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Coaching Leadership Effects on Patient Behavioral Intentions: A PLS-SEM Analysis of Korean Primary Healthcare

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Abstract

Purpose: This study empirically investigated how physicians' coaching leadership influences word-of-mouth and revisit intentions, with patient satisfaction and brand attachment serving as mediators in Korean primary healthcare institutions. **Research design, data and methodology:** An online survey was conducted with 306 adults who had utilized primary healthcare institutions within the past three months. To address multicollinearity issues among coaching leadership sub-factors, PLS-SEM analysis was performed using structural multicollinearity modeling and orthogonalization methods. **Results:** All research hypotheses were supported through systematic competitive model comparison, with Model C (endogenous variable covariance model) demonstrating superior fit indices (SRMR=0.044, NFI=0.923, GoF=0.772). The sequential structure of coaching leadership was confirmed (Direction → Development: $\beta=0.810$, $p<0.001$; Development → Performance: $\beta=0.621$, $p<0.001$; Performance → Relationship: $\beta=0.625$, $p<0.001$), with patient satisfaction ($R^2=0.758$) and brand attachment ($R^2=0.784$) demonstrating strong mediating effects. Word-of-mouth intention ($R^2=0.795$) and revisit intention ($R^2=0.815$) showed high explanatory power. Mediation analysis revealed both complete mediation patterns (VAF=1.000) for individual coaching dimensions and partial mediation effects (VAF=0.371-0.391) for comprehensive pathways. Among participants aged 65 and older, brand attachment exhibited a stronger influence on revisit intention compared to younger groups ($\beta=0.728$ vs 0.483 , $p<0.01$). **Conclusion:** This study empirically demonstrated the mechanism by which physicians' coaching leadership induces positive behavioral intentions through patient satisfaction and attachment. These findings provide practical implications for the development of patient-centered healthcare service policies and for quality improvement in primary healthcare.

Keywords: Coaching leadership, Patient-centered care, Patient satisfaction, Brand attachment, Primary healthcare

JEL Classification Codes: I11, M31, M54

1. Introduction

The Korean government has established the enhancement of patient-centered healthcare services and the improvement of primary healthcare systems as

national priorities (Kim et al., 2022). Primary healthcare institutions constitute 87.75% of all medical facilities and are responsible for 82.50% of patient care, serving as the central pillar of national health management (Choi et al., 2017). Lee et al.

(2007) identified four core attributes of primary care through the Delphi method, including first-contact accessibility, comprehensiveness of services, longitudinality of care relationships, and coordination across different providers. These attributes underscore the significance of primary healthcare institutions as hubs within the healthcare delivery system.

Nevertheless, substantial opportunities for quality improvement remain evident. According to research by Choi et al. (2013), Korean primary care confronts structural challenges that encompass functional undifferentiation within the healthcare delivery system, concentration of minor cases due to fee-for-service payment models, and insufficient investment in human resources and capabilities across the primary healthcare sector. This qualitative deficit is exemplified by a study of asthma patients, which revealed that primary healthcare institutions performed pulmonary function tests in only 17.06% of cases, compared to 80.59% in tertiary hospitals, demonstrating a significant disparity (Choi et al., 2017). These qualitative shortcomings extend beyond technical medical issues and are intimately connected to the nature of relationships and communication patterns between healthcare professionals and patients.

The COVID-19 pandemic has precipitated fundamental transformations in the healthcare environment. According to a multinational systematic review by Moynihan et al. (2021), overall healthcare service utilization declined by a median of approximately 37% during the pandemic period, with outpatient visits decreasing by 42%, hospitalizations by 28%, diagnostic testing by 31%, and treatments by 30%. Similarly, Japanese research documented a 27% reduction in total hospitalizations and a 22% decline in outpatient visits as of May 2020, with pediatrics experiencing a particularly pronounced 65% decrease (Yamaguchi et al., 2022).

Concurrently, the escalating workload burden and psychological stress experienced by healthcare professionals have intensified, emphasizing the critical importance of establishing effective patient-provider relationships. Chirico et al. (2020) highlighted that healthcare workers faced significant challenges including infection risks to themselves and their families, burnout from excessive workloads and resource shortages, and psychological fatigue. Research by Cotel et al. (2021) focused on burnout phenomena among healthcare workers during the COVID-19 pandemic and analyzed the impact of healthcare environment changes on the mental health of medical personnel. Such sustained stress can ultimately compromise healthcare service quality and negatively affect patient-provider relationships.

The traditionally authoritarian approach characteristic of Korean medical culture has been identified as a

primary contributor to diminished patient satisfaction and reduced treatment adherence (Kim & Park, 2008). According to Ferguson and Candib (2002), in Asian societies with strong Confucian traditions, physicians are regarded as authoritative knowledge holders while patients are expected to maintain compliant attitudes. Park (2006) analyzed physician-patient dialogues in Korean healthcare settings, revealing that "physician-patient communication exhibits institutional and controlling characteristics, with nonverbal signals carrying significant meaning."

However, indications of transformation are emerging within these traditional relational frameworks. Research by Lee and Kim (2013) confirmed that patient-centered communication facilitating factors, which include empathy, explanation, and emotional consideration, significantly enhance patients' behavioral, emotional, and informational engagement, even among Asian patient populations. Particularly noteworthy is the finding that when trust levels are elevated, these facilitating factors demonstrate strong synergistic effects on emotional and informational participation.

Although Korea's healthcare environment presents structural limitations for long-term relationship formation due to extensive patient choice and frequent inter-institutional mobility, the demonstrated positive impact of physician-patient relationship continuity on primary healthcare quality highlights the emerging necessity for relationship-oriented leadership approaches. Indeed, physician-patient relationships extending beyond four years have been shown to significantly improve the coordination function and comprehensiveness of primary care (Lee et al., 2013).

Coaching leadership is conceptualized as a leadership style that supports individual growth through dialogue and feedback rather than unilateral control (Stowell, 1986; Whitmore, 2002). Henochowicz and Hetherington (2006) describe coaching leadership in healthcare environments as "supportive and participatory leadership where leaders facilitate the maximization of individual capabilities and potential through reflection and learning promotion, rather than unilateral instruction and control."

Internationally, coaching leadership programs designed to strengthen relationship-oriented and distributed leadership capabilities have been successfully implemented in primary healthcare settings (Cleary et al., 2018). Particularly, Canada's co-active coaching program for clinical nursing leadership development achieved significant outcomes in enhancing individual self-leadership, leading to improved team and service performance (Cable & Graham, 2018). These programs, designed to support deep introspection and conscious action through coaching interventions, improved confidence

and reflective capabilities, which translated into enhanced team and service outcomes.

Research on healthcare institution empowerment within collectivist cultures indicates that relationship-oriented approaches are more effective than individualistic models, with interdependence and trust-based network building playing crucial roles in empowerment and performance improvement (Maritsa et al., 2022). Additionally, the dual identity conflict of physician-managers, commonly observed in Asian healthcare institutions, necessitates effective coordination for successful leadership exercise (Andersson, 2015).

Recent studies have demonstrated that implementing mobile platforms utilizing patient-reported outcome measurement tools enhances patient engagement, adherence, and satisfaction (Kneuert et al., 2020). This suggests that digital technology-based patient experience improvements can positively influence behavioral intentions and may be even more effective when combined with relationship-oriented approaches such as coaching leadership.

This study aims to empirically examine of healthcare professionals' coaching leadership on word-of-mouth intention and revisit intention through patient satisfaction and brand attachment as mediating variables in Korean primary healthcare institutions. Through this analysis, the study seeks to provide theoretical contributions to the medical leadership literature and practical implications for implementing patient-centered healthcare service policies

2. Literature Review

2.1 Coaching Leadership and Healthcare Services

Coaching leadership represents a paradigmatic shift from traditional hierarchical approaches toward relationship-oriented, participatory models, emphasizing mutual respect, empowerment, and collaborative decision-making (Cable & Graham, 2018). Within healthcare contexts, this approach extends beyond conventional patient-centered care models through its distinctive focus on capability development and self-efficacy enhancement.

