
DECOLONIZING WOMEN'S PHYSICAL CULTURE: COMMUNICATION STRATEGIES FOR CONTEMPORARY FITNESS AMONG MUSLIM WOMEN

DECOLONIZANDO A CULTURA FÍSICA DAS MULHERES: ESTRATÉGIAS DE COMUNICAÇÃO PARA O FITNESS CONTEMPORÂNEO ENTRE MULHERES MUÇULMANAS

Zaffira Firzana Zaffri¹, Nurul Hidayah Mat¹, Rabiua Mua'zu Musa¹, Fanora Mat², Radhiah Ismail¹

¹University of Malaysia Terengganu, Terengganu, Malaysia.

²D'Aora Fitness, Terengganu, Malaysia.

RESUMO

Este estudo investiga como o fitness é comunicado, vivenciado e sustentado entre mulheres muçulmanas na Malásia, com foco nas perspectivas de descolonização da cultura física de mulheres muçulmanas. Com base em estudos pós-coloniais, a pesquisa questiona a predominância de paradigmas de fitness centrados no Ocidente, examinando como estratégias de comunicação culturalmente responsivas enfrentam restrições socioculturais, ao mesmo tempo em que ressignificam a participação das mulheres em exercícios estruturados como uma prática de saúde e uma intervenção decolonial. Foi empregado um desenho qualitativo, com entrevistas semiestruturadas realizadas com cinco treinadoras, cada uma com mais de dez anos de experiência no trabalho com mulheres muçulmanas de meia-idade. As entrevistas, realizadas entre janeiro e março de 2025, foram transcritas, traduzidas e analisadas tematicamente, com a confiabilidade assegurada por meio de reflexividade, trilhas de auditoria e descrição densa. Os achados revelaram três temas centrais: fatores motivacionais que influenciam a participação; estratégias de comunicação que apoiam a descolonização da cultura física de mulheres muçulmanas; e abordagens fundamentadas sugeridas para sustentar práticas contemporâneas de fitness. Os resultados ressaltam a importância de espaços de fitness culturalmente situados, que promovam segurança, inclusão e empoderamento, ao mesmo tempo em que favorecem a saúde de longo prazo, o bem-estar psicossocial e o envelhecimento ativo entre mulheres muçulmanas. Essas estratégias são compreendidas como intervenções decoloniais na medida em que resistem a ideais homogeneizadores de fitness e, em vez disso, colocam em primeiro plano práticas corporificadas enraizadas em contextos socioculturais locais. Ao situar as experiências de exercício das mulheres em suas realidades vividas na Malásia, o estudo demonstra que uma comunicação comunitária e culturalmente sensível pode tanto ampliar benefícios imediatos à saúde quanto contribuir para trajetórias mais longas de envelhecimento ativo e saudável.

Palavras-chave: Estratégias de comunicação; Mulheres muçulmanas; Cultura física; Perspectivas pós-coloniais; Comunicação em saúde, Fitness centrado nas mulheres.

ABSTRACT

This study investigates how fitness is communicated, experienced, and sustained among Muslim women in Malaysia, focusing on the perspectives of decolonizing Muslim women's physical culture. Drawing on postcolonial scholarship, the research challenges the dominance of Western-centric fitness paradigms by examining how culturally responsive communication strategies address sociocultural constraints while reframing women's participation in structured exercise as both a health practice and a decolonial intervention. A qualitative design was employed, using semi-structured interviews with five female coaches, each with over ten years of experience working with middle-aged Muslim women. Interviews, conducted between January and March 2025, were transcribed, translated, and analysed thematically with trustworthiness ensured through reflexivity, audit trails, and thick description. Findings revealed three central themes: motivational factors influencing participation, communication strategies supporting the decolonization of Muslim women's physical culture and suggested grounded approaches for sustaining contemporary fitness practices. The results underscore the importance of culturally embedded fitness spaces that foster safety, inclusivity, and empowerment, while promoting long-term health, psychosocial well-being, and active aging among Muslim women. These strategies are understood as decolonial interventions insofar as they resist homogenizing fitness ideals and instead foreground embodied practices rooted in local sociocultural contexts. By situating women's exercise experiences within their lived realities in Malaysia, the study demonstrates that community-based, culturally sensitive communication can both enhance immediate health benefits and contribute to longer-term trajectories of active and healthy aging.

Keywords: Communication strategies; Muslim women; Physical culture; Postcolonial perspectives; Health Communication; Women-centred fitness.

Introduction

The cultural politics of fitness among Muslim women has evolved into a complex terrain shaped by religion and morality values, shifting socio-economic structures, global consumer trends, and the rise of digital media cultures. Recent scholarship consistently demonstrates that Muslim women's participation in fitness cannot be understood solely through a deficit lens of barriers. Instead, it reflects dynamic negotiations between bodily autonomy, communal expectations, and the ethical aspirations of piety. Studies in Malaysia, the Middle East, Europe, and North America underscore that fitness practices are embedded in everyday moral reasoning, where women balance the pursuit of health and well-being with obligations regarding modesty, respectable femininity, and the cultivation of religious comportment¹⁻⁴.

Rather than situating Muslim women's fitness within narratives of deficiency or cultural incompatibility, scholars highlight how women actively reconfigure the meaning of exercise in ways that affirm both religious commitments and embodied agency. Recent theoretical interventions call for a decolonial and intersectional reframing of these issues that includes the creation of women-only training collectives, the circulation of faith-informed fitness content online, and the emergence of community-based coaching. This integrates modesty, health education, and empowerment which challenge mainstream fitness norms rooted in individualism, body-centrism, and Eurocentric ideals of autonomy, instead articulating culturally coherent pathways to strength and well-being that resonate with Islamic ethical frameworks¹⁻⁴. Such insights underscore the need for research and policy that foreground women lived experiences and avoid homogenising their identities or motivations.

Collectively, the literature suggests that meaningful advancement in Muslim women's fitness participation requires interventions that address both structural and cultural dimensions. Recent studies emphasize the role of culturally embedded communication and supportive environments in sustaining women's fitness participation. For instance, religious identity and social support strongly influence motivation among Muslim women, suggesting the importance of communication strategies that are empathetic, relational, and respectful of cultural values¹⁻⁴. Similarly, scholars have highlighted the value of contextualized coaching practices and narrative feedback, which foster empowerment and promote adherence in women-only fitness settings⁵⁻⁷.

This negotiation is particularly salient in Malaysian contexts where multicultural norms, Islamic institutional discourses, and state-led healthy lifestyle campaigns, producing both opportunities and tensions in women's access to gender-safe, culturally responsive fitness spaces, and community norms. A study demonstrates that motivations for exercise improves health, enhancing appearance, fostering social belonging that intersect with barriers such as time pressures, environmental limitations, and discomfort in mixed-gender spaces, illustrating how structural and cultural influences jointly shape behaviour^{8,9}.

While abundant research demonstrates the benefits of structured exercise for physical and mental health, studies focusing specifically on Malaysian Muslim women are relatively limited. Much of the existing literature tends to emphasize biomedical outcomes such as weight management, cardiovascular health, and musculoskeletal fitness¹⁰. By contrast, less attention has been given to the psychosocial and cultural factors that shape Malaysian women's experiences of fitness, including the relational dynamics such as the cultural appropriateness of the program design and the communication strategies by the fitness coaches¹⁻⁴. Scholars have long argued that women's involvement in physical culture is shaped by gendered power

relations and broader social inequalities¹¹. Within this framework, fitness is not merely a neutral health-promoting practice but a contested space in which identities, bodies, and social relations are negotiated.

Importantly, efforts to decolonize women's physical culture that reflect the local perspectives such as fitness coaches, who directly mediate Muslim women's experiences of structured exercise remain underexplored in the scholarly literature. This lack of focused inquiry results in an incomplete understanding of how power, embodiment, and cultural negotiation unfold within everyday fitness settings, thereby leaving a critical gap. Addressing these gaps is vital for this study in understanding how culturally grounded and gender-sensitive programs among Muslim women particularly Malaysian can support their sustained engagement in contemporary fitness culture.

