	<b>0.90–0.94</b>	<b>0.94</b>	McDonald & Marsh (1990)
Incremental Fit Index (IFI)	$\geq 0.95$	<b>0.90–0.94</b>	<b>0.94</b>	Bollen (1989)
Goodness of Fit Index (GFI)	$\geq 0.90$	<b>0.85–0.89</b>	<b>0.86</b>	Tanaka & Huba (1985); Jöreskog & Sörbom (1993)
Adjusted Goodness of Fit Index (AGFI)	$\geq 0.90$	<b>0.80–0.89</b>	<b>0.84</b>	

An inspection of Table 3 reveals that some indices indicate a good fit ( $\chi^2/df = 2.06$ ; RMSEA = 0.05), whereas others fall within the acceptable range (SRMR = 0.06; CFI = 0.94; IFI = 0.94; GFI = 0.86; AGFI = 0.84). Collectively, these statistics show that the measurement model fits the data at an acceptable level. Composite reliability (CR) and average variance extracted (AVE) were subsequently calculated for each construct; values above 0.70 for CR and 0.50 for AVE are commonly viewed as evidence of satisfactory internal consistency and convergent validity (Malhotra & Dash, 2011). The CR and AVE results are reported in Table 4. Because Advocacy was retained with two indicators after one item was dropped due to cross-loading, we imposed an equal-loading constraint for identification and fixed the latent variance to 1. Both indicators showed substantial and significant loadings ( $p < 0.001$ ).

**Table 4. Composite Reliability (CR) and Average Variance Extracted (AVE) Values**

	CR	AVE	MSV	MaxR(H)	SE	RB	AD	HE	SLS	LS	CL
<b>SE</b>	0.886	0.612	0.261	0.910	0.783*						
<b>RB</b>	0.861	0.609	0.266	0.872	0.511***	0.780*					
<b>AD</b>	0.877	0.781	0.594	0.877	0.311***	0.395***	0.884*				
<b>HE</b>	0.861	0.555	0.165	0.872	0.347***	0.332***	0.365***	0.745*			
<b>SLS</b>	0.873	0.501	0.287	0.901	0.451***	0.516***	0.522***	0.407***	0.708*		
<b>LS</b>	0.888	0.615	0.188	0.903	0.358***	0.250***	0.361***	0.208***	0.255***	0.784*	
<b>CL</b>	0.927	0.646	0.594	0.941	0.268***	0.347***	0.771***	0.375***	0.535***	0.433***	0.804*

\*\*\* $p < 0.001$ ; MaxR(H) = Maximal H Reliability; MSV = Maximum Shared Variance; \* $\sqrt{AVE}$

In order to ensure discriminant validity, the square root of the AVE value of each construct is expected to be higher than the correlation coefficients of that construct with other constructs (Hair et al., 2014). The findings presented in Table 4 show that this condition is met for all variables.

In addition, within the scope of the measurement-model validity criteria proposed by Fornell and Larcker (1981) and Hu and Bentler (1999), convergent validity was supported because AVE values met the 0.50 guideline and factor loadings in the CFA were significant ( $p < 0.001$ ). For discriminant validity, the Fornell–Larcker conditions were satisfied, with  $MSV < AVE$  for all constructs and the square roots of AVE exceeding the corresponding inter-construct correlations. MaxR(H) exceeded CR as expected for a maximal-reliability index; this pertains to reliability rather than discriminant validity. In line with these findings, the model demonstrates both convergent and discriminant validity.

Additionally, we computed heterotrait–monotrait (HTMT) ratios (Henseler et al., 2015); the values ranged from 0.225 to 0.759 and, as shown in Table 5, were below both the 0.85 and 0.90 thresholds.

**Table 5. Heterotrait–Monotrait (HTMT) Ratios Among Constructs**

Variables	SE	RB	AD	HE	SLS	LS	CL
SE	-						
RB	0.543	-					
AD	0.318	0.424	-				
HE	0.333	0.352	0.364	-			
SLS	0.479	0.511	0.546	0.429	-		
LS	0.369	0.283	0.381	0.225	0.335	-	
CL	0.294	0.388	0.759	0.349	0.576	0.456	-

Within the scope of the study, Pearson correlation coefficients were analyzed to determine the relationships between the variables obtained with the measurement tools. The correlation values obtained are presented in Table 6.