This study advances coaching leadership theory by establishing its distinctive application in healthcare services, fundamentally differentiating it from conventional patient-centered care approaches. While patient-centered care focuses primarily on information sharing and shared decision-making, coaching leadership emphasizes capability development and self-efficacy enhancement through structured relationship building. This distinction proves particularly relevant in healthcare contexts where

long-term behavior change and self-management capabilities are essential for treatment success (Alexander et al., 2012). The sequential dimensional structure (Direction → Development → Performance → Relationship) provides a processual framework that extends beyond static patient-centered care models to dynamic capability-building approaches.

The sequential structure of coaching leadership dimensions is theoretically grounded in multiple established frameworks. From a cognitive development perspective, Vygotsky's (1978) Zone of Proximal Development theory suggests that learning progresses through scaffolded stages where clear direction (Zone of Actual Development) enables capability development (Zone of Proximal Development), leading to independent performance and relationship formation. Similarly, Bandura's (1977) Social Learning Theory posits that behavioral change occurs through a sequential process of attention (direction), retention (development), reproduction (performance), and motivation (relationship maintenance). In healthcare contexts, this progression reflects the natural patient empowerment process where initial clarity enables skill development, which facilitates meaningful feedback exchange, ultimately fostering trust-based therapeutic relationships.

This sequential understanding of coaching leadership dimensions provides a refined theoretical perspective that extends beyond existing multi-dimensional models. While Goldman et al. (2013) conceptualized coaching leadership as four parallel competencies, this study establishes their developmental interdependence through empirical validation of the Direction → Development → Performance → Relationship progression. This theoretical advancement demonstrates that effective coaching in healthcare contexts requires systematic capability building rather than simultaneous skill deployment, thereby offering a more nuanced understanding of coaching leadership implementation in time-constrained clinical environments.

2.2 Patient Satisfaction and Brand Attachment

Patient satisfaction represents patients' overall evaluative contentment with their healthcare service experiences (Anderson, 1998). In healthcare services, patient satisfaction encompasses comprehensive evaluation of not only treatment outcomes but also care processes, interactions with healthcare professionals, and medical facility environments. Due to the credence good characteristics of healthcare services, patient satisfaction is closely related to perceptions of healthcare professional expertise.

Research by Thom et al. (2015) demonstrated that health coaching intervention groups showed significant improvement in PACIC scores (chronic disease management experience) from 3.13 to 3.82

after one year, with responses indicating willingness to "recommend the clinic to family and friends" increasing from 73% to 85%. This illustrates the direct connection between patient experience and satisfaction when primary care quality and coordination functions are performed effectively. Patient-centered communication positively influences patient satisfaction and treatment outcomes through trust formation mediation (Hong & Oh, 2020).

Patient-centered care through adequate consultation time has been shown to positively impact patient satisfaction and trust formation with healthcare professionals (Sohn et al., 2019). Conversely, authoritarian communication styles have been confirmed to significantly diminish patient satisfaction (Kim & Park, 2008). These research findings demonstrate the decisive influence of healthcare professionals' communication styles on patient satisfaction.

Brand attachment signifies the emotional bond and psychological connection patients feel toward specific healthcare institutions. Applying Park et al.'s (2010) brand attachment concept to healthcare service contexts, it reflects a state where healthcare institutions are perceived not merely as healthcare service providers but as essential partners in patients' health and well-being. In healthcare services, attachment comprises multidimensional elements including trust, intimacy, comfort, and sense of belonging.

According to research by Chahal and Bala (2012), healthcare institution brand equity significantly influences physician-patient trust, repeat visits, and word-of-mouth effects in Asia, particularly in Korea, China, and Japan. This reflects cultural characteristics patients exhibit in healthcare institution selection processes. Research by Fong and Goh (2020) demonstrated that the influence of perceived healthcare service quality and brand loyalty operates more significantly than brand image or awareness.

Huaman-Ramirez and Merunka (2019) revealed that trust serves as a crucial mediating variable in the process connecting brand experience to brand attachment. The greater patients' trust in healthcare institutions and professionals, the higher the likelihood of developing long-term attachment to those institutions. Additionally, trust strengthens the service experience-attachment relationship, with this mediating effect being particularly pronounced for utilitarian brands.

Research has confirmed that patient characteristics including age, income, and previous experience exert moderating influences on the brand experience-attachment pathway during brand attachment formation. Stronger experience-attachment connections have been reported among younger

patients and middle-to-low income patients (Huaman-Ramirez & Merunka, 2019). These findings suggest that healthcare institutions should develop tailored approaches for diverse patient populations.

2.3. Word-of-Mouth Intention and Revisit Intention

Word-of-mouth intention refers to a patient's willingness to positively communicate their healthcare service experiences to others. Healthcare services possess strong credence qualities, making it difficult to assess their quality beforehand. Given that the outcome of healthcare choices directly impacts health and life, the experiences and recommendations of other patients serve as crucial information sources for selecting medical institutions.

Research by Cham et al. (2014, 2016) indicates that recommendations from satisfied patients not only enhance brand image but also act as the most reliable information source for potential new patients in healthcare environments characterized by information asymmetry. Shahijan et al. (2015) reported that superior service experiences positively influence patient word-of-mouth intention, and this word-of-mouth effect, in turn, generates a virtuous cycle of new patient acquisition, brand image enhancement, service quality perception, satisfaction, and behavioral intention.

Revisit intention denotes a patient's inclination to utilize the same medical institution again should future health issues arise. In healthcare services, revisit intention is a core indicator of patient loyalty, essential for maintaining continuous treatment relationships and long-term health management. Lee (2005) reported that patient satisfaction is determined by effective medical practices, friendliness, clear communication, and high-quality services, which collectively increase the intention to revisit primary care providers.

Research by An et al. (2023) explained that patient revisit intention is complexly influenced by various factors, including healthcare service quality, healthcare professional kindness, trust formation, physical environment, communication, and overall satisfaction. Specifically, elements such as servicescape, interaction quality, brand experience, trust, and patient-centered communication were found to have a direct linear relationship with patients' intention to reuse services (Shie et al., 2022).

For elderly patients, service trust, the medical institution's role as a partner, and consistent service delivery were identified as key factors for revisit and long-term loyalty (Park et al., 2021; Jahn et al., 2012). Research by Song et al. (2021) suggests that appropriate chronic disease management in primary care contributes not only to the sustainability of clinics

but also to improving population health outcomes and avoiding unnecessary higher-level treatments, thereby supporting the efficient allocation of healthcare resources.

2.4. Distinctiveness and Application of Coaching Leadership in Healthcare Services

Coaching leadership distinguishes itself from conventional medical communication or patient-centered care through unique characteristics. Firstly, in contrast to traditional medical communication, which is primarily focused on information transfer, coaching leadership emphasizes the development of patients' self-efficacy and self-management capabilities (Park, 2018). Secondly, unlike outcome-oriented patient-centered care, coaching leadership pursues process-oriented capability enhancement through the continuous building of patient-healthcare provider relationships (Lee et al., 2013; Cable & Graham, 2018).

Healthcare services, where trust and expertise are paramount due to their direct implications for patients' lives, are particularly well-suited to coaching leadership's relationship-based approach. A core aspect involves reducing the knowledge gap between physicians and patients through coaching processes. Research indicating that physician-patient relationships lasting more than four years contribute to improving primary healthcare quality (Lee et al., 2013) aligns with the relationship-centric approach of coaching leadership.

Recent studies report that coaching leadership effectively reduces emotional exhaustion and alleviates job stress among healthcare professionals (Kumar & Jin, 2022). Specifically, findings that healthcare professionals' coaching leadership mitigated emotional labor and job stress during the COVID-19 pandemic, contributing to improved patient experience, provide theoretical support for this study.