Defining the Epistemological, Methodological, and Political Foundations of Decolonizing Muslim Women's Physical Culture in Contemporary Fitness

Decolonial approaches challenge the dominance of Western-centric models of fitness, which often promote universalized ideals of thinness, individualism, and market-driven consumption¹². As argued in previous research, physical culture in South Asia has historically been shaped by colonial encounters and continues to be influenced by globalized fitness norms that do not always resonate with local sociocultural realities¹³. To decolonize women's physical culture especially among Muslim's women, then, is to foreground alternative practices that are contextually embedded, culturally meaningful, and attentive to the lived experiences of women in specific settings such as Malaysian.

Epistemologically, decolonizing women's physical culture requires recognising that dominant fitness discourses have historically been shaped by Eurocentric conceptions of the body, movement, beauty, and health. These discourses foreground individualism, performativity, and neoliberal ideals of self-optimization, often marginalizing culturally diverse understandings of embodiment. Decolonial epistemology thus calls for interrogating the coloniality of knowledge that positions Western fitness norms as universal and superior^{14,15}. In the context of Muslim women's fitness, this entails valuing non-Western, faith-informed, and community-oriented ways of knowing the body, including modesty practices, spirituality, collective participation, and culturally grounded motivations for physical activity. Such an approach aligns with decolonial feminist scholars who argue for the legitimacy of diverse embodied epistemologies that challenge the hegemony of Western feminist and biomedical paradigms^{16,17}.

Methodologically, a decolonizing approach requires research designs that resist extractive, hierarchical, or universalizing tendencies. Instead, it emphasises participatory, dialogical, and culturally responsive methodologies that foreground the voices, experiences, and interpretive frameworks of Muslim women themselves. Therefore, the qualitative designs of this study were structured around relational accountability and the co-creation of knowledge^{18,19}, which shifts the analytical centre toward Muslim women lived realities, allowing their fitness practices, communication strategies, and embodied negotiations of religious, cultural, and social expectations to guide the interpretation of findings. It also demands reflexivity from the researcher, who must critically examine their own positionality and the potential reproduction of colonial power dynamics within the research process.

Politically, decolonizing women's physical culture entails challenging the structural and discursive regimes that constrain Muslim women's participation in fitness spaces. These include orientalist narratives that depict Muslim women as inherently passive, oppressed, or physically restricted. For example, Islamophobic assumptions that frame religiously informed

bodily practices as antithetical to modernity and globalized fitness industries that commercialize narrow ideals of femininity and athleticism^{20,21}. The political dimension of decolonization seeks to unsettle these power relations by empowering Muslim women to assert agency over their physical cultures, create spaces that align with their values, and reshape dominant narratives through culturally grounded communication strategies. This may include reclaiming bodily autonomy within faith-informed frameworks, promoting inclusive representations in fitness media, and advocating for structural reforms that support equitable access to fitness environments.

Taken together, clarifying the epistemological, methodological, and political dimensions of decolonizing strengthens the conceptual coherence within the context of Muslim women's contemporary fitness practices in Malaysia. Decolonization becomes a process of reclaiming knowledge, reshaping communication strategies, and challenging power structures that have historically marginalized diverse physical cultures, thereby enabling a more inclusive and culturally situated understanding of women's fitness motivational factors and experiences.

Unpacking Core Constructs in the Intersection of Muslim Women's Physical Culture and Communication Strategies for Contemporary Fitness in Malaysia

In the Malaysian context, Muslim women's engagement with physical culture is shaped by a multifaceted construct of empowerment that transcends mere participation in fitness activities. On one hand, empowerment encompasses individual agency, where women use fitness as a site for bodily autonomy, self-efficacy, and resistance against restrictive norms. On the other hand, structural and socio-cultural elements such as supportive social media representations and communal validation play a pivotal role in enabling or constraining this agency. For example, research on women's empowerment through social media in Malaysia underscores how digital platforms serve as mobilising spaces for identity negotiation and resistance, particularly among Muslim women who navigate competing expectations of faith and modernity²².

This dual dimension can be particularly sensitive among Malaysian due to modesty requirements, leading to unique communicative strategies in designing fitness programs. For instance, a recent qualitative review on the 'awrah (modesty) issue' among Muslim women athletes in Malaysia highlights how religious edicts and cultural design affect not only their choice of attire but also their willingness to participate in sports²³. Communication strategies, therefore, must engage with religious authorities, community networks, and digital platforms to foster culturally appropriate design, enabling Muslim women to participate in fitness without compromising their values.

By critically grounding these concepts, the study establishes an analytical foundation that resists reductive interpretations of Muslim women's physical culture and aligns with contemporary feminist and decolonial calls for research approaches that attend to structural relations, epistemic plurality, and the situated nature of agency. The insight of how Malaysian women negotiate cultural expectations, gender norms, and religious values through participation in exercise are addressed. It also underscores the significance of supportive social environments such as those fostered by female coaches in enabling women to reclaim fitness as a space of agency, empowerment, and self-definition.

In response to these challenges, women-centred fitness spaces are growing in Malaysia such as D'Aora Fitness among many others that offer not only opportunities for physical activity but also environments that prioritize empowerment, social support, and long-term adherence. Communication is central to how decolonial and feminist principles are operationalized in practice. Coaches at D'Aora Fitness engage in culturally sensitive

communication strategies, including motivational language, relational support, and personalized instruction, to sustain women's adherence. Such strategies align with recent findings that culturally tailored coaching, narrative feedback, and empathetic dialogue can reinforce commitment to physical activity among Muslim women⁵⁻⁷. They also resonate with broader evidence that social support, digital validation, and community belonging enhance women's confidence to participate despite cultural barriers¹⁻⁴.

By foregrounding communication, the framework positions the coach–trainee relationship as a key mechanism through which health outcomes, psychosocial well-being, and empowerment are achieved. In line with this, scholars have highlighted how intrapersonal, interpersonal, and faith-related barriers can be addressed through culturally responsive and empathetic coaching approaches²⁴⁻²⁷. Women-only spaces have also been shown to cultivate belonging, empowerment, and safety, thereby sustaining long-term participation^{28,29}. These insights provide a critical foundation for understanding how localized practices in Malaysian fitness centres can challenge the universalizing tendencies of global fitness culture while providing alternative pathways for sustainable engagement^{30,31}.

Therefore, in shaping Muslim women's physical culture and fitness activities, this study focuses on the communication strategies, and motivational practices employed by female coaches to support women's participation over time. In doing so, it situates the findings within broader postcolonial debates around women's bodies, exercise, and empowerment. For women in postcolonial contexts such as Malaysia, these negotiations intersect with cultural values, religious norms, and historical legacies of coloniality that continue to structure women's opportunities for physical expression.

Hence, this study provides insights into how fitness is communicated, experienced, and sustained in women-only contexts in Malaysia. By highlighting the central role of culturally sensitive communication strategies, it reframes women's participation in structured exercise as both a health practice and a decolonial intervention, contributing to ongoing postcolonial efforts to reimagine women's physical culture as a site of empowerment, resistance, and wellbeing. Thus, the objectives of this study are:

- 1) To identify the factors that motivate Muslim women to participate in fitness activities in Malaysia.
- 2) To explore culturally responsive communication strategies employed by fitness coaches to support the decolonization of Muslim women's physical culture.
- 3) To develop grounded communication approaches for contemporary fitness among Muslim women in Malaysia.

Conceptual Framework

Within contemporary fitness environments, characterised by globalised wellness trends, and digitalised exercise communities, Muslim women navigate a field where bodily practices are symbolically charged and inseparable from broader moral and socio-cultural expectations. Their participation therefore reflects ongoing negotiations between the pursuit of health, the maintenance of modesty and piety, and the constraints imposed by gendered spatial arrangements and unequal access to supportive infrastructures.

Within this landscape, Muslim women's physical culture is conceptualised not as a static or homogenous domain but as a dynamic space of meaning-making in which religious ethics and embodied aspirations intersect. This encompasses women-only training environments, faith-aligned interpretations of bodily care, and adaptive practices that reframe fitness as morally legitimate and socially acceptable. Such adaptations reveal forms of agency

that challenge reductive narratives depicting Muslim women as constrained by religion and cultural norms.

