



More Than a Membership Card: How Loyalty Program Design Shapes Customer Retention in the German Fitness Industry

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Abstract

Title: More Than a Membership Card: How Loyalty Program Design Shapes Customer Retention in the German Fitness Industry

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The fitness industry faces persistently high churn rates, yet loyalty programs (LPs) remain largely absent from this sector despite their proven effectiveness in other industries. This study investigates how LP design influences customer loyalty among German fitness center members, with a particular focus on reward fit, rewarded behavior, and the mediating role of perceived relationship investment (PRI).

A mixed-methods approach was employed, combining ten semi-structured qualitative interviews with an experimental, between-subjects online survey. A 2×2 stimuli design was developed around two LP design elements, reward fit (direct vs. indirect) and rewarded behavior (visit frequency vs. membership length), alongside a control group, yielding 261 valid responses analyzed in SPSS.

The findings reveal that the presence of an LP alone does not directly increase customer loyalty; its effect depends on members perceiving it as a genuine relational investment. When that perception is present, loyalty increases through PRI. Reward fit emerged as the dominant design factor: direct, fitness-related rewards generated significantly higher PRI and customer loyalty than indirect rewards, with the effect fully mediated by both PRI and perceived reward value. The type of rewarded behavior, however, did not significantly affect either outcome. Contrary to expectations, sport involvement did not moderate LP effectiveness; rather, it functioned as a direct antecedent of both PRI and loyalty.

These findings extend LP theory into subscription-based markets, challenge the assumption that involvement moderates LP responsiveness, and offer fitness center managers evidence-based guidance: prioritize meaningful, fitness-aligned rewards and communicate them as sincere relational gestures rather than transactional incentives.

Key words: Loyalty Program, Customer Loyalty, Fitness Centers, Perceived Relationship Investment, Sport Involvement, Subscription Markets, Customer Retention

Sumário

Título: Mais do que um Cartão de Sócio: Como o Design dos Programas de Fidelização Influencia a Retenção de Clientes na Indústria Fitness Alemã

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A indústria fitness é caracterizada por taxas de abandono persistentemente elevadas, ainda assim, os programas de fidelização (PF) continuam a ser uma raridade neste sector, apesar da eficácia comprovada noutras indústrias. Este estudo investiga como o design dos PF influencia a lealdade dos clientes em centros de fitness alemães, com foco na adequação das recompensas, no comportamento recompensado e no papel mediador do investimento percebido na relação (IPR).

Foi adotada uma abordagem de métodos mistos, combinando dez entrevistas qualitativas semiestruturadas com um inquérito experimental online entre sujeitos. Um design 2×2 foi desenvolvido em torno da adequação das recompensas (diretas vs. indiretas) e do comportamento recompensado (frequência de visitas vs. duração da associação), com um grupo de controlo, resultando em 261 respostas válidas analisadas no SPSS.

Os resultados revelam que a mera presença de um PF não aumenta diretamente a lealdade; o seu efeito depende dos membros o percecionarem como um investimento relacional genuíno. A adequação das recompensas emergiu como o fator dominante: recompensas diretas geraram níveis significativamente mais elevados de IPR e de lealdade do que recompensas indiretas, com efeito mediado pelo IPR e pelo valor percebido. O comportamento recompensado não afetou significativamente nenhum dos resultados. O envolvimento desportivo não moderou a eficácia dos PF, funcionando antes como antecedente direto do IPR e da lealdade.

Estes resultados alargam a teoria dos PF aos mercados de subscrição e oferecem orientações práticas aos gestores: priorizar recompensas alinhadas com o fitness, comunicando-as como gestos relacionais genuínos em vez de incentivos transacionais.

Palavras-chave: Programa de Fidelização, Lealdade do Cliente, Centros de Fitness, Investimento Percebido na Relação, Envolvimento Desportivo, Mercados de Subscrição, Retenção de Clientes

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Specifically, AI was used for:

- rephrasing, shortening, and optimizing text passages,
- drafting and refining formulations,
- proofreading and grammatical corrections,
- supporting the development and refinement of data collection procedures (e.g., survey and interview design) and experimental stimuli,
- summarizing and organizing research literature.

All uses of AI were limited to language, organizational, and methodological assistance. The intellectual content, theoretical framing, research design, interpretation of results, and all final conclusions are the author's own work. AI tools were not used to generate original arguments, data, or literature, and all sources cited in this thesis were identified and verified by the author.

This disclosure is made in accordance with academic integrity guidelines requiring transparency about the use of artificial intelligence in scholarly work.

Table of Contents

Abstract	I
Sumário	III
Disclaimer on the Use of Artificial Intelligence.....	IV
List of Abbreviations	VIII
List of Figures	IX
List of Tables	X
Glossary.....	XII
1 Introduction	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Relevance	2
1.4 Research Methods	3
1.5 Outline	3
2 Literature Review	4
2.1 Fitness Centers	4
2.2 Customer Loyalty	4
2.2.1 Attitudinal Loyalty	4
2.2.2 Behavioral Loyalty	5
2.2.3 Loyalty in Fitness Centers	5
2.3 Loyalty Programs	5
2.3.1 Design Elements of Loyalty Programs.....	6
2.3.1.1 Reward Fit	7
2.3.1.2 Rewarded Behavior	7
2.3.2 The Role of Loyalty Programs in Fitness Centers	7
2.4 Perceived Relationship Investment	8
2.5 Sport Involvement	10
2.6 Conceptual Model	11
3 Methodology	12
3.1 Research Approach.....	12
3.2 Data Collection.....	12
3.2.1 Sampling.....	12
3.2.2 Variable Measurement	13

3.2.2.1 Sport Involvement	13
3.2.2.2 Perceived Relationship Investment	14
3.2.2.3 Customer Loyalty	14
3.3 Stimuli Design.....	15
3.3.1 Stimuli Creation	15
3.3.2 Stimuli Validation.....	16
3.3.3 Final Stimuli	17
3.4 Questionnaire Design	18
3.5 Data Analysis.....	19
4 Results	20
4.1 Data Preparation	20
4.1.1 Data Cleaning	20
4.1.2 Manipulation Check	20
4.1.3 Outlier Analysis	21
4.1.4 Measurement Creation and Reliability	21
4.2 Descriptive Analysis.....	24
4.2.1 Sample Characteristics	24
4.2.2 Distribution of Key Variables.....	24
4.3 Statistical Test Assumptions Validation and Null Hypotheses	25
4.3.1 Statistical Test Assumptions	25
4.3.2 Null Hypotheses	25
4.4 Hypothesis Testing	26
4.4.1 Direct Effects of Loyalty Programs on Customer Loyalty.....	26
4.4.2 Effects of Loyalty Program Design on Perceived Relationship Investment	27
4.4.3 Effect of Perceived Relationship Investment on Customer Loyalty	28
4.4.4 The Mediating Role of Perceived Relationship Investment.....	29
4.4.5 The Moderating Role of Sport Involvement	31
4.4.6 Additional Analyses.....	34
4.5 Key Findings and Discussion	36
4.5.1 Loyalty Program Presence and the Relational Signaling Mechanism	36
4.5.2 The Importance of Reward Fit over Rewarded Behavior	36
4.5.3 The Role of Perceived Value	37
4.5.4 The Role of Sport Involvement	37
5 Conclusion.....	39

5.1 Main Findings	39
5.2 Academic Implications	40
5.3 Managerial Implications	41
5.4 Limitations	42
5.5 Further Research	43
Bibliography	44
Appendix	49
Appendix A: Qualitative Interviews	49
A1: Interview Structure	49
A2: Summary of Interviews	51
Appendix B: Quantitative Survey	54
B1: Full Questionnaire	54
Appendix C: Statistical Outputs	62

List of Abbreviations

CL → Customer Loyalty

CRM → Customer Relationship Management

DV → Dependent Variable

FMCG → Fast-moving consumer goods

IV → Independent Variable

LP → Loyalty Program

M → Mean

ML → Membership Length

PCM → Psychological Continuum Model

PRI → Perceived Relationship Investment

PV → Perceived Value

SD → Standard Deviation

SI → Sport Involvement

VF → Visit Frequency

List of Figures

Figure 1: Conceptual Framework for Loyalty Program Effectiveness.....	6
Figure 2: Conceptual Model.....	11
Figure 3: Survey Design.....	18
Figure 4: Visualization of the Regression Model for H3	28
Figure 5: Visualization of the Mediation Model for H4a	29
Figure 6: Visualization of the Mediation Model for H4b.....	30
Figure 7: Visualization of the Mediation Model for H4c	31
Figure 8: Visualization of the Moderation Model for H5c.....	32
Figure 9: Visualization of the Moderation Model for H6c.....	33
Figure 10: Visual setup of reward preferences in Miro	50
Figure 11: Linearity Scatterplot with Perceived Relationship Investment.....	63
Figure 12: Linearity Scatterplot with Sport Involvement	63
Figure 13: Homoscedasticity Histogram.....	63
Figure 14: Homoscedasticity Scatterplot	63

List of Tables

Table 1: Operational Model.....	15
Table 2: Final Reward List	16
Table 3: Final Stimuli	17
Table 4: Statistical Model.....	19
Table 5: Valid Responses per Stimulus.....	21
Table 6: Model Variables	23
Table 7: Descriptive Statistics and Reliability of Main Variables	24
Table 8: Null Hypotheses	26
Table 9: Summary of Hypothesis Testing Results.....	34
Table 10: Survey Flow.....	61
Table 11: Manipulation Rewarded Behavior Crosstabs	62
Table 12: Manipulation Rewarded Behavior Chi-Square.....	62
Table 13: Manipulation Reward Fit ANOVA	62
Table 14: Manipulation Reward Fit Tests of Homogeneity of Variances.....	62
Table 15: Manipulation Reward Fit Kruskal-Wallis.....	62
Table 16: Internal Reliability Hedonic Value (SI)	62
Table 17: Internal Reliability Centrality (SI).....	62
Table 18: Internal Reliability Symbolic Value (SI)	62
Table 19: Internal Reliability Sport Involvement.....	62
Table 20: Internal Reliability Perceived Relationship Investment	62
Table 21: Internal Reliability Customer Loyalty	62
Table 22: Internal Reliability Perceived Value	62
Table 23: Descriptive Statistics Gender.....	63
Table 24: Descriptive Statistics Age.....	63
Table 25: Descriptive Statistics Occupation.....	63
Table 26: Descriptive Statistics Membership Status	63
Table 27: Descriptive Statistics Training Frequency	63
Table 28: Descriptive Statistics Fitness Center Experience in Years	63
Table 29: Characteristics by Condition	64
Table 30: Normality Tests.....	64
Table 31: Multicollinearity Loyalty Program Presence Coefficients	64
Table 32: Multicollinearity Loyalty Program Presence Collinearity Diagnostics.....	65
Table 33: Multicollinearity Rewarded Behavior and Reward Fit Coefficients	65
Table 34: Multicollinearity Rewarded Behavior and Reward Fit Collinearity Diagnostics....	65
Table 35: Independent samples t-test Group Statistics H1	65
Table 36: Independent samples t-test Table H1	65
Table 37: Independent samples t-test Group Statistics H2a	66
Table 38: Independent samples t-test H2a.....	66
Table 39: Homogeneity of Variances H2b and H2c	66
Table 40: Tests of Between-Subjects Effects H2b and H2c	66
Table 41: Estimates H2b.....	67
Table 42: Pairwise Comparisons H2b	67

Table 43: Estimates H2c	67
Table 44: Pairwise Comparisons H2c.....	67
Table 45: ANOVA H3	68
Table 46: Model Summary H3	68
Table 47: Coefficients H3	68
Table 48: Mediation Analysis PROCESS Model 4 H4a	69
Table 49: Mediation Analysis PROCESS Model 4 H4b	70
Table 50: Mediation Analysis PROCESS Model 4 H4c	71
Table 51: Moderation Analysis PROCESS Model 1 H5a	72
Table 52: Moderation Analysis PROCESS Model 1 H5b	72
Table 53: Moderation Analysis PROCESS Model 1 H5c	73
Table 54: Moderation Analysis PROCESS Model 1 H6a	73
Table 55: Moderation Analysis PROCESS Model 1 H6b	74
Table 56: Moderation Analysis PROCESS Model 1 H6c	74
Table 57: Regression of Sport Involvement on Perceived Relationship Investment	75
Table 58: Regression of Sport Involvement on Customer Loyalty	75
Table 59: Regression of Perceived Value on Customer Loyalty	75
Table 60: Regression of Perceived Value on Customer Loyalty Model Summary	75
Table 61: Regression of Perceived Value on Perceived Relationship Investment.....	75
Table 62: Multiple Regression of Perceived Value and Perceived Relationship Investment..	75
Table 63: Collinearity Assessment between Perceived Value and Customer Loyalty.....	76
Table 64: Model Summary of Multiple Regression	76
Table 65: Simple Mediation with Perceived Value	77
Table 66: Parallel Mediation with Perceived Value and Perceived Relationship Investment .	78

Glossary

Churn	The rate at which customers cancel their subscriptions or discontinue their relationship with a service provider.
Fitness Center	A commercial facility offering exercise equipment and health services in exchange for a recurring membership fee.
Repertoire Markets	Markets in which customers regularly purchase from multiple competing brands rather than remaining loyal to a single provider.
Retention	A service provider's ability to maintain ongoing customer relationships and prevent churn over time.
Subscription Markets	Markets characterized by recurring, fixed-fee payment structures granting customers continuous access to a service.

1 Introduction

1.1 Background

Loyalty Programs (LPs) are an important and ubiquitous tool to increase loyalty across many industries, including packaged goods, hospitality, and retail (Ernst & Young LLP, 2025; Ruvio et al., 2025). LPs, also known as reward programs, are systematic, strategic marketing efforts that offer a variety of benefits to improve customer loyalty (CL) to the firm. In the fitness industry, however, LPs have not yet been firmly established, even though their need has been recognized (Gálvez-Ruiz et al., 2023).

This is particularly noteworthy given the size of the fitness market. Europe is home to over 64,000 fitness centers for nearly 72 million members across its countries. Within this landscape, Germany stands out as one of the most important markets for the European fitness industry, with around 11.7 million club members and generating over €5.8 billion in 2024 (Rutgers et al., 2025). While the industry itself is prospering, club managers face problems with retaining customers, as dropout rates, meaning members who terminate a contract, are exceptionally high (Avourdiadou & Theodorakis, 2014).

LPs could help address this challenge, as they have been linked to positive company outcomes such as maintaining a strong customer base, gaining rich customer data, and increasing revenues (Liu, 2007; Uncles et al., 2003). But applying existing LP frameworks for fitness centers is not straightforward. The focus of most LPs is predominantly on driving repeat purchases, as they are the primary source of brand revenue. Fitness centers, however, operate differently, as they are part of a subscription-based market. Here, customers are “loyal” to a provider until they actively decide to terminate the contract, which distinguishes it from repertoire repeat purchases (Sharp, Wright, et al., 2002). Furthermore, even where LPs are common, most elicit no emotional connection and offer little relevance for customers (Ernst & Young LLP, 2025; J. J. Kim et al., 2021).

Therefore, the primary objective of this study is to explore the design of effective LPs for fitness centers, aiming to enhance customer retention and reduce churn, with a geographical focus on the German landscape. Examining LP design in fitness centers is particularly interesting, since LPs in general are well researched, but little attention has been given to the subscription market.

1.2 Problem Statement

In fitness centers, customers are, for a given period, first and foremost loyal due to contractual obligations. This could lead to the misconception that LPs are not required in the industry. However, Sobreiro et al. (2021), for example, found that in Spain, only 30-60% of customers were still members of the fitness center after one year. Similar numbers were reported in Canada (MacIntosh & Law, 2015). Since it costs five times more to acquire new customers than to retain current ones, the need for effective LPs is evident (Kotler & Keller, 2021).

Given that fitness centers operate differently from industries where LPs are common, such as fast-moving consumer goods (FMCG), hotels, and airlines, the need to investigate what an effective LP would look like and its features is apparent. Beyond LP presence and design, the mechanisms by which LPs may drive loyalty also warrant investigation. Perceived relationship investment (PRI) describes the degree to which customers perceive a firm's investment in the relationship between customer and firm (Henderson et al., 2011). PRI has been identified as a key mediating mechanism in other contexts, and may play a similar role here (De Wulf et al., 2001; Menidjel & Bilgihan, 2023).

Therefore, the following research questions will guide this study:

- 1) Can loyalty programs increase customer loyalty among fitness center members?
- 2) How do design elements of loyalty programs (reward fit and rewarded behavior) affect customer loyalty among fitness center members?
- 3) Does sport involvement explain the effectiveness of loyalty programs in fitness centers?
- 4) What role does perceived relationship investment play in the relationship between loyalty program design and customer loyalty?

1.3 Relevance

This research offers academic as well as managerial insights. From an academic perspective, LPs in subscription services are understudied, with the exception of credit cards, which makes this study particularly important. Reward structures in the subscription market may need to be approached differently, since the transaction-based logic from the repertoire market does not apply here. In fitness centers specifically, it is not entirely clear what the reward system could look like or which behaviors should be rewarded. This study aims to expand existing LP frameworks for subscription services.

From a managerial standpoint, the need for effective LPs is clear, and given the nature of LPs and their researched impact on loyalty, fitness centers are gradually starting to implement them. First movers will most likely be at an advantage, especially if competitors' responses are slow (Kotler & Keller, 2021). But the risk of launching a poorly designed LP is just as detrimental as not implementing one at all. Two early examples, Anytime Fitness in Southeast Asia and McFIT in Germany, illustrate that fitness centers are beginning to adopt LPs, yet these design choices are not yet grounded in empirical evidence, highlighting the need for evidence-based LP design in this industry (*AF Rewards*, n.d.; RSG Group, n.d.; Rutgers et al., 2025). Even though LPs can positively impact customer loyalty, some programs and rewards are deemed unnecessary or irrelevant by customers (J. J. Kim et al., 2021). Furthermore, LPs are a long-term initiative that requires significant company commitment, as shutting them down can lead to customer backlash (Liu, 2007).

1.4 Research Methods

Given the limited information on LP design in fitness centers, this study combined qualitative and quantitative research to first gather insights into customers' initial thoughts on LPs, their opinions on LP design choices, and their loyalty drivers. This was done through one-on-one interviews with members of fitness centers to determine whether an LP would drive loyalty. With this foundation, a quantitative survey was designed to test the hypotheses statistically, focused on rewarded behavior and reward fit. The 2×2 questionnaire design was combined with a control group, and 261 valid responses were collected and afterward analyzed in SPSS.

The research approach was based on a literature review of attitudinal and behavioral loyalty, LP design, specifically rewarded behavior, reward fit with the core offering, perceived relationship investment, and sport involvement (SI). This enabled an evidence-based design to fully address the previously mentioned research questions.