**Table 6. Pearson Correlation Coefficients between Variables**

	Variables	Mean	SD	1.	2.	3.	4.	5.	6.	7.
1.	Self-Efficacy	20.82	4.36	1						
2.	Responsible Behavior	17.90	2.72	.472**	1					
3.	Advocacy	8.41	2.11	.277**	.368**	1				
4.	Helping	20.66	4.75	.291**	.303**	.321**	1			
5.	Sport Life Satisfaction	31.48	4.07	.412**	.436**	.475**	.376**	1		
6.	Customer Loyalty	28.64	6.45	.267**	.348**	.681**	.318**	.517**	1	
7.	Life Satisfaction	17.95	4.92	.321**	.244**	.334**	.197**	.289**	.415**	1

\*\*p<0.01

Table 6 reveals statistically significant and positive associations between life satisfaction, loyalty and sport life satisfaction variables and self-efficacy, responsible behavior, advocacy and helping. Life satisfaction shows a low and moderate positive relationship with these variables; the strongest relationship was observed with loyalty ( $r=0.415$ ;  $p<0.01$ ). Similarly, the loyalty variable shows moderate positive relationships with advocacy ( $r=0.681$ ;  $p<0.01$ ) and sport life satisfaction ( $r=0.517$ ;  $p<0.01$ ). Sport life satisfaction shows moderate and significant positive correlations with all co-creation behaviors (self-efficacy, responsible behavior, advocacy and helping). These findings suggest that VCC behaviors are significantly associated with positive individual outcomes.

To assess the extent to which the variables conformed to the assumption of univariate normality, skewness and kurtosis statistics (and their standard errors, SE) were examined. The findings presented in Table 7 show that all variables satisfy commonly used thresholds—skewness within  $\pm 3$  and kurtosis within  $\pm 10$  (Kline, 2011), indicating that the univariate normality assumption is tenable.

**Table 7. Skewness and Kurtosis Statistics and Standard Errors for Variables**

Variables	Skewness		Kurtosis	
	Statistic	SE	Statistic	SE
Self-Efficacy	-1.01	0.12	0.51	0.25
Responsible Behavior	-1.78	0.12	4.34	0.25
Advocacy	-1.40	0.12	1.27	0.25
Helping	-1.07	0.12	0.39	0.25
Sport Life Satisfaction	-1.55	0.12	3.65	0.25
Customer Loyalty	-1.17	0.12	0.90	0.25
Life Satisfaction	-0.27	0.12	-0.74	0.25

Variance inflation factors (VIF) and tolerance values (TV) were calculated to determine the multicollinearity problem at the construct level (based on composite mean scores). The threshold values indicating the presence of multicollinearity problem are accepted as  $VIF \geq 10$  and  $TV \leq 0.10$  (Çokluk et al., 2010). The values obtained as a result of the analysis ( $1.24 \leq VIF \leq 2.19$  and  $0.46 \leq TV \leq 0.80$ ) revealed that there is no multicollinearity problem among the variables.

To assess whether the data adhered to multivariate normality, the study employed Mardia's standardized multivariate kurtosis index. Since the standardized kurtosis value (105.04) calculated in the analysis was

above the recommended threshold value (8), it was determined that the assumption of multivariate normal distribution was not met (Yılmaz & Varol, 2015). Accordingly, overall model fit under non-normality was assessed in AMOS using the Bollen–Stine bootstrap (Bollen & Stine, 1992) with 1,000 resamples, yielding a non-significant result ( $p > 0.05$ ).

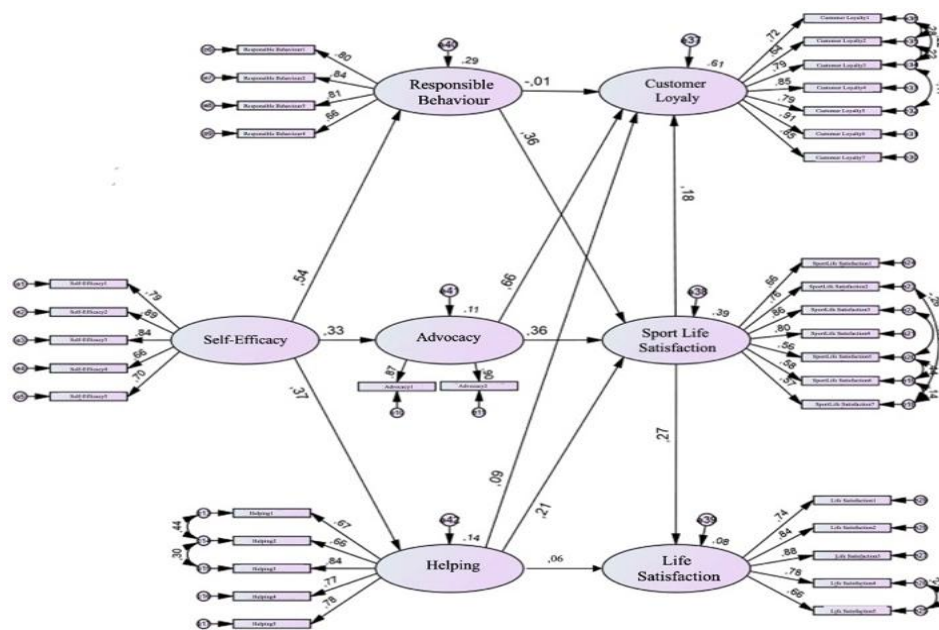
Bootstrapping resamples the observed dataset with replacement to create new samples of the same size as the original; increasing the number of resamples improves the stability of standard errors and confidence intervals (MacKinnon, 2008). In the literature, the bootstrap method is widely used in social sciences (Ranjan & Read, 2016; Bartikowski & Walsh, 2011; Inoue et al., 2017; Aishah & Shaari, 2017; Yacob et al., 2018a, Yacob et al., 2018b; Satıcı & Deniz, 2019; Behnam et al., 2021).