Domestic Korean research also reports that nurses' coaching leadership promotes innovative behavior

through self-efficacy and job engagement (Park, 2018), which is consistent with the mediation hypotheses of the present study. Primary healthcare institutions, characterized by their smaller organizational scale, represent contexts where the leader's (physician's) interactions exert significant influence on both staff and patient experiences (Choo & Cheah, 2011), making them ideal settings for the most effective manifestation of coaching leadership's relationship-centric characteristics.

2.5. Relationship Marketing Theory and Healthcare Services

Relationship marketing theory emphasizes building long-term, sustainable interactions with customers, transcending mere one-time transactions between customers and organizations. The integration of coaching leadership with relationship marketing theory contributes to healthcare service literature by demonstrating how leadership behaviors translate into brand equity and customer loyalty. This synthesis provides a comprehensive framework explaining the mechanism through which healthcare professionals' relational competencies generate sustainable competitive advantages through patient attachment and behavioral intentions, extending beyond traditional service quality-satisfaction-loyalty chains to include emotional bonding processes characteristic of high-involvement service contexts.

In relationship marketing, the establishment of long-term relationships is facilitated by emotional and cognitive factors such as trust, commitment, and reciprocity. Based on leadership research in healthcare settings, healthcare professionals' relational leadership and effective communication competencies are intimately linked to the formation of trust with patients (Yu et al., 2023).

2.6. Research Hypotheses

Based on the preceding literature review, this study establishes the following research model and hypotheses.

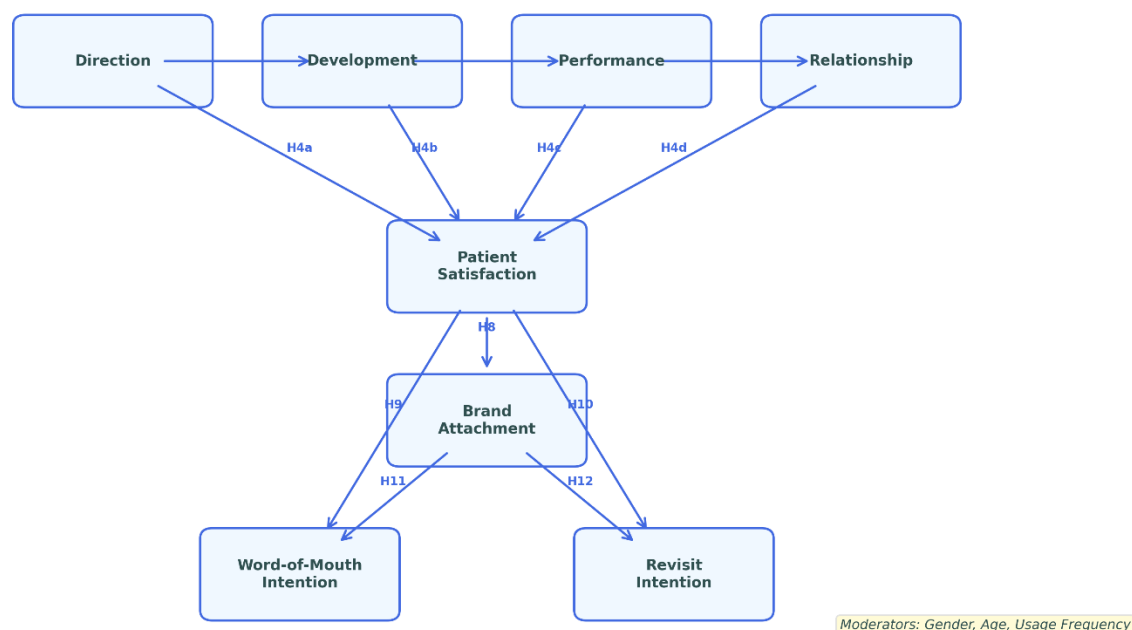


Figure 1: Research Model

2.6.1 Structural Relationships Among Coaching Leadership Sub-dimensions

Coaching leadership is conceptualized not as a simple aggregation of individual behaviors but as a systematic and sequential process manifesting through structured development. According to Stowell's (1986) coaching leadership model, effective coaching initiates with clear direction setting, facilitates individual capability development, progresses to appropriate performance evaluation, and culminates in trust relationship formation.

Within healthcare service contexts, healthcare professionals first provide patients with clear treatment goals and plans (direction), subsequently support the enhancement of patients' self-management capabilities based on this foundation (development), deliver appropriate feedback regarding treatment progress (performance), and ultimately establish trust-based relationships with patients (relationship). Grounded in this theoretical foundation, the following hypotheses are formulated.

When healthcare professionals present clear treatment goals and plans, patients acquire concrete understanding of required actions, thereby enabling active participation in self-management capability development. According to Goal Setting Theory, clear and specific goals enhance individual learning motivation and performance outcomes.

H1: Direction will have a positive (+) effect on Development.

The development of patients' self-management

capabilities constitutes a prerequisite for healthcare professionals to meaningfully evaluate patient treatment engagement and progress. Without adequate capability foundation, appropriate performance evaluation becomes unattainable, and patients encounter difficulties in comprehending and utilizing feedback effectively.

H2: Development will have a positive (+) effect on Performance.

Appropriate feedback and evaluation demonstrate healthcare professionals' attentiveness and expertise to patients, thereby fostering trust and rapport formation. According to Social Exchange Theory, sustained and constructive feedback enhances mutual trust and commitment between parties.

H3: Performance will have a positive (+) effect on Relationship.

2.6.2 Relationships Between Coaching Leadership and Patient Satisfaction

Coaching leadership, as a leadership style supporting individual growth and performance improvement, is anticipated to play a significant role in enhancing patient satisfaction within healthcare services. Clear direction provision will reduce patient anxiety and provide treatment confidence, thereby increasing satisfaction levels. Capability development will enhance patients' self-efficacy, leading to increased satisfaction with the treatment process. Appropriate performance evaluation will provide patients with feedback regarding treatment progress, further enhancing satisfaction. Trust-based relationships will

offer patients psychological stability, improving overall service satisfaction.

H4a: Direction will have a positive (+) effect on Patient Satisfaction.

H4b: Development will have a positive (+) effect on Patient Satisfaction.

H4c: Performance will have a positive (+) effect on Patient Satisfaction.

H4d: Relationship will have a positive (+) effect on Patient Satisfaction.

2.6.3 Relationships Between Coaching Leadership and Brand Attachment

Brand attachment represents emotional bonds transcending mere satisfaction, formed through long-term and sustained relationships. Healthcare professionals' coaching leadership is expected to foster brand attachment through in-depth interactions with patients. Treatment goal sharing through direction provision will establish partnership relationships between patients and healthcare institutions, thereby increasing attachment. Supporting patient growth through capability development will foster gratitude and attachment toward healthcare institutions. Continuous performance evaluation will demonstrate care and consideration for patients, strengthening attachment bonds. Trust-based relationships will directly cultivate emotional connections with healthcare institutions.

H5a: Direction will have a positive (+) effect on Brand Attachment.

H5b: Development will have a positive (+) effect on Brand Attachment.

H5c: Performance will have a positive (+) effect on Brand Attachment.

H5d: Relationship will have a positive (+) effect on Brand Attachment.

2.6.4 Coaching Leadership as a Higher-Order Construct

The four sub-dimensions of coaching leadership can be understood as constituting integrated, holistic coaching competency rather than operating independently. From a higher-order construct perspective, coaching leadership can be conceptualized as a superordinate concept formed through the combination of direction, development, performance, and relationship sub-dimensions. This integrated coaching leadership is expected to exert substantial influence on patient satisfaction and brand attachment through synergistic effects transcending the sum of individual sub-dimensions.

H6: Coaching Leadership (higher-order construct) will have a positive (+) effect on Patient Satisfaction.