1.5 Outline

This dissertation is structured as follows. The first chapter introduces the research background, problem statement, and research questions. The second chapter reviews the relevant literature and develops the conceptual model and hypotheses. The third chapter outlines the mixed-methods research design, including the development of stimuli and survey procedures. The fourth chapter presents the hypothesis testing results and discusses the key findings. The fifth chapter addresses the research questions directly and outlines the academic and managerial implications, limitations, and directions for future research.

2 Literature Review

2.1 Fitness Centers

Fitness centers present a unique context that requires separate consideration, as they operate as a subscription-based service market that differs fundamentally from the transactional markets in which most LP research has been conducted.

Fitness centers, also known as health clubs or gyms, are service providers that offer members access to their facilities and related services, often through a membership. Whereas most consumer purchases are regular, repeated purchases, fitness centers operate on a subscription, which typically also renews automatically, making it distinctively different (Sharp, Wright, et al., 2002). Key characteristics include the requirement of a subscription and its automatic renewal unless actively terminated, the possibility but unlikelihood of multi-brand purchasing, and loyalty measured through churn and retention rates rather than repeat purchases or amount of money spent (Sharp, Wright, et al., 2002). This distinction between market types is essential for marketers to understand, as loyalty measures as well as antecedents of loyalty differ across them (Bennett & Rundle-Thiele, 2002). As a result, insights from LP research in transactional markets may not be directly transferable to fitness centers but require a context-specific investigation of how LPs operate in this setting.

2.2 Customer Loyalty

“Customer loyalty is a collection of attitudes aligned with a series of purchase behaviors that systematically favor one entity over competing entities (Watson et al., 2015, p. 803).” The degree to which both elements participate in the overall composition of loyalty is unclear. While some research suggests that attitudes influence behavioral loyalty, at least in low involvement categories (Bandyopadhyay & Martell, 2007) others argue that behavior is the only true form of loyalty, given the direct link to actual sales (Sharp, Sharp, et al., 2002). Consequently, measuring loyalty is often difficult (Watson et al., 2015).

2.2.1 Attitudinal Loyalty

Attitudinal loyalty is a positive psychological attitude toward a company, involving cognitive, affective, and conative components. It begins with beliefs about the brand's value, followed by emotional attachment and the intention to repurchase (Oliver, 1999). This mental process fosters strong brand preferences (Bennett & Rundle-Thiele, 2002), helps retain customers over competitors (Ahluwalia, 2000), and influences outcomes like performance and word-of-mouth

(Watson et al., 2015). It also reveals consumers' perceptions of the brand's positive and negative aspects (Bandyopadhyay & Martell, 2007).

2.2.2 Behavioral Loyalty

Behavioral loyalty involves repeated purchases from the same company because of a preference for it. According to Oliver (1999), loyalty progresses through cognition, affect, and conation, culminating in action loyalty, which is actual repeated buying. While repeat purchases are seen as a loyalty indicator, this is debated because they can be influenced by habits or lack of alternatives. Some argue that only commitment distinguishes true loyalty from simple repeat buying (Bennett & Rundle-Thiele, 2002; Watson et al., 2015). However, in FMCG, behavioral measures may suffice due to low involvement and frequent brand switching, but for durable goods and services, such measures don't fully capture loyalty (Bandyopadhyay & Martell, 2007).

2.2.3 Loyalty in Fitness Centers

In fitness centers, customers demonstrate loyalty by having a favorable attitude toward the provider, participating in word of mouth and recommending it to others, and by renewing their membership or refraining from canceling it (Avourdiadou & Theodorakis, 2014). The sector is affected by high churn rates. MacIntosh & Law (2015) found that only 50% of new fitness center members in Canada renewed their membership after one year. And it appears to be a global issue, as comparable figures are also being observed in Spain and Portugal, with churn rates of up to 70% (Clavel San Emeterio et al., 2019; Sobreiro et al., 2021).

A meta-analysis of 88 attitude-behavior studies confirmed that attitudes significantly predict future behavior, supporting the use of attitudinal measures in this context (Kraus, 1995).

2.3 Loyalty Programs

Loyalty programs are marketing strategies offering customers economic, psychological, and social incentives to build loyalty and enhance business outcomes (J. J. Kim et al., 2021). They are vital in customer relationship management (CRM), aiming to boost sales through cross- and up-selling and retain customers. LPs also generate valuable customer data for CRM initiatives, with customers expecting increased value in return (Ernst & Young LLP, 2025; Liu, 2007; Uncles et al., 2003). Social exchange theory explains LP effectiveness through relational bonds formed by interactions, leading to trust and commitment. LPs are an exchange mechanism in which the company invests, and the customer feels obligated to respond. One of the core

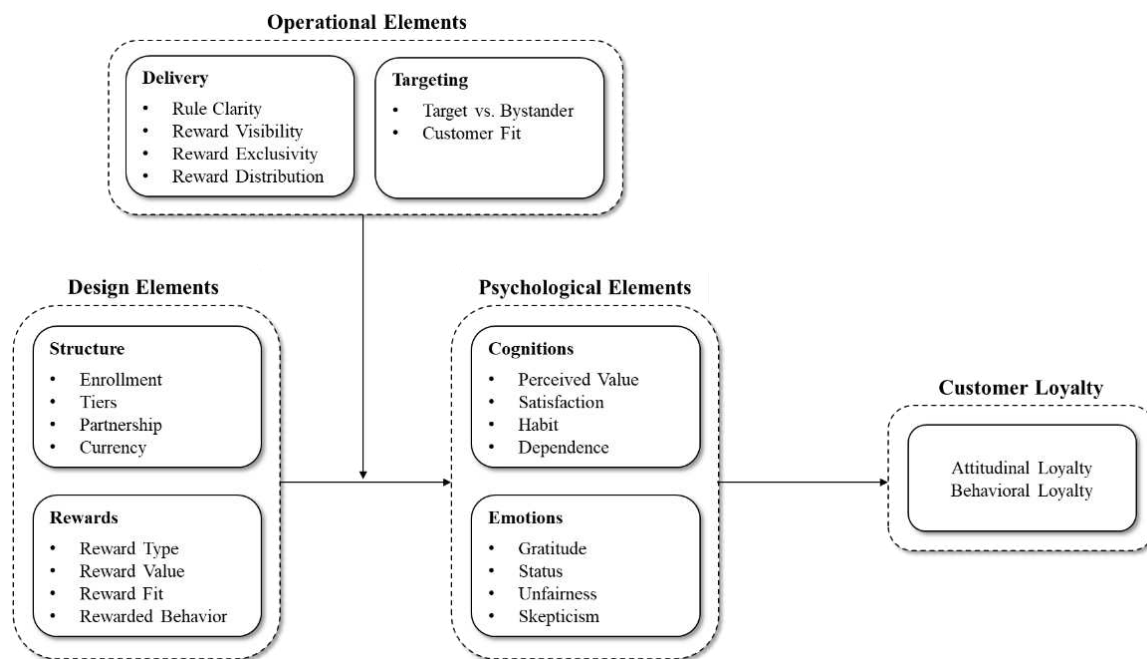
exchange norms within social exchange theory is reciprocity, which will be addressed further in section 2.4 (Cropanzano & Mitchell, 2005).

2.3.1 Design Elements of Loyalty Programs

Drawing on a systematic review of LP literature, J. J. Kim et al. (2021) propose a framework for LP effectiveness in which customer loyalty is formed through a combination of psychological, operational, and design elements. The present study focuses on the design of LPs, therefore the following section will examine these elements in depth.

Structural elements refer to the overall architecture of an LP and include decisions on enrollment, tier structure, partnerships, and currency choice. Rewards, in turn, contain key decisions regarding various aspects of the reward scheme. In general, rewards can be categorized into hard and soft reward types, the first concerning tangible and financial benefits, whereas the latter are based on emotional perks (J. J. Kim et al., 2021). Soft rewards have been shown to have a greater influence on customer engagement, leading to stronger loyalty and greater WOM. Nonetheless, a balanced mix of reward types ensures the satisfaction of different preferences (Ruvio et al., 2025). Reward value refers to the monetary value of the rewards and influences how customers perceive the brand's investment. Figure 1 shows the proposed framework for LP effectiveness by J. J. Kim et al. (2021).

Figure 1: Conceptual Framework for Loyalty Program Effectiveness (J. J. Kim et al., 2021)



As reward fit and rewarded behavior are the main variables in this study, they require special attention.

2.3.1.1 Reward Fit

Reward fit is related to reward type, but in contrast, distinguishes between rewards that are directly or indirectly related to the brand's core offering (J. J. Kim et al., 2021). For an airline LP, for example, direct rewards might include VIP boarding, an upgrade, or discounts on extra luggage, whereas indirect rewards could take the form of a notepad or spa vouchers (Dorotic et al., 2012; J. J. Kim et al., 2021). In general, direct rewards are deemed more effective as they strengthen brand associations and reinforce attitudinal attachment and intrinsic motivation. While indirect rewards have no clear link to the core offering and are mostly deemed less attractive for LPs, research suggests that they can become appealing if they offer luxury or aspirational value (Dorotic et al., 2012). Despite the general superiority of direct rewards, the conditions under which this effect holds and for whom remain an open question in the literature.

2.3.1.2 Rewarded Behavior

Another essential element of an LP is the behavior that is rewarded. This refers to all behaviors that a company rewards. Most often, these are purchase transactions, such as the amount spent per purchase, the amount spent in a given time frame (e.g., 1 year), or the total amount spent. By nature, these metrics are straightforward and relatively easy to capture. There is, however, also a growing trend toward the integration of non-transactional behaviors, such as social media engagement, WOM, and referrals (Dorotic et al., 2012; J. J. Kim et al., 2021). The act of being rewarded strengthens customers' attachment to a company, as it signals that their continued engagement is valued and will be reciprocated (Dorotic et al., 2012).

While these metrics work well in repertoire markets where purchase frequency varies across customers, they may not be transferable to subscription markets where all members pay the same fixed fee, making behavioral engagement metrics such as visit frequency or membership tenure more appropriate alternatives.

2.3.2 The Role of Loyalty Programs in Fitness Centers

While LPs have been firmly established across a multitude of categories, in fitness centers, they are a rare sight. Research on loyalty in fitness centers primarily focuses on the effects of satisfaction, service quality, and value perception (Chao, 2015; García-Fernández et al., 2020; García-Fernández, Gálvez-Ruíz, et al., 2018; García-Fernández, Gálvez-Ruiz, et al., 2018; Lim et al., 2016). As loyalty in fitness centers is better measured by retention rates than by transactional metrics, understanding the drivers of retention and loyalty is of utmost importance. S. Yi et al. (2021) examined new members of fitness clubs in South Korea and

identified visit frequency as the most predictive factor of churn, especially during the first months of membership. Gálvez-Ruiz et al. (2023) investigated the emotional aspects of loyalty formation in Spanish low-cost fitness centers. They determined that cultivating enthusiasm and emotional participation are key drivers of loyalty, which can be achieved by creating enriching experiences that make members feel part of the center. They also emphasize that fitness centers benefit when members feel passionate about their membership. Furthermore, the authors highlight the need for thoughtfully designed LPs to promote active participation. While LPs are not often found in fitness centers, two examples stand out. Firstly, AF Rewards, a rewards program by Anytime Fitness, one of the largest fitness center chains worldwide. This program currently operates only in Southeast Asia and uses a combination of direct and indirect rewards. Members collect points with every visit and can also advance through the tier system (*AF Rewards*, n.d.). The German fitness center McFIT, part of RSG Group, on the other hand, rewards loyalty measured through the length of the membership. Their program, McFIT+, is also structured in tiers, with members advancing through them based on the length of their membership. With that, all members have access to the same partner benefits but also gain additional benefits with increased membership length, such as an increase in the number of fitness centers they can train in or a discount for friends and family (RSG Group, n.d.).

In repertoire markets, customers often perceive LPs just as another card in their wallet, and LPs can sometimes be seen as irrelevant (Watson et al., 2015). The subscription market, however, is fundamentally different, as customers are already committed to one provider, making LPs a potential tool for deepening rather than initiating loyalty.

Prior research has identified loyalty incentives, such as LPs, as an antecedent of loyalty (Watson et al., 2015). This is in part due to the development of switching costs because of participation in the LP (J. J. Kim et al., 2021). While LPs are not yet common in fitness centers, they are expected to influence customer loyalty, whereas design elements are expected to affect it indirectly.

***H1:** The presence of a loyalty program has a positive impact on customer loyalty.*

2.4 Perceived Relationship Investment

Beyond product offerings, customers evaluate the company's investment in the relationship. Perceived relationship investment (PRI), therefore, represents the recognition of the firm's dedication to its customers (Henderson et al., 2011). PRI marks the point at which earlier exchanges have generated enough relational depth that the customer perceives genuine firm

investment (Cropanzano & Mitchell, 2005). This perception triggers a psychological mechanism to reciprocate the “favor”, known as reciprocity theory. The core principle of the theory explains that people feel an unconscious moral obligation to return kindness with kindness in proportion to what they receive (Bagozzi, 1995; De Wulf et al., 2001). Reciprocity is among the most studied rules of exchange within social exchange theory (Cropanzano & Mitchell, 2005). By nature, LPs signal commitment and investment to customers, thereby increasing customers’ perceptions of relationship investment (Liu, 2007). Research supports this premise, as direct and positive effects of PRI on loyalty have been observed across contexts such as accommodation and retail (De Wulf et al., 2001; Menidjel & Bilgihan, 2023; Recuero Virto et al., 2019). In LPs, especially rewards may trigger feelings such as gratitude, which reinforce customers’ perceptions of the firm’s investment, leading to a need to reciprocate the behavior (Palmatier et al., 2009). Therefore, PRI is expected to mediate the effect of loyalty programs and their design elements on loyalty.

***H2a:** The presence of a loyalty program has a positive impact on perceived relationship investment.*

***H2b:** Direct rewards have a stronger positive impact on perceived relationship investment than indirect rewards.*

***H2c:** The type of rewarded behavior has an impact on perceived relationship investment.*

Regarding the effect of PRI on loyalty, Recuero Virto et al. (2019) confirmed a significant positive effect of PRI on loyalty in the tourism context, while Menidjel & Bilgihan (2023) replicated this finding in the retail industry. This suggests the effect is consistent across service industries. As a result, it is expected that PRI positively affects loyalty.

***H3:** Perceived relationship investment has a positive impact on customer loyalty.*

Prior research suggests that relationship marketing activities, such as LPs, primarily operate by signaling a firm’s investment in the relationship, which customers then reciprocate through loyalty-enhancing behaviors rather than responding directly to the marketing stimulus (De Wulf et al., 2001; Palmatier et al., 2009). Therefore, PRI is expected to mediate the effect of the loyalty program and its design elements on loyalty.

***H4a:** Perceived relationship investment mediates the effect of loyalty program presence on customer loyalty.*

***H4b:** Perceived relationship investment mediates the effect of reward fit on customer loyalty.*

***H4c:** Perceived relationship investment mediates the effect of rewarded behavior on customer loyalty.*

2.5 Sport Involvement

Involvement is the perceived personal relevance or importance of a stimulus to an individual's needs, values, and interests (Laurent & Kapferer, 1985; Mittal, 1995). This involvement is described as a motivational state, causing changes in how deeply consumers engage with a product or activity (Laurent & Kapferer, 1985).

In sport contexts, Funk & James (2001) developed the Psychological Continuum Model (PCM), suggesting that emotional ties to sport develop sequentially through awareness, attraction, attachment, and allegiance. Building on this, involvement has been further refined as the degree to which participation becomes central to an individual's life, providing hedonic and symbolic value (Beaton et al., 2011). It is operationalized into three facets that together comprise the concept of SI. First, the hedonic enjoyment derived from the activity, second, the extent to which the activity is central to daily life, and lastly, the symbolic value, as a means of self-expression and identity (Beaton et al., 2011; Yoshida et al., 2023).

The Elaboration Likelihood Model explains why involvement shapes how customers process information. The model distinguishes between a central route, taken when motivation to process information is high, and a peripheral route, taken when motivation is low. As personal involvement is a key determinant of which route is taken, highly involved customers are more likely to engage deeply with LP features and evaluate them critically (Petty & Cacioppo, 1986).

Empirical research supports this theoretical prediction as De Wulf et al. (2001) demonstrated that highly involved customers respond more strongly to relationship marketing efforts, while Dorotic et al. (2012) and Y. Yi & Jeon (2003) confirmed that LP design elements, particularly direct rewards, are more effective in high-involvement settings. The impact of rewarded behavior on loyalty is similarly contingent on involvement (Dorotic et al., 2012; J. J. Kim et al., 2021). Therefore, a moderating effect of SI on the presence of an LP and its design elements (reward fit and rewarded behavior) on loyalty is expected.

***H5a:** Sport involvement moderates the relationship between loyalty program presence and customer loyalty, such that the effect is stronger for highly involved individuals.*

H5b: *Sport involvement moderates the relationship between reward fit and customer loyalty, such that the positive effect of direct rewards is stronger for individuals with high sport involvement, whereas no significant difference is expected for low involvement individuals.*

H5c: *Sport involvement moderates the relationship between the type of rewarded behavior and customer loyalty.*

De Wulf et al. (2001) showed that the same perceived firm investment generated stronger psychological responses among highly involved customers, supporting the expectation that SI moderates the indirect path through PRI as well.