Communication strategy serves as the mediating layer that shapes how these negotiations unfold. Faith-sensitive messaging, culturally resonant content, and community-based communication channels influence both perceptions of fitness and the behavioural intentions that sustain participation. Digital platforms ranging from Instagram, Facebook and many more to modest sportswear branding that play a central role in circulating narratives of health, confidence, and empowerment that align with women lived realities. Effective communication strategies therefore operate not merely as informational tools but as cultural mediators that legitimise participation, provide social support, and foster inclusive representations of Muslim women's physical culture. This theoretical alignment demonstrates how contemporary fitness, embodied religious identities, and strategic communication converge to shape pathways of participation that are both culturally grounded and personally meaningful as explained in the figure below:

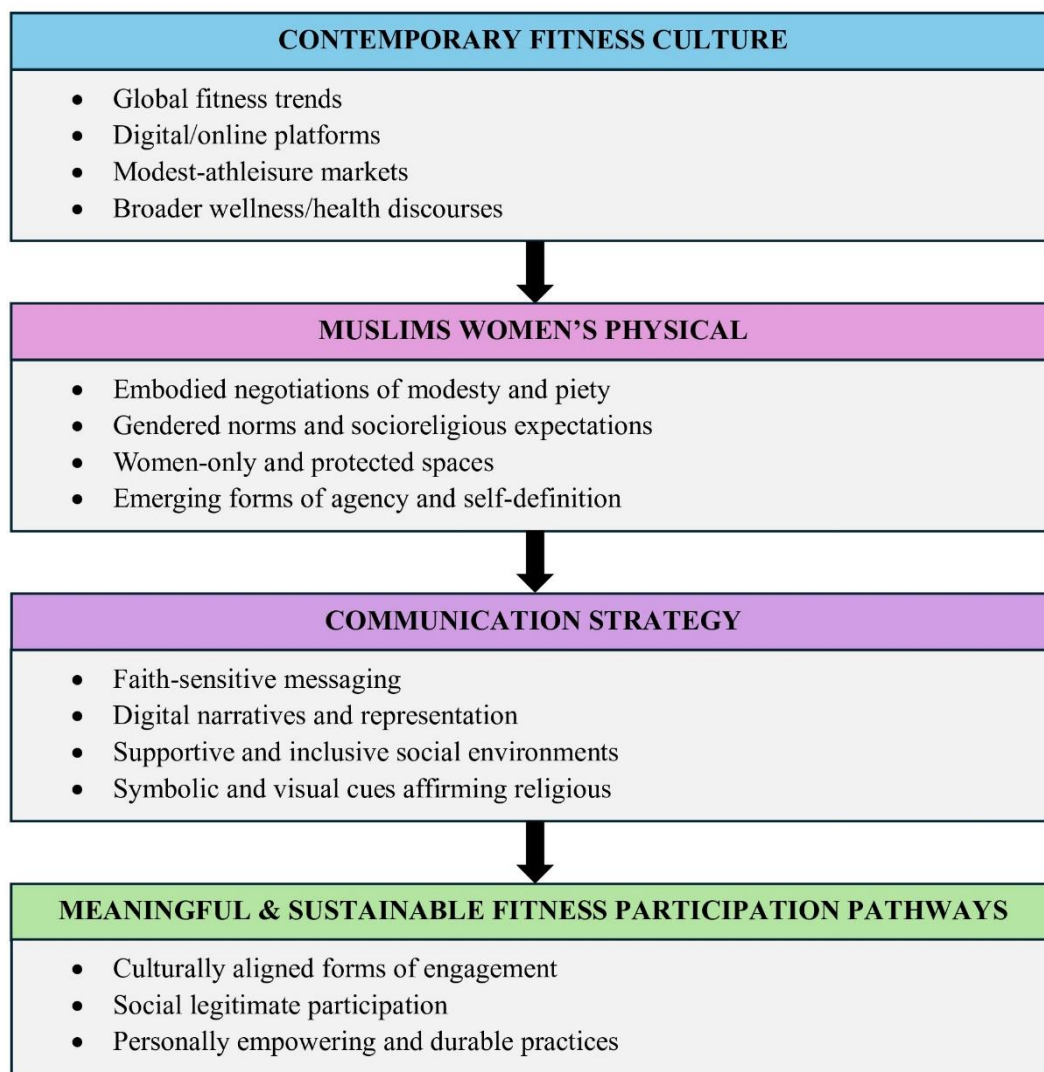


Figure 1. Conceptual Framework of the Study

Source: The authors

Methods

This study employed a qualitative research design using semi-structured interviews to explore Muslim women motivation in fitness, culturally responsive communication strategies, and developing grounded communication approaches for contemporary fitness among Muslim women in Malaysia.

Sample

Purposive sampling was employed to recruit five female fitness coaches from D'Aora Fitness, each with a minimum of ten years of experience and direct engagement with middle-aged women (35–64 years). The inclusion criteria for participants were:

- i) female fitness coaches,
- ii) middle aged, and
- iii) having more than ten years of experience in the fitness sector.

Table 1. Respondent indication

Respondent	Coaching Experience	Indication
1	10 years	R1
2	12 years	R2
3	14 years	R3
4	15 years	R4
5	25 years	R5

Source: The authors.

Procedures

Interviews were conducted face-to-face between January and March 2025, with each session lasting 60 to 90 minutes, in Malay (the national language of Malaysia) and English to ensure participants' comfort and authentic expression. The interview guide addressed women's health challenges, fitness preferences, coaching strategies, observed outcomes, and long-term participation. All interviews were audio-recorded, transcribed verbatim, and subsequently translated into English for analysis. Ethical approval was obtained from the Universiti Malaysia Terengganu Research Ethics Committee. Participant anonymity and confidentiality were upheld, data were securely stored, and all participants were informed of their right to withdraw at any stage without penalty.

Table 2. List of Criteria Used to Develop Interview Questions

Research Objectives	Criteria
To identify the factors that motivate Muslim women to participate in fitness activities in Malaysia.	Questions about the factors that motivates Muslim's women relating to Fitness participation.
To explore culturally responsive communication strategies employed by fitness coaches to support the decolonization of Muslim women's physical culture.	Questions about communication strategies employed between the respondents and their clients.

To develop contextually grounded communication approaches for contemporary fitness among Muslim women in Malaysia.	Questions about communication approaches between the respondents and their clients in fostering contemporary fitness amongst Muslim’s women.
--------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------

Source: The authors

Thematic analysis

Thematic analysis was undertaken in accordance with the methodological principles articulated by Braun and Clarke⁵, moving through six iterative and reflexive phases that guided the progression from initial coding to the construction of coherent thematic narratives. The analytic process began with repeated immersion in the data to develop a deep familiarity with participants’ accounts, followed by systematic and comprehensive coding that captured both semantic and latent dimensions of meaning. These codes were subsequently organized into preliminary patterns, which allowed for the identification and categorization of central themes and sub-themes. Through an extended process of reviewing, refining, and consolidating these thematic structures, the analysis ensured that each theme demonstrated internal coherence and conceptual distinctiveness. The final phase involved producing an interpretive account that situated the themes within the broader scholarly discourse and aligned them with the study’s aims and research questions. To establish trustworthiness, the study employed prolonged engagement with the dataset, maintained detailed audit trails, and incorporated reflexive journaling to address researcher positionality. Rich, contextualized descriptions were also provided to enhance credibility and transferability, consistent with the criteria advanced by Lincoln and Guba³².

Results and Discussion

Thematic analysis of the interviews yielded three overarching themes that provide critical insights into Muslim women’s engagement with physical activity in Malaysia. These themes consist of: (i) motivational factors influencing Malaysian Muslim women’s participation in fitness, (ii) communication strategies supporting the decolonization of Muslim women’s physical culture, and (iii) grounded communication approaches for contemporary fitness among Muslim women.