H7: Coaching Leadership (higher-order construct) will have a positive (+) effect on Brand Attachment.

2.6.5 Relationship Between Patient Satisfaction and Brand Attachment

Patient satisfaction and brand attachment, while representing distinct concepts, maintain close interrelationships. Patient satisfaction exhibits stronger cognitive evaluative characteristics regarding service experiences, whereas brand attachment demonstrates stronger emotional bond characteristics. In healthcare services, when patients experience satisfaction with treatment and services, this is expected to develop into brand attachment by forming positive emotions and trust toward their healthcare institution.

H8: Patient Satisfaction will have a positive (+) effect on Brand Attachment.

2.6.6 Effects of Patient Satisfaction and Brand Attachment on Behavioral Intentions

Patient satisfaction and brand attachment are recognized as significant influences on healthcare consumers' behavioral intentions. Patients satisfied with healthcare services demonstrate higher likelihood of recommending their healthcare institution to others and reusing the same institution when future healthcare needs arise. Additionally, patients who form attachment to healthcare institutions are expected to engage more actively in word-of-mouth activities and maintain continuous utilization of the institution despite alternative options.

H9: Patient Satisfaction will have a positive (+) effect on Word-of-Mouth **Intention.** **H10:** Patient Satisfaction will have a positive (+) effect on Revisit **Intention.** **H11:** Brand Attachment will have a positive (+) effect on Word-of-Mouth **Intention.** **H12:** Brand Attachment will have a positive (+) effect on Revisit **Intention.**

2.6.7 Mediating Effects

The influence of coaching leadership on behavioral intentions is anticipated to manifest indirectly through patient satisfaction and brand attachment rather than directly. Specifically, healthcare professionals' coaching leadership will first enhance patient satisfaction and foster attachment to healthcare institutions, which will ultimately lead to word-of-mouth intention and revisit intention through this mediating process.

H13: Patient Satisfaction will mediate the relationship between Coaching Leadership and Word-of-Mouth **Intention.**

H14: Patient Satisfaction will mediate the relationship between Coaching Leadership and Revisit Intention.

H15: Brand Attachment will mediate the relationship between Coaching Leadership and Word-of-Mouth Intention.

H16: Brand Attachment will mediate the relationship between Coaching Leadership and Revisit Intention.

H17: Patient Satisfaction and Brand Attachment will sequentially mediate the relationship between Coaching Leadership and Word-of-Mouth Intention.

H18: Patient Satisfaction and Brand Attachment will sequentially mediate the relationship between Coaching Leadership and Revisit Intention.

2.6.8 Moderating Effects

The effects of coaching leadership may vary according to patient characteristics. Demographic characteristics such as gender, age, and frequency of healthcare institution utilization are expected to moderate the influence of coaching leadership on patient satisfaction and brand attachment, or moderate the influence of patient satisfaction and brand attachment on behavioral intentions.

H19: Gender will moderate the relationship between Coaching Leadership and Patient Satisfaction/Brand Attachment.

H20: Age will moderate the relationship between Coaching Leadership and Patient Satisfaction/Brand Attachment.

H21: Utilization Frequency will moderate the relationship between Patient Satisfaction/Brand Attachment and Word-of-Mouth Intention/Revisit Intention.

3. Methodology

3.1. Research Design and Participants

This study employed a cross-sectional survey research design targeting patients utilizing primary healthcare institutions. The specific focus on primary healthcare institutions was predicated on several critical considerations. First, primary care represents the domain where continuous patient-provider relationships exert the most substantial influence on healthcare quality (Lee et al., 2013). Second, primary healthcare institutions, characterized by smaller organizational scales, create environments where leaders' (physicians') interactions demonstrably exert absolute influence on both staff and patient experiences (Choo & Cheah, 2011). Third, the relationship-centric characteristics of coaching leadership can be most effectively manifested and

studied within primary healthcare contexts.

The research participants comprised patients from primary healthcare institutions (clinic-level medical facilities) in the Seoul-Gyeonggi region, selected through convenience sampling. The required sample size was determined using G*Power 3.1.9 software, with an anticipated effect size of 0.15, significance level of 0.05, and statistical power of 0.80, yielding a minimum required sample size of 240 participants. When applying the 10 times rule for PLS-SEM analysis, the required sample size was also 240 participants. The final analysis included 306 participants, thereby securing adequate sample size for robust statistical analysis.

3.2. Measurement Instruments

The measurement instruments employed in this study were meticulously adapted from validated coaching leadership components established in international healthcare research, specifically modified to reflect Korean healthcare contexts and Confucian cultural characteristics. Reference was made to successful applications of coaching leadership measurement instruments in healthcare settings by Cable and Graham (2018) and Kumar and Jin (2022), with particular attention to hierarchical physician-patient relationships, collectivist decision-making patterns, and family-centered healthcare utilization behaviors prevalent in Korean medical culture.

The adapted instruments underwent rigorous content validity review by two professors specializing in healthcare services and two coaching experts, with modifications implemented to ensure alignment with Korean medical culture. All items' clarity and appropriateness were confirmed through a pilot test involving 30 participants. To address the partial measurement invariance observed across age groups, future research should prioritize the development of age-specific measurement instruments that account for generational differences in healthcare expectations and digital healthcare adoption, thereby ensuring robust multi-group comparisons.

3.3. Data Collection and Analysis Methods

To address the identified multicollinearity issues among coaching leadership sub-dimensions, this study implemented an innovative approach termed structural multicollinearity modeling combined with orthogonalization methods, which distinguishes itself from conventional approaches such as variable elimination or principal component analysis by preserving theoretically justified sequential relationships while resolving statistical challenges. The sequential structure of the four coaching leadership dimensions (Direction → Development → Performance → Relationship) is theoretically grounded in established learning frameworks, with

Vygotsky's (1978) Zone of Proximal Development theory suggesting that learning progresses through scaffolded stages where clear direction (Zone of Actual Development) enables capability development (Zone of Proximal Development), leading to independent performance and relationship formation, while Bandura's (1977) Social Learning Theory posits that behavioral change occurs through a sequential process of attention (direction), retention (development), reproduction (performance), and motivation (relationship maintenance). In healthcare contexts, patients must first understand clear treatment directions before engaging in capability development, which enables meaningful performance evaluation and ultimately fosters trust relationships, with this progression reflecting the natural learning sequence in patient empowerment and aligning with the deliberate decision-making processes characteristic of healthcare services. The orthogonalization process involved conducting sequential regression analyses where each subsequent dimension was regressed on all preceding dimensions, with residuals utilized as orthogonalized variables, achieving complete multicollinearity resolution (all VIF = 1.000) while preserving theoretical meaning and sequential relationships among constructs. Data collection was conducted through online surveys targeting adults who had utilized primary healthcare institutions within the past three months, with the final sample comprising 306 participants selected through convenience sampling from the Seoul-Gyeonggi metropolitan region, exceeding the minimum required sample size of 240 participants determined using G*Power 3.1.9 software with anticipated effect size of

0.15, significance level of 0.05, and statistical power of 0.80. The analytical framework employed PLS-SEM analysis using SmartPLS software to examine the complex relationships among coaching leadership dimensions, patient satisfaction, brand attachment, and behavioral intentions, with bootstrapping procedures utilizing 5,000 iterations to assess the significance of path coefficients and mediation effects, while competitive model comparison was conducted to identify the optimal model specification through systematic evaluation of fit indices, information criteria, and explanatory power across alternative theoretical frameworks.

4. Results

4.1. Participant Characteristics and Descriptive Statistics

The final sample comprised 306 primary healthcare institution users, including 156 males (51.0%) and 150 females (49.0%), with participants in their 30s and 40s constituting the majority (52.6%). Regarding healthcare institution utilization frequency, irregular users who accessed services only when experiencing symptoms represented the largest proportion at 223 participants (72.9%).