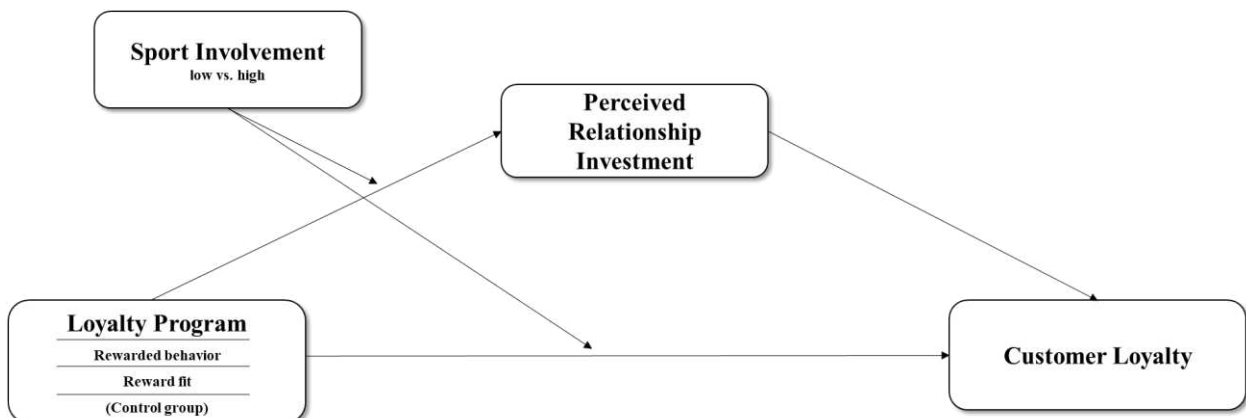
H6a: *Sport involvement moderates the relationship between loyalty program presence and perceived relationship investment, such that the effect is stronger for highly involved individuals.*

H6b: *Sport involvement moderates the relationship between reward fit and perceived relationship investment, such that the positive effect of direct rewards is stronger for highly involved individuals, whereas the positive effect of indirect rewards is stronger for individuals with low sport involvement.*

H6c: *Sport involvement moderates the relationship between the type of rewarded behavior and perceived relationship investment.*

2.6 Conceptual Model

Figure 2: Conceptual Model



3 Methodology

3.1 Research Approach

The present study employed a mixed-methods approach, combining qualitative and quantitative methods to address the previously stated research questions and hypotheses. First, exploratory semi-structured interviews with fitness center members were conducted to further understand loyalty and behavioral drivers. This exploratory approach was used to gain additional insights and clarify the findings from the literature review (Kothari, 2004). The interviews also served to create and validate stimuli for the subsequent quantitative part, and the insights were used to develop a descriptive, hypothesis-testing quantitative survey. The survey used a cross-sectional design and was experimental, as LP design elements were manipulated to determine causal relationships among the variables (Seltman, 2015).

3.2 Data Collection

The data for this dissertation were obtained exclusively through primary sources, collected in two consecutive phases: qualitative interviews followed by a quantitative survey.

For the qualitative phase, semi-structured one-on-one interviews were conducted with members of German fitness centers (see Appendix A1 for the structure). This approach allowed for a deeper understanding of loyalty behaviors and opinions, while maintaining thematic consistency across participants (Saunders et al., 2012). The interviews also supported the development and validation of stimuli. A total of 10 interviews were conducted between March 31st and April 4th, 2026, and the summary of all interviews is available in Appendix A2.

Afterward, a structured online survey was conducted through Qualtrics to statistically test the research hypotheses (see Appendix B). A between-subjects design was adopted to avoid carryover effects and ensure independence of observations. Participants were presented with a scenario involving the fictitious fitness center ABC Fitness and then asked a set of questions. The survey was online from April 23rd to May 6th, 2026.

3.2.1 Sampling

Interviewees were recruited through a non-random, purposive sampling method, with active membership in a German fitness center as the inclusion criterion. Participants were deliberately selected to ensure a range of SI levels and a variety of membership durations. Of the interviewees, 5 were male, and 5 were female, ranging in age from 21 to 49. To minimize

response bias, none of the participants were informed of the study's exact objective prior to the interview.

For the quantitative online survey, a non-probability sampling method that combined convenience, snowball, and voluntary response sampling was used. The questionnaire was distributed via social media platforms such as WhatsApp and Instagram, as well as through SurveyCircle, a platform where researchers exchange survey participation to recruit respondents. On the final day, the survey was also posted on Prolific, where current German residents were recruited to participate. To ensure relevance, only current or former members of German fitness centers were asked to take part. Participants were informed about the study's purpose and the measures taken to protect their data. All responses were anonymized to comply with data protection regulations (Sekaran & Bougie, 2013).

3.2.2 Variable Measurement

3.2.2.1 Sport Involvement

The SI measurement was obtained from Beaton et al. (2011), who developed this scale in accordance with Funk & James (2001) PCM. The construct consists of three facets of SI: hedonic value, centrality, and symbolic value. This scale has been used by others in sports research (Yeomans et al., 2024; Yoshida et al., 2023). The construct consists of nine items in total, three for each dimension, and was first used for the running context but will be adapted to capture general SI.

Hedonic value

- *Doing sports* is fun
- *Doing sports* is one of the most satisfying things I do
- I really enjoy *doing sports*

Centrality

- I find a lot of my life organized around *doing sports*
- *Doing sports* plays a central role in my life
- I enjoy discussing *sports-related* topics with others (e.g., friends, family, co-workers)

Symbolic value

- *Doing sports* says a lot about who I am
- *Doing sports* tells something about me
- *Doing sports* gives others a glimpse of the type of person I am

For each item, participants had to state their level of agreement on a scale of 1 (strongly disagree) to 7 (strongly agree). The researchers reported Cronbach's alpha for each of the three facets, with values of .86 for hedonic value, .82 for centrality, and .86 for symbolic value, which are all considered good (Field, 2009).

3.2.2.2 *Perceived Relationship Investment*

Regarding the mediator PRI, the measurement was obtained from Menidjel & Bilgihan (2023), published in the Journal of Strategic Marketing. It consists of the following three items, which will be modified to fit the fitness context.

- This *fitness center* makes efforts to increase regular customers' loyalty
- This *fitness center* makes various efforts to improve its ties with regular customers
- This *fitness center* really cares about keeping regular customers

The level of agreement of each item was captured on a 7-point Likert scale, with a reported Cronbach's alpha of .88, making it a reliable measurement (Field, 2009).

3.2.2.3 *Customer Loyalty*

Lastly, the measurement for the dependent variable (DV) was obtained from Avourdiadou & Theodorakis (2014), who assessed loyalty through the attitudinal intentions of fitness center members. The original three-item scale was extended by a fourth item to capture resistance to switching. All items were adapted into American English:

- How likely are you to make positive comments about the *center* and its services to other people?
- How likely are you to encourage friends to be members of this *center*?
- How likely are you to *renew* membership in the future?
- *How likely are you to remain a member of this center if a slightly better alternative were to open nearby?*

Avourdiadou & Theodorakis (2014) used this scale to assess loyalty among novice and experienced members. They reported the reliability for each group independently, with Raykov's composite reliability (rho) values of .89 for the novice group and .92 for the experienced group. Raykov's composite reliability rho is a reliability measure that, unlike Cronbach's alpha, does not require equal factor loading across items, making it a more accurate estimator for congeneric measures (Raykov, 1997). To ensure consistency across all measures, the scale was adapted from the original 9-point Likert scale to a 7-point Likert scale.

Table 1: Operational Model

Framework	Measure	Items	Scale	Reference	Reliability
IV	Loyalty Program	Stimuli	n.a.	n.a.	n.a.
Moderator	Sport Involvement	9	7-Point Likert Scale	Beaton et al. (2011)	$\alpha \geq .82$
Mediator	Perceived Relationship Investment	3	7-Point Likert Scale	Menidjel & Bilgihan (2023)	$\alpha = .88$
DV	Loyalty Intentions	3	7-Point Likert Scale (*)	Avourdiadou & Theodorakis (2014)	$\rho \geq .89$

Note:

(*) The scale was adapted from the original 1-9 scale

α = Cronbach's alpha

ρ = Raykov's composite reliability rho

3.3 Stimuli Design

3.3.1 Stimuli Creation

Text-based stimuli were developed to ensure participants could clearly envision the specific design of each loyalty program condition.

For rewarded behavior, existing loyalty programs served as the basis for the stimuli, as Anytime Fitness rewards visit frequency (VF) and McFIT+ rewards membership length (ML). The interviews further supported this choice, as visit frequency and membership length were the most frequently mentioned rewarded behaviors when participants were asked unprompted. This finding confirms their suitability as rewarded behavior conditions.

For reward fit, a mix of direct and indirect rewards was derived from the mentioned loyalty programs. Both direct and indirect rewards were fairly consistent within their respective categories. Indirect rewards consisted largely of gift certificates from companies not related to fitness, while direct rewards almost exclusively involved bringing along friends and family. Therefore, AI was used to develop additional direct and indirect rewards. This resulted in 12 rewards, both direct and indirect, each in a different price category. The price categories were divided into three tiers: low-priced (approx. 3–10 euro), mid-priced (approx. 15–30 euro), and high-priced (approx. 35–50 euro). This tiered structure was introduced to ensure monetary comparability across reward types.

To select the final rewards from this pool, participants in the qualitative interviews were exposed to all 12 rewards in randomized order to minimize order effects. They were asked to categorize each reward as directly or indirectly fitness-related and to provide estimated monetary values for non-monetary rewards such as protein shakes and nutrition consultations. A consistent finding was that fitness-congruent rewards were rated as more attractive than unrelated rewards, particularly among high SI participants. Low SI participants showed broader acceptance regardless of the reward's fitness-relatedness. Based on these findings, three direct and three indirect rewards, one for each monetary tier, were selected as the final rewards, as presented in Table 2.

Table 2: *Final Reward List*

Reward	Fit	Monetary tier
Protein shakes at the fitness center	Direct	Low
1-month premium membership for a fitness app (e.g., Strava, MyFitnessPal, or Freeletics)	Direct	Medium
30-minute nutrition consultation	Direct	High
Hot drink at a café nearby	Indirect	Low
Cinema tickets	Indirect	Medium
50€ Ikea voucher	Indirect	High

3.3.2 Stimuli Validation

To ensure the validity of the attribute manipulations, reward fit, and rewarded behavior, two manipulation checks were included in the survey. Participants in the control group were not exposed to these questions and were redirected to the next block.

For reward fit, people were asked to what degree the rewards shown were related to fitness, measured on a 7-point Likert scale. The manipulation of rewarded behavior was assessed with a multiple-choice question asking which behavior was being rewarded in the program, with VF and ML as options. Before the main survey, the questionnaire, including the manipulation check, was pre-tested. The pre-test showed that participants had difficulty remembering the rewards specifically and did not pass the manipulation check, even when carefully reading the text. Therefore, in the main survey, the manipulation checks were shown directly beneath the scenario, leading participants to re-read the text-based stimulus to answer the two questions.

3.3.3 Final Stimuli

The final stimuli consisted of text-based scenarios for each of the five conditions, as shown in Table 3. All conditions share the same base scenario describing the fictitious fitness center ABC Fitness. The control group received only this information, whereas the four LP conditions received additional information about a loyalty program. The LP conditions varied along the two dimensions rewarded behavior (visit frequency vs. membership length) and reward fit (direct vs. indirect), while remaining identical in structure otherwise. The survey was administered in both German and English.

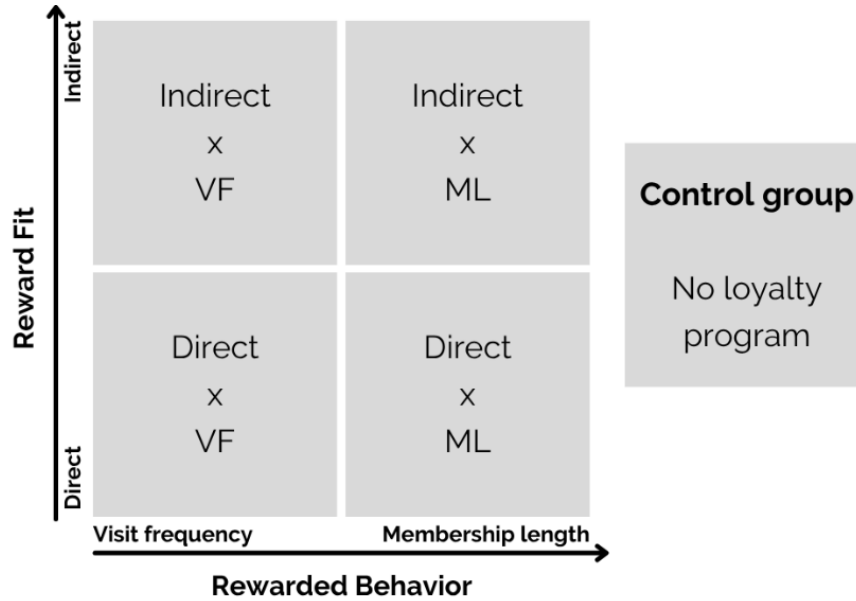
Table 3: *Final Stimuli*

Condition	Stimulus
Base scenario	Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area, and a variety of different classes.
Rewarded Behavior VF	The fitness center also offers the following loyalty program. Members are rewarded based on how often they visit the fitness center. With every visit, you collect points.
Rewarded Behavior ML	The fitness center also offers the following loyalty program. Members are rewarded based on how long they have been a member. With every year you stay, you collect points.
Reward Fit Direct	Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following: • Protein shakes at the fitness center • 1-month premium membership for a fitness app of your choice (e.g., Strava, MyFitnessPal, or Freeletics) • 30-minute nutrition consultation
Reward Fit Indirect	Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following: • A hot drink at a café nearby • Cinema tickets • 50€ Ikea voucher

3.4 Questionnaire Design

The final questionnaire employed a 2×2 between-subjects design with two levels of reward fit and rewarded behavior, respectively. An additional control group was added to the design to ensure that the evaluation differences between the groups were indeed due to the loyalty program. Respondents were randomly assigned to one of the five conditions, shown in Figure 3, minimizing carryover effects and reducing required effort and time (Seltman, 2015).

Figure 3: Survey Design



A block design was used, grouping similar topics into sections to improve participant comprehension (Nunan et al., 2017). After screening for former or current members of German fitness centers, participants were randomly assigned to one of the five experimental conditions. After each condition, an attention check, asking for the name of the fitness center, was conducted to ensure participants read the text carefully. Those who did not answer correctly were automatically excluded from continuing. The stimulus conditions also included manipulation checks for reward fit and rewarded behavior. Participants in these conditions were also asked about the perceived value of the rewards. Afterward, all participants were exposed to SI, PRI, and customer loyalty, before ending with questions regarding their demographics. Only participants who answered that they are currently members of fitness centers were then also shown the blocks on existing LPs in fitness centers and general fitness questions. The survey flow is presented in Table 10 of Appendix B.

3.5 Data Analysis

Data collected through the questionnaire were analyzed using IBM SPSS Statistics 30.0 and Hayes PROCESS version 4.2. Table 5 presents all hypotheses with their respective statistical tests.

Table 4: *Statistical Model*

Hypothesis	Statistical Test
H1: Direct effect of LP (presence vs. absence) on CL	Independent samples t-test
H2a: Effect of LP (presence vs. absence) on PRI	Independent samples t-test
H2b: Effect of reward fit (direct vs. indirect) on PRI	Two-way ANOVA
H2c: Effect of rewarded behavior (VF vs. ML) on PRI	Two-way ANOVA
H3: Effect of PRI on CL	Linear regression
H4a: Mediation of LP (presence vs. absence) on CL	PROCESS Model 4
H4b: Mediation of reward fit (direct vs. indirect) on CL	PROCESS Model 4
H4c: Mediation of rewarded behavior (VF vs. ML) on CL	PROCESS Model 4
H5a: Moderated effect of LP (presence vs. absence) on CL	PROCESS Model 1
H5b: Moderated effect of reward fit (direct vs. indirect) on CL	PROCESS Model 1
H5c: Moderated effect of rewarded behavior (VF vs. ML) on CL	PROCESS Model 1
H6a: Moderated effect of LP (presence vs. absence) on PRI	PROCESS Model 1
H6b: Moderated effect of reward fit (direct vs. indirect) on PRI	PROCESS Model 1
H6c: Moderated effect of rewarded behavior (VF vs. ML) on PRI	PROCESS Model 1

4 Results

4.1 Data Preparation

4.1.1 Data Cleaning

The survey initially received 363 responses. Data cleaning was conducted in several steps. First, previews and responses from participants who did not meet the screening criterion (current or former membership in a German fitness center) were removed. Incomplete responses below 98% were excluded, as these cases reached the second-to-last page but did not submit the survey. Next, response times were analyzed to identify speeders. With a median completion time of 236.5 seconds, responses below one-third of this value (78 seconds) were excluded. The relatively short response times may be explained by participants recruited via SurveyCircle and Prolific, who are generally experienced in completing surveys. Additionally, responses with missing values on mandatory questions (e.g., age) and duplicate IP addresses were removed. After these steps, the cleaned dataset consisted of 285 responses.

4.1.2 Manipulation Check

Two manipulation checks were included to ensure that participants perceived the stimuli as intended (rewarded behavior and reward fit). For rewarded behavior, 98.7% of participants correctly identified whether rewards were based on visit frequency or membership length. A chi-square test confirmed a significant association between condition and perceived rewarded behavior ($p < .001$; see Tables 11 and 12), indicating a successful manipulation. For reward fit, participants rated the reward's fitness-relatedness on a 7-point Likert scale. Responses were considered correct if participants in direct reward conditions selected values between 5 and 7, and participants in indirect reward conditions selected values between 1 and 3. Overall, 91.2% passed this manipulation check. A one-way ANOVA revealed significant differences in perceived reward fit across conditions ($F(3, 222) = 192.41, p < .001$; see Table 13). Although Levene's test indicated unequal variances ($p = .003$; see Table 14), a Kruskal-Wallis test was conducted following Field (2009) recommendations as a robustness check. The results remained significant, $H(3) = 146.23, p < .001$, confirming the manipulation's effectiveness (see Table 15).

Participants who failed at least one manipulation check were excluded from the experimental conditions, resulting in the removal of 22 responses. The control group was not exposed to manipulation checks and was therefore retained in full.

4.1.3 Outlier Analysis

To identify potential multivariate outliers, Mahalanobis distances were calculated from composite scores for SI and PRI. Observations exceeding the critical chi-square value ($\chi^2 = 13.82$, $p < .001$, $df = 2$) were considered outliers. In total, two cases met this criterion and were subsequently excluded from further analysis.

261 valid responses were retained for the final analysis. All included cases met the data quality criteria and passed the manipulation checks (where applicable).

Table 5: *Valid Responses per Stimulus*

Condition	Frequency	Percent	Valid Percent	Cumulative Percent
Control	58	22.2	22.2	22.2
Direct x VF	55	21.1	21.1	43.3
Direct x ML	49	18.8	18.8	62.1
Indirect x VF	46	17.6	17.6	79.7
Indirect x ML	53	20.3	20.3	100
Total	261	100	100	

4.1.4 Measurement Creation and Reliability

After preparing the data, the study variables were defined for analysis. Multi-item scales were combined into composite scores and checked for internal consistency. Short names with up to eight characters were created because variable names longer than eight characters can lead to incorrect output in PROCESS.

Loyalty Program

The independent variable (IV), loyalty program, was operationalized as a categorical variable (**Condition**) with five conditions:

1. Control
2. Direct rewards x visit frequency
3. Direct rewards x membership length
4. Indirect rewards x visit frequency
5. Indirect rewards x membership length

To facilitate subsequent analyses, three dummy variables were created. **Presence** was coded as 0 = no loyalty program (control group) and 1 = any LP present (all four experimental conditions). Second, **Behavior** distinguishes between rewarded behavior, with 0 representing membership length (conditions 3 and 5) and 1 representing visit frequency (conditions 2 and 4). Third, **Fit** represents reward type, coded as 0 for indirect rewards (conditions 4 and 5) and 1 for direct rewards (conditions 2 and 3). The variables Behavior and Fit were created only for participants assigned to one of the four experimental conditions.