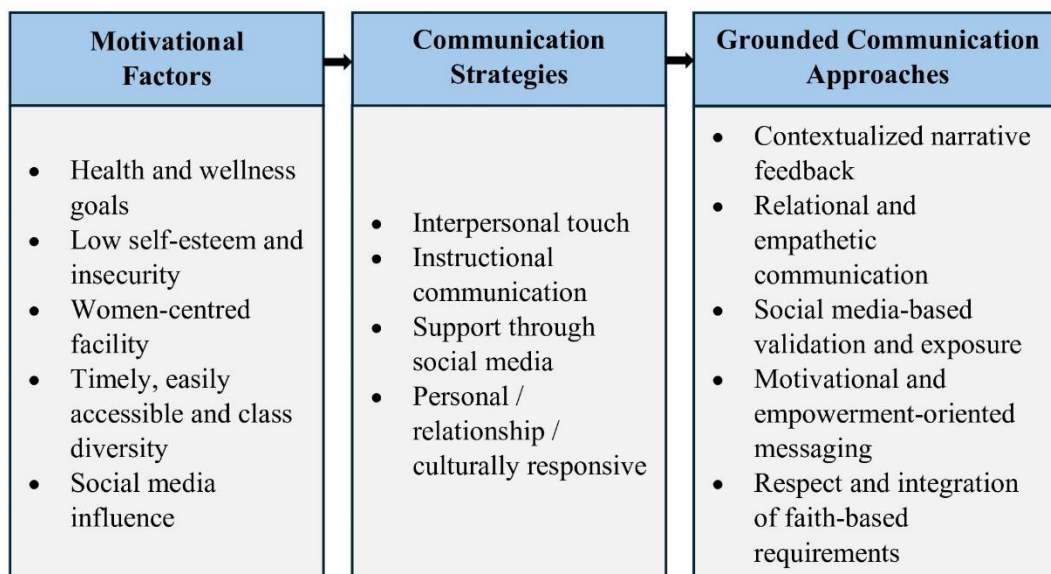


Figure 2. Main Themes of Muslim Women’s Engagement in Contemporary Fitness

Source: The authors

Figure 2 illustrates the interplay among three main themes: Muslim women’s motivation in fitness, communication strategies supporting the decolonization of Muslim women’s fitness journeys, and grounded communication approaches for contemporary fitness among Muslim women, all situated within the broader context of women’s physical culture.

Motivational Factors of Malaysian Muslim Women’s Participation in Fitness

Malaysian Muslim women’s participation in fitness is shaped by personal health and wellness goals that motivate them to pursue improved physical fitness, mental well-being, and overall quality of life. This commitment reflects an assertion of bodily autonomy that challenges stereotypes depicting Muslim women as passive or disengaged from active lifestyles. Women-centred facilities, supportive peer networks, and culturally sensitive communication further strengthen participation by reducing barriers related to modesty and religious norms while countering Western fitness ideals. These conditions enable women to exercise on their own terms, cultivating agency aligned with their values and spiritual orientations, as illustrated in Figure 3.

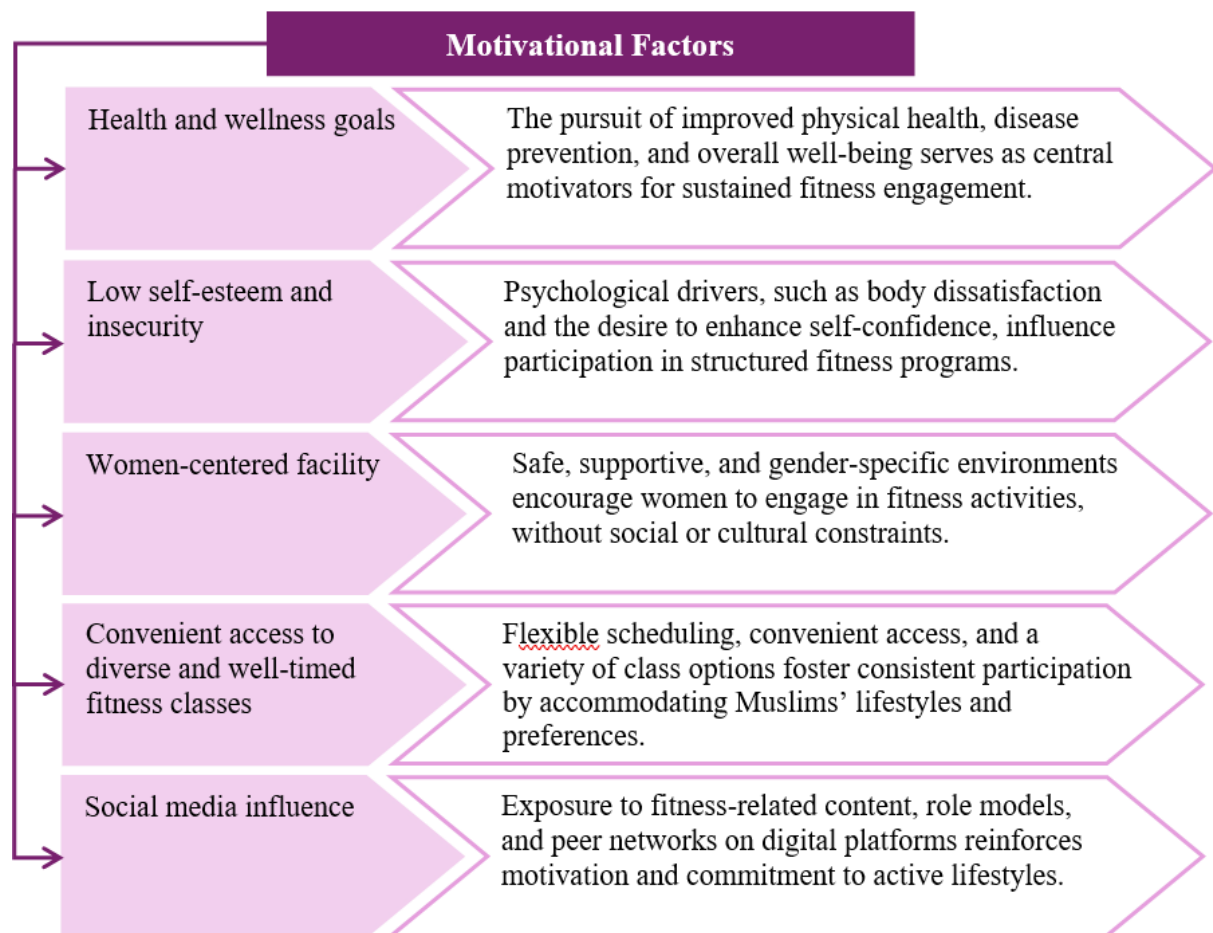


Figure 3. Motivational Factors Influencing Muslim Women’s Fitness Participation

Source: The authors

Health and wellness goals

All respondents concurred that middle-aged women frequently initiate their fitness journeys in response to health-related challenges such as weight gain, hypertension, chronic fatigue, diabetes, and high blood pressure. As Respondents R1, R2, and R5 indicated:

- R1 : *I noticed that my clients join my classes because of their health. Some of them are too sedentary to move around or even to pray due to being overweight.*
- R2 : *Many women came following doctors' advice regarding their potential health risks. They worried that their health would worsen if they did not act.*
- R5 : *Many of them are taking medication; hence, they join fitness programs to avoid long-term dependence on medication. Some even have diabetes and require insulin injections as part of their daily routine.*

This finding highlights how Muslim women's motivations for maintaining or improving physical health, preventing disease, and sustaining energy are rooted in epistemologies that differ from dominant Western fitness paradigms. Rather than framing exercise primarily in terms of aesthetics, performance, or individual achievement, their engagement is anchored in the Islamic principle of the body as an *amanah*, or a trust bestowed by God. This faith-based orientation unsettles universalized assumptions about why women participate in fitness and repositions their bodily practices within a moral, spiritual, and relational framework. By grounding physical activity in religious responsibility and holistic stewardship of the self, Muslim women reconsider and reshape their physical culture in ways that resist external prescriptions and instead affirm culturally embedded understandings of care, balance, and embodied ethics. In doing so, their approach to health becomes an act of decolonizing, in which challenge hegemonic norms and legitimizes alternative ways of knowing, valuing, and engaging the body.

