Healthcare Engineering 3 (2027) 133–142

Contents lists available at GrowingScience

Healthcare Engineering

homepage: www.GrowingScience.com/he

Bridging the intention–behavior gap in psychologically informed musculoskeletal rehabilitation: A convergent mixed-methods investigation and the triadic care model

Atena Mahmoudi[a*]

[a]*Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Fenerbahce University, Istanbul, Turkey*

C H R O N I C L E

Article history:
Received: November 10, 2025
Received in revised format: July 16, 2026
Accepted: September 19, 2026
Available online: September 19, 2026

Keywords:
Psychologically Informed Practice
Cognitive Behavioral Techniques
Musculoskeletal Rehabilitation
COM-B Framework
Implementation Science
Triadic Care Model
Mixed-Methods

A B S T R A C T

While clinical guidelines strongly endorse psychologically informed physiotherapy (PIP) and cognitive-behavioral techniques (CBT) for musculoskeletal pain, routine clinical uptake remains inconsistent. Most implementation research describes clinician attitudes without modeling the cognitive and systemic mechanisms that impede translation into daily practice. This study investigates the "intention–behavior gap" in psychologically informed musculoskeletal rehabilitation among Iranian physiotherapists using the COM-B (Capability, Opportunity, and Motivation – Behavior) framework and introduces the *Triadic Care Model* as an operational solution. A convergent mixed-methods design (QUAN + QUAL) compliant with the Good Reporting of A Mixed Methods Study (GRAMMS) guidelines was conducted between 2023 and 2024. The quantitative phase surveyed 450 licensed physiotherapists using the validated Psychological Practice and Skills Tool (PPST). Structural Equation Modeling (SEM) tested hypothesized paths linking psychological self-efficacy, systemic barriers, postgraduate education, and clinical utilization. The qualitative phase comprised semi-structured, in-depth interviews with 20 practicing physiotherapists analyzed via reflexive thematic analysis. Quantitative and qualitative findings were integrated via a joint display matrix. A pronounced intention–behavior gap was identified: 78.2% (n=352) of clinicians strongly endorsed the bio psychosocial model, yet only 24.4% (n=110) routinely implemented psychological techniques. SEM demonstrated excellent fit ($\chi 2/df=2.15$, CFI=.96, TLI=.95, RMSEA=.048 [90% CI: .041–.055], SRMR=.042). Psychological self-efficacy directly predicted technique utilization ($\beta=.41$, $p<.001$), while postgraduate training indirectly enhanced utilization via self-efficacy ($\beta=.34$, $p<.001$). Systemic barriers exerted a potent negative direct effect on implementation ($\beta=-.46$, $p<.001$). Qualitative synthesis revealed four systemic-cognitive impediments: (1) *The Reimbursement Trap and Tariff Disincentives*, (2) *Sociocultural Stigmatization and Somatic Fixation*, (3) *Referral Anxiety and Boundary Ambiguity*, and (4) *Didactic versus Experiential Pedagogical Deficits*. Physiotherapists experience high motivational readiness but severe capability and opportunity deficits. Bridging this gap requires moving beyond generic bio psychosocial advocacy toward structural reimbursement reform, experiential micro-skills training, and the adoption of the *Triadic Care Model*, a structured interprofessional framework linking the physiotherapist, clinical psychologist, and patient through a warm-referral pathway.

© 2027 by the authors; licensee Growing Science, Canada.

1. Introduction

Musculoskeletal (MSK) conditions remain the leading global cause of years lived with disability, with chronic low back pain, osteoarthritis, and neck pain imposing immense economic and public health burdens (Vos et al., 2020). Over the past two decades, contemporary pain neuroscience has firmly established that persistent MSK pain is an inherently complex, bio psychosocial phenomenon governed by neurophysiological sensitization, cognitive appraisals, affective distress, and social

* Corresponding author.
E-mail address: atena.mahmoudi@stu.fbu.edu.tr (A. Mahmoudi)

ISSN 3115-8269 (Online) - ISSN 3115-8250 (Print)
© 2027 by the authors; licensee Growing Science, Canada
doi: 10.5267/j.ijdns.2026.12

context (Main et al., 2010; Nicholas et al., 2011). Consequently, international clinical practice guidelines universally mandate the integration of psychologically informed physiotherapy (PIP) and cognitive-behavioral principles, such as cognitive restructuring, graded exposure, pain neuroscience education (PNE), and behavioral pacing, into first-line conservative management (Foster et al., 2018).