Sport Involvement

SI, the moderator, was operationalized using a multidimensional scale comprising three dimensions: hedonic value, centrality, and symbolic value. A composite score (**SI**) was computed by averaging all nine items. The scale showed a mean of 4.92 and a standard deviation of 1.25.

For moderation analyses, a mean-centered version (**SI_c**) was created by subtracting the sample mean from each observation. This resulted in a variable with a mean of 0 while retaining the original standard deviation. Following Hayes (2018), mean-centering was applied to improve the interpretability of the regression coefficients, as the conditional effects are estimated at the sample mean of SI rather than at an arbitrary zero point. Mean-centering does not affect the interaction effect or its statistical significance but facilitates the substantive interpretation of the model parameters. Mean-centering was only performed for SI, as it served as the moderator in the conditional process analyses.

Internal consistency was assessed using Cronbach's alpha. All three dimensions demonstrated good to very good reliability (hedonic value: $\alpha = .919$; centrality: $\alpha = .881$; symbolic value: $\alpha = .943$). The overall SI construct also showed very good reliability ($\alpha = .943$; see Tables 16 to 19, respectively).

Perceived Relationship Investment

The mediator was measured using a three-item scale. A composite score (**PRI**) was calculated by averaging the items. The scale demonstrated good internal consistency ($\alpha = .856$; see Table 20).

Customer Loyalty

The DV customer loyalty was measured using four items. A composite score (**Loyalty**) was computed as the mean of these items. Internal consistency was good ($\alpha = .854$; see Table 21).

Perceived Value

Participants who were exposed to a loyalty program also evaluated the perceived attractiveness of the rewards. A composite score (**Value**) was calculated by averaging the three corresponding items. The scale showed very good internal consistency ($\alpha = .946$; see Table 22).

The following table shows the study's key variables.

Table 6: Model Variables

Variable	Description	Values	Measure
Condition	Experimental condition of the loyalty program	1 = Control 2 = Direct x VF 3 = Direct x ML 4 = Indirect x VF 5 = Indirect x ML	Nominal
Presence	Presence vs. absence of a loyalty program	0 = No LP 1 = LP present	Binary
Behavior	Type of rewarded behavior (VF vs. ML)	0 = ML 1 = VF	Binary
Fit	Type of reward (direct vs. indirect)	0 = Indirect 1 = Direct	Binary
SI	Overall level of sport involvement (mean score of 9 items)	7-point Likert scale	Scale
SI_c	Mean-centered sport involvement	Centered around 0	Scale
PRI	Perceived relationship investment of the fitness center (mean of 3 items)	7-point Likert scale	Scale
Loyalty	Customer loyalty toward the fitness center (mean of 4 items)	7-point Likert scale	Scale
Value	Perceived attractiveness of rewards (mean of 3 items)	7-point Likert scale	Scale

4.2 Descriptive Analysis

4.2.1 Sample Characteristics

The final sample consisted of $N = 261$ respondents. Of these, 55.2% identified as male and 44.8% as female (see Table 23). Participants' ages ranged from 16 to 75 years ($M = 31.6$, $SD = 10.8$; see Table 24). Regarding employment status, the largest share of respondents was full-time employed (39.1%), followed by students (33.7%), part-time employees (10.3%), and self-employed individuals (8.0%). The remaining participants were unemployed, retired, or indicated other employment statuses (see Table 25). Regarding fitness center membership, 57.5% of respondents were currently members of a German fitness center, while 42.5% reported having been members in the past (see Table 26). Regarding training frequency, most participants reported exercising 3–4 times per week (46.0%) or 1–2 times per week (31.0%). Additionally, 16.9% exercised five or more times per week, while 6.1% reported exercising less than once per week. This measure included all types of physical activity, not only fitness center-related exercise (see Table 27). Among current members, most respondents had substantial fitness center experience, with 32.7% reporting 2–5 years, 28.0% reporting 5–10 years, and 14.0% more than 10 years of training, while 25.3% had less than two years of experience (see Table 28). An in-depth overview of characteristics for each condition is provided in Table 29.

4.2.2 Distribution of Key Variables

The following table presents the descriptive statistics for the main variables included in the analysis.

Table 7: Descriptive Statistics and Reliability of Main Variables

Variable	Type	Min	Max	Mean	Standard Deviation	Cronbach's Alpha
Sport Involvement	Moderator	1	7	4.9208	1.25287	$\alpha = .943$
Perceived Relationship Investment	Mediator	2.33	7	5.3474	1.02627	$\alpha = .856$
Customer Loyalty	DV	1	7	4.7289	1.11934	$\alpha = .854$

4.3 Statistical Test Assumptions Validation and Null Hypotheses

4.3.1 Statistical Test Assumptions

Before conducting the hypothesis tests, the assumptions underlying the applied parametric analyses were assessed. Independence of observations was ensured through the between-subjects experimental design, in which each participant was exposed to only one experimental condition. Visual inspection of scatterplots and standardized residual plots indicated no substantial deviations from linearity (Figures 11 and 12) or homoscedasticity (Figures 13 and 14). In addition, Skewness and kurtosis values for SI, PRI, and CL (Table 30) were all within the recommended range of -1 to +1, indicating approximate normality (Hair et al., 2019).

Multicollinearity was assessed separately for two model specifications, as the IV was operationalized using both a dummy variable for LP presence and separate dummy variables for rewarded behavior and reward fit. Since Behavior and Fit excluded the control group, it was not possible to include all predictors in a single model in SPSS due to missing correlations. In both analyses, variance inflation factors (VIF), eigenvalues, and condition indices remained within the recommended thresholds, indicating no problematic multicollinearity (Belsley et al., 1980; Hair et al., 2019; Tabachnick & Fidell, 2013). Tables 31 and 32 present the multicollinearity assessment with the LP presence dummy, and tables 33 and 34 with reward fit and rewarded behavior.

4.3.2 Null Hypotheses

The following table presents all hypotheses, with their respective statistical tests and null hypotheses. While H1 and H2a compared only two groups (control versus LP), H2b and H2c were analyzed using a two-way ANOVA because reward fit and rewarded behavior were manipulated simultaneously within a 2×2 factorial design, allowing both main and interaction effects to be examined.

Table 8: Null Hypotheses

Hypothesis	Hypothesis Type	Statistical Test	Null Hypothesis (H ₀)
H1	Group Difference	Independent samples t-test	$\mu_{LP\text{ Presence}} = \mu_{Control}$
H2a	Group Difference	Independent samples t-test	$\mu_{LP\text{ Presence}} = \mu_{Control}$
H2b	Group Difference	Two-way ANOVA	$\mu_{Direct} = \mu_{Indirect}$
H2c	Group Difference	Two-way ANOVA	$\mu_{VF} = \mu_{ML}$
H3	Direct Effect	Linear Regression	$\beta = 0$
H4a	Mediation	Hayes PROCESS Model 4	Indirect effect = 0
H4b	Mediation	Hayes PROCESS Model 4	Indirect effect = 0
H4c	Mediation	Hayes PROCESS Model 4	Indirect effect = 0
H5a	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$
H5b	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$
H5c	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$
H6a	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$
H6b	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$
H6c	Moderation	Hayes PROCESS Model 1	$\beta_3 = 0$

4.4 Hypothesis Testing

All hypothesis analyses were conducted using a 95% confidence interval and a significance threshold of $p < .05$. Mediation and moderation analyses using Hayes' PROCESS macro were estimated with 5,000 bootstrap samples. Indirect effects were considered significant when the bootstrap confidence interval did not include zero.

4.4.1 Direct Effects of Loyalty Programs on Customer Loyalty

H1: *The presence of a loyalty program has a positive impact on customer loyalty.*

An independent samples t-test, with customer loyalty as the DV and LP presence as the IV, was conducted to test H1. Levene's test indicated unequal variances between groups ($p = .018$). Therefore, the results were interpreted under the assumption of unequal variances. Results

showed that customer loyalty was slightly higher for participants exposed to an LP ($M = 4.74$, $SD = 1.17$) than for participants in the control group without an LP ($M = 4.69$, $SD = 0.91$; see Table 35). However, this difference was not statistically significant, $t(115.92) = -0.39$, $p = .701$ (see Table 36).

Therefore, H_0 could not be rejected, and $H1$ was not supported. The findings suggest that the mere presence of a loyalty program did not significantly increase customer loyalty.

4.4.2 Effects of Loyalty Program Design on Perceived Relationship Investment

***H2a:** The presence of a loyalty program has a positive impact on perceived relationship investment.*

$H2$ was tested using an independent samples t-test, with PRI as the DV and LP presence as the independent dummy variable. Since Levene's test was not significant ($p = .834$), equal variances were assumed. Participants exposed to an LP reported substantially higher PRI ($M = 5.59$, $SD = 0.92$) than those in the control group ($M = 4.49$, $SD = 0.93$; see Table 37). The difference between the groups was statistically significant, $t(259) = -8.07$, $p < .001$ (see Table 38), indicating that respondents perceived the fitness center offering an LP as investing more strongly in the customer relationship.

Consequently, $H2a$ was supported, and the null hypothesis that a loyalty program does not lead to higher perceived relationship investment was rejected.

***H2b:** Direct rewards have a stronger positive impact on perceived relationship investment than indirect rewards.*

To examine whether direct rewards lead to higher levels of PRI than indirect rewards, a two-way ANOVA was conducted. PRI served as the DV, while reward fit and rewarded behavior were included as IVs. The assumption of homogeneity of variances was met ($p = .351$; see Table 39). The analysis revealed a significant main effect of reward fit on PRI, $F(1, 199) = 17.79$, $p < .001$, partial $\eta^2 = .082$ (see Table 40). Participants exposed to direct rewards reported higher levels of PRI ($M = 5.85$, $SE = 0.09$) than participants exposed to indirect rewards ($M = 5.33$, $SE = 0.09$; see Tables 41 and 42).

Therefore, $H2b$ was supported, and the null hypothesis that direct and indirect rewards have the same effect on perceived relationship investment was rejected.

H2c: *The type of rewarded behavior has an impact on perceived relationship investment.*

Using the same ANOVA design as in H2b, the effect of rewarded behavior on PRI was examined. As previously established, the assumption of homogeneity of variances was met ($p = .351$). Participants in the visit frequency condition reported slightly higher levels of perceived relationship investment ($M = 5.69$, $SE = 0.09$) than participants in the membership length condition ($M = 5.49$, $SE = 0.09$; see Tables 43 and 44). However, this difference was not statistically significant, $F(1, 199) = 2.50$, $p = .116$, partial $\eta^2 = .012$ (see Table 40).

Additionally, no significant interaction effect between reward fit and rewarded behavior was found, $F(1, 199) = 0.51$, $p = .478$ (see Table 40), indicating that the effect of rewarded behavior on perceived relationship investment did not differ depending on whether rewards were direct or indirect.

Consequently, H_0 could not be rejected, and H2c was not supported.

4.4.3 Effect of Perceived Relationship Investment on Customer Loyalty

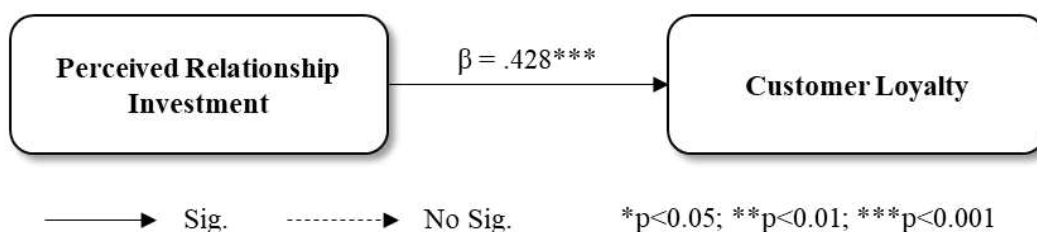
H3: *Perceived relationship investment has a positive impact on customer loyalty.*

A simple linear regression analysis was conducted to test whether PRI positively predicts customer loyalty in the context of fitness studio LPs. The overall regression model was statistically significant, $F(1, 259) = 58.17$, $p < .001$ (see Table 45), explaining 18.3% of the variance in customer loyalty ($R^2 = .183$; see Table 46).

The analysis revealed a significant positive effect of PRI on customer loyalty, $B = 0.467$, $\beta = .428$, $t = 7.63$, $p < .001$ (see Table 47). This means that with every one-point increase in PRI, customer loyalty increased by 0.467 points on average. This suggests that participants who perceived greater relationship investment through the loyalty program also reported higher loyalty toward the fitness studio.

Therefore, H_0 was rejected, and H3 was supported.

Figure 4: Visualization of the Regression Model for H3



4.4.4 The Mediating Role of Perceived Relationship Investment

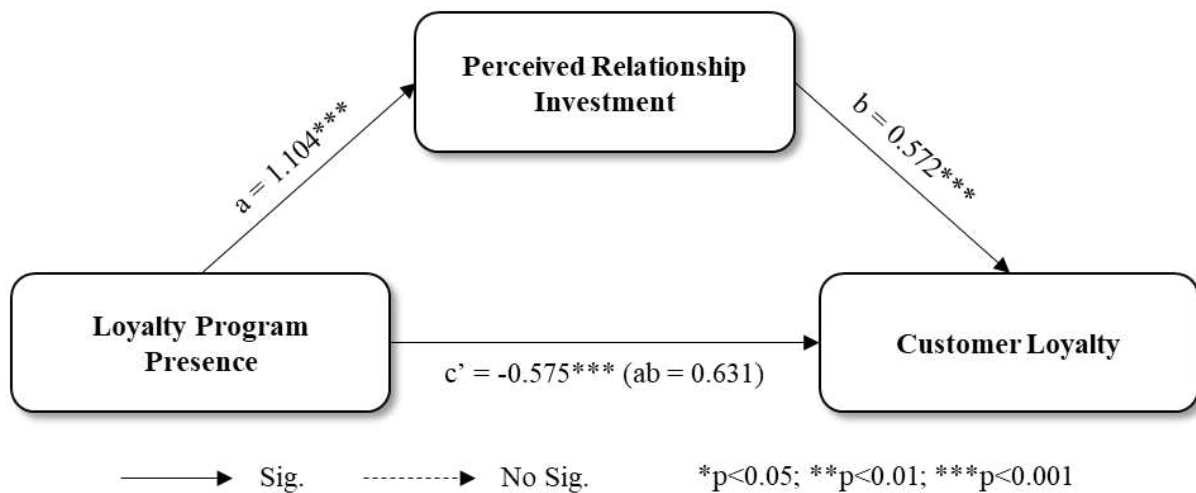
H4a: *Perceived relationship investment mediates the effect of loyalty program presence on customer loyalty.*

To examine whether PRI mediates the relationship between LP presence and customer loyalty, a mediation analysis using Hayes' PROCESS Model 4 was conducted. The results (see Table 48) showed that the presence of an LP had a significant positive effect on PRI ($B = 1.104$, $t = 8.07$, $p < .001$). In turn, PRI significantly predicted customer loyalty, $B = 0.572$, $t = 8.52$, $p < .001$. The indirect effect of LP presence on customer loyalty through PRI was significant (Effect = 0.631, BootLLCI = 0.433, BootULCI = 0.861).

Interestingly, after including PRI in the model, the direct effect of LP presence on customer loyalty became significant and negative ($B = -0.575$, $t = -3.48$, $p = .001$). This indicates an inconsistent mediation effect, suggesting that LP presence indirectly increases customer loyalty through higher PRI, while simultaneously showing a negative direct effect on customer loyalty.

Consequently, H_0 was rejected, and H4a was supported.

Figure 5: Visualization of the Mediation Model for H4a



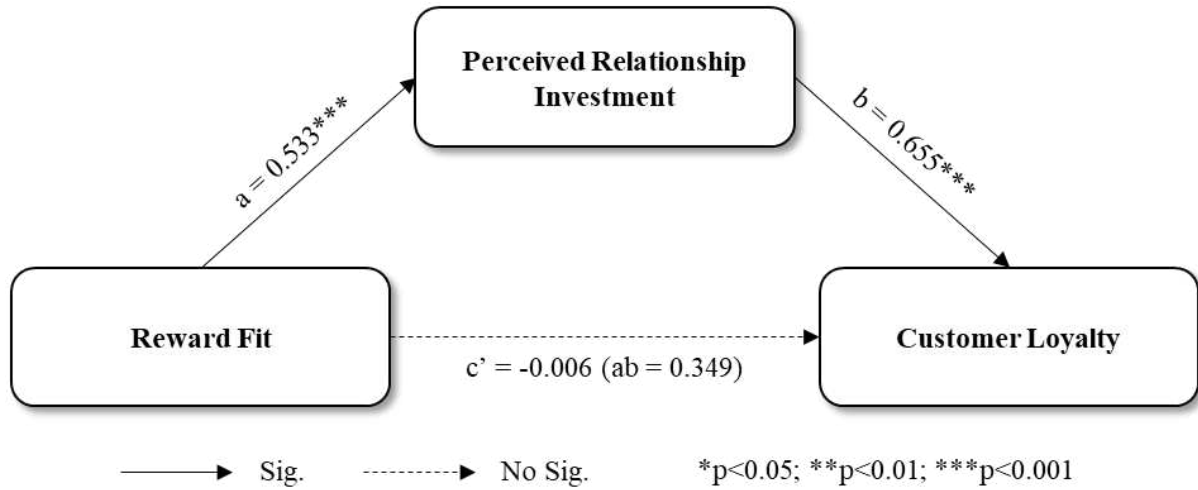
H4b: *Perceived relationship investment mediates the effect of reward fit on customer loyalty.*

Using the same mediation approach as in H4a, the relationship between reward fit and customer loyalty was examined with PRI as the mediator. The results (see Table 49) showed that reward fit significantly predicted PRI, $B = 0.533$, $t = 4.32$, $p < .0001$. In addition, PRI had a significant positive effect on customer loyalty ($B = 0.655$, $t = 8.04$, $p < .0001$).

The indirect effect of reward fit on customer loyalty through PRI was significant (Effect = 0.349, BootLLCI = 0.187, BootULCI = 0.525). After including PRI in the model, the direct effect of reward fit on customer loyalty was no longer significant ($B = -0.006$, $t = -0.04$, $p = .968$), suggesting full mediation.

Consequently, H_0 was rejected, and H4b was supported.