Low Self-Esteem and Insecurity

Emotional drivers, particularly the pursuit of greater self-confidence, also emerged as salient motivators. Most respondents stated that women's initial participation was often motivated by a desire to avoid criticism from others, as illustrated by the following:

- R2 : *At first, ladies came to me in sloppy outfits because they were only planning to go to the market. However, a few months later, they became more confident in wearing proper attire for fitness, as they had started to like and feel proud of their new bodies.*
- R4 : *Strength training gave women a sense of independence by enhancing physical capabilities, improving daily functional performance, and fostering greater confidence in managing everyday tasks.*
- R5 : *Body shaming was frequently mentioned by my clients when they first joined my classes. It is common to hear these concerns from women, and the Bellydance class boosted confidence and made them feel more feminine. The combination*

of expressive movement, rhythm, and social interaction fostered both self-assurance and personal empowerment, especially when practiced with a partner.

Across the responses, consistent engagement in structured exercise not only strengthened physical well-being but also nurtured a deeper sense of self-assurance and personal empowerment that extends beyond conventional health outcomes. Interpreted through a decolonizing lens, these experiences reveal how Muslim women reclaim physical activity as a space for emotional restoration, mood regulation, and confidence-building while simultaneously negotiating the expectations of their domestic roles. Their participation challenges dominant fitness discourses that often privilege Western, individualistic, and appearance-driven narratives, instead centring a culturally situated understanding of well-being that integrates faith, familial responsibilities, and holistic self-care. In this way, exercise becomes both a health practice and a quiet form of decolonial resistance, expanding Muslim women physical culture within their own sociocultural frameworks.

Women-Centered Facility

The need for gender-segregated spaces, modest attire, and respect for prayer routines, alongside their domestic roles, motivated Muslim women to participate in daily physical activity. All respondents indicated that:

- R1 : *They prefer D'Aora Fitness Centre because it is women-only. They said they feel safe here and more comfortable moving without worrying about who is watching.*
- R3 : *One of my trainees does not choose unisex gymnasiums due to discomfort while exercising in a hijab. That is why ladies-only spaces are important.*
- R4 : *My followers love to style their hair, and some enjoy wearing short sleeves or tank tops while exercising, but they cannot do so when jogging in public places such as tracks or stadiums.*

Within the broader context of Muslim physical culture, these findings demonstrate how women's participation in daily physical activity is shaped by the need to harmonize exercise with religious, cultural, and domestic responsibilities. The respondents highlighted that gender-segregated spaces, modest attire, and accommodation of prayer routines were not merely practical preferences but central motivations that enabled them to inhabit fitness spaces in culturally congruent ways. Such conditions reflect longstanding Islamic principles concerning privacy, modesty, and spiritual discipline, illustrating how physical culture for Muslim women is inherently embedded in religious ethics and everyday social life. Women-only fitness centres were regarded as vital because they offered an environment where participants could move confidently and without fear of exposure or judgement, thus countering the mixed-gender and appearance-oriented norms often present in mainstream fitness settings. By providing safety, comfort, and cultural legitimacy, these spaces support a distinctly Muslim mode of physical culture, allowing women to pursue health and exercise while affirming their identity and lived realities.

Convenient Access to Diverse and Well-Timed Fitness Classes

Barriers such as limited time, low confidence, and sociocultural constraints can be mitigated for Muslim women through the availability of facilities such as D'Aora Fitness, which encourages participation in fitness activities. Majority of the respondents stated:

- R3 : *Time flexibility is important. Many women said they like our classes because the schedule fits their routines. They can choose morning or evening sessions, making it easier to stay consistent.*
- R4 : *One of my trainees does not choose unisex gymnasiums due to discomfort while exercising in a hijab. That is why ladies-only spaces are important.*
- R5 : *My followers' preferences vary according to age and personality. Women in their mid-30s to early 40s are often attracted to lively and fun classes such as Zumba, Step board, and particularly Belly dance, which combine physical exercise with music and social interaction. Women over 45 tend to prefer lower-impact activities such as Yoga and Pilates, which are gentler on the joints.*

Convenient access to diverse and well-timed fitness classes plays a crucial role in mitigating structural and cultural barriers that often limit women's engagement in exercise. Challenges related to distance, financial constraints, safety, and time management are particularly salient for Muslim women, whose daily routines are intertwined with religious obligations, domestic responsibilities, and community expectations. By offering flexible scheduling and private, gender-segregated spaces, create an environment where participants can exercise in ways that respect modesty norms, accommodate prayer times, and allow freedom of movement without concern for exposure. Such conditions not only increase their comfort and sense of belonging but also reflect a culturally grounded model of physical culture that supports sustained participation. In doing so, these facilities reinforce the idea that Muslim women's fitness practices are most effective and meaningful when aligned with their sociocultural values, bodily ethics, and lived realities.

Social Media Influence

Social media serves as a powerful influence by shaping perceptions, fostering motivation, and creating supportive networks that encourage women's participation in fitness activities, as indicated by majority of the respondents:

- R1 : *Social media really influences them. Sometimes they join because they saw a challenge online or a friend posted about our classes. That exposure gives them motivation to join us.*
- R2 : *It is important for me and my followers to keep posting about their fitness journeys, as it can attract others to join. Most of my loyal clients were once followers on my Facebook and TikTok.*
- R3 : *Most of my clients join me because they see their friends post on social media about their fitness activities at our centre. Some of them even got to know me through Facebook.*

These insights demonstrate that participation in fitness programs emerges from the interplay of medical needs, psychosocial dynamics, digital influences, and supportive environmental structures. Health concerns and medical recommendations often act as initial catalysts, prompting women to consider exercise as a necessary step toward managing chronic conditions and enhancing overall well-being. Yet sustained engagement is reinforced by the influence of social media platforms that normalise active lifestyles among Muslim women. Through curated content shared by Muslim fitness influencers, modest activewear brands, and faith-conscious wellness communities, social media provides both visibility and validation for diverse expressions of Muslim women's fitness. These digital spaces challenge stereotypes of inactivity, offer inspiration and practical guidance, and create a sense of collective encouragement that bridges geographic and social boundaries. Over time, the convergence of these factors transforms exercise from a medically motivated behaviour into a long-term lifestyle practice that nurtures confidence, empowerment, and social connectedness. This evolution underscores the centrality of physical culture and culturally attuned communication, both offline and online in shaping Muslim women's pathways toward meaningful and sustainable fitness participation.

Communication Strategies in Supporting the Decolonization of Muslim Women's Physical Culture

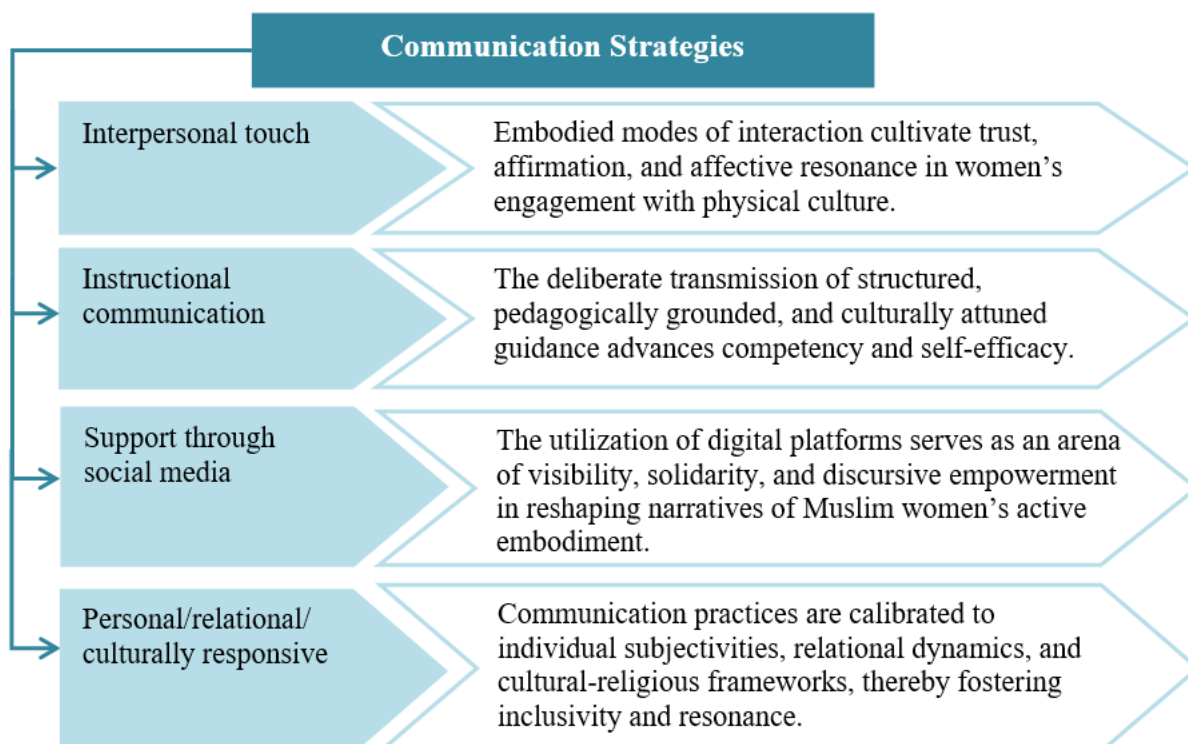


Figure 4. Communication strategies underpinning the decolonization of Muslim women's physical culture.