Despite this clear mandate, a persistent *intention–behavior gap* compromises rehabilitation outcomes worldwide (Sheeran & Webb, 2016). Large-scale international surveys reveal that while the overwhelming majority of physiotherapists acknowledge the profound impact of psychosocial factors on pain chronicity, fewer than a quarter systematically incorporate validated psychological skills into everyday practice (Alexanders et al., 2015; Singla et al., 2015). Instead, routine clinical care frequently defaults to biomedical and biomechanical routines (e.g., passive electrotherapy, thermal modalities, and isolated structural exercises) that inadvertently reinforce patient hypervigilance and somatic fixation (Darlow et al., 2012).

In low- and middle-income countries (LMICs) and non-Western healthcare systems such as Iran, this implementation gap is compounded by acute structural and cultural friction. While Western literature has explored barriers such as time constraints and role clarity (Holopainen et al., 2020), non-Western practice environments operate under fee-for-service reimbursement models tied strictly to physical modalities, high daily patient volumes, and pervasive cultural stigmatization surrounding mental healthcare (e.g., the colloquial label *"ravani"* or mentally ill). Previous studies examining Iranian physiotherapists' uptake of psychological skills have remained strictly descriptive, localized surveys that lack theoretical grounding and fail to explain the structural mechanisms driving non-implementation.

To establish a transferable implementation model, this study applies the **COM-B (Capability, Opportunity, and Motivation – Behavior)** system and the **Theoretical Domains Framework (TDF)** (Michie et al., 2011; Cane et al., 2012). The COM-B model posits that clinical behavior occurs only when an individual possesses the psychological/physical capability, physical/social opportunity, and reflective/automatic motivation to enact it:

1. **Psychological Capability:** Clinicians' self-efficacy, behavioral skills, and knowledge regarding how to assess and modify maladaptive cognitive appraisals.
2. **Physical and Social Opportunity:** Time availability, institutional reimbursement tariffs, practice guidelines, and prevailing patient cultural expectations.
3. **Reflective and Automatic Motivation:** Professional identity, role legitimacy, outcome expectancy, and fear of triggering emotional distress or ethical boundary violations.

Grounded in this implementation science framework, this study tests three primary hypotheses:

- **Hypothesis 1 (H_1):** Specialized postgraduate psychological training exerts a positive direct effect on physiotherapists' psychological self-efficacy and a positive indirect effect on routine clinical utilization.
- **Hypothesis 2 (H_2):** Systemic opportunity constraints (lack of insurance tariffs, time deficits, and somatic patient expectations) exert a significant negative direct effect on clinical technique utilization, attenuating the positive impact of clinician motivation.
- **Hypothesis 3 (H_3):** Psychological self-efficacy acts as a primary mediator between clinician motivation/training and actual clinical behavior.

By employing a convergent mixed-methods design, this paper provides empirical modeling of these pathways, identifies the lived cultural experiences of frontline clinicians, and presents the **Triadic Care Model**, a concrete, collaborative framework designed to overcome interprofessional silos in musculoskeletal care.

2. Literature Review: Bridging the Intention–Behaviour Gap

The shift from a biomedical to a bio psychosocial (BPS) framework in musculoskeletal (MSK) rehabilitation has redefined the role of the physiotherapist from a mechanical technician to a facilitator of functional recovery. This transition, underscored by the Fear-Avoidance Model (Vlaeyen & Linton, 2000), recognizes that psychosocial factors, such as kinesiophobia, catastrophizing, and low self-efficacy, are primary drivers of pain chronicity. Consequently, Psychologically Informed Physical Therapy (PIPT) has emerged as an essential modality, integrating cognitive-behavioral techniques (CBT) into physical interventions to address these barriers (Vlaeyen et al., 2016).

Despite high clinician endorsement of PIPT, evidence consistently indicates an "intention–behavior gap": while physiotherapists value psychosocial approaches, actual implementation in daily practice remains limited (Synnott et al., 2015). Implementation science, particularly the Capability, Opportunity, Motivation, and Behavior (COM-B) framework (Michie et al., 2011), suggests that clinical uptake is impeded not merely by a lack of knowledge, but by systemic constraints including inadequate consultation time, rigid reimbursement tariffs, and a lack of clear professional identity regarding psychological boundaries (Archer et al., 2016).