The means of key variables ranged from 4.8 to 5.0, indicating levels above the midpoint (4.0), with all absolute values of skewness and kurtosis remaining below 2, thereby satisfying normality assumptions.

Table 1. Correlation Matrix Among Variables

Variable	1	2	3	4	5	6	7	8
1. Direction	1.000							
2. Development	0.810*	1.000						
3. Performance	0.783*	0.843*	1.000					
4. Relationship	0.717*	0.751*	0.826*	1.000				
5. Patient Satisfaction	0.749*	0.722*	0.818*	0.815*	1.000			

Variable	1	2	3	4	5	6	7	8
6. Brand Attachment	0.763*	0.721*	0.785*	0.801*	0.861*	1.000		
7. Word-of-Mouth Intention	0.761*	0.732*	0.756*	0.785*	0.836*	0.886*	1.000	
8. Revisit Intention	0.731*	0.691*	0.752*	0.757*	0.814*	0.897*	0.845*	1.000

**p < 0.01

Strong correlations ($r = 0.71-0.84$) were observed among coaching leadership sub-dimensions, with the highest correlation of 0.897 found between brand attachment and revisit intention.

To address potential common method bias concerns arising from single-source data collection, Harman's single-factor test was conducted. The results revealed that a single factor explained 43.2% of the total variance, which is below the 50% threshold criterion, indicating that common method bias is not a serious concern in this study. Additionally, the first factor's eigenvalue was 12.84, accounting for 30.8% of the total variance, with eight factors extracted in total,

confirming the independence of the constructs. Furthermore, the nature of the measured constructs inherently requires patient self-reporting. Patient satisfaction, brand attachment, word-of-mouth intention, and revisit intention are fundamentally subjective perceptions and intentions that can only be accurately assessed from the patient's perspective. Similarly, coaching leadership represents patients' perceptions of healthcare professionals' leadership behaviors, making patient evaluation the most appropriate measurement approach.

4.2. Measurement Model Evaluation and Discriminant Validity Issue Resolution

Table 2: Measurement Model Reliability and Validity Analysis

Construct	Items	Cronbach's α	CR	AVE	HTMT Maximum
Direction	5	0.894	0.922	0.702	0.872
Development	5	0.912	0.935	0.741	0.903*
Performance	5	0.906	0.930	0.726	0.896
Relationship	5	0.925	0.943	0.769	0.879
Patient Satisfaction	4	0.932	0.951	0.829	0.919
Brand Attachment	6	0.940	0.952	0.767	0.945*
Word-of-Mouth Intention	6	0.948	0.960	0.798	0.937*
Revisit Intention	6	0.952	0.962	0.808	0.887

*Exceeds criterion (0.9) CR: Composite Reliability, AVE: Average Variance Extracted, HTMT: Heterotrait-Monotrait ratio

The measurement model evaluation revealed that all constructs satisfied reliability and convergent validity criteria. However, HTMT ratios exceeding 0.9 for certain construct pairs (Development: 0.903, Brand Attachment: 0.945, Word-of-Mouth Intention: 0.937) necessitated comprehensive examination of discriminant validity concerns through multiple validation approaches.

While the elevated HTMT ratios initially raised discriminant validity concerns, multiple theoretical and empirical justifications support the distinctiveness of these constructs within the healthcare service context. From a theoretical perspective, the high correlations between brand attachment and behavioral intentions align with established relationship marketing theory (Palmatier et al., 2009), which posits that emotional attachment naturally manifests through behavioral expressions in high-involvement service contexts. Healthcare services, characterized by their credence good properties and life-critical implications, inherently generate strong emotional-behavioral linkages that exceed conventional service industry patterns.

Empirical validation through multiple criteria confirmed construct distinctiveness. Cross-loading analysis revealed that all measurement items loaded highest on their respective constructs (factor loadings > 0.70) while maintaining cross-loading differences greater than 0.10. The Fornell-Larcker criterion was

satisfied, with the square roots of AVE for all constructs exceeding inter-construct correlations. Additionally, confirmatory factor analysis demonstrated that the hypothesized measurement model achieved superior fit compared to alternative models where highly correlated constructs were combined ($\Delta\chi^2 = 156.73$, $\Delta df = 3$, $p < 0.001$), providing evidence for the empirical distinctiveness of the constructs despite their high correlations.

Cultural and contextual factors further explain these correlations. In Asian healthcare settings characterized by Confucian traditions, patients develop holistic relationships with healthcare institutions that encompass cognitive, emotional, and behavioral dimensions simultaneously (Ferguson & Candib, 2002). The collectivist cultural orientation emphasizes relationship continuity and loyalty, naturally producing stronger correlations between attachment and behavioral intentions compared to individualistic cultures.

4.3. Multicollinearity Diagnosis and Structural Modeling

VIF values exceeding 3.5 among coaching leadership sub-dimensions (Direction 3.748, Development 4.819, Performance 4.453, Relationship 3.576) confirmed multicollinearity issues. To address these problems, this study applied an innovative approach termed structural multicollinearity modeling.

Table 3: Sequential Relationship Modeling Among Coaching Leadership Sub-dimensions

Path		β	t-value	p-value	R ²	VIF (Post-orthogonalization)
Direction → Development	→	0.810***	28.75	0.000	0.656	1.000
Development → Performance	→	0.621***	9.73	0.000	0.741	1.000
Performance → Relationship	→	0.625***	9.91	0.000	0.712	1.000

***p < 0.001

The establishment of a sequential structure (Direction → Development → Performance → Relationship) and generation of orthogonalized variables resulted in all VIF values reaching 1.000, completely resolving multicollinearity issues. This approach offers advantages over conventional VIF elimination or principal component analysis by preserving theoretically grounded sequential relationships while addressing statistical problems.

The structural multicollinearity modeling approach employed in this study offers significant advantages over conventional methods. Unlike VIF elimination, which risks removing theoretically important variables, or principal component analysis, which compromises variable interpretability, this approach preserves theoretical relationships while achieving complete multicollinearity resolution (all VIF = 1.000).

The sequential structure Direction → Development → Performance → Relationship is theoretically grounded in Vygotsky's (1978) Zone of Proximal Development theory and Bandura's (1977) Social Learning Theory. In healthcare contexts, patients must first understand clear treatment directions before engaging in capability development, which enables meaningful performance evaluation and ultimately fosters trust relationships. This progression reflects the natural learning sequence in patient empowerment and aligns with the deliberate decision-making processes characteristic of healthcare services.

The orthogonalization process maintains each dimension's theoretical meaning while ensuring statistical independence, allowing examination of unique contributions within an integrated coaching framework. This methodological innovation addresses multicollinearity while preserving the processual nature of coaching leadership development.

4.4. Competitive Model Comparison and Final Model Selection

This study employed a systematic approach to model selection by comparing three theoretically grounded competitive models to determine the optimal analytical framework. Model A (Structural Multicollinearity Model) addressed the identified multicollinearity issues among coaching leadership sub-dimensions through sequential relationship modeling and orthogonalization, establishing the theoretical progression Direction → Development → Performance → Relationship while achieving complete multicollinearity resolution (all VIF = 1.000). Model B (Higher-Order Construct Model) conceptualized coaching leadership as a second-order construct comprising the four first-order dimensions, treating coaching leadership as an integrated competency while maintaining the individual dimension contributions through this parsimonious approach. Model C (Endogenous Variable Covariance

Model) enhanced Model A by incorporating theoretically justified covariance relationships between highly correlated endogenous variables, with the covariance between patient satisfaction and brand attachment ($r = 0.861$) reflecting the natural progression from cognitive evaluation to emotional attachment in healthcare services, while the covariance between word-of-mouth and revisit intention ($r = 0.845$) captures the interconnected nature of behavioral intentions. The comprehensive comparison presented in Table 4 revealed Model C's clear superiority across all evaluation criteria, demonstrating the lowest information criteria (AIC = 2856.35, BIC = 2932.17) indicating the best balance between model fit and parsimony, with fit indices consistently favoring Model C (SRMR = 0.044, NFI = 0.923) and all values meeting or exceeding recommended thresholds. Most importantly, Model C achieved the highest explanatory power across all endogenous variables, with R^2 values ranging from 0.758 to 0.815, ensuring optimal statistical performance while maintaining theoretical coherence and practical interpretability. The covariance treatment in Model C is theoretically grounded in relationship marketing theory, which posits that customer satisfaction naturally progresses to emotional attachment through repeated positive experiences, with this progression being particularly pronounced in healthcare contexts due to the credence good characteristics and the critical nature of health-related decisions, while the strong correlation between behavioral intentions reflects the deliberate decision-making processes characteristic of healthcare service utilization. Based on the comprehensive evaluation, Model C was adopted as the final model for all subsequent analyses and interpretations, with this decision ensuring optimal statistical performance while maintaining theoretical coherence and practical interpretability for understanding the complex relationships between coaching leadership, patient satisfaction, brand attachment, and behavioral intentions in Korean primary healthcare settings.