Source: The authors

Communication strategies underpinning the decolonization of Muslim women's physical culture are revealed most clearly through the interpersonal, instructional, relational, and digital practices that shape their everyday fitness engagement.

Interpersonal Touch

Interpersonal touch used respectfully, selectively, and with cultural sensitivity emerges as a powerful tool for building trust and enhancing bodily learning, particularly when instructors employ guided adjustments that honour modesty norms while facilitating correct technique. This was highlighted by respondents R3, R4, and R5:

- R3 : *As a coach, I've seen that even a small gesture... like adjusting posture or giving a light pat on the shoulder... it can really build trust. For many Muslim women, that physical presence says more than words. It tells them they are supported.*
- R4 : *In our setting, touch must be respectful... and very intentional. Even a light correction with the hand... it gives confidence because it shows care without crossing boundaries.*
- R5 : *I see touch as a form of encouragement... when done with respect. A light correction of the stance... it communicates, 'I'm with you, your effort matters.' It deepens the trust.*

Instructional Communication

Instructional communication further contributes to this process by positioning fitness coaches as culturally responsive educators who translate exercise knowledge into forms that are accessible, non-judgmental, and aligned with women lived realities. Clear explanations, faith-conscious encouragement, and pedagogical strategies that recognise diverse embodiment challenge the dominance of Western, performance-driven fitness discourses that affirm more inclusive and culturally grounded understandings of physical practice as claimed by majority of the respondents:

- R1 : *My cues are not only technical... but affirming. Saying things like 'strong posture' or 'empowered stance'... it improves the body but also uplifts the mind.*
- R2 : *I always make sure my instructions are clear... and modest. Instead of focusing on appearance, I emphasize strength, posture, and health. That shift in language... it makes fitness feel more aligned with their culture and faith.*
- R3 : *I think when we explain step by step... clearly and with respect for them, it values them and makes them feel safe. It's not just about exercise, but about learning in a way that honours modesty and dignity.*

Support Through Social Media

Support through social media extends these communication processes beyond the physical gym, offering digital communities where Muslim women can access guidance, inspiration, and peer encouragement. Online visibility of modest workout routines, hijab-friendly activewear, and faith-aligned wellness messages helps counter homogenizing global fitness narratives and legitimizes alternative expressions of active Muslim womanhood. Social media thus becomes a communicative bridge that sustains motivation, normalizes participation,

and reinforces culturally resonant interpretations of embodiment. As respondents R1, R4, and R5 stated:

- R1 : *Honestly, social media helps us reach them outside the studio. Posting encouragement, sharing success stories, it creates a sense of belonging. Women feel they're not alone, but part of a bigger supportive community.*
- R4 : *Social media is more than just promotion. We use it to educate and normalize fitness for Muslim women. By showing relatable content, we slowly change the idea that exercise is only for Western lifestyles.*
- R5 : *Many women first connect with us online before they even step into the studio. Consistent, culturally sensitive content gives them confidence to join. It's like a safe entry point.*

Personal, Relational and/or Culturally Responsive

Personal and relational communication deepens this decolonizing dynamic by fostering emotional safety and a sense of belonging. When coaches adopt empathetic, relationship-oriented approaches, listening to concerns about modesty, negotiating prayer times, or acknowledging domestic and caregiving responsibilities, validate women's identities and reaffirm their right to participate in fitness without compromising religious or cultural commitments. Such relational atonement shifts fitness into mutual respect, solidarity, and culturally affirmed agency as claimed by respondents R3, R4, and R5:

- R3 : *I focus a lot on relationships with my clients... when women feel their faith and cultural practices are respected, they engage more deeply.*
- R4 : *I adapt depending on the person... sometimes formal, sometimes more friendly. The goal is always to communicate in a way that fits their journey and identity. That's what keeps them motivated.*
- R5 : *I try to get to know them personally... some are mothers, some career women, some very religious. When I acknowledge that, they feel seen. It makes the experience more meaningful for them. For me, decolonizing physical culture starts with creating that safe and validating space.*

These communication strategies (interpersonal, instructional, relational, and digital) collectively contribute to the decolonization of Muslim women's physical culture. They create fitness environments that respect cultural ethics, and challenge hegemonic norms by centring Muslim women's values, experiences, and ways of knowing.

Proposed Grounded Communication Approaches for Contemporary Fitness Among Muslim Women

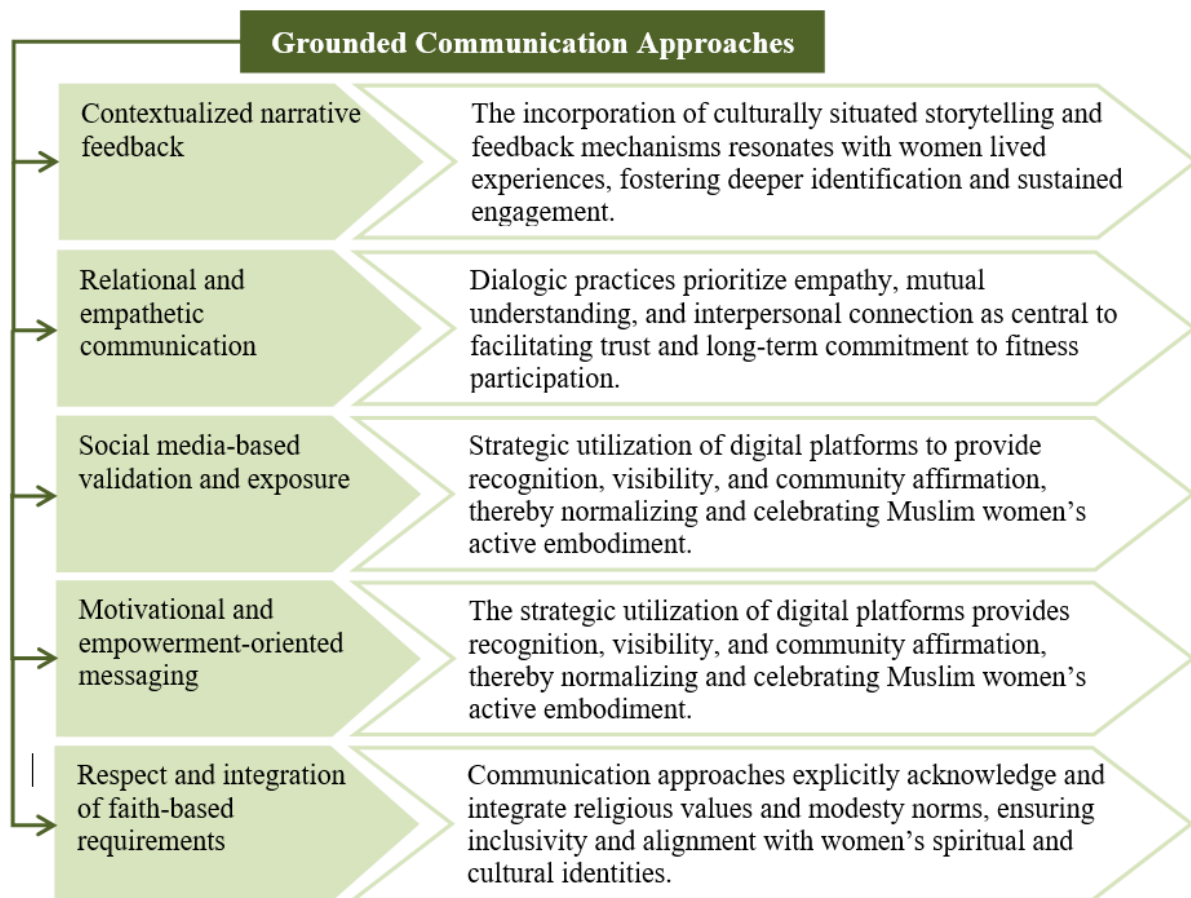


Figure 5. Proposed grounded communication approaches for advancing contemporary fitness among Muslim women.