In resource-constrained, non-Western healthcare systems, such as the Iranian context, these challenges are compounded by cultural stigma and the institutional segregation of physical and mental health services (Sharifi et al., 2015). This structural silos effect restricts the physiotherapist's ability to provide comprehensive, integrated care. To address this, the proposed "Triadic Care Model" offers a structural solution by formalizing the communication axis between the patient, the physiotherapist, and the clinical psychologist. By embedding psychological support directly into the rehabilitation workflow rather than treating it as an auxiliary referral, this model aims to synthesize the multidisciplinary expertise required to bridge the gap between intention and clinical performance.

Table 1 represents the summary of literature;

Table 1
Summary of Literature

Authors & Year	Methodology / Focus	Key Findings & Results	Conclusion
Engel (1977)	Theoretical Framework	Proposed the Biopsychosocial (BPS) model replacing the biomedical paradigm.	Clinical practice must address biological, psychological, and social factors simultaneously.
Michie et al. (2011)	Qualitative / Behavioral Theory	Developed the COM-B model to explain behavior change implementation.	Behavior is determined by capability, opportunity, and motivation, not just education.
Synnott et al. (2015)	Systematic Review	Examined barriers to psychologically informed practice in physiotherapy.	High intent but low self-efficacy and systemic barriers prevent implementation.
Sharifi et al. (2015)	Contextual Analysis	Investigated MSK service delivery challenges in Iranian healthcare systems.	Cultural stigma and structural segregation impede integrated care models.
Vlaeyen et al. (2016)	Review / Clinical Synthesis	Evaluated the Fear-Avoidance model in chronic pain management.	Psychosocial interventions significantly improve long-term outcomes in MSK pain.

3. Methods

3.1 The Triadic Care Model: An Operational Framework

To overcome the interprofessional silos and role ambiguity identified in Theme 3, we propose the **Triadic Care Model (TCM)** (Fig. 1). Rather than expecting physiotherapists to act as de facto psychotherapists or requiring full referrals that alienate somatic-focused patients, the TCM establishes a structured, three-way interprofessional pathway.

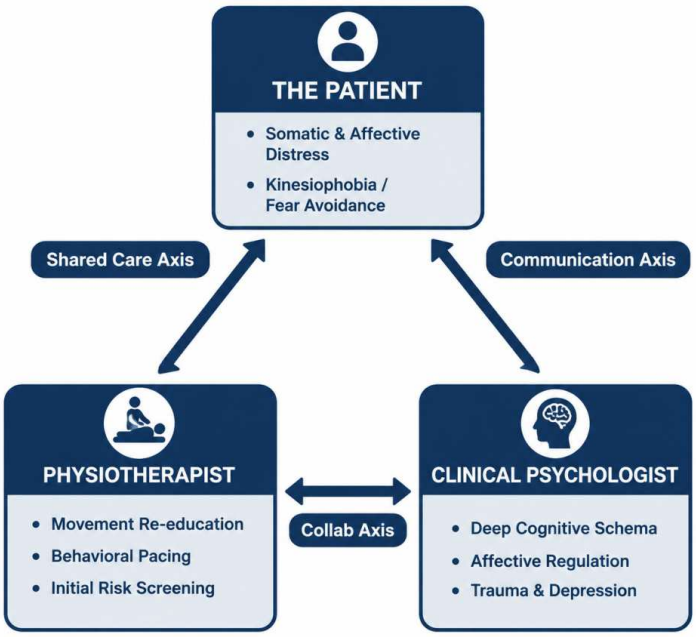

Fig. 1. The Triadic Care Model Architecture across Musculoskeletal Care.

The Triadic Care Model operates across three interdependent axes:

1. **The Collaborative Axis (Physiotherapist ↔ Clinical Psychologist):** Establishes bi-directional communication channels using standardized screening metrics (e.g., STarT Back Screening Tool, Örebro Musculoskeletal Pain Questionnaire). Clinicians hold monthly multidisciplinary case reviews to formulate aligned rehabilitation goals, preventing conflicting medical narratives that provoke patient distress.

2. **The Shared Care Axis (Physiotherapist ↔ Patient):** The physiotherapist maintains primacy over functional physical restoration, utilizing graded in vivo movement exposure, pacing, and behavioral education. The physiotherapist operates strictly within established professional boundaries, addressing *pain-contingent behavior* without probing unmanaged trauma or severe psychiatric conditions.