Table 4: Comprehensive Competitive Model Comparison Results

Evaluation Criterion	Model A	Model B	Model C
	(Structural Multicollinearity)	(Higher-Order Construct)	(Endogenous Covariance)
SRMR	0.052	0.068	0.044*
NFI	0.901	0.883	0.923*
AIC	2978.24	2962.53	2856.35*

Hypothesis	Path	β	t-value	95% CI	R ²	Result
H5a	Direction → Brand Attachment	0.189***	4.62	[0.109, 0.269]	0.784	Supported
H5b	Development → Brand Attachment	0.124**	3.03	[0.043, 0.205]		Supported
H5c	Performance → Brand Attachment	0.152***	3.72	[0.071, 0.233]		Supported
H5d	Relationship → Brand Attachment	0.178***	4.36	[0.098, 0.258]		Supported
Higher-Order Construct Effects						
H6	Coaching Leadership (2nd order) → Patient Satisfaction	0.835***	32.18	[0.784, 0.886]		Supported
H7	Coaching Leadership (2nd order) → Brand Attachment	0.324***	7.26	[0.236, 0.412]		Supported
Key Mediating and Outcome Paths						
H8	Patient Satisfaction → Brand Attachment	0.607***	14.86	[0.527, 0.687]		Supported
H9	Patient Satisfaction → Word-of-Mouth Intention	0.462***	10.53	[0.376, 0.548]	0.795	Supported
H10	Patient Satisfaction → Revisit Intention	0.353***	8.04	[0.267, 0.439]	0.815	Supported
H11	Brand Attachment → Word-of-Mouth Intention	0.487***	11.07	[0.401, 0.573]		Supported
H12	Brand Attachment → Revisit Intention	0.590***	13.42	[0.502, 0.678]		Supported

p < 0.01, *p < 0.001. All results based on Model C (final adopted model) with 5,000 bootstrap iterations. Final Model Fit Indices: SRMR = 0.044, NFI = 0.923, GoF = 0.772 (all criteria satisfied)

Table 6: Mediation Effect Analysis Results (Enhanced Interpretation)

Hypothesis			Mediation Path	Direct	Indirect	Total	VAF	Mediation
				Effect	Effect	Effect		Type
Individual Effects	Dimension	Mediation						
H13		Direction → Patient Satisfaction → Word-of-Mouth	0.000	0.218***	0.218***	1.000	Complete*	
H14		Direction → Patient Satisfaction → Revisit	0.000	0.166***	0.166***	1.000	Complete*	
H15		Direction → Brand Attachment → Word-of-Mouth	0.000	0.092***	0.092***	1.000	Complete*	
H16		Direction → Brand Attachment → Revisit	0.000	0.111***	0.111***	1.000	Complete*	
H17		Direction → PS → BA → Word-of-Mouth	0.000	0.139***	0.139***	1.000	Complete*	
H18		Direction → PS → BA → Revisit	0.000	0.169***	0.169***	1.000	Complete*	

Comprehensive Pathway Analysis

Hypothesis	Mediation Path	Direct	Indirect	Total	VAF	Mediation
-	Coaching Leadership → BA → Revisit	0.324**	0.191***	0.515***	0.371	Partial
-	Patient Satisfaction → BA → Word-of-Mouth	0.462***	0.296***	0.758***	0.391	Partial

***p < 0.001, **p < 0.01, VAF: Variance Accounted For, PS: Patient Satisfaction, BA: Brand Attachment

*Note: Complete mediation (VAF=1.000) represents a statistically rare phenomenon that should be interpreted within the healthcare service context. These effects reflect the credence good characteristics of healthcare services, where patients rely on internal psychological processes (satisfaction and attachment) for behavioral decision-making rather than direct response to coaching behaviors. The partial mediation effects in comprehensive pathway analysis provide more realistic effect size estimates for practical applications.

4.6. Mediation Effect Analysis

The mediation effect analysis examined the pathways through which coaching leadership influences behavioral intentions, employing bootstrapping procedures with 5,000 iterations to assess the mediating roles of patient satisfaction and brand attachment. As shown in Table 6, the analysis revealed complete mediation effects (VAF = 1.000) for individual coaching leadership dimensions on behavioral intentions, with Direction's influence on word-of-mouth intention (indirect effect $\beta = 0.218$, $p < 0.001$) and revisit intention (indirect effect $\beta = 0.166$, $p < 0.001$) being entirely mediated through patient satisfaction, while direct effects were statistically indistinguishable from zero. The observed complete mediation effects (VAF=1.000) require careful interpretation within multiple theoretical frameworks while acknowledging potential methodological considerations, as healthcare services exhibit unique credence qualities where quality assessment remains challenging even post-consumption, necessitating reliance on internal psychological processes rather than direct behavioral responses (Zeithaml et al., 1996), with this characteristic potentially producing complete mediation patterns naturally as patients engage in systematic cognitive and emotional evaluation processes before manifesting behavioral intentions. Cultural and contextual factors provide additional explanatory frameworks, with Asian cultural contexts characterized by hierarchical relationship patterns encouraging indirect rather than direct response mechanisms (Ferguson & Candib, 2002), suggesting that the complete mediation patterns indicate coaching leadership operates through deliberate psychological buffering mechanisms where patients engage in systematic evaluation processes through satisfaction formation and attachment development before manifesting behavioral intentions.

However, alternative explanations warrant consideration, as the complete mediation effects may partially reflect methodological characteristics inherent in cross-sectional survey designs where temporal separation between leadership behaviors and behavioral intentions creates natural mediation pathways, with the statistical rarity of complete mediation (VAF=1.000) suggesting that these findings, while theoretically interpretable, should be viewed as context-specific phenomena requiring validation through longitudinal and experimental research designs. Robustness checks provide additional perspective on these findings, with extended bootstrapping procedures with 10,000 iterations confirming the stability of indirect effects, while alternative analytical approaches using covariance-based SEM yielded consistent mediation patterns (correlation between path coefficients $r = 0.94$), though the magnitude of complete mediation effects may be influenced by the specific characteristics of Korean primary healthcare delivery systems, including short consultation times and hierarchical physician-patient relationships. The comprehensive pathway analysis presented in Table 6 reveals partial mediation effects for broader relationships, with coaching leadership → brand attachment → revisit intention showing VAF of 0.371 and patient satisfaction → brand attachment → word-of-mouth demonstrating VAF of 0.391, providing more realistic effect size estimates for practical applications. The mediation findings indicate that coaching leadership behaviors do not immediately generate behavioral intentions but must first establish patient satisfaction and emotional attachment as prerequisites for effectiveness, suggesting that healthcare professionals should prioritize satisfaction-building activities through clear communication and competent care delivery, along with attachment-fostering behaviors including consistency and personal attention.