Accordingly, in the current study, 1000 bootstrap samples were created, and bootstrap coefficients and confidence intervals were calculated. The significance of the analyzed effects was evaluated according to the condition that neither limit of the bootstrapped confidence intervals includes zero (Hayes, 2013; Shrout & Bolger, 2002).

#### 4.3. Findings Regarding the Structural Model

In the structural model presented in Figure 2, “self-efficacy” is exogenous, and “responsible behavior, advocacy, helping, sport life satisfaction, life satisfaction and loyalty” variables are endogenous. Examination of the model highlights that “self-efficacy” has significant effects on “responsible behavior, advocacy and helping, and these variables have significant effects on life satisfaction, sport life satisfaction and loyalty”. Furthermore, the results confirmed that “sport life satisfaction” was also effective on “life satisfaction and loyalty”.

**Figure 2. Path Diagram of the Structural Model**



When the explanatory level of the model is examined; 29% ( $R^2=0.29$ ) for responsible behavior, 11% ( $R^2=0.11$ ) for advocacy, 14% ( $R^2=0.14$ ) for helping, 61% ( $R^2=0.61$ ) for loyalty, 39% ( $R^2=0.39$ ) for sport life satisfaction and 8% ( $R^2=0.08$ ) for life satisfaction. These findings show that the proposed model reveals the structural relationships between the variables in a significant and statistically strong manner.

In order to evaluate the general validity of the structural model, the goodness of fit values for the path analysis were examined. According to the findings, it is seen that the chi-square fit coefficient ( $\chi^2/sd = 2.26$ ) is at a good fit level, and the other fit indices (RMSEA = 0.05; SRMR = 0.06; CFI = 0.94; IFI = 0.94; GFI = 0.86; AGFI = 0.86) are within acceptable limits. The findings indicate that the model's structural linkages align with the empirical data from the sample, thereby affirming its overall validity. Additionally, the Bollen–Stine bootstrap was non-significant ( $p > 0.05$ ), supporting overall structural-model fit under non-normality. After the reliability of the structural model was verified, the hypotheses

were tested and the standardized path coefficients, standard errors, 95% confidence intervals and significance values for the model are reported in Table 8.

**Table 8. Statistical Values for the Tested Structural Model**

Hypothesis		$\beta$	Standard Error	95% Confidence Interval		p- value	Results
				Lower	Upper		
H1	SE→RB	0.54**	0.05	0.41	0.65	0.002	Supported
H2	SE→AD	0.33*	0.07	0.22	0.45	0.001	Supported
H3	SE→HE	0.37*	0.06	0.26	0.49	0.001	Supported
H4	RB→CL	-0.01	0.06	-0.15	0.12	0.836	Not Supported
H5	AD→CL	0.66*	0.05	0.54	0.79	0.001	Supported
H6	HE→CL	0.09	0.05	-0.03	0.21	0.129	Not Supported
H7	RB→SLS	0.36**	0.04	0.18	0.51	0.002	Supported
H8	AD→SLS	0.36**	0.03	0.22	0.49	0.002	Supported
H9	HE→SLS	0.21*	0.03	0.08	0.35	0.001	Supported
H10	RB→LS	0.10*	0.03	0.05	0.18	0.001	Supported
H11	AD→LS	0.10*	0.03	0.05	0.18	0.001	Supported
H12	HE→LS	0.06*	0.02	0.03	0.12	0.001	Supported
H13	SLS→LS	0.27**	0.09	0.17	0.40	0.002	Supported
H14	SLS→CL	0.18**	0.11	0.05	0.31	0.006	Supported

\*  $p < 0.001$ ; \*\*  $p < 0.01$ ;  $\beta$ =Standardized Coefficients

When the direct effects in Table 8 are examined, self-efficacy has positive and significant effects on responsible behavior ( $\beta=0.54$ ;  $p < 0.01$ ), advocacy ( $\beta=0.33$ ;  $p < 0.001$ ) and helping ( $\beta=0.37$ ;  $p < 0.001$ ) (H1, H2 and H3 are accepted). Regarding customer loyalty, only advocacy showed a significant positive effect ( $\beta=0.66$ ;  $p < 0.001$ ), whereas the effects of responsible behavior ( $\beta=-0.01$ ;  $p > 0.05$ ) and helping ( $\beta=0.09$ ;  $p > 0.05$ ) were not significant; thus, H5 was supported while H4 and H6 were rejected. This pattern is consistent with recent fitness-center evidence in which customer citizenship/advocacy behavior emerges as a robust predictor of loyalty, whereas other participation forms often show weaker or non-significant links (Rana et al., 2023; Nguyen, 2024).