3. **The Communication / Warm-Referral Axis (Psychologist ↔ Patient):** When a patient exhibits high-risk psychosocial distress, referral is conducted via a structured **"Warm Handoff"** rather than an abrupt psychiatric referral. The physiotherapist frames the psychologist as an integral member of the recovery team (e.g., "a nervous system and recovery coach") to remove the cultural stigma of being labeled *ravani*.

3.2 Study Design

This study utilized a convergent mixed-methods design (QUAN+QUAL) guided by the Good Reporting of A Mixed Methods Study (GRAMMS) guidelines (O'Cathain et al., 2008). Quantitative cross-sectional survey data and qualitative semi-structured interview data were collected concurrently to provide a comprehensive, multidimensional assessment of psychological technique implementation. Data strands were analyzed independently and subsequently integrated using a joint display matrix to assess convergence, divergence, and theoretical expansion.

3.3 Quantitative Phase: Sampling and Instrumentation

- **Participants and Sampling:** A stratified random sample of 600 licensed physiotherapists registered with the Iranian Physiotherapy Association was invited via email and secure mobile links. A total of 450 clinicians completed the survey (response rate: 75.0%).
- **Instrumentation:** Clinicians completed the validated Persian version of the **Psychological Practice and Skills Tool (PPST)** (Beissner et al., 2009). The PPST assesses:

1. *Perceived Value / Importance* (Likert scale 1–5; α=.89)
2. *Self-Efficacy / Perceived Competence* in applying psychological techniques (Likert scale 1–5; α=.91)
3. *Frequency of Clinical Utilization* (Likert scale 1–5; α=.87)
4. *Perceived Systemic Barriers* (10 items assessing time, tariffs, training, and patient resistance; α=.84)

- **Statistical Analysis:** Descriptive statistics summarized demographic characteristics. Structural Equation Modeling (SEM) was performed using AMOS (v.28) using maximum likelihood estimation. Model fit was evaluated using standard criteria: $\chi 2/df<3.0$, Comparative Fit Index (CFI) $\geq.95$, Tucker-Lewis Index (TLI) $\geq.95$, Root Mean Square Error of Approximation (RMSEA) $\leq.05$ (with 90% CI), and Standardized Root Mean Square Residual (SRMR) $\leq.05$

3.4 Qualitative Phase: Sampling and Reflexive Analysis

- **Sampling:** Purposive sampling with maximum variation (diversity in clinical experience, practice setting, gender, and post-licensure psychological training) was used to recruit n=20n = 20n=20 physiotherapists from the quantitative cohort until informational and conceptual data saturation was achieved.
- **Data Collection:** In-depth, semi-structured interviews (45–75 minutes) were conducted face-to-face or via encrypted video conferencing. The interview topic guide was structured around COM-B domains: clinical experience managing complex pain, perceived boundaries, reimbursement structures, and interprofessional psychologist collaboration.
- **Thematic Analysis:** Verbatim Persian transcripts were analyzed using Braun and Clarke's (2019) six-phase reflexive thematic analysis framework. Two independent investigators coded the transcripts, generated candidate themes, and achieved consensus through iterative reflexive meetings. English translations of illustrative quotes were forward- and back-translated by bilingual researchers to preserve semantic and cultural fidelity.

To better understand the methodology of this research, the operational process and research methodology are presented in Fig. 2.

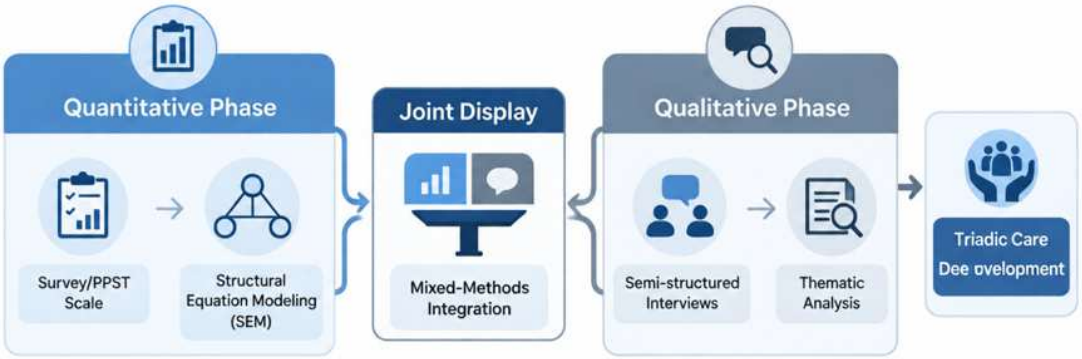

Fig. 2. Operational Process and Research Methodology

4. Findings and Results

4.1 Quantitative Findings: Demographic Profile and Implementation Discrepancy

The quantitative cohort comprised 450 licensed physiotherapists (Table 2). The sample was well-balanced by gender (53.3% female) and clinical experience. The vast majority practiced within private outpatient clinics (68.9%), with the remainder in public hospitals or academic health centers (31.1%).