Source: The authors

Contextualized Narrative Feedback

Contextualized narrative feedback in fitness involves providing personalized reflections and stories that link an individual's progress to their specific goals, cultural background, and lived experiences. This approach not only enhances understanding and motivation but also fosters a deeper sense of relevance, belonging, and empowerment in the fitness journey, as claimed by majority of the respondents R2, R3, and R4:

- R2 : *When I share stories that connect to their daily lives, like balancing fitness with family or work, they relate better. Narrative feedback makes them feel, 'Yes, that's my reality too,' and it keeps them motivated.*
- R3 : *I notice when I frame feedback within their own context... for example, linking strength training to being able to carry children or household tasks... it resonates more deeply.*

- R4 : *I believe in feedback that connects to their personal journey, telling them how their progress reflects resilience as Muslim women. It gives the training a larger meaning.*

Contextualized narrative feedback supports the decolonization of fitness for Muslim women by framing progress through culturally grounded meanings rather than universalized performance ideals. When coaches respond to women's experiences such as modesty needs, prayer routines, and domestic responsibilities, their feedback becomes a culturally responsive exchange that validates identity and bodily agency. This approach shifts evaluation away from appearance-driven norms toward holistic markers of comfort, confidence, and spiritual balance. In doing so, narrative feedback reinforces a Muslim women's physical culture that honours lived realities and enables participation on their own terms, fostering a decolonial reimagining of what fitness can represent.

Relational and Empathetic Communication

This approach emphasizes understanding participants' emotions, experiences, and perspectives to build trust and meaningful connections within the fitness environment. By fostering a supportive and compassionate atmosphere, it enhances motivation, engagement, and long-term adherence to physical activity, as claimed by respondents R1, R3, and R5:

- R1 : *Empathy is crucial. Some women arrive with fear or doubt, so I talk gently, reassure them, and remind them that this is their own safe space.*
- R3 : *I make sure communication is warm and supportive. Sometimes just saying, 'I understand it's not easy, but you're doing so well,' builds trust and keeps them committed.*
- R5 : *Sometimes women come in with insecurities, so empathy is key. I try to listen first, then guide. When they feel understood, their commitment grows naturally.*

Relational and empathetic communication is central to supporting Muslim women's physical culture and advancing decolonized fitness practices. When coaches listen attentively to women's concerns about modesty, prayer routines, and domestic responsibilities, they create an affirming environment that respects cultural and religious identities. This empathetic engagement counters dominant fitness norms that often prioritize performance or appearance, instead foregrounding comfort, trust, and emotional safety. By recognising women lived realities and adapting coaching approaches accordingly, relational communication fosters genuine inclusion and embodied agency. Such culturally attuned interactions enable Muslim women to participate in fitness on their own terms, reinforcing a decolonial understanding of movement and well-being.

Social Media-Based Validation and Exposure

Social media-based validation and exposure in fitness allow individuals to share their achievements, receive encouragement, and gain recognition from a wider audience, thereby reinforcing motivation and self-confidence. For Muslim women, such platforms also provide opportunities to challenge stereotypes, celebrate culturally grounded practices, and make visible diverse forms of physical culture, as highlighted by respondents R3, R4, and R5:

- R3 : *Posting their achievements online... with their permission, of course... gives them pride. It also shows the wider community that Muslim women are active, strong, and confident.*
- R4 : *Social media is powerful. When we highlight their stories, it validates their effort and shows society that Muslim women can reclaim fitness spaces confidently.*
- R5 : *Online spaces allow us to celebrate them publicly. Even a simple post saying, 'Well done,' makes them feel valued, and for other women watching, it is inspiring.*

Social media-based validation and exposure contribute significantly to Muslim women's physical culture by normalizing faith-aligned fitness practices and challenging dominant Western fitness ideals. Through modest workout content, hijab-friendly activewear, and supportive digital communities, women find representation that affirms their identities and motivations. This visibility fosters confidence, reduces stigma, and encourages sustainable participation. In doing so, social media becomes a decolonizing force, legitimizing culturally grounded expressions of movement and well-being.

Motivational and Empowerment-Oriented Messaging

Motivational and empowerment-oriented messaging in fitness uses affirming language and positive reinforcement to inspire confidence, resilience, and self-belief among participants. Such communication is particularly significant for Muslim women, as it validates their agency, counters limiting stereotypes, and encourages sustained commitment to active and healthy lifestyles, as stated by respondents R1, R2, and R3:

- R1 : *I use words like 'empowered' and 'capable' because fitness is not just about shaping the body but shaping confidence. They start to carry that empowerment into their lives outside the studio.*
- R2 : *I avoid negative language. Instead of saying what they lack, I emphasize their progress, their discipline, their strength. That positive framing changes their mindset completely.*
- R3 : *I always highlight their progress, no matter how small, telling them they are stronger and more capable. This type of messaging empowers them to see fitness as part of their identity, not just an activity.*

Motivational and empowerment-oriented messaging strengthens Muslim women's physical culture by affirming their capabilities within culturally grounded frameworks. When coaches use faith-aligned encouragement and inclusive language, they counter appearance-driven norms and promote confidence, agency, and purpose. Such messaging supports a decolonized fitness experience that validates women's values while sustaining long-term engagement.

Respect and Integration of Faith-Based Requirements

Designed programs that accommodate religious practices, such as modest attire, prayer times, and gender-segregated spaces, foster inclusivity, comfort, and long-term participation among Muslim women. By aligning physical activity with spiritual values, such programs fulfil Muslim women's demand for improving their physical culture, as stated by respondents R3, R4, and R5:

- R3 : *We respect dress codes, prayer times, and modesty concerns. Integrating those values shows them they don't have to choose between faith and fitness... both can coexist beautifully.*
- R4 : *I adjust when needed, like providing a women-only space or playing music that feels comfortable. That respect for faith-based needs makes the studio feel safe for them.*
- R5 : *We never separate fitness from faith. I always remind them that strength and health are also acts of Amanah... caring for the body as part of religious responsibility. That makes fitness spiritually meaningful.*

Respect and integration of faith-based requirements are central to Muslim women's physical culture, enabling participation without compromising religious identity. When fitness spaces honour prayer times, modest attire, and gender segregation, they counter dominant norms and support culturally congruent movement. This alignment fosters comfort and agency, reinforcing a decolonized approach to fitness grounded in women lived values.

Conclusion

In conclusion, Muslim women's engagement in fitness is shaped by a complex interplay of motivational factors, communication strategies, and culturally grounded approaches. Health and wellness goals, along with the need for supportive, women-centred spaces drive participation, while social media and diverse class offerings further enhance motivation. Effective communication including interpersonal touch, instructional guidance, and culturally responsive interactions facilitates understanding, trust, and sustained involvement. Grounded approaches such as contextualized narrative feedback, empathetic communication, empowerment-oriented messaging, and respect for faith-based requirements reinforce inclusivity and long-term adherence. Collectively, these strategies contribute to the creation of decolonized, culturally sensitive fitness environments that empower Muslim women to achieve holistic physical, mental, and spiritual well-being.