Responsible behavior ( $\beta=0.36$ ;  $p < 0.01$ ), advocacy ( $\beta=0.36$ ;  $p < 0.01$ ) and helping ( $\beta=0.21$ ;  $p < 0.01$ ) had positive and significant effects on sport life satisfaction (H7, H8 and H9 accepted). Similarly, the effects of responsible behavior ( $\beta=0.10$ ;  $p < 0.01$ ), advocacy ( $\beta=0.10$ ;  $p < 0.01$ ) and helping ( $\beta=0.06$ ;  $p < 0.01$ ) on life satisfaction were positive and significant (H10, H11 and H12 were accepted).

Finally, sport life satisfaction has significant and positive effects on loyalty ( $\beta=0.18$ ;  $p < 0.01$ ) and life satisfaction ( $\beta=0.27$ ;  $p < 0.01$ ) (H13 and H14 are accepted). These results reveal that the relationships in the proposed model are mostly significant.

## 5. Discussion and Conclusion

The findings of this study reveal that men utilize fitness center services more intensively than women, and that single individuals aged 20–29 with a bachelor's degree also exhibit higher levels of participation. Additionally, participants with memberships exceeding 1.5 years generally use the facility four or more times per week for durations of one to two hours.

Analysis of the direct effects and hypotheses in the research model indicates that self-efficacy exerts a positive and significant effect on responsible behavior (H1:  $\beta = 0.54$ ,  $p < 0.01$ ), advocacy (H2:  $\beta = 0.33$ ,  $p < 0.001$ ), and helping behavior (H3:  $\beta = 0.37$ ,  $p < 0.001$ ). These results demonstrate that self-efficacy significantly predicts value co-creation behaviors, consistent with previous research examining the link between self-efficacy and participative behaviors (Sharma & Patterson, 2000; Auh et al., 2007; Yi & Gong, 2008; Chen & Wu, 2014; Yousefian, 2015; Windasari et al., 2021). Thus, enhanced perceptions of self-efficacy among fitness center members are associated with greater engagement in responsible, advocacy, and helping behaviors.

With respect to the relationship between co-creation behaviors and customer loyalty, responsible behavior (H4:  $\beta = -0.01$ ,  $p > 0.05$ ) was found to have a negative and non-significant effect, advocacy (H5:  $\beta = 0.66$ ,  $p < 0.001$ ) demonstrated a positive and significant effect, and helping behavior (H6:  $\beta = 0.09$ ,  $p > 0.05$ ) had a positive but non-significant effect. This suggests that only advocacy behavior significantly enhances customer loyalty, which corroborates findings from previous studies (Bartikowski & Walsh, 2011; Theodorakis et al., 2014; Yousefian, 2015; Frempong, 2018; Chiu et al., 2019; Behnam et al., 2021). Converging evidence shows that not all co-creation behaviors are equally effective for downstream outcomes; some dimensions fail to meet necessary conditions for outcomes such as brand love or loyalty, which mirrors our non-significant paths for responsible behavior and helping (Wu, 2025).

Regarding sport life satisfaction, responsible behavior (H7:  $\beta = 0.36$ ,  $p < 0.01$ ), advocacy (H8:  $\beta = 0.36$ ,  $p < 0.01$ ), and helping behavior (H9:  $\beta = 0.21$ ,  $p < 0.01$ ) each exerted positive and significant effects. These results indicate that value co-creation behaviors positively influence members' perceptions of sport life satisfaction, supporting prior research in this domain (Jones, 1986; Yim et al., 2012; Yousefian, 2015; Sweeney et al., 2015; Dias et al., 2019; Tran & Vu, 2021; Windasari et al., 2021).

Similarly, responsible behavior (H10:  $\beta = 0.10$ ,  $p < 0.01$ ), advocacy (H11:  $\beta = 0.10$ ,  $p < 0.01$ ), and helping behavior (H12:  $\beta = 0.60$ ,  $p < 0.01$ ) were all found to have positive and significant effects on overall life satisfaction. Thus, value co-creation behaviors contribute positively to members' perceptions of well-being, in line with extant literature (Garma & Bove, 2011; Sweeney et al., 2015; Hsieh et al., 2018; Huang & Lin, 2020; Shulga & Busser, 2021; Cui & Meng, 2021). Recent work suggests that distinct co-creation forms may map onto different value pathways—participation shaping cognitive value whereas citizenship fuels affective responses—which helps explain why advocacy most strongly relates to loyalty in our model (Xie et al., 2020; Zhang & Prebensen, 2025).