Table 2
Socio-demographic Profile of Quantitative Survey Participants (N=450)

Variable	Category	Frequency (n n)	Percentage (%)
Gender	Male	210	46.7%
	Female	240	53.3%
Years of Clinical Experience	<5 years	128	28.4%
	5 – 15 years	215	47.8%
	>15 years	107	23.8%
Practice Setting	Private Outpatient Clinic	310	68.9%
	Public / University Hospital	140	31.1%
Post-licensure Psychology Training	Formal Workshops / Certifications	118	26.2%
	None (Undergraduate Curriculum Only)	332	73.8%

A substantial discrepancy was observed across PPST domains (Table 3). Endorsement of the biopsychosocial model was very high: 78.2% (n=352) rated psychological techniques as of "high" or "critical" importance in MSK recovery. However, only 24.4% (n=110) reported routine implementation in clinical encounters. High self-efficacy was confined to basic behavioral communication (general pain education: 3.92±0.74; goal setting/pacing: 3.68±0.81). In contrast, cognitively intensive interventions, such as identifying cognitive distortions (2.12±0.89), managing kinesiophobia through graded in vivo exposure (2.28±0.85), and addressing depressive symptoms (1.64±0.68), demonstrated low clinician confidence and rare clinical utilization.

Table 3
Psychological Practice and Skills Tool (PPST) Domain Discrepancies (N=450)

PPST Domain / Skill Construct	Perceived Importance Mean (SD)	Perceived Self-Efficacy Mean (SD)	Routine Utilization Mean (SD)	Intention–Behavior Gap (Δ Δ Mean)
Biopsychosocial Model Endorsement	4.41 (0.62)	3.12 (0.84)	2.18 (0.91)	-2.23
General Pain Neuroscience Education	4.18 (0.70)	3.92 (0.74)	3.65 (0.80)	-0.53
Goal Setting & Activity Pacing	4.05 (0.75)	3.68 (0.81)	3.42 (0.85)	-0.63
Cognitive Restructuring / Reframing	4.22 (0.68)	2.12 (0.89)	1.84 (0.76)	-2.38
Graded In Vivo Exposure for Fear	4.10 (0.73)	2.28 (0.85)	1.95 (0.78)	-2.15
Relaxation & Diaphragmatic Breathing	3.88 (0.82)	3.15 (0.90)	2.30 (0.88)	-1.58
Triaging Complex Psychosocial Distress	4.35 (0.65)	1.64 (0.68)	1.32 (0.55)	-3.03

Note: Measured on a 1 (Lowest) to 5 (Highest) Likert scale. Bolded values indicate major implementation chasms (Δ>2.0).

4.2 Structural Equation Modeling (SEM) Path Analysis

Structural Equation Modeling assessed the structural dependencies between latent predictors and routine clinical utilization (Fig. 3).

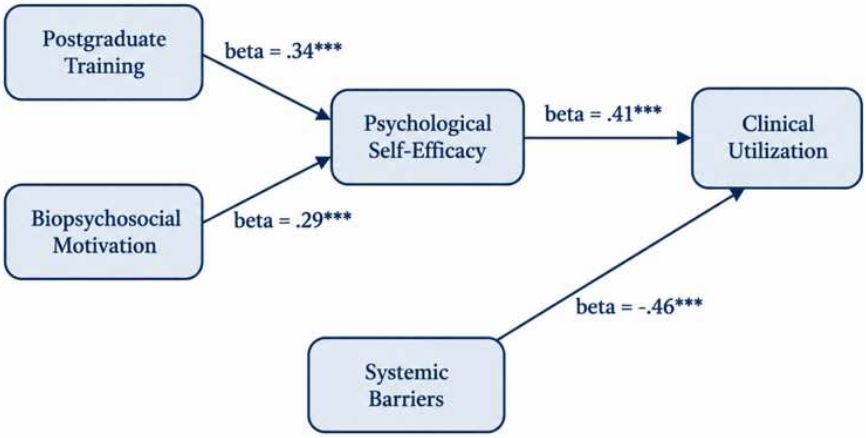

Fig. 3. Standardized SEM Path Diagram. Fit Indices: $\chi 2/df=2.15$, CFI=.96, TLI=.95, RMSEA=.048 SRMR=.042. (*p<.001).