Figure 6: Visualization of the Mediation Model for H4b



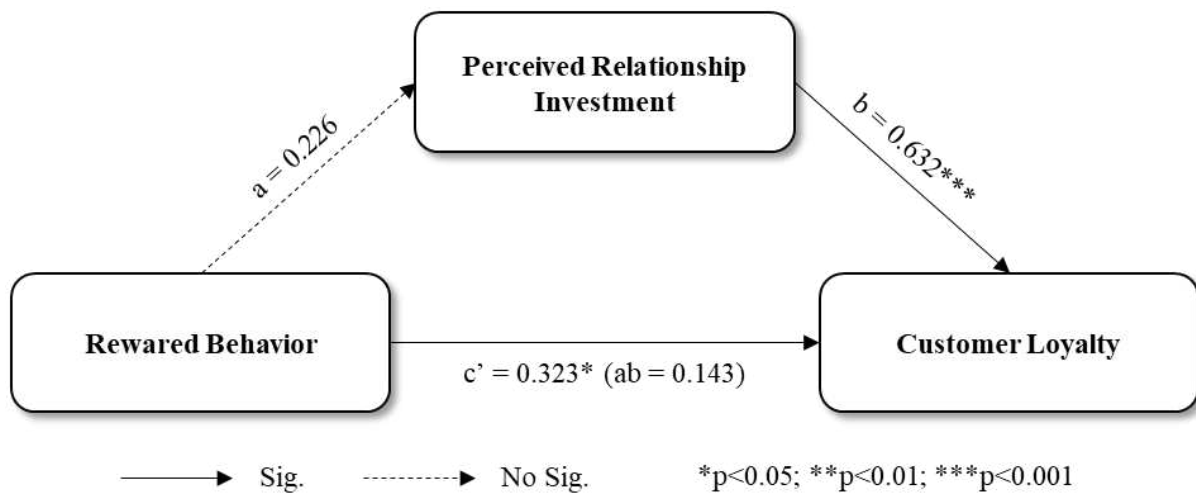
H4c: *Perceived relationship investment mediates the effect of rewarded behavior on customer loyalty.*

Next, the mediating effect of PRI on the relationship between rewarded behavior and customer loyalty was analyzed. The results (see Table 50) showed that rewarded behavior did not significantly predict PRI, $B = 0.226$, $t = 1.77$, $p = .079$. Nonetheless, PRI remained a significant positive predictor of customer loyalty, $B = 0.632$, $t = 8.16$, $p < .0001$.

The indirect effect of rewarded behavior on customer loyalty through PRI was not significant (Effect = 0.143, BootLLCI = -0.022, BootULCI = 0.307). Interestingly, the direct effect of rewarded behavior on customer loyalty became significant after controlling for PRI, $B = 0.323$, $t = 2.28$, $p = .024$, indicating a potential suppression effect rather than mediation.

Consequently, H_0 could not be rejected, and H4c was not supported.

Figure 7: Visualization of the Mediation Model for H4c



4.4.5 The Moderating Role of Sport Involvement

H5a: *Sport involvement moderates the relationship between loyalty program presence and customer loyalty, such that the effect is stronger for highly involved individuals.*

A moderation analysis using Hayes' PROCESS Model 1 was conducted to examine whether SI moderates the relationship between LP presence and customer loyalty. The interaction effect between LP presence and SI was not statistically significant, $B = 0.110$, $t = 0.84$, $p = .400$ (see Table 51). In addition, the interaction term explained only 0.25% additional variance in customer loyalty ($\Delta R^2 = .003$).

Therefore, H_0 could not be rejected, and H5a was not supported.

H5b: *Sport involvement moderates the relationship between reward fit and customer loyalty, such that the positive effect of direct rewards is stronger for individuals with high sport involvement, whereas no significant difference is expected for low involvement individuals.*

To investigate whether SI changes the relationship between reward fit and customer loyalty, a moderation analysis was conducted using PROCESS Model 1. However, the interaction between reward fit and SI was not statistically significant, $B = 0.132$, $t = 1.06$, $p = .291$ (see Table 52), explaining only 0.5% additional variance in customer loyalty ($\Delta R^2 = .005$).

Nevertheless, SI itself showed a significant positive effect on customer loyalty, $B = 0.210$, $t = 2.25$, $p = .026$.

H_0 could not be rejected, and H5b was not supported.

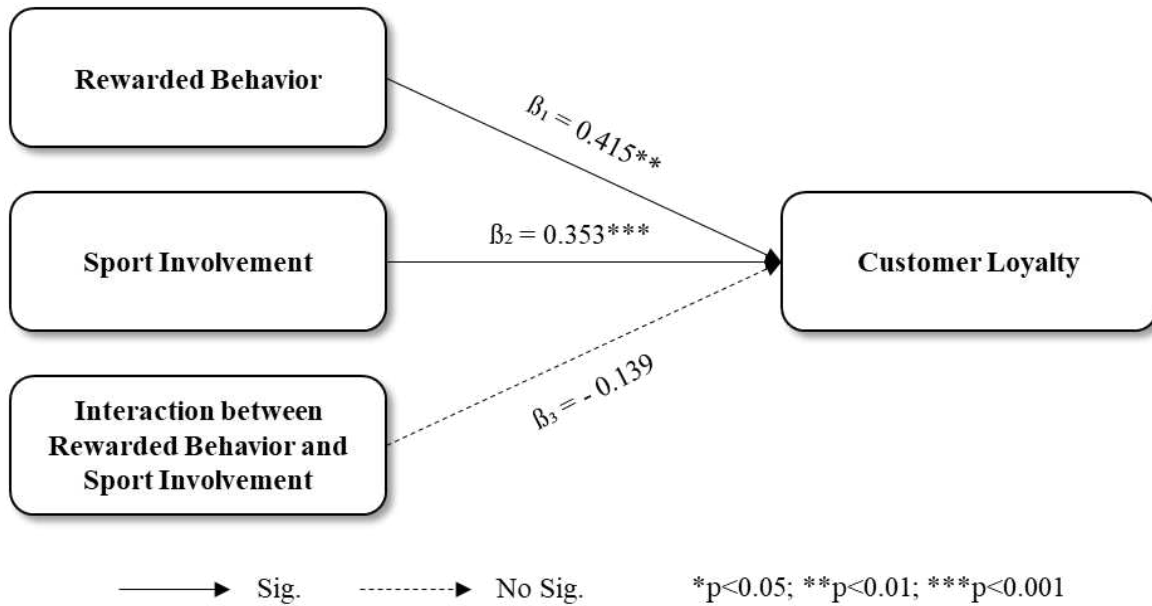
H5c: *Sport involvement moderates the relationship between the type of rewarded behavior and customer loyalty.*

A further moderation analysis examined whether the relationship between rewarded behavior and customer loyalty differs across levels of SI. The interaction effect between rewarded behavior and sport involvement was not significant, $B = -0.139$, $t = -1.13$, $p = .260$ (see Table 53), and explained only 0.6% additional variance in customer loyalty ($\Delta R^2 = .006$).

At the same time, SI positively predicted customer loyalty, $B = 0.353$, $t = 4.00$, $p < .001$.

Accordingly, H_0 could not be rejected, and H5c was not supported.

Figure 8: *Visualization of the Moderation Model for H5c*



H6a: *Sport involvement moderates the relationship between loyalty program presence and perceived relationship investment, such that the effect is stronger for highly involved individuals.*

To examine whether SI moderates the relationship between LP presence and PRI, a moderation analysis using Hayes' PROCESS Model 1 was conducted. The interaction effect was not statistically significant, $B = -0.003$, $t = -0.02$, $p = .982$ (see Table 54).

Therefore, H_0 could not be rejected, and H6a was not supported.

H6b: *Sport involvement moderates the relationship between reward fit and perceived relationship investment, such that the positive effect of direct rewards is stronger for*

highly involved individuals, whereas the positive effect of indirect rewards is stronger for individuals with low sport involvement.

The moderating role of SI on the relationship between reward fit and PRI was examined using PROCESS Model 1. Contrary to the proposed hypothesis, the interaction between reward fit and SI was not statistically significant, $B = 0.111$, $t = 1.14$, $p = .256$ (see Table 55). The interaction effect accounted for only 0.6% additional variance in perceived relationship investment ($\Delta R^2 = .006$).

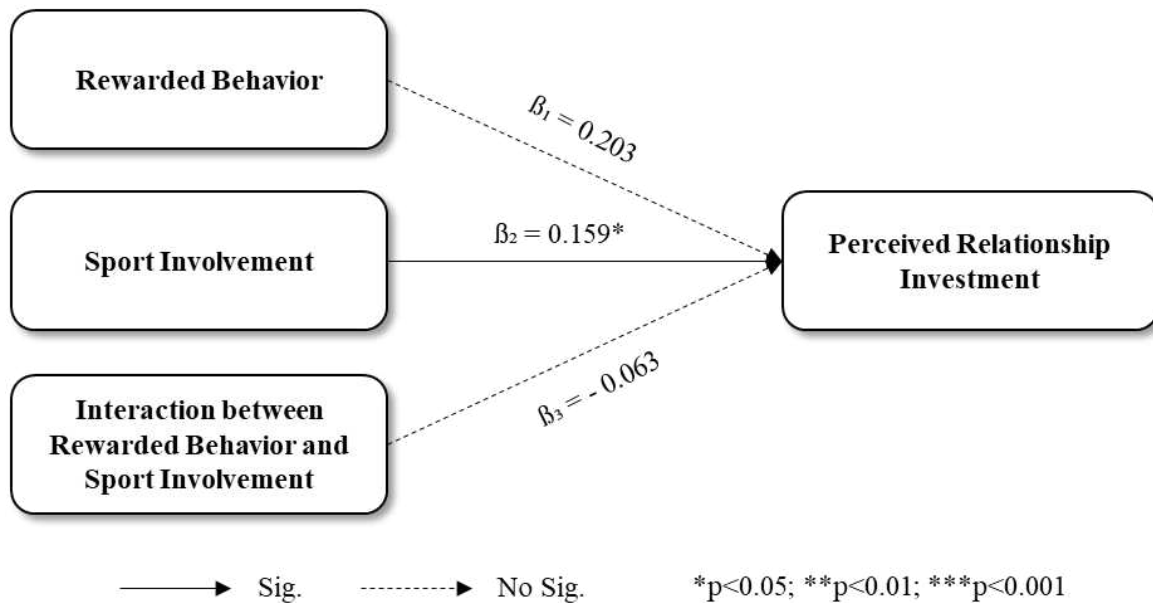
Consequently, H_0 could not be rejected, and H6b was not supported.

H6c: *Sport involvement moderates the relationship between the type of rewarded behavior and perceived relationship investment.*

Lastly, a moderation analysis was conducted to assess whether SI moderates the relationship between rewarded behavior and PRI. The interaction between rewarded behavior and SI was not statistically significant, $B = -0.063$, $t = -0.62$, $p = .534$ (see Table 56), explaining only 0.2% additional variance in PRI ($\Delta R^2 = .002$). However, SI itself showed a significant positive effect on PRI, $B = 0.159$, $t = 2.19$, $p = .030$.

Therefore, H_0 could not be rejected, and H6c was not supported.

Figure 9: Visualization of the Moderation Model for H6c



The following table summarizes all results regarding the hypotheses tested. Since no moderation hypothesis was significant, a full moderated mediation was not analyzed.

Table 9: Summary of Hypothesis Testing Results

Hypothesis	Test	Result
H1	Independent samples t-test	Rejected
H2a	Independent samples t-test	Supported
H2b	Two-way ANOVA	Supported
H2c	Two-way ANOVA	Rejected
H3	Linear Regression	Supported
H4a	Hayes PROCESS Model 4	Supported
H4b	Hayes PROCESS Model 4	Supported
H4c	Hayes PROCESS Model 4	Rejected
H5a	Hayes PROCESS Model 1	Rejected
H5b	Hayes PROCESS Model 1	Rejected
H5c	Hayes PROCESS Model 1	Rejected
H6a	Hayes PROCESS Model 1	Rejected
H6b	Hayes PROCESS Model 1	Rejected
H6c	Hayes PROCESS Model 1	Rejected

4.4.6 Additional Analyses

Given the insights from the hypothesis testing, additional analyses were conducted to explore the roles of SI and perceived value (PV).

First, as multiple analyses indicated a significant impact of sport involvement, its role as an antecedent of both PRI and customer loyalty was examined using linear regression. The results revealed statistically significant positive effects of SI on both PRI ($B = 0.155$, $\beta = .190$, $p = .002$; see Table 57) and customer loyalty ($B = 0.271$, $\beta = .304$, $p < .001$; see Table 58). These findings suggest that members with higher levels of SI perceive greater relationship investment from the fitness center and exhibit greater loyalty, regardless of the specific loyalty program design.

Subsequently, PV was examined as it was presumed to act as a confounder for the rewards. The variable referred to the perceived value of the rewards.

The results of a linear regression showed that PV did, in fact, significantly and positively predict customer loyalty ($B = 0.529$, $\beta = .688$, $p < .001$; see Table 59), indicating that a one-unit increase in PV is associated with a 0.529 increase in customer loyalty. The model furthermore explained 47.4% of the variance in customer loyalty (see Table 60). This finding suggests that PV of rewards, previously considered a confounder, may be one of the strongest drivers of customer loyalty in this context. PV also showed statistically significant positive effects on PRI ($B = 0.301$, $\beta = .503$, $p < .001$; see Table 61), and a multiple regression with PV and PRI on customer loyalty showed a stronger effect of PV ($B = 0.444$, $\beta = .578$, $p < .001$) on CL than PRI ($B = 0.282$, $\beta = .220$, $p < .001$; see Table 62), while both were positive and significant. VIF values (1.338; see Table 62), Eigenvalues, and the Condition Index (see Table 63) indicated no multicollinearity concerns between PV and PRI. Furthermore, the model explained 51.0% of the variance in customer loyalty ($R^2 = .510$; see Table 64), representing the strongest explanatory power across all conducted analyses.

As PV had a much greater explanatory power than expected, it was also analyzed as a mediator of the relationship between reward fit and customer loyalty. A simple mediation analysis using PROCESS Model 4 showed significant effects: reward fit on PV ($B = 0.621$, $p = .004$) and PV on customer loyalty ($B = 0.528$, $p < .0001$). The indirect effect was significant (BootLLCI = 0.108; BootULCI = 0.555), while the direct effect was non-significant ($B = 0.015$, $p = .902$; see Table 65), suggesting a full mediation.

Lastly, PV and PRI were included in a parallel mediation of reward fit on customer loyalty. This mediation was also significant (see Table 66), as reward fit significantly predicted both PV ($B = 0.621$, $p = .004$) and PRI ($B = 0.533$, $p < .0001$), and both mediators significantly predicted customer loyalty when simultaneously entered into the model (PV: $B = 0.446$, $p < .0001$; PRI: $B = 0.295$, $p < .001$). The direct effect remained non-significant ($B = -0.091$, $p = .455$), whereas both indirect effects were significant (PV: 0.277 (BootLLCI = 0.086; BootULCI = 0.483); PRI: 0.157 (BootLLCI = 0.064; BootULCI = 0.269)). While these findings indicate a full mediation of reward fit through PV and PRI simultaneously, the indirect effect through PV was stronger. Furthermore, the parallel mediation explained 51.2% of the variance in customer loyalty ($R^2 = .512$). These findings highlight that, in regard to reward fit, PV is the dominant explanatory pathway, while PRI adds unique explanatory power.

4.5 Key Findings and Discussion

The study examined 14 hypotheses to determine whether and how LPs influence customer loyalty in fitness centers. In total, five hypotheses were supported, and nine were rejected. This section highlights the main findings from the data analysis, including additional analyses.

4.5.1 Loyalty Program Presence and the Relational Signaling Mechanism

Contrary to expectations, LP presence did not directly increase loyalty ($p = .701$) but did so entirely through the mediator PRI ($p < .001$). PRI emerged as one of the most robust and consistent positive predictors of loyalty across all analyses, highlighting the importance of investments that members perceive as sincere efforts to maintain the bond. This supports De Wulf et al. (2001) Rival Model, which suggests that marketing tactics only influence loyalty when they are perceived as a genuine investment. Grounded in the Reciprocity Principle, PRI triggers an inherent psychological pressure to "repay" the firm (Palmatier et al., 2006). Research confirms that gratitude often fully mediates this cycle, acting as the emotional core that transforms firm investments into performance outcomes like purchase intentions (Palmatier et al., 2006).

However, H4a revealed an inconsistent mediation (suppression) effect as the remaining direct effect of LP presence became negative after controlling for PRI. This suggests LPs may be a double-edged sword. Without the relational filter of PRI, the mere presence of an LP can trigger customer skepticism regarding manipulative intent or undermine intrinsic motivation if reward structures are perceived as controlling rather than supportive (J. J. Kim et al., 2021; K. Kim & Ahn, 2017). Therefore, LPs may only generate positive outcomes when the relational signal is strong enough to outweigh suspicions of commercial manipulation.

4.5.2 The Importance of Reward Fit over Rewarded Behavior

Another key insight was that reward fit emerged as substantially more important than rewarded behavior in designing LPs in fitness centers. The specific rewarded behavior (ML vs. VF) played a limited role and was never statistically significant. This suggests that members are indifferent to whether the fitness center rewards them for visits or their membership length. More important is what they are being rewarded with. Direct rewards led to higher PRI and customer loyalty and were perceived as more valuable than indirect rewards. While this study examined the perceived value of the rewards Y. Yi & Jeon (2003) also found that direct rewards are significantly more effective at building the perceived value of the entire LP. This may be because loyalty is a cognitive process that involves brand and attribute comparisons, and direct

rewards reinforce core brand attributes and are therefore more likely to build a durable attitudinal foundation than indirect incentives (Bennett & Rundle-Thiele, 2002). This highlights the necessity to offer fitness-related rewards for a fitness center LP.

4.5.3 The Role of Perceived Value

Perceived value emerged as one of the strongest predictors in the entire study and explained substantially more variance in customer loyalty than expected. PV was a stronger antecedent of customer loyalty and predicted it more strongly than PRI, while also predicting PRI. While this study referred to the perceived value of the rewards, Gálvez-Ruiz et al. (2023) also found that the perceived value of fitness centers was a direct and vital antecedent of customer loyalty. LPs might work through a combination of relationship-building mechanisms and the creation of valuable rewards equally. This aligns with Y. Yi & Jeon (2003), who found that the PV of rewards was the primary mechanism driving an LP's effectiveness. In their study, they highlighted that higher PV of rewards offered in an LP positively affected the LP's PV, which, in turn, positively influenced brand loyalty. This finding does, however, introduce a conflict of spurious loyalty, where customers stay loyal because of accumulated benefits without necessarily having an emotional bond with the company, vs actual intentional loyalty (Evanschitzky et al., 2012). The unexpected finding of the parallel mediation with perceived value and PRI aligns with Menidjel & Bilgihan (2023) research, in which PRI was found to be an antecedent of PV. This suggests that while PRI involves emotional processing and PV involves utilitarian evaluation, they are fundamentally interconnected. In this context, it suggests that while LPs can be effective tools for companies to foster customer connections, for many customers, the most important factor is the personal benefit they derive from the LP. For LP design in fitness centers, this means that, to function effectively, the LP must offer valuable rewards and incentives that satisfy functional needs and genuine relationship signals, fostering a psychological bond.