The analysis further revealed that sport life satisfaction has a positive and significant effect on overall life satisfaction (H13:  $\beta = 0.27$ ,  $p < 0.01$ ) and positively influences customer loyalty (H14:  $\beta = 0.18$ ,  $p < 0.01$ ). These findings are congruent with previous research linking service-specific satisfaction to broader life satisfaction and loyalty outcomes (Diener et al., 2009; Bettencourt, 1997; Keh & Teo, 2001; Grisseman & Stokburger-Sauer, 2012; Choi et al., 2014; Sweeney et al., 2015; Chiu et al., 2017; Frempong, 2018; Dias et al., 2019; Windasari et al., 2021). Related sports-event research similarly reports that value co-creation enhances participants' satisfaction and loyalty intentions, underscoring the transferability of these mechanisms to fitness services (Jiang et al., 2025).

The analysis indicates that value co-creation behavior and sport life satisfaction positively influence customer loyalty and life satisfaction. Accordingly, fitness centers should be positioned not merely as leisure venues but as lifestyle hubs that foster ongoing engagement. These environments support skill development, facilitate peer interaction, and encourage collaboration between staff and customers, which in turn strengthens loyalty and well-being.

Demographic and psychographic variables also emerged as influential in shaping participation and behavior patterns, particularly as technology access increases and behavioral trends evolve. The path analysis demonstrated that the structural model accounted for 29% of the variance in responsible behavior ( $R^2 = 0.29$ ), 11% in advocacy ( $R^2 = 0.11$ ), 14% in helping behavior ( $R^2 = 0.14$ ), 61% in loyalty ( $R^2 = 0.61$ ), 39% in sport life satisfaction ( $R^2 = 0.39$ ), and 8% in life satisfaction ( $R^2 = 0.08$ ).

In summary, the model explained 61% of the variance in customer loyalty, 39% in sport life satisfaction, and 8% in life satisfaction; and 29%, 11%, and 14% of the variance in responsible behavior, advocacy, and helping, respectively. By identifying both direct and indirect antecedents (most notably self-efficacy) this research contributes to the broader literature on customer well-being and value co-creation in fitness services.

## 6. Limitations of the Study and Recommendations

This study has several limitations that should be acknowledged. First, the research was conducted with participants who were members of a fitness center and who had attended regularly for at least one month. Furthermore, due to the inability to access the membership databases of the selected fitness centers, data were collected from centers located in Istanbul, Ankara, Izmir, and Eskisehir provinces, each with a

minimum of 1.000 active members. The fitness centers were selected through purposive sampling by the researcher based on their suitability for the study objectives. Consequently, the sample may not fully represent the broader population of fitness center users, thereby limiting the generalizability and external validity of the findings. As the Advocacy construct was measured with two indicators, parameter stability may be lower than for constructs with three or more indicators; future research should enrich this dimension with additional items. Future studies should also test digitally mediated co-creation (e.g., live-streaming or AI-streamer encounters), which can differentially shape cognitive versus affective value and downstream outcomes (Zhang & Prebensen, 2025).

In addition, while the literature identifies multiple potential antecedents of value co-creation behaviors, only one precursor was examined in this study due to time and budgetary constraints. Likewise, only three out of the eight dimensions identified in Yi and Gong's (2013) "customer value co-creation behavior scale" were utilized. The lengthy questionnaire and the possibility of low participant engagement or incomplete responses, particularly among fitness center customers, may also have impacted data collection.

Based on these limitations, several recommendations can be made for future research. First, this study was conducted across independently operating fitness centers; thus, future studies may compare practices across different centers to provide more robust insights. Second, the present study did not investigate the effects of demographic or psychographic variables on value co-creation behaviors, customer well-being, or loyalty areas that merit attention in subsequent research. Comparative analyses across Turkish consumer segments would be informative, given emerging evidence that segment characteristics condition well-being and loyalty relationships (Uslu & Tosun, 2024). Third, only self-efficacy was included as an antecedent of value co-creation; future studies could expand the model to incorporate additional precursors such as role clarity and motivation. Fourth, negative outcomes associated with value co-creation, such as customer complaints and negative word-of-mouth, should also be explored. Fifth, with the evolving landscape of the fitness industry, there is a need for further research on new trends such as wearable fitness technologies and the adoption of High-Intensity Interval Training (HIIT) programs among time-constrained customers. Studies focusing on the attitudes and behaviors of these customer segments would contribute to the literature.