The hypothesized structural model demonstrated an excellent fit to the empirical data, as indicated by a chi-square value of 182.75 with 85 degrees of freedom ($p < .001$) and a chi-square-to-degrees-of-freedom ratio of 2.15. Additional fit indices supported this conclusion, including a comparative fit index (CFI) of .96, a Tucker-Lewis index (TLI) of .95, a root mean square error of approximation (RMSEA) of .048 with a 90% confidence interval ranging from .041 to .055, and a standardized root mean square residual (SRMR) of .042. The analysis of direct and indirect effects revealed several important relationships. Clinician self-efficacy had a strong, positive direct effect on technique utilization ($\beta = .41$, $p < .001$), thereby validating Hypothesis 3. Formal postgraduate training had a significant direct effect on self-efficacy ($\beta = .34$, $p < .001$) and a significant indirect effect on utilization ($\beta = .14$, $p = .002$), confirming Hypothesis 1. Finally, systemic opportunity barriers, including lack of reimbursement, clinical time pressure, and patient expectations, exerted the single largest direct negative effect across the system ($\beta = -.46$, $p < .001$), demonstrating that external constraints consistently suppress clinician intentionality and supporting Hypothesis 2.

4.3 Qualitative Thematic Analysis (n=20)

Reflexive thematic analysis identified four primary themes explaining the cognitive, economic, and sociopolitical mechanisms underlying the survey discrepancies (Table 4).

Table 4
Qualitative Themes, Sub-themes, and Verbatim Exemplar Quotes

Primary Theme	Sub-themes	Illustrative Verbatim Quote
1. The Reimbursement Trap & Institutional Disincentives	• Modality-based insurance tariffs • High patient turnover requirements	"Our national tariff system is anchored entirely to hardware. If I hook a patient to TENS, ultrasound, and traction for 30 minutes, insurance pays without question. If I spend 45 minutes unpacking catastrophic fear appraisals and teaching graded pacing, the clinic earns zero Tomans. The system financially penalizes talking to your patient." (PT-07, Male, 12 yrs experience)
2. Sociocultural Stigma & Somatic Preoccupations	• The "Ravani" (mentally ill) stigma • Passive expectation of manual "fixing"	"Patients come to physiotherapy demanding an MRI review, hot packs, and hands-on massage. The moment I begin exploring fear avoidance or work stressors, their defenses go up. They immediately reply: 'Why are you asking these questions? Do you think I'm crazy (ravani)? My problem is a slipped disc, not my head!'" (PT-14, Female, 8 yrs experience)
3. Referral Anxiety & Boundary Ambiguity	• Fear of opening emotional "Pandora's box" • Professional role insecurity	"We are taught the theory of the bio psychosocial model, but no one taught us the exit strategy. If I ask an unresolved chronic back patient about their family distress and they break down weeping, what do I do? I am terrified of crossing legal or professional lines into psychotherapy without having a psychologist to catch them." (PT-03, Male, 18 yrs experience)
4. Pedagogical Deficits: Didactic vs. Experiential	• Academic theory without micro-skills • Need for real-time simulation/shadowing	"In university, our psychology module consisted of dry slides on Freud, Skinner, and abstract definitions of depression. We were never taught how to de-escalate a catastrophizing patient in the gym, how to handle tearfulness, or how to write an interprofessional consult letter." (PT-19, Female, 4 yrs experience)

4.4 Mixed-Methods Integration (Joint Display)

The quantitative and qualitative findings were integrated into a mixed-methods joint display (Table 5) mapping empirical survey domains directly onto thematic barriers, COM-B domains, and actionable policy/clinical meta-inferences.