4.5.4 The Role of Sport Involvement

Contrary to the initial hypothesis that SI would moderate the effects of LP presence and its design elements on PRI and customer loyalty, the opposite was found to be true, as none of the hypotheses could be supported. This finding suggests that, while specific LP studies often find that involvement moderates responses to specific marketing stimuli, in the fitness sector, involvement might serve as a foundational driver of a member's psychological tie to the studio (De Wulf et al., 2001; Dorotic et al., 2012). These results align with fitness center-specific

research by Yoshida et al. (2023) and Yeomans et al. (2024), which demonstrated that higher levels of psychological involvement consistently correlate with stronger loyalty outcomes. Furthermore, the lack of significant moderation effects across the analyses indicates that the mechanisms of LP presence and design elements are remarkably stable across involvement levels. This suggests that the psychological impact of LP presence, reward fit, and rewarded behavior is robust and does not depend on a member's pre-existing SI level. In this context, the study indicates that a well-designed LP can be effective for the entire customer base, rather than being limited to a specific, highly involved niche. Finally, the observation that highly involved individuals perceive higher PRI and loyalty, independent of an LP and its design, might be explained by the PCM introduced in section 2.5. According to Funk & James (2001), individuals who have reached the fourth and last level of allegiance possess a durable, resistant psychological connection. Their loyalty is driven by internalized values and long-term mental associations, making them less susceptible to minor variations in marketing incentives such as LPs.

5 Conclusion

5.1 Main Findings

This study had four research questions guiding the research design, which will be answered based on the empirical findings.

1) Can loyalty programs increase customer loyalty among fitness center members?

The mere presence of a loyalty program did not show a significant increase in customer loyalty. However, LPs did show a positive indirect effect through perceived relationship investment, highlighting the need to design LPs that are perceived as true investments by the fitness center. This finding is further reinforced by the negative direct effect of loyalty programs on customer loyalty after controlling for PRI, indicating that loyalty programs can trigger negative reactions when they are not perceived as a genuine gesture from the fitness center. Consequently, LPs can increase loyalty if members attach meaning to them, but not through their mere existence.

2) How do design elements of loyalty programs (reward fit and rewarded behavior) affect customer loyalty among fitness center members?

The results demonstrate that reward fit matters significantly more than the behavior being rewarded. Direct rewards lead to significantly higher PRI and customer loyalty than indirect rewards. This suggests that members respond more strongly to rewards that directly support their fitness-related goals than to unrelated incentives. Furthermore, the effect of reward fit on customer loyalty was fully mediated through both PRI and the perceived value of rewards, indicating that direct rewards not only strengthen relational perceptions toward the fitness center but also create stronger utilitarian evaluations of the LP. As for the specific behavior being rewarded, no significant impact on either loyalty or PRI was observed between visit frequency and membership length. Therefore, at least in fitness centers, what members are rewarded with matters far more than what they are rewarded for.

3) Does sport involvement explain the effectiveness of loyalty programs in fitness centers?

Contrary to expectations, sport involvement did not moderate any of the examined LP effects. The effectiveness of LP presence and design elements, therefore, appeared relatively stable across different levels of involvement. However, SI itself significantly predicted both PRI and customer loyalty. Members with higher levels of SI generally reported stronger loyalty toward the fitness center and perceived greater relationship investment from it. These findings suggest that SI functions less as a boundary condition for LP effectiveness and more as a foundational

driver of loyalty within the fitness context. Therefore, a well-designed LP could be expected to work equally well for the entire member base.

- 4) What role does perceived relationship investment play in the relationship between loyalty program design and customer loyalty?.

Perceived relationship investment emerged as a central explanatory mechanism throughout the study. PRI significantly mediated the relationships between LP presence and customer loyalty, and between reward fit and customer loyalty. However, the additional analyses revealed that the perceived value of the rewards was an even stronger explanatory factor. PV strongly predicted customer loyalty and also positively influenced PRI, indicating that utilitarian evaluations and relational perceptions are closely interconnected within the LP context. Overall, the findings suggest that loyalty programs in fitness centers foster loyalty not merely through relationship-building efforts, but primarily through the meaningful value members perceive in the rewards offered.

5.2 Academic Implications

The present study extended traditional LP research into the subscription market by examining whether and how LPs influence customer loyalty in fitness centers. While subscription and transactional markets differ fundamentally in purchase frequency, transaction structure, and contractual obligations, the findings suggest that the underlying psychological mechanisms through which LPs operate may be more transferable across contexts than previously assumed.

Research on LPs has consistently found conflicting results regarding their effectiveness on outcomes such as customer loyalty (J. J. Kim et al., 2021). The inconsistent mediation identified in H4a may partially explain this lack of consensus. LP presence simultaneously increases loyalty by increasing perceived relationship investment from the company and decreases loyalty directly when PRI is not accounted for. This suggests that an LP's effectiveness is not inherent in its presence but contingent on whether customers perceive it as a genuine relational investment. This is consistent with De Wulf et al. (2001) who found that LP tactics only drive loyalty when they are perceived as a sincere relationship investment. At the same time, the findings indicate that LPs may also elicit negative feelings, which have received comparatively little attention in the existing LP literature.

Regarding LP design elements, this study confirms the general superiority of direct over indirect rewards, aligning with systematic literature reviews of LPs from J. J. Kim et al. (2021) and Dorotic et al. (2012). The specific behavior that an LP rewards, on the other hand, did not

significantly influence either PRI or loyalty directly. This finding is particularly noteworthy given the subscription context, where the absence of regular transactions makes identifying a clear rewardable behavior less straightforward than in repertoire markets. However, the results suggest that, at least between these two behavioral dimensions, what members are rewarded with matters considerably more than what they are rewarded for.

Contrary to expectation, PRI did not turn out to be the only, or even the strongest, predictor of customer loyalty; rather, the perceived value of rewards actually drove increases in loyalty. This finding shows that while LPs are often seen as tools for companies to connect with their customers, customers evaluate LPs more in terms of their personal benefit. This supports the position that PRI and PV should be treated as interconnected rather than independent constructs. While this study found that PV, as it refers to the rewards specifically, increased PRI, which in turn increased customer loyalty, Menidjel & Bilgihan (2023) found the inverse pathway, where PRI increased PV of the firm, which in turn increased customer loyalty. This suggests the direction of this relationship may be context-dependent and warrants further theoretical attention.

Finally, while much of the LP literature treats involvement as a moderating variable, sport involvement in this study functioned as a direct antecedent of both PRI and loyalty rather than as a boundary condition for LP effectiveness. This reframing is consistent with Yoshida et al. (2023) and Yeomans et al. (2024), and suggests that in sport and fitness contexts, involvement should be conceptualized as a foundational driver of loyalty rather than a situational moderator of marketing stimuli.

5.3 Managerial Implications

The findings provide several practical implications for fitness centers considering the implementation or redesign of loyalty programs.

First, LPs should communicate genuine relationship investment, as the findings demonstrate that LPs positively influence loyalty only when members perceive them as sincere investments in the customer relationship. Fitness centers should therefore avoid overly transactional or aggressive LP communication strategies, as these may trigger skepticism or perceptions of manipulation.

Second, fitness centers should prioritize rewards that create meaningful value for members. PV emerged as the strongest predictor of customer loyalty throughout the study, suggesting that members evaluated an LP primarily based on the benefits they would personally receive.

Consequently, fitness centers should invest in identifying rewards that are genuinely useful, relevant, and desirable to their target groups.

Third, rewards should ideally be fitness-related, as those positively influenced PRI, PV, and customer loyalty, indicating that fitness-related rewards elicit stronger emotional and utilitarian responses than indirect rewards.

At the same time, fitness centers should carefully evaluate whether implementing an LP truly creates strategic value. While first movers may benefit from competitive advantages, poorly designed LPs risk generating negative reactions rather than stronger loyalty. Therefore, LP implementation should be approached strategically and, ideally, involve members throughout the design process to ensure rewards are perceived as valuable and authentic.

5.4 Limitations

While this research provides insights into LP effectiveness in fitness centers, several limitations should be acknowledged.

First, only two dimensions of LPs, reward fit and rewarded behavior, were examined, other elements, such as structural or operational elements, were not included. However, prior research proposes that LP effectiveness depends on the successful combination of multiple elements (J. J. Kim et al., 2021). Second, although perceived value emerged as one of the strongest explanatory mechanisms, it was initially conceptualized as a control-related construct rather than a central mediator. As a result, PV was analyzed more extensively only during the additional analyses. Also, as PV referred to the rewards themselves, it unintentionally served as a mediator for reward fit, whereas no comparable mediator for rewarded behavior was evaluated.

Furthermore, convenience sampling limits generalizability, and given that many participants were unaware of LPs in fitness centers, even among McFIT members, which in fact does offer an LP, the findings raise questions about their accuracy and applicability in real life. Finally, research was conducted in a controlled lab setting. While this does improve internal validity, there is only so much that can be predicted theoretically about loyalty, and the effectiveness of LPs in fitness centers should ideally be evaluated directly within fitness centers, using actual data on churn and retention rates affected by LPs.

5.5 Further Research

Given that LPs elicit both negative and positive reactions and effects on loyalty, future research should explore which negative reactions are evoked and, consequently, which factors can mitigate the negative direct effect of LPs on loyalty. Potential negative reactions are perceived manipulation, skepticism, and unfairness, whereas mitigation factors could include transparency, communication style, and community-based LP approaches.

Future research should also differentiate among fitness centers, such as low-cost, premium, and boutique centers, as members may evaluate loyalty programs differently depending on the underlying value proposition. In addition, future studies should further examine rewarded behavior and potential alternative mediators, such as perceived fairness or perceived effort. While rewarded behavior showed little explanatory power in this study, other behaviors or a combination of both examined behaviors could be analyzed to understand the ideal LP structure in fitness centers.

Furthermore, the relationship between relational and utilitarian mechanisms in LP effectiveness deserves additional attention, as PRI and PV both simultaneously affected loyalty. Future studies should therefore investigate how these mechanisms interact over time and across different contexts. On a broader horizon, it would be interesting to see how LP effectiveness evolves over time and across membership stages, as J. J. Kim et al. (2021) proposed that LP effectiveness and objectives differ across relationship stages.

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Appendix

Appendix A: Qualitative Interviews

A1: Interview Structure

Introduction

“Thank you for your time. For my master's thesis, I am researching the loyalty of fitness center members. There are no right or wrong answers, I am interested in your personal opinion. The interview will be recorded and evaluated anonymously. Do you agree to participate?”

Block 1: Demographic Information

Brief introduction (name, age, occupation, etc.)

"You are currently a member of a fitness center, correct?"

“Which gym are you a member of, and how long have you been a member?”

“Have you trained at another gym before?”

If yes: “When and why did you switch? What would have prevented you from switching?”

Block 2: Sport Involvement

“How often do you train on average per week?”

“What role does sport play in your daily life – is it more of an obligation, a way to unwind, or an important part of your identity?”

Block 3: Membership and Loyalty

“Would you consider yourself a loyal member?”

“Have you ever considered switching to a different gym?”

“What were the reasons?”

“How would you personally define loyalty toward a fitness center?”

“What keeps you from switching – even if another gym were cheaper or better equipped?”

“Do you feel that your gym invests in the relationship with you as a member?”

If yes: “Why?” If no: “What would you wish for?”

Block 4: Perception of Loyalty Programs

“Have you ever heard of loyalty programs or reward programs in fitness centers?”

“What do you imagine one would look like – how would such a program work?”

“Do you think such a program would increase your loyalty toward a gym? Why or why not?”

“Would you feel valued by your gym if it had a loyalty program?”

Block 5: Reward Preferences

“What would you find meaningful to be rewarded for? (e.g. membership length or number of visits)”

“If your fitness center gave you something back for your loyalty – what would you wish for?”

“Here is a list of possible rewards. Which do you find most attractive? Please rank them by attractiveness.-2

List (mix of AF Rewards and McFIT+ rewards) (shown via Miro)

Decathlon voucher, Amazon voucher, Zalando voucher, Free protein shake at the gym, Discount on personal training, 1 month free premium membership of a fitness app of your choice (e.g. Freeletics, Nike Run Club, Strava, etc.), One free month at the gym, Nutrition consultation, Hot drinks at the café next door, Cinema tickets, Wellness voucher

Set up in Miro:

Figure 10: Visual setup of reward preferences in Miro

	📄 Name 1 Reward	# Name 1 Attractiveness	# Name 1 Fitness-related	# Name 1 Monetary value (€)	☰ Name 1 Rewards	☰ Name 1 Comparability (€)
1	Gift card Decathlon				5€ gift card Decathlon	
2	Free Proteinshake at the gym				Free proteinshake at the gym	
3	Discount on personal training				25€ discount on personal training	
4	Gift card Amazon				5€ gift card Amazon	
5	1-month premium membership for a fitness app (e.g., Strava, myfitnesspal, etc.)				1-month premium membership for a fitness app (e.g., Strava, myfitnesspal, etc.)	
6	Free month at the gym				Free month at the gym	
7	Gift card Zalando				25€ gift card Zalando	
8	Nutrition Counseling Session				Nutrition Counseling Session	
9	Wellness gift card				50€ wellness gift card	
10	Hot drinks from the café nearby				Two hot drinks from the café nearby	
11	Movie tickets				Two movie tickets	
12	Ikea gift card				50€ Ikea gift card	
13						

Note: Presentation via Miro, where participants first see only the first two columns, and the other items will be revealed one by one

The goal of adding value to gift cards after is to see what participants find comparable in terms of value, so that the survey can include a good mix of direct and indirect rewards for the reward fit condition

“What do you personally like most about your top 3 rewards?”

“Why are these two rewards at the bottom of your list?”

Block 6: Existing Programs and Explicit Validation

"I will now present you with two existing loyalty programs from the fitness industry."

Gym A (AF Rewards)

“Gym A operates on a points-based system in which members earn points for every gym visit, which can be redeemed for rewards. Members advance through a tier system as they accumulate points, with higher tiers unlocking better rewards. Example rewards included branded merchandise, discount vouchers for personal training, weekly guest passes for friends and family, and discount vouchers for external partners unrelated to fitness. This program rewards active gym usage.”

Gym B (McFIT+)

“Gym B is structured around membership length rather than visit frequency. Members advance through tiers the longer they remain members, regardless of how often they train. Benefits included the option to bring a friend, a free month for a friend, discount codes for friends and family memberships, and the option to train at additional locations. This program rewards long-term loyalty.”

“What is your first impression of the two programs?”

“Which do you find more attractive, and why?”

“Is there anything you particularly like or dislike?”

“Gym A rewards you for your visit frequency, Gym B for your membership length. Do you find one approach fairer or more motivating?”

“Would either approach make you more likely to stay loyal to the gym?”

“Do you feel that one of the two gyms invests more in the relationship with you?”

If yes: “Why?” If no: “Why not?”

“Are there any negative aspects of such a program for you?”

“You mentioned earlier that your gym does (not) invest in the relationship with you. Would it make a difference if you received these or similar rewards for your loyalty?”

“Now take another look at the reward list from earlier. Which of these rewards would you consider fitness-related, and which would you not?”

“How would you assess the monetary value of the rewards?”

“Which rewards are comparable in value? Please sort the rewards into three comparable value categories.”

Closing

“Is there anything we have not covered that you would like to add? Thank you for your time.”

A2: Summary of Interviews

Participant 1 (female, 34, Key Account Manager) has been a member of the same gym for over 16 years, making her the longest-tenured participant in the sample. Her loyalty is driven

primarily by proximity, an employer subsidy, family ties, and habit. She does not feel her studio invests meaningfully in the relationship and has never received any form of recognition despite her long tenure. She was unfamiliar with loyalty programs in the fitness context but responded positively to both program structures, clearly preferring visit-based rewards. Her most attractive rewards were those with a direct fitness connection. She indicated that a well-designed loyalty program would strengthen her commitment and that she would be willing to pay more for a membership that included one.

Participant 2 (male, 28, occupation not specified) trains 4–5 times per week and explicitly describes himself as not loyal, as his membership is entirely location-driven. He previously trained at John Reed, where he had experience with a tier-based loyalty program. He strongly preferred the visit-based program structure, arguing it rewards actual behavior rather than passive membership. His most attractive rewards were the Amazon voucher and a free gym month. He noted that a well-designed program would increase his commitment but that location and price-performance remain the primary switching criteria.

Participant 3 (male, ~50, occupation not specified) has been a member of the same gym for approximately ten years and considers himself loyal, driven largely by routine, satisfaction, and a personal attachment to the space — he and his wife use the studio to practice dance routines together. He brought a unique perspective, having encountered loyalty card systems in the United States decades ago. He preferred the membership duration-based program for its clarity and tangibility, and raised a relevant concern: having been a member for nearly twenty years, he would expect his existing tenure to be recognized rather than starting from scratch. His top rewards included cinema tickets, personal training discounts, and nutrition counseling.

Participant 4 (male, 25, self-employed) switched to his current gym five months prior to the interview after approximately five years at another studio, citing proximity, price, and dissatisfaction with the changing clientele as reasons. He trains four times per week and confirms sport as part of his identity. He was broadly familiar with the loyalty program concept and clearly preferred the visit-based structure, arguing that members should be rewarded for doing something rather than merely being registered. He placed particular value on personalized rewards, suggesting a goodie bag with his name on it as a more meaningful gesture than a price discount. His most attractive reward was a premium fitness app subscription.

Participant 5 (female, 21, student) has been a member of her current gym since 2022, having previously trained at a large chain which she experienced as anonymous and transactional. Her loyalty is driven by proximity, a personable trainer, and a strong sense of community — including social events and studio-organized activities. She already had some experience with loyalty-like mechanics at her studio and responded very positively to the concept of a formal program. She clearly preferred the visit-based structure for its fairness and motivational effect, and her top rewards included Decathlon, Amazon, and Zalando vouchers as well as a free gym month.

Participant 6 (male, 28, occupation not specified) is a McFIT member who explicitly self-identifies as not loyal, with decision-making driven entirely by price and location. He had prior experience with McFIT's duration-based tier program but reported that it had no meaningful

influence on his loyalty. He preferred the visit-based program structure, arguing that gyms should not reward people simply for having a contract. He added an important caveat that rewards need to offer sufficient value to influence behavior, noting that a small voucher after many visits would not change his behavior. His top reward was hot drinks at a café, as he already purchases coffee before training.