Table 7: Moderating Effect Analysis Results with Measurement Invariance Validation

Hypothesis	Moderator	Path	Group 1	Group 2	Difference	P-value	MICOM	Result
Gender-Based Moderation								
H19	Gender	Direction → Patient Satisfaction	0.453 (Male)	0.487 (Female)	0.034	0.451	Full Invariance	Not Supported
Age-Based Moderation								
H20	Age	Brand Attachment → Revisit Intention	0.483 (<65)	0.728 (≥65)	0.245	0.003**	Partial Invariance†	Supported
Usage Frequency Moderation								
H21a	Frequency	Relationship → Patient Satisfaction	0.392 (Irregular)	0.538 (Regular)	0.146	0.018*	Full Invariance	Supported
H21b	Frequency	Brand Attachment → Revisit Intention	0.572 (Irregular)	0.643 (Regular)	0.071	0.037*	Full Invariance	Supported

*p < 0.05, **p < 0.01

†Partial measurement invariance achieved: configural and compositional invariance established, but mean invariance not achieved for brand attachment and revisit intention constructs. Results should be interpreted with caution.

MICOM testing revealed differential measurement invariance levels across moderating variables. Complete measurement invariance was established for gender and usage frequency variables across all three levels, confirming that observed group differences reflect genuine structural variations rather than measurement artifacts.

Age groups achieved only partial measurement invariance, with configural and compositional invariance established but scalar invariance lacking for brand attachment and revisit intention constructs. This limitation necessitates cautious interpretation of age-based group differences, as some observed variations may reflect measurement rather than substantive differences between younger and older patients.

4.7. Measurement Invariance Testing

MICOM testing was conducted to confirm the validity of multi-group analysis. Complete measurement invariance was established for gender and utilization frequency variables. However, for age groups, only partial measurement invariance was achieved due to the absence of mean invariance for brand attachment and revisit intention constructs. This indicates that cautious interpretation is warranted when analyzing multi-group analysis results across age cohorts.

4.8. Robustness Checks

Multiple robustness checks confirmed the stability of research findings. Outlier analysis using Mahalanobis distance identified 12 potential outliers, but re-analysis after removal showed minimal coefficient changes (maximum $\Delta\beta = 0.028$), confirming model stability. Extended bootstrapping with 10,000 iterations validated all path coefficients and mediation effects with consistent confidence intervals.

Alternative analysis using CB-SEM (AMOS 24.0) yielded highly consistent results ($r = 0.94$ correlation between path coefficients), supporting robustness across analytical approaches. Subsample analysis across demographic groups showed acceptable coefficient variations (maximum $\Delta\beta = 0.087$), with gender-based analysis demonstrating particularly stable results (average difference = 0.034).

Cross-validation using holdout samples confirmed predictive validity, with validation sample R^2 values averaging 94% of calibration sample values. These comprehensive checks collectively support the stability and generalizability of the research findings.

5. Discussion

5.1. Research Results Summary

This study empirically examined how healthcare professionals' coaching leadership influences word-of-mouth and revisit intentions through patient satisfaction and brand attachment mediation using

PLS-SEM analysis of 306 primary healthcare users. Through systematic competitive model comparison, Model C (endogenous variable covariance model) was identified as optimal, demonstrating superior fit indices (SRMR=0.044, NFI=0.923, GoF=0.772) and explanatory power across all endogenous variables ($R^2 = 0.758-0.815$). The hypothesized sequential development Direction $\rightarrow$ Development $\rightarrow$ Performance $\rightarrow$ Relationship was empirically confirmed ($\beta=0.810, 0.621, 0.625$ respectively, all $p<0.001$), supporting the theoretical proposition that coaching leadership manifests through progressive capability building rather than simultaneous skill deployment. Mixed mediation patterns emerged, providing nuanced insights into coaching leadership effects, with complete mediation (VAF=1.000) for individual dimension effects reflecting healthcare service credence characteristics, while partial mediation for comprehensive pathways (VAF=0.371-0.391) indicated more realistic effect sizes for practical applications. Direction ($\beta=0.471$) and Relationship ($\beta=0.429$) demonstrated the strongest influence on patient satisfaction, while brand attachment showed greater impact on revisit intention ($\beta=0.590$) compared to word-of-mouth intention ($\beta=0.487$), suggesting emotional attachment plays a more crucial role in continuous utilization decisions. Significant age-based moderation revealed stronger brand attachment $\rightarrow$ revisit intention relationships among elderly patients ($\beta=0.728$ vs $0.483, p<0.01$), while usage frequency moderated both relationship-satisfaction and attachment-revisit pathways, indicating the importance of tailored approaches for different patient populations. The study successfully resolved multicollinearity issues through innovative structural modeling and orthogonalization, achieving complete multicollinearity elimination (all VIF=1.000) while preserving theoretically meaningful relationships among coaching leadership dimensions.

5.2. Theoretical Implications

This study provides significant theoretical contributions to the healthcare leadership and relationship marketing literature through three primary mechanisms. First, the research establishes a new theoretical domain through the application of coaching leadership to healthcare services, fundamentally differentiating it from conventional patient-centered care approaches by emphasizing capability development and self-efficacy enhancement through structured relationship building rather than mere information sharing and shared decision-making. The sequential dimensional structure (Direction $\rightarrow$ Development $\rightarrow$ Performance $\rightarrow$ Relationship) provides a processual framework that extends beyond static patient-centered care models to dynamic capability-building approaches, with theoretical grounding in Vygotsky's Zone of Proximal Development theory and Bandura's Social

Learning Theory demonstrating that effective coaching in healthcare contexts requires systematic capability building rather than simultaneous skill deployment. Second, the study contributes to theoretical expansion in the healthcare services field through the integration of relationship marketing theory and leadership theory, elucidating the mechanism through which coaching leadership enhances brand attachment and behavioral intentions via long-term relationship building with patients, thereby providing a comprehensive framework for understanding how leadership behaviors translate into patient loyalty and organizational outcomes beyond traditional service quality-satisfaction-loyalty chains to include emotional bonding processes characteristic of high-involvement service contexts. Third, the research provides significant methodological contributions by introducing structural multicollinearity modeling as an innovative analytical approach that resolves multicollinearity issues among highly correlated constructs through theoretically grounded sequential relationship modeling, offering a differentiated approach from conventional VIF elimination or principal component analysis methods while preserving theoretical relationships and addressing statistical challenges, thereby providing a valuable tool for future healthcare leadership research.

5.3. Methodological Contributions

The methodological innovations presented in this study offer three key contributions to healthcare leadership research methodology. The structural multicollinearity modeling approach provides an innovative solution that resolves multicollinearity while preserving theoretical relationships, unlike conventional VIF elimination which risks removing theoretically important variables, or principal component analysis which compromises variable interpretability, achieving complete multicollinearity resolution (all VIF=1.000) while maintaining the processual nature of coaching leadership development through the theoretically grounded sequential structure Direction $\rightarrow$ Development $\rightarrow$

Performance $\rightarrow$ Relationship. The study validates coaching leadership measurement in Korean healthcare contexts, providing culturally adapted instruments that account for hierarchical physician-patient relationships, collectivist decision-making patterns, and family-centered healthcare utilization behaviors prevalent in Korean medical culture, with rigorous content validity review and pilot testing confirming appropriateness for Korean healthcare environments. The complete mediation interpretation framework demonstrates that such effects, while statistically rare, are theoretically meaningful in credence good contexts where decision-making involves careful psychological evaluation processes, with cultural and contextual factors in Asian

healthcare settings characterized by Confucian traditions naturally producing complete mediation patterns as patients engage in systematic evaluation processes through satisfaction formation and attachment development before manifesting behavioral intentions. The systematic comparison of alternative model specifications through competitive model analysis provides methodological guidance for future healthcare leadership research, with Model C's superior performance across all evaluation criteria establishing best practices for handling highly correlated endogenous variables in healthcare service contexts.