Table 5
Mixed-Methods Joint Display Matrix Cross-Referencing Empirical Findings

COM-B Domain	Quantitative Measure (PPST / SEM)	Qualitative Theme & Evidence	Joint Meta-Inference
Capability (Psychological)	High valuation (4.41/5) vs. low self-efficacy in reframing (2.12/5). SEM: Training → Self-Efficacy (= .34).	Theme 4: Clinicians report pure theoretical knowledge without practical conversational micro-skills or simulation training.	Educational curricula must transition from didactic cognitive-behavioral theory to competency-based communication OSCEs and standardized patient simulations.
Opportunity (Physical & Financial)	Barrier construct directly inhibits utilization (= − .46 , p < .001). High volume (> 15 patients/day).	Theme 1: Public and private insurance policies do not provide recognized billing codes for psychologically informed cognitive interventions.	National health authorities must establish specific, billable fee-for-service tariffs for "Psychologically Informed Physical Consultation & Functional Behavioral Pacing."
Opportunity (Sociocultural)	Only 24.4% routine implementation despite 78.2% clinician approval.	Theme 2: Deep-seated cultural stigma equating psychological distress with psychiatric instability (ravani).	Public health initiatives and patient onboarding literature must normalize pain neuroscience, reframing the nervous system's hypersensitivity away from mental illness.

5. Conclusion

This study has provided an empirical, theoretically driven evaluation of the intention–behavior gap in psychologically informed musculoskeletal rehabilitation. By utilizing the COM-B architecture and structural equation modeling, the findings explain why widespread theoretical support for the bio psychosocial model (78.2%) fails to translate into clinical practice (24.4%).

Our SEM results indicate that structural opportunity constraints (β=−.46) systematically outweigh clinician motivation. In private practice environments, the predominance of equipment-based fee structures creates strong financial incentives for passive modality delivery while penalizing communicative cognitive restructuring. This confirms international observations by Holopainen et al. (2020) and Foster et al. (2018), while highlighting the compounding effect of the Iranian healthcare tariff structure. Furthermore, the qualitative data demonstrate that cultural stigmatization surrounding mental health (*ravani*) induces defensive somatic fixations in patients, placing physiotherapists under pressure to provide passive, structural interventions.

Crucially, our findings demonstrate that self-efficacy operates as the critical cognitive mediator between educational preparation and clinical execution (β=.41). Didactic post-licensure lectures fail to impart clinical confidence because they omit conversational micro-skills, distress de-escalation, and structured boundary protocols.

Study Strengths and Limitations

This study benefits from a large, nationally representative quantitative cohort (N=450), robust structural equation modeling, and deep qualitative integration compliant with GRAMMS. However, limitations must be noted. Survey measures are subject to social desirability bias, and longitudinal post-intervention follow-ups were not conducted. Future research should evaluate the clinical efficacy of implementing the Triadic Care Model through pragmatic, cluster-randomized controlled trials in public and private rehabilitation facilities.

Acknowledgments

The author would like to express her sincere gratitude to all the physiotherapists who participated in the survey and interviews; their time and candid insights into the Iranian healthcare landscape made this study possible. I also thank the clinical departments and professional associations that facilitated the distribution of our research instruments.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest / Competing Interests

The author declares that she has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethics Approval and Consent to Participate

All experimental protocols and human-related procedures described in this study were reviewed and approved by the National Committee for Ethics in Biomedical Research in Iran. The research was conducted in strict accordance with the ethical standards of the Declaration of Helsinki and all relevant institutional guidelines and regulations. Informed consent was obtained from all individual participants; they were fully briefed on the study's objectives, the confidentiality of their data, and their right to withdraw from the research at any stage without prejudice.

Availability of Data and Material

All the primary sources and literature used in this article are listed in the references section. The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Code Availability

No custom code was used in this article. Statistical analyses were performed using standard software (SPSS/AMOS).

Author's Contribution

The author was responsible for the conceptualization, data collection, and mixed-methods analysis. This work synthesizes the "intention-behavior gap" in Iranian physiotherapy and proposes the Triadic Care Model as a structural solution. All authors have read and approved the final manuscript.

References

Alexanders, J., Anderson, A., & Henderson, S. (2015). Musculoskeletal physiotherapists' use of psychological interventions: A systematic review of therapists' perceptions and practice. *Physiotherapy*, *101*(2), 164–173. https://doi.org/10.1016/j.physio.2014.03.008

Archer, K. R., Seebach, C. L., Mathis, S. L., Riley, L. H., III, Wegener, S. T., & Song, Y. (2016). Cognitive–behavioral-based physical therapy for patients with chronic pain undergoing lumbar spine surgery: A randomized controlled trial. *The Journal of Pain, 17*(1), 76–89. https://doi.org/10.1016/j.jpain.2015.09.013

Beissner, K., Henderson, C. R., Papaleontiou, M., Olkhovskaya, Y., Tung, H. J., & Reid, M. C. (2009). Physical therapists' use of psychological approaches for older adults with chronic pain: A survey of beliefs and practice. *Physical Therapy*, *89*(5), 456–469. https://doi.org/10.2522/ptj.20080264