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**Araştırma Makalesi****An Investigation into the Antecedent and Consequences of Value Co-Creation in Fitness Services***Fitness Hizmetlerinde Değeri Birlikte Yaratmanın Öncülü ve Sonuçları Üzerine Bir Araştırma*

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**Genişletilmiş Özet****Giriş**

Fitness ve spor hizmetleri, küresel ölçekte olduğu gibi Türkiye’de de hızla büyüyen bir alan hâline gelmiştir. Avrupa pazar büyüklüğünün 2019’da 27.2 milyar avroya ulaşması ve aynı dönemde Türkiye’de üyeliklerin 1.83 milyondan 2.10 milyona yükselmesi, sektörün dinamiklerini belirgin biçimde değiştirmiştir. Covid-19 yıllarında (2020–2022) yaşanan geçici daralmaya karşın, Türkiye’de fitness merkezi üyelikleri ve kullanım sıklığı genel eğilim olarak artmayı sürdürmüştür. Bu dönüşüm, işletmelerin müşteri davranışlarına uyum sağlayabilmesi, sadakati güçlendirebilmesi ve müşterilerle birlikte değer üretimini (value co-creation, VCC) yönetebilmesini stratejik bir gereklilik hâline getirmiştir. Hizmet pazarlaması yazınında müşterilerin yalnızca “tüketen” değil, aynı zamanda hizmet üretimine katkı veren “kısmi çalışanlar” olduğu vurgulanır. Bu çalışma, fitness bağlamında VCC davranışlarının nasıl ortaya çıktığını ve müşteri sadakati ile müşterinin iyilik hâline (spor yaşam memnuniyeti ve genel yaşam doyumu) etkilerini incelemekte; öz-yeterliği VCC davranışlarının psikolojik bir öncülü olarak ele almaktadır.

**Kavramsal Çerçeve ve Hipotezler**

VCC, müşterinin bilgi paylaşımı, sorumluluk alma, başkalarına yardımcı olma ve işletmeyi savunma gibi eylemlerle hizmet sürecine etkin katılımını ifade eder. Yi ve Gong’un tipolojisi temel alınarak, bu çalışmada VCC’nin sekiz alt boyutundan üçü—sorumlu davranış, savunuculuk ve yardımcı olma—modele dâhil edilmiştir. Sorumlu davranış, müşterinin hizmetten yararlanırken üzerine düşeni yerine getirmesini; savunuculuk, işletmeyi başkalarına önermesini ve olumlu şekilde savunmasını; yardımcı olma ise diğer üyelere destek sunmasını kapsar. Sosyal Öğrenme Teorisi çerçevesinde öz-yeterliğin (bireyin bir görevi başarabileceğine ilişkin inancı) bu VCC davranışlarını olumlu etkilediği öngörülmüştür. Buna göre hipotezler, öz-yeterliğin üç VCC boyutu üzerinde pozitif etkileri olacağı; VCC’nin müşteri sadakati, spor yaşam memnuniyeti ve yaşam doyumu üzerinde olumlu sonuçlar doğuracağı; ayrıca spor yaşam memnuniyetinin hem yaşam doyumunu hem de müşteri sadakatini destekleyeceği yönünde kurulmuştur.

**Yöntem**

Araştırma nicel tasarımıyla yürütülmüş, Türkiye’nin büyük şehirlerindeki (İstanbul, Ankara, İzmir, Eskişehir) geniş ölçekli fitness merkezlerinde (en az 1.000 aktif üye) sahada uygulanmıştır. Pandemi koşulları ve örnekleme erişim kısıtları nedeniyle amaca yönelik örnekleme tercih edilmiştir. 2 Ağustos

2020–17 Nisan 2021 tarihleri arasında 442 anket toplanmış, uygunluk kontrolleri sonrası 384 anket analiz edilmiştir. Katılımcıların %72.9'u erkek, %27.1'i kadın; %54.9'u 20–29 yaş aralığındadır. Bekâr oranı %76.6; lisans mezunu oranı %51.3'tür. Üyelik süresi 1.5 yıldan uzun olanlar %54.4; haftada dört veya daha fazla ziyaret edenler %64.8'dir. Bu profil, yoğun kullanım ve genç-eğitilmiş bir üye kitlesine işaret etmektedir.

Ölçümler üç bölümde toplanmıştır. Demografik ve davranışsal soruların ardından, öz-yeterlik (5 madde; önceki çalışmalardan uyarlanmıştır) ve VCC davranışları ölçekleri yer almıştır: sorumlu davranış (4 madde), savunuculuk (2 madde; üçüncü madde çapraz yükleme nedeniyle elenmiştir) ve yardımcı olma (5 madde). Son bölümde spor yaşam memnuniyeti (7 madde), yaşam doyumu (5 madde) ve müşteri sadakati (7 madde) 5'li Likert ile ölçülmüştür. Güvenilirlik analizlerinde tüm alt ölçeklerde Cronbach's alfa katsayıları eşik değer olan 0.70'in üzerindedir: öz-yeterlik  $\alpha=0.88$ ; sorumlu davranış  $\alpha=0.85$ ; savunuculuk  $\alpha=0.88$ ; yardımcı olma  $\alpha=0.87$ ; müşteri sadakati  $\alpha=0.86$ ; spor yaşam memnuniyeti  $\alpha=0.89$ ; yaşam doyumu  $\alpha=0.93$ .