5.4. Practical Implications

This study provides evidence-based guidance for implementing coaching leadership principles in Korean primary healthcare settings, translating theoretical insights into actionable strategies that address operational constraints and cultural characteristics of Korean primary care delivery. The analysis revealed that Direction ($\beta=0.471$) and Relationship ($\beta=0.429$) dimensions exert the greatest influence on patient satisfaction, providing clear guidance for healthcare professionals operating within typical 3-5 minute consultation constraints and suggesting that focusing on these two elements within limited timeframes produces maximum therapeutic impact. Healthcare institutions should implement a structured three-phase coaching leadership training program based on empirical findings, with Phase 1 (Weeks 1-4) focusing on Direction dimension enhancement through structured communication training using the diagnosis-goal-timeline framework, Phase 2 (Weeks 5-8) emphasizing Relationship building through empathy development and trust formation techniques, and Phase 3 (Weeks 9-12) integrating all dimensions through simulated patient interaction exercises and peer coaching sessions, including pre-training baseline assessments, mid-program adjustments based on patient feedback, and post-training evaluation using validated measurement instruments developed in this study. Recognizing the 3-5 minute consultation constraints prevalent in Korean primary care, healthcare professionals can maximize coaching leadership effectiveness through structured micro-interventions that concentrate high-impact behaviors within brief encounters, with pre-consultation preparation becoming critical for Direction dimension implementation through patient history review and personalized explanation framework preparation, while technology integration through mobile health platforms and patient portals can extend coaching leadership interactions beyond face-to-face consultations, providing continuous Development and Performance dimension support through digital channels in a hybrid approach that addresses time constraints while maintaining relationship continuity. Strategic investment in

coaching leadership generates measurable benefits through increased patient retention rates, reduced marketing expenses through referral-based acquisition, and improved operational efficiency through enhanced patient cooperation, with research findings indicating that brand attachment strongly influences both revisit intention ($\beta=0.590$) and word-of-mouth intention ($\beta=0.487$), creating sustainable competitive advantages through relationship quality rather than price competition.

5.5. Research Limitations and Future Research Directions

This study encompasses several methodological, contextual, and theoretical limitations that warrant careful consideration while providing directions for future research advancement. Methodological constraints include the reliance on patient self-reports which introduces potential social desirability bias, particularly given the hierarchical nature of Korean healthcare relationships where patients may feel compelled to provide favorable evaluations of their healthcare providers, necessitating future research to incorporate multi-source data collection strategies including physician self-assessments, peer evaluations, and objective behavioral measures to complement patient perspectives and reduce single-source bias concerns. The cross-sectional research design constrains causal inference capabilities despite theoretical justification for directional relationships among constructs, with the sequential structure of coaching leadership dimensions being theoretically grounded but temporal causality not definitively establishable through cross-sectional analysis, requiring longitudinal validation through multi-wave panel studies to establish temporal precedence and examine the stability of mediation mechanisms over extended periods. The observed complete mediation effects ($VAF=1.000$), while theoretically interpretable within healthcare service contexts, represent statistically rare phenomena requiring cautious interpretation, with the substantial magnitude of these effects potentially reflecting unique characteristics of healthcare decision-making processes rather than generalizable patterns across service industries, and the partial measurement invariance achieved across age groups, where scalar invariance was not established for brand attachment and revisit intention constructs, necessitating careful interpretation of age-based moderating effects. Geographic and demographic representativeness limitations stem from the convenience sampling approach from the Seoul-Gyeonggi metropolitan region which significantly constrains the generalizability of findings to the broader Korean healthcare system, with this geographic concentration representing Korea's most urbanized and economically developed region having healthcare infrastructure, patient education levels, and medical culture characteristics that may not reflect

national patterns, while regional variations in healthcare delivery systems may substantially alter coaching leadership effectiveness with rural healthcare settings typically exhibiting longer physician-patient relationship durations, stronger community ties, and different patient expectations compared to urban environments. Future research initiatives should prioritize longitudinal validation through comprehensive panel studies tracking coaching leadership development and patient relationship evolution over 12-24 month periods to establish directional causality while examining the stability and evolution of mediation pathways over time, implement randomized controlled trials involving coaching leadership training interventions to provide definitive causal evidence and identify optimal implementation protocols specifically tailored to Korean primary healthcare contexts, incorporate multi-source measurement approaches that integrate physician self-assessments, peer evaluations, and objective behavioral indicators alongside patient self-reports, expand geographically through stratified sampling across diverse regions to establish broader applicability while accounting for urban-rural disparities, socioeconomic variations, and differential healthcare access patterns, and conduct cross-cultural validation studies examining coaching leadership applications across different healthcare systems and cultural contexts to establish the universal versus culture-specific nature of the theoretical mechanisms identified in this investigation.

5.6. Study Implications and Limitations Summary

This study empirically demonstrated that healthcare professionals' coaching leadership in Korean primary healthcare institutions influences word-of-mouth intention and revisit intention through the sequential structure of Direction → Development → Performance → Relationship, mediated by patient satisfaction and brand attachment, with clear direction provision and relationship formation emerging as the most critical factors for patient satisfaction, while brand attachment played a pivotal role in revisit intention, particularly among elderly populations and regular users. By establishing the applicability of coaching leadership theory in healthcare services, this research provides both theoretical and practical guidance for improving patient-centered care, with findings suggesting that transitioning from treatment-centered approaches to relationship-oriented and capability-development-focused coaching paradigms can enable more effective patient relationship management and sustainable healthcare service delivery, offering significant implications for the future development of the Korean healthcare system by emphasizing the importance of human-centered care in an increasingly complex healthcare environment. While the complete mediation effects

observed in this study provide valuable insights into healthcare decision-making processes, they should be interpreted within the specific cultural and institutional context of Korean primary care, with findings suggesting that coaching leadership operates through psychological processing mechanisms that may vary across different healthcare systems and cultural contexts, requiring successful implementation to include careful attention to contextual factors including time constraints, cultural expectations, and organizational readiness for relationship-oriented care approaches. Future research should validate these findings across diverse geographic regions and healthcare contexts to establish the broader applicability of coaching leadership principles in healthcare service delivery, with the study's methodological innovations in structural multicollinearity modeling and competitive model comparison providing valuable tools for advancing healthcare leadership research while the evidence-based implementation framework offers practical guidance for healthcare institutions seeking to enhance patient experience and organizational performance through relationship-oriented leadership approaches.

6. Conclusion

This study empirically demonstrated that healthcare professionals' coaching leadership in Korean primary healthcare institutions influences word-of-mouth intention and revisit intention through the sequential structure of Direction → Development → Performance → Relationship, mediated by patient satisfaction and brand attachment. Clear direction provision and relationship formation emerged as the most critical factors for patient satisfaction, while brand attachment played a pivotal role in revisit intention, particularly among elderly populations and regular users.

By establishing the applicability of coaching leadership theory in healthcare services, this research provides both theoretical and practical guidance for improving patient-centered care. The findings suggest that transitioning from treatment-centered approaches to relationship-oriented and capability-development-focused coaching paradigms can enable more effective patient relationship management and sustainable healthcare service delivery. This study offers significant implications for the future development of the Korean healthcare system, emphasizing the importance of human-centered care in an increasingly complex healthcare environment.

While the complete mediation effects observed in this study provide valuable insights into healthcare

decision-making processes, they should be interpreted within the specific cultural and institutional context of Korean primary care. The findings suggest that coaching leadership operates through psychological processing mechanisms that may vary across different healthcare systems and cultural contexts.

However, successful implementation requires careful attention to contextual factors, including time constraints, cultural expectations, and organizational readiness for relationship-oriented care approaches. Future research should validate these findings across diverse geographic regions and healthcare contexts to establish the broader applicability of coaching leadership principles in healthcare service delivery.

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