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, *7*(1), 37. https://doi.org/10.1186/1748-5908-7-37

Darlow, B., Fullen, B. M., Dean, S., Hurley, D. A., Baxter, G. D., & Dowell, A. (2012). The association between health care professional attitudes and beliefs and the attitudes and beliefs, clinical management, and outcomes of patients with low back pain: A systematic review. *European Journal of Pain*, *16*(1), 3–17. https://doi.org/10.1016/j.ejpain.2011.06.006

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196*(4286), 129–136. https://doi.org/10.1126/science.847460

Foster, N. E., Anema, J. R., Cherkin, D., Chou, R., Cohen, S. P., Gross, D. P., … & Lancet Low Back Pain Series Working Group. (2018). Prevention and treatment of low back pain: Evidence, challenges, and promising directions. *The Lancet*, *391*(10137), 2368–2383. https://doi.org/10.1016/S0140-6736(18)30489-6

Holopainen, R., Simpson, P., Piirainen, A., Karppinen, J., Schütze, R., Smith, A., … & O'Sullivan, P. (2020). Physiotherapists' perceptions of learning and implementing a biopsychosocial intervention to treat musculoskeletal pain conditions: A systematic review and metasynthesis of qualitative studies. *Pain*, *161*(6), 1150–1168. https://doi.org/10.1097/j.pain.0000000000001809

Main, C. J., George, S. Z., & Dutton, M. (2010). *Mental health and musculoskeletal pain: A guide for manual therapists and movement educators*. Churchill Livingstone/Elsevier.

Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, *6*(1), 42. https://doi.org/10.1186/1748-5908-6-42

Nicholas, M. K., Linton, S. J., Watson, P. J., & Main, C. J. (2011). Early identification and management of psychological risk factors ("yellow flags") in patients with low back pain: A reappraisal. *Physical Therapy*, *91*(5), 737–753. https://doi.org/10.2522/ptj.20100224

O'Cathain, A., Murphy, E., & Nicholl, J. (2008). The quality of mixed methods studies in health services research. *Journal of Health Services Research & Policy*, *13*(2), 92–98. https://doi.org/10.1258/jhsrp.2007.007074

Sharifi, V., Amin-Esmaeili, M., Hajebi, A., Motevalian, A., Radgoodarzi, R., Hefazi, M., & Rahimi-Movaghar, A. (2015). Twelve-month prevalence and correlates of psychiatric disorders in Iran: The Iranian Mental Health Survey, 2011. *Archives of Iranian Medicine, 18*(2), 76–84.

Sheeran, P., & Webb, T. L. (2016). The intention–behavior gap. *Social and Personality Psychology Compass*, *10*(9), 503–518. https://doi.org/10.1111/spc3.12265

Singla, M., Jones, A., Edwards, I., & Kumar, S. (2015). Physiotherapists' assessment of psychosocial factors in patients with low back pain: A systematic review. *Physiotherapy Theory and Practice*, *31*(7), 447–462. https://doi.org/10.3109/09593985.2015.1044084

Synnott, A., O'Keeffe, M., Bunzli, S., Dankaerts, W., O'Sullivan, P., & O'Sullivan, K. (2015). Physiotherapists' attitudes and beliefs about low back pain are more biomechanical than biopsychosocial: A cross-sectional study. *Physiotherapy Theory and Practice, 31*(8), 497–505. https://doi.org/10.3109/09593985.2015.1030451

Vlaeyen, J. W. S., & Linton, S. J. (2000). Fear-avoidance and its consequences in chronic musculoskeletal pain: A state of the art. *Pain, 85*(3), 317–332. https://doi.org/10.1016/S0304-3959(99)00242-0

Vlaeyen, J. W. S., Maher, C. G., Wiech, K., Van Zundert, J., Meloto, C. B., Diatchenko, L., Bastian, B., Goebel, A., Kosek, E., Linton, S. J., & others. (2016). Low back pain. *Nature Reviews Disease Primers, 2*, Article 16022. https://doi.org/10.1038/nrdp.2016.22

Vos, T., Lim, S. S., Abbafati, C., Abbas, K. M., Abbasi, M., Abbasifard, M., … & Murray, C. J. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, *396*(10258), 1204–1222. https://doi.org/10.1016/S0140-6736(20)30925-9.

© 2027 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (http://creativecommons.org/licenses/by/4.0/).