Veri analizi IBM SPSS 25.0 ve AMOS 24.0 ile yürütülmüştür. Önce açımlayıcı faktör analizi (AFA), ardından doğrulayıcı faktör analizi (DFA) uygulanmıştır. KMO değerleri öz-yeterlik için 0.87; VCC için 0.82; sonuç değişkenleri için 0.91'dir; Bartlett testleri anlamlıdır. Açıklanan varyans oranları her bir yapıda %50'nin üzerindedir. DFA'da faktör yüklerinin çoğu 0.50'nin üzerindedir; spor yaşam memnuniyetindeki iki madde 0.50'nin biraz altında kalmasına rağmen içerik geçerliliği gerekçesiyle korunmuştur. Normallik varsayımındaki sapmalar nedeniyle Bollen–Stine bootstrap (1.000 tekrar) kullanılmış, yapısal eşitlik modeli (YEM) ile hipotezler sınanmıştır. Uyum iyiliği değerleri kabul edilebilir düzeydedir:  $\chi^2/sd=2.26$ ; RMSEA=0.05; SRMR=0.06; CFI=0.94; GFI=0.86; AGFI=0.86.

## Bulgular

Modelde öz-yeterlik ile VCC davranışları arasında beklenen yönde pozitif ilişkiler bulunmuştur: öz-yeterlik arttıkça üyelerin sorumlu davranış sergileme, diğer üyelere yardımcı olma ve işletmeyi savunma eğilimleri yükselmektedir. Sonuç değişkenlerinde farklılaşan bir tablo görülmüştür. Müşteri sadakati üzerinde anlamlı ve en güçlü etki savunuculuk davranışına aittir; sorumlu davranış ve yardımcı olma değişkenlerinin sadakat üzerindeki etkileri anlamlı bulunmamıştır. Buna karşılık, üç VCC boyutunun tamamı spor yaşam memnuniyeti ve genel yaşam doyumu üzerinde pozitif etkilere sahiptir. Ayrıca spor yaşam memnuniyeti hem genel yaşam doyumunu hem de müşteri sadakatini anlamlı biçimde artırmaktadır. Açıklanan varyanslar sırasıyla müşteri sadakati için %61, spor yaşam memnuniyeti için %39, yaşam doyumu için %8'dir. Bu değerler, modelin özellikle sadakati ve spor yaşam memnuniyetini açıklamada güçlü bir performans sergilediğini göstermektedir.

## Tartışma

Bulgular, fitness merkezlerinin yalnızca egzersiz yapılan alanlar değil, aynı zamanda sosyal etkileşimin ve birlikte değer üretiminin gerçekleştiği ortamlar olduğunu doğrulamaktadır. Öz-yeterliği yüksek bireylerin VCC davranışlarını daha fazla sergilemesi, hizmet sürecinin kalitesini yukarı çekerken üyeler arası etkileşimi de zenginleştirir. Bununla birlikte, “her katılım davranışı aynı sonucu üretmez”: Savunuculuk sadakat için kilit kaldıraçtır; sorumlu davranış ve yardımcı olma daha çok bireysel iyilik hâline (spor yaşam memnuniyeti ve yaşam doyumu) katkı sağlar. Bu ayrışma, yönetsel olarak odaklanılması gereken önceliklerin farklılaştığını gösterir. Sadakati büyütmek isteyen işletmeler savunuculuğu tetikleyen uygulamalara ağırlık vermelidir; müşterilerin mutluluğunu ve deneyim kalitesini artırmak için ise sorumluluk ve yardımlaşma gibi katılım biçimlerinin önü açılmalıdır. Spor yaşam memnuniyetinin hem yaşam doyumuna hem de sadakate köprü olması, alan-özel doyumun daha geniş refah göstergelerine aktığını ve davranışsal niyetleri güçlendirdiğini işaret eder.

## Uygulama Önerileri

Yöneticiler, müşterilerin öz-yeterliğini artıracak eğitim ve koçluk programları (başlangıç oryantasyonları, ilerleme takibi, kısa hedef protokolleri), teknolojik destekler (uygulama içi egzersiz akışları, kişisel plan önerileri, yapay zekâ destekli takip) ve kişiselleştirilmiş hizmetler (seviye-temelli grup dersleri, esnek programlar) tasarlamalıdır. Savunuculuğu güçlendirmek için topluluk duygusunu besleyen kulüpler ve meydan okumalar, üyelerin başarı hikâyelerinin görünür kılınması, referans ve tavsiye programları, sosyal paylaşım teşvikleri ve “marka elçisi” kurguları kullanılabilir. Yardımlaşma