Participant 7 (female, 32, Personal Trainer and Hypnosis Coach) was the most highly involved participant in the sample, having trained continuously since 2011 and having made sport her professional identity. She holds two gym memberships simultaneously and drives past a closer gym to reach her preferred studio. She offered a uniquely dual perspective as both a member and a fitness professional, viewing loyalty programs primarily as a business tool beneficial for motivating less consistent members rather than transformative for already-loyal members like herself. She preferred the visit-based program and rated rewards with a direct health and wellness connection most highly, explicitly dismissing cinema tickets as contextually inappropriate.

Participant 8 (female, 46, occupation not specified) has been a FitX member for over ten years and defines loyalty in an unusual way — as being loyal to herself, meaning actually using the membership rather than brand loyalty. Her primary loyalty driver is walkability from her home. She is philosophically skeptical of structured reward programs, arguing that anticipated rewards feel like entitlements rather than genuine appreciation, and that spontaneous, unexpected gestures are more meaningful. Despite this, she acknowledged that a well-designed program would influence her studio choice if competing studios offered meaningfully different rewards. Her top reward was a personal training discount.

Participant 9 (female, 22, student) has been a FitX member for approximately nine to ten years and has never actively switched, driven primarily by a grandfathered cheap contract and general satisfaction. She is the most detached participant regarding loyalty programs, stating that a program would not meaningfully increase her loyalty or make her feel more valued. Her most interesting contribution was a suggestion for goal-based rewards — personalized fitness targets rather than visit counts — as a fairer basis for a program. She clearly preferred the visit-based structure and rated the Amazon voucher, cinema tickets, IKEA voucher, and a premium fitness app subscription as her top rewards.

Participant 10 (male, 41, occupation not specified) holds two gym memberships simultaneously and trains 3–4 times per week, using sport primarily as a way to decompress. He was unfamiliar with loyalty programs in the fitness context but grasped the concept quickly and was the only participant to clearly prefer the membership duration-based program — not because of the rewards themselves, but due to its simplicity and passivity, comparing it to a health insurance bonus booklet that requires no active effort. He identified referral-based rewards as manipulative rather than member-focused, and his top rewards included hot drinks, cinema tickets, a wellness voucher, and an Amazon voucher.

Appendix B: Quantitative Survey

B1: Full Questionnaire

Introduction

This survey is conducted as part of a master's thesis at Católica Lisbon and investigates loyalty among fitness center members.

In the top-right corner, you can change the survey language (English or German).

Your participation is completely voluntary, and all responses will be treated anonymously.

The survey takes approximately 5 minutes to complete. By proceeding to the next page, you confirm that you have read the information above and agree to participate.

If you have any questions, please contact me via s-nglockle@ucp.pt

Thank you for participating!

Block 1: Screening

Q: Are you currently or have you previously been a member of a German fitness center?

- Yes, I'm currently a member
- Yes, I have been a member in the past but not currently
- No

Block 2: Stimuli

Condition 1 (Control Group):

In the following, you will be presented with a scenario about a fictitious fitness center. Please read the scenario carefully and try to envision yourself as a member of this fitness center.

Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area, and a variety of different classes.

Attention Check: What was the name of the fitness center?

- ABC Fitness
- Anytime Fitness
- 123 Fitness
- Fitness First

Condition 2 (Direct x VF):

In the following, you will be presented with a scenario about a fictitious fitness center. Please read the scenario carefully and try to envision yourself as a member of this fitness center.

Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area,

and a variety of different classes.

The fitness center also offers the following loyalty program.

Members are rewarded based on how often they visit the fitness center. With every visit, you collect points. Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following:

- Protein shake at the fitness center
- 1-month premium membership for a fitness app of your choice (e.g., Strava, MyFitnessPal, or Freeletics)
- 30-minute nutrition consultation

Manipulation Question 1: Please indicate to what extent you disagree or agree with the following statement.

The rewards offered in this program are related to fitness and gym activities.

- Strongly disagree (1) to strongly agree (7)

Manipulation Question 2: Which behavior are members rewarded for in this program?

- How often they visit the fitness center
 - How long they have been a member
-

Attention Check: What was the name of the fitness center?

- ABC Fitness
- Anytime Fitness
- 123 Fitness
- Fitness First

Condition 3 (Direct x ML):

In the following, you will be presented with a scenario about a fictitious fitness center. Please read the scenario carefully and try to envision yourself as a member of this fitness center.

Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area, and a variety of different classes.

The fitness center also offers the following loyalty program.

Members are rewarded based on how long they have been a member. With every year you stay, you collect points. Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following:

- Protein shake at the fitness center
- 1-month premium membership for a fitness app of your choice (e.g., Strava, MyFitnessPal,

or Freeletics)

- 30-minute nutrition consultation

Manipulation Question 1: Please indicate to what extent you disagree or agree with the following statement.

The rewards offered in this program are related to fitness and gym activities.

- Strongly disagree (1) to strongly agree (7)

Manipulation Question 2: Which behavior are members rewarded for in this program?

- How often they visit the fitness center
 - How long they have been a member
-

Attention Check: What was the name of the fitness center?

- ABC Fitness
- Anytime Fitness
- 123 Fitness
- Fitness First

Condition 4 (Indirect x VF):

In the following, you will be presented with a scenario about a fictitious fitness center. Please read the scenario carefully and try to envision yourself as a member of this fitness center.

Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area, and a variety of different classes.

The fitness center also offers the following loyalty program.

Members are rewarded based on how often they visit the fitness center. With every visit, you collect points. Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following:

- A hot drink at a café nearby
- Cinema tickets
- 50€ Ikea voucher

Manipulation Question 1: Please indicate to what extent you disagree or agree with the following statement.

The rewards offered in this program are related to fitness and gym activities.

- Strongly disagree (1) to strongly agree (7)

Manipulation Question 2: Which behavior are members rewarded for in this program?

- How often they visit the fitness center
 - How long they have been a member
-

Attention Check: What was the name of the fitness center?

- ABC Fitness
- Anytime Fitness
- 123 Fitness
- Fitness First

Condition 5 (Indirect x ML):

In the following, you will be presented with a scenario about a fictitious fitness center. Please read the scenario carefully and try to envision yourself as a member of this fitness center.

Imagine you are a member of ABC Fitness, which is open every day from 6 AM to 10 PM. ABC Fitness is 10 minutes away from your home by car and offers free water. The fitness center features a spacious cardio area, a full range of popular machines, a free-weight area, and a variety of different classes.

The fitness center also offers the following loyalty program.

Members are rewarded based on how long they have been a member. With every year you stay, you collect points. Depending on how many points you have accumulated, you can redeem your points for rewards, such as the following:

- A hot drink at a café nearby
- Cinema tickets
- 50€ Ikea voucher

Manipulation Question 1: Please indicate to what extent you disagree or agree with the following statement.

The rewards offered in this program are related to fitness and gym activities.

- Strongly disagree (1) to strongly agree (7)

Manipulation Question 2: Which behavior are members rewarded for in this program?

- How often they visit the fitness center
 - How long they have been a member
-

Attention Check: What was the name of the fitness center?

- ABC Fitness
- Anytime Fitness
- 123 Fitness
- Fitness First

Block 3: Perceived Value (not shown to the control group)

Please indicate to what extent you disagree or agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The rewards offered in this program are valuable to me	☐	☐	☐	☐	☐	☐	☐
The rewards offered in this program are worth having	☐	☐	☐	☐	☐	☐	☐
I find the rewards offered in this program attractive	☐	☐	☐	☐	☐	☐	☐

Block 4: Sport Involvement

Please indicate to what extent you disagree or agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Doing sports is fun	☐	☐	☐	☐	☐	☐	☐
Doing sports is one of the most satisfying things that I do	☐	☐	☐	☐	☐	☐	☐
I really enjoy doing sports	☐	☐	☐	☐	☐	☐	☐

Please indicate to what extent you disagree or agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I find a lot of my life organized around doing sports	☐	☐	☐	☐	☐	☐	☐
Doing sports plays a central role in my life	☐	☐	☐	☐	☐	☐	☐
I enjoy discussing sports-related topics with others (e.g., friends, family, co-workers)	☐	☐	☐	☐	☐	☐	☐

Please indicate to what extent you disagree or agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Doing sports says a lot about who I am	☐	☐	☐	☐	☐	☐	☐
Doing sports tells something about me	☐	☐	☐	☐	☐	☐	☐
Doing sports gives others a glimpse of the type of person I am	☐	☐	☐	☐	☐	☐	☐

Block 5: Perceived Relationship Investment

Please indicate to what extent you disagree or agree with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
ABC Fitness makes efforts to increase regular members' loyalty	☐	☐	☐	☐	☐	☐	☐
ABC Fitness makes various efforts to improve its relationship with regular members	☐	☐	☐	☐	☐	☐	☐
ABC Fitness really cares about keeping regular members	☐	☐	☐	☐	☐	☐	☐

Block 6: Customer Loyalty

Please indicate how likely you are to engage in the following behaviors.

	Very unlikely	Unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Likely	Very likely
How likely are you to make positive comments about ABC Fitness and its services to other people?	☐	☐	☐	☐	☐	☐	☐
How likely are you to encourage friends to become members of ABC Fitness?	☐	☐	☐	☐	☐	☐	☐
How likely are you to renew your membership in the future?	☐	☐	☐	☐	☐	☐	☐
How likely are you to remain a member of ABC Fitness if a slightly better alternative were to open nearby?	☐	☐	☐	☐	☐	☐	☐

Block 7: Demographics

Q: How old are you? Please only enter whole numbers.

Q: Which gender do you identify with?

- Male
- Female
- Non-binary
- Prefer not to say

Q: What is your current employment status?

- Student
- Full-time employed
- Part-time employed
- Self-employed
- Unemployed
- Retired
- Other

Q: How often do you do sports (**all sports activities**) on average per week?

- Less than one time per week
- 1-2 times per week
- 3-4 times per week
- 5 or more times per week

Block 8: Existing Loyalty Programs in Fitness Centers

Q: Does your current fitness center offer a loyalty program?

- Yes
 - No
 - I am not sure
-

Q: Please explain what your fitness center's loyalty program looks like.

Block 9: Fitness Center Specific Questions

Q: Which fitness center are you currently a member of?

- McFIT
 - John Reed
 - FitX
 - Clever Fit
 - All inclusive fitness
 - Fitness First
 - INJOY
 - EVO Fitness
 - PRIME TIME fitness
 - Other, please specify
-

Q: How long have you been a member at your current fitness center?

- Less than 6 months
 - 6-12 months
 - 1-2 years (13-24 months)
 - 2-5 years (25-60 months)
 - More than 5 years (60+ months)
-

Q: How long have you been training for in total?

- Less than 6 months
- 6-12 months
- 1-2 years (13-24 months)
- 2-5 years (25-60 years)

- 5-10 years (61-120 months)
- More than 10 years (120+ months)

Q: How often do you visit **your fitness center** per week on average?

- Less than one time per week
- 1-2 times per week
- 3-4 times per week
- 5 or more times per week

Q: What kind of workouts do you usually do when you are at the fitness center? Please select all that apply.

- Cardio
- Strength training
- Attend classes
- Other, please specify

End of survey

Table 10: Survey Flow

Survey Components	Items/Scope
Introduction	1 Question
Screening	1 Question
Randomizer 1	Evenly present one element
Control group	-
Stimulus 1	Direct x VF
Stimulus 2	Direct x ML
Stimulus 3	Indirect x VF
Stimulus 4	Indirect x ML
Perceived Value	1 Question
Randomizer 2	Evenly present three elements
Sport Involvement	3 Questions
Perceived Relationship Investment	1 Question
Customer Loyalty	1 Question
Demographics	4 Questions
Existing Loyalty Programs in Fitness Centers	2 Questions
General Fitness Questions	5 Questions

Appendix C: Statistical Outputs

Table 11: Manipulation Rewarded Behavior Crosstabs

Condition * Total Manipulation Rewarded Behavior Crosstabulation				
Count		Total Manipulation Rewarded Behavior		Total
		1,00	2,00	
Condition	Direct x VF	56	0	56
	Direct x ML	1	56	57
	Indirect x VF	53	2	55
	Indirect x ML	0	58	58
Total		110	116	226

Table 12: Manipulation Rewarded Behavior Chi-Square

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	214,353 ^a	3	<,001
Likelihood Ratio	285,892	3	<,001
Linear-by-Linear Association	48,719	1	<,001
N of Valid Cases	226		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 26,77.

Table 13: Manipulation Reward Fit ANOVA

ANOVA					
Total Manipulation Reward Fit					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	969,404	3	323,135	192,409	<,001
Within Groups	372,830	222	1,679		
Total	1342,235	225			

Table 14: Manipulation Reward Fit Tests of Homogeneity of Variances

Tests of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Total Manipulation Reward Fit	Based on Mean	4,803	3	222	,003
	Based on Median	3,298	3	222	,021
	Based on Median and with adjusted df	3,298	3	187,632	,022
	Based on trimmed mean	3,017	3	222	,031

Table 15: Manipulation Reward Fit Kruskal-Wallis

Test Statistics ^{a,b}	
Total Manipulation Reward Fit	
Kruskal-Wallis H	146,233
df	3
Asymp. Sig.	<,001

a. Kruskal Wallis Test

b. Grouping Variable:
Condition

Table 16: Internal Reliability Hedonic Value (SI)

Reliability Statistics	
Cronbach's Alpha	N of Items
,919	3

Table 17: Internal Reliability Centrality (SI)

Reliability Statistics	
Cronbach's Alpha	N of Items
,881	3

Table 18: Internal Reliability Symbolic Value (SI)

Reliability Statistics	
Cronbach's Alpha	N of Items
,943	3

Table 19: Internal Reliability Sport Involvement

Reliability Statistics	
Cronbach's Alpha	N of Items
,943	9

Table 20: Internal Reliability Perceived Relationship Investment

Reliability Statistics	
Cronbach's Alpha	N of Items
,856	3

Table 21: Internal Reliability Customer Loyalty

Reliability Statistics	
Cronbach's Alpha	N of Items
,854	4

Table 22: Internal Reliability Perceived Value

Reliability Statistics	
Cronbach's Alpha	N of Items
,946	3

Table 23: Descriptive Statistics Gender

Which gender do you identify with?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	144	55,2	55,2	55,2
	Female	117	44,8	44,8	100,0
Total		261	100,0	100,0	

Table 24: Descriptive Statistics Age

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
How old are you? Please only enter whole numbers.	261	16,00	75,00	31,5670	10,78141
Valid N (listwise)	261				

Table 25: Descriptive Statistics Occupation

What is your current employment status?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	88	33,7	33,7	33,7
	Full-time employed	102	39,1	39,1	72,8
	Part-time employed	27	10,3	10,3	83,1
	Self-employed	21	8,0	8,0	91,2
	Unemployed	13	5,0	5,0	96,2
	Retired	2	,8	,8	96,9
	Other	8	3,1	3,1	100,0
Total		261	100,0	100,0	

Table 26: Descriptive Statistics Membership Status

Are you currently or have you previously been a member of a German fitness center?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, I am currently a member	150	57,5	57,5	57,5
	Yes, I have been a member in the past but not currently	111	42,5	42,5	100,0
	Total	261	100,0	100,0	

Table 27: Descriptive Statistics Training Frequency

How often do you do sports (all sports activities) on average per week?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than one time per week	16	6,1	6,1	6,1
	1-2 times per week	81	31,0	31,0	37,2
	3-4 times per week	120	46,0	46,0	83,1
	5 or more times per week	44	16,9	16,9	100,0
	Total	261	100,0	100,0	

Table 28: Descriptive Statistics Fitness Center Experience in Years

How long have you been training for in total?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	7	2,7	4,7	4,7
	6-12 months	11	4,2	7,3	12,0
	1-2 year (13-24 months)	20	7,7	13,3	25,3
	2-5 years (25-60 months)	49	18,8	32,7	58,0
	5-10 years (61-120 months)	42	16,1	28,0	86,0
	More than 10 years (120+ months)	21	8,0	14,0	100,0
	Total	150	57,5	100,0	
Missing	System	111	42,5		
Total		261	100,0		

Figure 11: Linearity Scatterplot with Perceived Relationship Investment

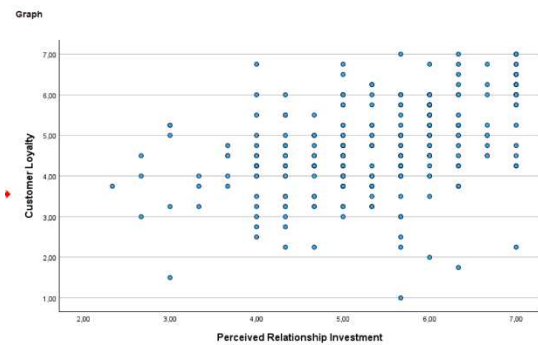


Figure 12: Linearity Scatterplot with Sport Involvement

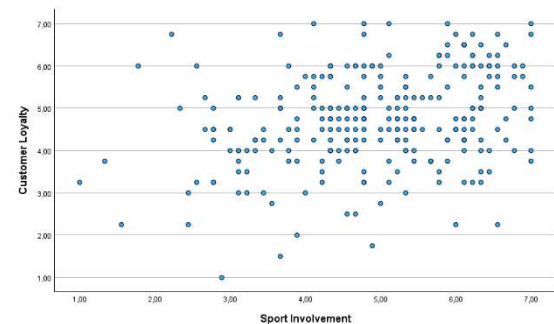


Figure 13: Homoscedasticity Histogram

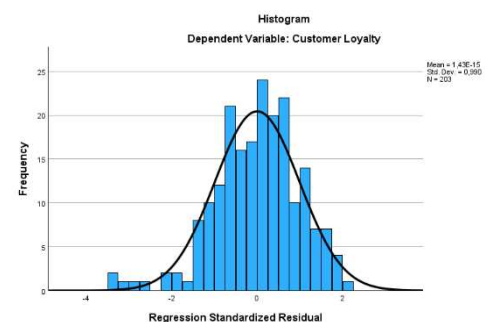


Figure 14: Homoscedasticity Scatterplot

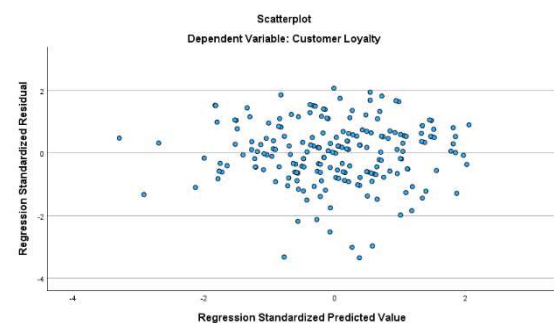


Table 29: Characteristics by Condition

Characteristic		Control Group	Direct x VF	Direct x ML	Indirect x VF	Indirect x ML	Total
Gender	Male	34	32	25	21	32	144
	Female	24	23	24	25	21	117
Age Group	Under 25	14	16	9	16	14	69
	25-34	29	25	27	18	22	121
	35-44	9	6	6	7	9	37
	45-54	1	4	5	2	5	17
	54+	5	4	2	3	3	17
Employment	Student	21	17	13	21	16	88
	Full-time	24	22	19	18	19	102
	Part-time	3	11	6	3	4	27
	Self-employed	8	1	4	2	6	21
	Other	2	4	7	2	8	23
Membership	Current member	34	33	29	21	33	150
	Past member	24	22	20	25	20	111
Training frequency	<1/week	4	3	3	0	6	16
	2-3/week	16	15	19	17	14	81
	4-5/week	27	26	20	25	22	120
	5+/week	11	11	7	4	11	44
Experience	<6 months	2	1	4	0	0	7
	6-12 months	4	4	0	1	2	11
	1-2 years	6	3	3	2	6	20
	2-5 years	12	13	8	7	9	49
	5-10 years	5	7	9	9	12	42
	10+ years	5	5	5	2	4	21