ve sorumlu davranışı desteklemek adına deneyimli üyelerin yeni katılanlara mentorluk ettiği eşleştirme sistemleri, açık ve anlık geri bildirim mekanizmaları, üyelerin süreç tasarımı katıldığı ortak üretim atölyeleri uygulanabilir. Geri bildirimler yalnızca memnuniyet ölçeği anketlerle sınırlı kalmamalı; hizmet akışlarını doğrudan etkileyen çevik iyileştirme döngülerine bağlanmalıdır. Stratejik konumlandırmada fitness merkezleri, fiziksel aktivitenin ötesinde, sosyal ve psikolojik kaynaklar sunan “sağlıklı yaşam merkezleri” olarak çerçevelenmelidir.

### **Sınırlılıklar ve Gelecek Araştırmalar**

Çalışmanın amaca yönelik örnekleme yaklaşımı ve büyük şehirlerle sınırlı saha tasarımı, bulguların genellenebilirliğini kısıtlamaktadır. Savunuculuk boyutunun iki maddeyle ölçülmesi ölçüt geçerliliğini sınırlandırabilir; ileride daha zengin madde havuzları kullanılmalıdır. Model, VCC’nin öncüllerinden yalnızca öz-yeterliğe odaklanmıştır; rol netliği, motivasyon, algılanan adalet, hizmet sağlayıcıyla bağ ve dijital okuryazarlık gibi değişkenler eklenerek daha kapsamlı modeller kurulabilir. Bu çalışma dijital ortamda birlikte değer yaratma (canlı yayınlar, hibrit dersler, uygulama-içi topluluklar, yapay zekâ destekli programlar) dinamiklerini ayrı bir blok olarak ele almamıştır; bu alan, özellikle pandemi sonrası hibrit hizmet formlarının yaygınlaşmasıyla, özgün sonuçlar üretebilir. Demografik ve psikografik farklılıkların (yaş, cinsiyet, hedef yönelimi, sosyal karşılaştırma eğilimi) VCC–sonuç ilişkilerinde düzenleyici (moderasyon) rolleri de gelecekte test edilmelidir.

### **Sonuç**

Bu çalışma, Türkiye bağlamında fitness hizmetlerinde birlikte değer yaratmanın öncül ve sonuçlarını bütüncül bir model aracılığıyla test ederek literatüre katkı sunmaktadır. Çalışmanın ayırt edici yönü, öz-yeterlikten başlayıp sorumlu davranış, savunuculuk ve yardımcı olma boyutları üzerinden spor yaşam memnuniyeti, yaşam doyumu ve sadakate uzanan ilişkileri aynı çerçevede birlikte ele almasıdır. Bulgular, öz-yeterliğin birlikte değer yaratma davranışlarını güçlü biçimde desteklediğini; savunuculuğun sadakati artırmada belirleyici bir rol üstlendiğini, buna karşılık sorumlu davranış ve yardımcı olmanın daha çok spor yaşam memnuniyeti ve genel yaşam doyumunu beslediğini göstermektedir. Bu sonuçlar, öz-yeterliğin yalnızca bireysel bir “yapabilirim” algısı olmanın ötesinde, üyelerin hizmet sürecine ne ölçüde ve hangi biçimde katılacağını şekillendiren temel bir psikolojik kaynak olduğunu düşündürmektedir. Öte yandan spor yaşam memnuniyetinin hem yaşam doyumunu hem de sadakati artırması, fitness deneyiminin bireyin genel iyi oluşu ve işletmeyle ilişkisini sürdürme eğilimi üzerinde merkezi bir yere sahip olduğunu ortaya koymaktadır. Bu yönüyle spor yaşam memnuniyeti, psikolojik iyilik hâli ile tekrar tercih etme eğilimi arasında işlev gören bir köprü değişken olarak değerlendirilebilir. Sonuç olarak, müşteri katılımını yalnızca operasyonel verimlilik açısından değil; aynı zamanda iyilik hâlini güçlendiren ve uzun dönemli ilişkileri derinleştiren stratejik bir unsur olarak gören işletmelerin daha kalıcı bir rekabet avantajı geliştirmesi beklenmektedir. Bu çerçevede, öz-yeterliği güçlendirmeye dönük uygulamalar, savunuculuğu destekleyen topluluk dinamikleri ve birlikte üretimi süreklileştiren mekanizmalar, fitness hizmetlerinde sürdürülebilir değer yaratımı için öne çıkan yol haritalarıdır. Uygulamada ise üyelerin ilerlemesini görünür kılan düzenli geri bildirim ve koçluk süreçleri, akran etkileşimini artıran grup kurguları ve müşteri geri bildirimlerinin hizmet tasarımı sistematik biçimde yansıtılması bu yol haritalarını destekleyen başlıca araçlar olarak değerlendirilebilir.