Table 30: Normality Tests

Descriptive Statistics									
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
SI	261	1,00	7,00	4,9208	1,25287	-,461	,151	-,287	,300
PRI	261	2,33	7,00	5,3474	1,02627	-,365	,151	-,167	,300
Loyalty	261	1,00	7,00	4,7289	1,11934	-,254	,151	,094	,300
Valid N (listwise)	261								

Table 31: Multicollinearity Loyalty Program Presence Coefficients

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2,372	,324		7,322	<,001	1,734	3,010		
	Presence	-,558	,160	-,208	-3,479	<,001	-,874	-,242	,799	1,252
	SI_c	,202	,049	,226	4,157	<,001	,106	,297	,963	1,038
	PRI	,522	,066	,478	7,887	<,001	,392	,652	,773	1,294

a. Dependent Variable: Loyalty

Table 32: Multicollinearity Loyalty Program Presence Collinearity Diagnostics

Collinearity Diagnostics ^a							
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Variance Proportions Presence	SI_c	PRI
1	1	2,848	1,000	,00	,02	,00	,00
	2	1,000	1,688	,00	,00	,96	,00
	3	,136	4,571	,06	,87	,00	,02
	4	,016	13,514	,94	,11	,04	,98

a. Dependent Variable: Loyalty

Table 33: Multicollinearity Rewarded Behavior and Reward Fit Coefficients

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound	Upper Bound	Collinearity Statistics Tolerance VIF
1	(Constant)	1,320	,433		3,044	,003	,465	2,175	
	Behavior	,293	,138	,125	2,130	,034	,022	,565	,981 1,020
	Fit	-,035	,143	-,015	-,248	,804	-,317	,246	,913 1,095
	SI_c	,208	,055	,224	3,773	<,001	,099	,317	,962 1,040
	PRI	,587	,080	,458	7,384	<,001	,431	,744	,881 1,135

a. Dependent Variable: Loyalty

Table 34: Multicollinearity Rewarded Behavior and Reward Fit Collinearity Diagnostics

Collinearity Diagnostics ^a								
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Behavior	Fit	SI_c	PRI
1	1	3,222	1,000	,00	,03	,03	,00	,00
	2	,996	1,798	,00	,00	,00	,96	,00
	3	,464	2,634	,00	,60	,42	,00	,00
	4	,305	3,249	,02	,37	,51	,01	,01
	5	,012	16,324	,98	,00	,04	,03	,98

a. Dependent Variable: Loyalty

Table 35: Independent samples t-test Group Statistics H1

Group Statistics				
	Presence	N	Mean	Std. Deviation
Loyalty	0	58	4,6853	,91474
	1	203	4,7414	1,17297

Table 36: Independent samples t-test Table H1

Independent Samples Test											
Levene's Test for Equality of Variances				t-test for Equality of Means							
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Loyalty	Equal variances assumed	5,665	,018	-,336	259	,369	,737	-,05603	,16694	-,38477	,27270
	Equal variances not assumed			-,385	115,917	,351	,701	-,05603	,14562	-,34445	,23238

Table 37: Independent samples t-test Group Statistics H2a

Group Statistics					
	Presence	N	Mean	Std. Deviation	Std. Error Mean
PRI	0	58	4,4885	,93286	,12249
	1	203	5,5928	,91529	,06424

Table 38: Independent samples t-test H2a

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
PRI	Equal variances assumed	,044	,834	-8,069	259	<,001	<,001	-1,10427	,13685	-1,37376	-,83478
	Equal variances not assumed			-7,984	90,731	<,001	<,001	-1,10427	,13831	-1,37903	-,82951

Table 39: Homogeneity of Variances H2b and H2c

Levene's Test of Equality of Error Variances ^{a,b}					
		Levene Statistic	df1	df2	Sig.
PRI	Based on Mean	1,099	3	199	,351
	Based on Median	,995	3	199	,396
	Based on Median and with adjusted df	,995	3	190,149	,396
	Based on trimmed mean	1,177	3	199	,320

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: PRI

b. Design: Intercept + Behavior + Fit + Behavior * Fit

Table 40: Tests of Between-Subjects Effects H2b and H2c

Tests of Between-Subjects Effects						
Dependent Variable: PRI						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	16,653 ^a	3	5,551	7,240	<,001	,098
Intercept	6312,217	1	6312,217	8233,032	<,001	,976
Behavior	1,915	1	1,915	2,498	,116	,012
Fit	13,638	1	13,638	17,787	<,001	,082
Behavior * Fit	,388	1	,388	,506	,478	,003
Error	152,572	199	,767			
Total	6518,889	203				
Corrected Total	169,225	202				

a. R Squared = ,098 (Adjusted R Squared = ,085)

Table 41: Estimates H2b

Estimates				
Dependent Variable: PRI				
Fit	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
0	5,330	,088	5,156	5,504
1	5,849	,086	5,680	6,019

Table 42: Pairwise Comparisons H2b

Pairwise Comparisons						
Dependent Variable: PRI						
(I) Fit	(J) Fit	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
0	1	-,520 [*]	,123	<,001	-,763	-,277
1	0	,520 [*]	,123	<,001	,277	,763

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 43: Estimates H2c

Estimates				
Dependent Variable: PRI				
Behavior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
0	5,492	,087	5,321	5,663
1	5,687	,087	5,515	5,860

Table 44: Pairwise Comparisons H2c

Pairwise Comparisons						
Dependent Variable: PRI						
(I) Behavior	(J) Behavior	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
0	1	-,195	,123	,116	-,438	,048
1	0	,195	,123	,116	-,048	,438

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 45: ANOVA H3

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59,748	1	59,748	58,173	<,001 ^b
	Residual	266,012	259	1,027		
	Total	325,759	260			

a. Dependent Variable: Loyalty

b. Predictors: (Constant), PRI

Table 46: Model Summary H3

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,428 ^a	,183	,180	1,01345	1,917

a. Predictors: (Constant), PRI

b. Dependent Variable: Loyalty

Table 47: Coefficients H3

Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B		Collinearity Statistics
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance
1	(Constant)	2,231	,333		6,691	<,001	1,575	2,888	
	PRI	,467	,061	,428	7,627	<,001	,347	,588	1,000

a. Dependent Variable: Loyalty

Table 48: Mediation Analysis PROCESS Model 4 H4a

Model: 4

Y: Loyalty

X: Presence

M: PRI

Sample Size: 261

OUTCOME VARIABLE: PRI

Model Summary

R	R-sq	MSE	F	df1	df2	p
,4482	,2009	,8449	65,1073	1,0000	259,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,4885	,1207	37,1889	,0000	4,2508	4,7262
Presence	1,1043	,1369	8,0689	,0000	,8348	1,3738

OUTCOME VARIABLE: Loyalty

Model Summary

R	R-sq	MSE	F	df1	df2	p
,4691	,2200	,9848	36,3937	2,0000	258,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,1190	,3281	6,4584	,0000	1,4729	2,7650
Presence	-,5754	,1653	-3,4810	,0006	-,9008	-,2499
PRI	,5718	,0671	8,5231	,0000	,4397	,7039

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,5754	,1653	-3,4810	,0006	-,9008	-,2499

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PRI	,6314	,1092	,4334	,8613

Table 49: Mediation Analysis PROCESS Model 4 H4b

Model: 4

Y: Loyalty

X: Fit

M: PRI

Sample Size: 203

OUTCOME VARIABLE: PRI

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2916	,0850	,7703	18,6840	1,0000	201,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,3199	,0882	60,3094	,0000	5,1459	5,4938
Fit	,5327	,1232	4,3225	,0000	,2897	,7757

OUTCOME VARIABLE: Loyalty

Model Summary

R	R-sq	MSE	F	df1	df2	p
,5105	,2606	1,0275	35,2420	2,0000	200,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,0804	,4452	2,4269	,0161	,2025	1,9583
Fit	-,0060	,1488	-,0403	,9679	-,2994	,2874
PRI	,6551	,0815	8,0422	,0000	,4945	,8158

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-,0060	,1488	-,0403	,9679	-,2994	,2874

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PRI	,3490	,0847	,1896	,5247

Table 50: Mediation Analysis PROCESS Model 4 H4c

Model: 4

Y: Loyalty

X: Behavior

M: PRI

Sample Size: 203

OUTCOME VARIABLE: PRI

Model Summary

R	R-sq	MSE	F	df1	df2	p
,1237	,0153	,8290	3,1232	1,0000	201,0000	,0787

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,4804	,0902	60,7891	,0000	5,3026	5,6582
Behavior	,2259	,1278	1,7673	,0787	-,0261	,4779

OUTCOME VARIABLE: Loyalty

Model Summary

R	R-sq	MSE	F	df1	df2	p
,5285	,2793	1,0015	38,7526	2,0000	200,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,0444	,4363	2,3939	,0176	,1841	1,9047
Behavior	,3226	,1416	2,2789	,0237	,0435	,6018
PRI	,6323	,0775	8,1564	,0000	,4795	,7852

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,3226	,1416	2,2789	,0237	,0435	,6018

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PRI	,1428	,0822	-,0220	,3074

Table 51: Moderation Analysis PROCESS Model 1 H5a

Model: 1
Y: Loyalty
X: Presence
W: SI_c

Sample Size: 261

OUTCOME VARIABLE: Loyalty

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,3079	,0948	1,1474	8,9699	3,0000	257,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,7120	,1417	33,2633	,0000	4,4331	4,9910
Presence	,0172	,1604	,1071	,9148	-,2987	,3330
SI_c	,1840	,1163	1,5819	,1149	-,0451	,4131
Int_1	,1103	,1308	,8434	,3998	-,1472	,3678

Product terms key:
Int_1 : Presence x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0025	,7113	1,0000	257,0000	,3998

Table 52: Moderation Analysis PROCESS Model 1 H5b

Model: 1
Y: Loyalty
X: Fit
W: SI_c

Sample Size: 203

OUTCOME VARIABLE: Loyalty

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,3454	,1193	1,2299	8,9884	3,0000	199,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,5811	,1117	41,0227	,0000	4,3609	4,8013
Fit	,2759	,1564	1,7641	,0792	-,0325	,5842
SI_c	,2104	,0935	2,2503	,0255	,0260	,3948
Int_1	,1324	,1250	1,0587	,2910	-,1142	,3789

Product terms key:
Int_1 : Fit x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0050	1,1209	1,0000	199,0000	,2910

Table 53: Moderation Analysis PROCESS Model 1 H5c

Model: 1
Y: Loyalty
X: Behavior
W: SI_c

Sample Size: 203

OUTCOME VARIABLE: Loyalty

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,3690	,1362	1,2064	10,4579	3,0000	199,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,5303	,1089	41,6102	,0000	4,3156	4,7450
Behavior	,4145	,1547	2,6788	,0080	,1094	,7197
SI_c	,3533	,0884	3,9951	,0001	,1789	,5277
Int_1	-,1390	,1229	-1,1307	,2596	-,3814	,1034

Product terms key:
Int_1 : Behavior x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0055	1,2784	1,0000	199,0000	,2596

Table 54: Moderation Analysis PROCESS Model 1 H6a

Model: 1
Y: PRI
X: Presence
W: SI_c

Sample Size: 261

OUTCOME VARIABLE: PRI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,4767	,2272	,8234	25,1894	3,0000	257,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,5081	,1200	37,5667	,0000	4,2718	4,7444
Presence	1,0792	,1359	7,9427	,0000	,8116	1,3467
SI_c	,1352	,0985	1,3716	,1714	-,0589	,3292
Int_1	-,0025	,1108	-,0223	,9822	-,2206	,2157

Product terms key:
Int_1 : Presence x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0005	1,0000	257,0000	,9822

Table 55: Moderation Analysis PROCESS Model 1 H6b

Model: 1
Y: PRI
X: Fit
W: SI_c

Sample Size: 203

OUTCOME VARIABLE: PRI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,3401	,1157	,7520	8,6754	3,0000	199,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,3237	,0873	60,9670	,0000	5,1515	5,4959
Fit	,5041	,1223	4,1229	,0001	,2630	,7453
SI_c	,0525	,0731	,7183	,4734	-,0916	,1967
Int_1	,1113	,0978	1,1388	,2562	-,0815	,3041

Product terms key:
Int_1 : Fit x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0058	1,2969	1,0000	199,0000	,2562

Table 56: Moderation Analysis PROCESS Model 1 H6c

Model: 1
Y: PRI
X: Behavior
W: SI_c

Sample Size: 203

OUTCOME VARIABLE: PRI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,2175	,0473	,8101	3,2954	3,0000	199,0000	,0216

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,4896	,0892	61,5292	,0000	5,3137	5,6656
Behavior	,2030	,1268	1,6010	,1110	-,0470	,4531
SI_c	,1589	,0725	2,1920	,0295	,0159	,3018
Int_1	-,0628	,1007	-,6232	,5339	-,2614	,1359

Product terms key:
Int_1 : Behavior x SI_c

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0019	,3884	1,0000	199,0000	,5339

Table 57: Regression of Sport Involvement on Perceived Relationship Investment

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound Upper Bound		Collinearity Statistics Tolerance VIF
1	(Constant)	4,582	,254		18,061	<,001	4,083	5,082	
	SI	,155	,050	,190	3,110	,002	,057	,254	1,000 1,000

a. Dependent Variable: PRI

Table 58: Regression of Sport Involvement on Customer Loyalty

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound Upper Bound		Collinearity Statistics Tolerance VIF
1	(Constant)	3,393	,269		12,637	<,001	2,865	3,922	
	SI	,271	,053	,304	5,131	<,001	,167	,376	1,000 1,000

a. Dependent Variable: Loyalty

Table 59: Regression of Perceived Value on Customer Loyalty

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound Upper Bound		Collinearity Statistics Tolerance VIF
1	(Constant)	2,203	,198		11,133	<,001	1,813	2,593	
	Value	,529	,039	,688	13,457	<,001	,451	,606	1,000 1,000

a. Dependent Variable: Loyalty

Table 60: Regression of Perceived Value on Customer Loyalty Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,688 ^a	,474	,471	,85287	1,840

a. Predictors: (Constant), Value

b. Dependent Variable: Loyalty

Table 61: Regression of Perceived Value on Perceived Relationship Investment

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound Upper Bound		Collinearity Statistics Tolerance VIF
1	(Constant)	4,147	,184		22,529	<,001	3,784	4,510	
	Value	,301	,037	,503	8,242	<,001	,229	,373	1,000 1,000

a. Dependent Variable: PRI

Table 62: Multiple Regression of Perceived Value and Perceived Relationship Investment

Coefficients ^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound Upper Bound		Collinearity Statistics Tolerance VIF
1	(Constant)	1,034	,359		2,876	,004	,325	1,742	
	Value	,444	,044	,578	10,094	<,001	,357	,531	,747 1,338
	PRI	,282	,073	,220	3,844	<,001	,137	,427	,747 1,338

a. Dependent Variable: Loyalty

Table 63: Collinearity Assessment between Perceived Value and Customer Loyalty

Collinearity Diagnostics ^a						
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Value	PRI
1	1	2,937	1,000	,00	,01	,00
	2	,051	7,567	,14	,87	,03
	3	,012	15,787	,86	,13	,97

a. Dependent Variable: Loyalty

Table 64: Model Summary of Multiple Regression

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,714 ^a	,510	,505	,82506	1,862

a. Predictors: (Constant), PRI, Value
b. Dependent Variable: Loyalty

Table 65: Simple Mediation with Perceived Value

Model: 4

Y: Loyalty

X: Fit

M: Value

Sample Size: 203

OUTCOME VARIABLE: Value

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2038	,0415	2,2458	8,7118	1,0000	201,0000	,0035

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,4815	,1506	29,7548	,0000	4,1845	4,7785
Fit	,6211	,2104	2,9516	,0035	,2062	1,0360

OUTCOME VARIABLE: Loyalty

Model Summary

R	R-sq	MSE	F	df1	df2	p
,6885	,4740	,7310	90,1046	2,0000	200,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,2002	,1998	11,0140	,0000	1,8063	2,5941
Fit	,0152	,1226	,1237	,9017	-,2266	,2570
Value	,5278	,0402	13,1166	,0000	,4485	,6072

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,0152	,1226	,1237	,9017	-,2266	,2570

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Value	,3278	,1133	,1084	,5548

Table 66: Parallel Mediation with Perceived Value and Perceived Relationship Investment

```

Model: 4
      Y: Loyalty
      X: Fit
      M1: Value
      M2: PRI

Sample Size: 203

*****
OUTCOME VARIABLE: Value

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      ,2038      ,0415      2,2458      8,7118      1,0000      201,0000      ,0035

Model
      coeff      se      t      p      LLCI      ULCI
constant      4,4815      ,1506      29,7548      ,0000      4,1845      4,7785
Fit            ,6211      ,2104      2,9516      ,0035      ,2062      1,0360

*****
OUTCOME VARIABLE: PRI

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      ,2916      ,0850      ,7703      18,6840      1,0000      201,0000      ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      5,3199      ,0882      60,3094      ,0000      5,1459      5,4938
Fit            ,5327      ,1232      4,3225      ,0000      ,2897      ,7757

*****
OUTCOME VARIABLE: Loyalty

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      ,7152      ,5115      ,6822      69,4584      3,0000      199,0000      ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      ,9987      ,3628      2,7525      ,0065      ,2832      1,7142
Fit           -,0911      ,1215      -,7492      ,4546      -,3307      ,1486
Value          ,4462      ,0441      10,1104      ,0000      ,3591      ,5332
PRI            ,2946      ,0754      3,9102      ,0001      ,1461      ,4432

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      -,0911      ,1215      -,7492      ,4546      -,3307      ,1486

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
TOTAL          ,4341          ,1213          ,1919          ,6756
Value          ,2771          ,1004          ,0857          ,4831
PRI            ,1570          ,0532          ,0644          ,2694

```