References

1. Chen N, Qiao F. Effect of social support on Muslim women's sporting activities: mediating effect of psychological adjustment. *Front Psychol.* 2024;15:1335886. DOI: <https://doi.org/10.3389/fpsyg.2024.1335886>
2. Hussain U, Cunningham GB. Physical activity among Muslim women: the roles of religious identity, health consciousness, and Muslim population density. *Cogent Soc Sci.* 2023;9(2):2244839. DOI: <https://doi.org/10.1080/23311886.2023.2244839>
3. Basabain WS. Instagram usage by Saudi female fitness influencers for athlete-branding [doctoral thesis]. Edinburgh: Edinburgh Napier University; 2025. DOI: <https://doi.org/10.17869/enu.2025.4807575>

4. Laar RA, Liu R, Zhang Q. Barriers to female participation in physical activity in Pakistan: a feminist sport theory perspective. *Int J Womens Health*. 2025;17:2715-2727. DOI: <https://doi.org/10.2147/IJWH.S533492>
5. Del Busso L, Brottveit G, Torp Løkkeberg S, Gluppe G. Women's embodied experiences of using wearable digital self-tracking health technology: a review of the qualitative research literature. *Health Care Women Int*. 2022;43(12):1355-1379. DOI: <https://doi.org/10.1080/07399332.2021.1884682>
6. Rubio-Rico L, de Molina-Fernández I, Font-Jiménez I, Roca-Biosca A. Meanings and practices of the physical activity engaged in by Moroccan women in an Islamic urban environment: a quasi-ethnography. *Nurs Open*. 2021;8(5):2801-2812. DOI: <https://doi.org/10.1002/nop2.857>
7. Noori-Sistani M, Allahverdipour H, Vahedian-Shahroodi M, Eskandarnejad M, Ashkriz N, Javadivala Z. Barriers to home-based physical activity and predictors of activity levels among women with high sedentary habits: an explanatory mixed-methods study. *BMC Res Notes*. 2025;18:217. DOI: <https://doi.org/10.1186/s13104-025-07243-x>
8. Othman MS, Mat Ludin AF, Chen LL, Hossain H, Abdul Halim II, Sameeha MJ, et al. Motivations, barriers and exercise preferences among female undergraduates: a need assessment analysis. *PLoS One*. 2022;17(2):e0264158. DOI: <https://doi.org/10.1371/journal.pone.0264158>
9. Mat NH, Musa RM, Mat F, Zaffri ZF. Identification of essential anthropometric and health-related markers for effective weight loss programs in middle-aged women. *Retos*. 2025;65:1077-1085. DOI: <https://doi.org/10.47197/retos.v65.109475>
10. Scraton S, Flintoff A, editors. *Gender and sport: a reader* [Internet]. London: Routledge; 2002 [cited 2026 Jun 18]. Available from: <https://www.routledge.com/Gender-and-Sport-A-Reader/Flintoff-Scraton/p/book/9780415259538>
11. Andrews DL, Silk ML, editors. *Sport and neoliberalism: politics, consumption, and culture* [Internet]. Philadelphia: Temple University Press; 2012 [cited 2026 Jun 18]. Available from: https://www.temple.edu/tempress/titles/2169_reg.html
12. Hoang N, Zhao Z, Shaturaev J. *Decolonizing development: unpacking post-colonialism in South Asia* [Internet]. Munich: Munich Personal RePEc Archive; 2023 [cited 2026 Jun 18]. MPRA Paper No.: 119245. Available from: <https://mpra.ub.uni-muenchen.de/119245/>
13. Mignolo WD. *The darker side of Western modernity: global futures, decolonial options*. Durham: Duke University Press; 2011. DOI: <https://doi.org/10.1215/9780822394501>
14. Santos B de S. *Epistemologies of the South: justice against epistemicide*. London: Routledge; 2014. DOI: <https://doi.org/10.4324/9781315634876>
15. Lugones M. *Toward a decolonial feminism*. *Hypatia*. 2010;25(4):742-759. DOI: <https://doi.org/10.1111/j.1527-2001.2010.01137.x>
16. Mahmood S. *Politics of piety: the Islamic revival and the feminist subject* [Internet]. Princeton: Princeton University Press; 2012 [cited 2026 Jun 18]. Available from: <https://press.princeton.edu/books/paperback/9780691149806/politics-of-piety>
17. Smith B. *Disability and qualitative inquiry: methods for rethinking impairment and research*. *Int J Soc Res Methodol*. 2012;15(3):207-219. DOI: <https://doi.org/10.1080/13645579.2011.563605>
18. Smith LT. *Decolonizing methodologies: research and Indigenous peoples* [Internet]. 3rd ed. London: Bloomsbury Academic; 2021 [cited 2026 Jun 18]. Available from: <https://www.bloomsbury.com/uk/decolonizing-methodologies-9781786998132/>
19. Abu-Lughod L. *Do Muslim women need saving?* [Internet]. Cambridge: Harvard University Press; 2013 [cited 2026 Jun 18]. Available from: <https://www.hup.harvard.edu/books/9780674725164>
20. Hamzeh M, Oliver KL. "Because I am Muslim, I cannot wear a swimsuit": Muslim girls negotiate participation opportunities for physical activity. *Res Q Exerc Sport*. 2012;83(2):330-339. DOI: <https://doi.org/10.1080/02701367.2012.10599864>
21. Ahmad N, Hj Abdul Aziz HH, Zulkiffle N. Women's empowerment through social media: a comparative study of Brunei Darussalam and Malaysia. *J Southeast Asian Res*. 2023;2023:371091. DOI: <https://doi.org/10.5171/2023.371091>
22. Robbi AAM, Yunus SM. A qualitative review on 'Awrah issue of Muslim women athlete in Malaysia. *J Fatwa Manag Res*. 2024;29(1):47-62. DOI: <https://doi.org/10.33102/jfatwa.vol29no1.544>
23. Koa M, Rahman S, Abdullah R. Communication strategies in women-only fitness centres in Malaysia. *Asian J Commun* [Internet]. 2024 [cited 2026 Jun 18];34(1):55-70. Available from: <https://www.tandfonline.com/toc/rajc20/current>
24. Koa AJAF, Chou CC, Lindayani L, Wang CJ. Exploring barriers to physical activity participation among female nursing students adhering to specific social-cultural norms in Indonesia: a qualitative study. *Belitung Nurs J*. 2024;10(4):438-447. DOI: <https://doi.org/10.33546/bnj.3370>

25. Soltani A, Azadi N, Rahimi H. Muslim women in Iran's gym culture. *Int Rev Sociol Sport* [Internet]. 2021 [cited 2026 Jun 18];56(8):1165-1182. Available from: <https://journals.sagepub.com/home/irs>
26. Stride A, Fitzgerald H, Long J. Communication and Muslim women in UK fitness spaces. *Leisure Stud* [Internet]. 2024 [cited 2026 Jun 18];43(3):345-360. Available from: <https://www.tandfonline.com/toc/rlst20/current>
27. Lenneis V, Pfister G, Christensen MK. Muslim women and fitness in Denmark. *Sport Soc* [Internet]. 2022 [cited 2026 Jun 18];25(6):1021-1037. Available from: <https://www.tandfonline.com/toc/fcss20/current>
28. Wang J, Li M, Chen Y. Online communities and fitness communication. *Int J Commun* [Internet]. 2022 [cited 2026 Jun 18];16:2245-2263. Available from: <https://ijoc.org/index.php/ijoc/article/view/17832>
29. Knuth AG, Gomes CL, Antunes H. Muslim women in Brazilian fitness spaces. *Leisure Stud* [Internet]. 2024 [cited 2026 Jun 18];43(2):256-270. Available from: <https://www.tandfonline.com/toc/rlst20/current>
30. Knuth AG, Leite GS, Santos SF dos, Crochemore-Silva I. Is it possible to decolonize the field of physical activity and health? *J Phys Act Health*. 2024;21(7):633-635. DOI: <https://doi.org/10.1123/jpah.2024-0135>
31. Lincoln YS, Guba EG. *Naturalistic inquiry* [Internet]. Beverly Hills: Sage Publications; 1985 [cited 2026 Jun 18]. Available from: <https://us.sagepub.com/en-us/nam/naturalistic-inquiry/book842>

Data Availability Statement: The data supporting the findings of this study are available within the article.

Acknowledgements: This research was supported by D'Aora Fitness Sdn. Bhd. through Universiti Malaysia Terengganu by the research project, Vot Number: 53570, (Fitness Trends and Their Impact on Health: A Contemporary Analysis of D'Aora Fitness's Communication Strategy for Intensive Training Programs).

CRedit author statement

Zaffira Firzana Zaffri: Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing original draft, Visualization.

Nurul Hidayah Mat: Conceptualization, Project administration, Funding acquisition, Methodology, Supervision, Writing – review & editing.

Rabiu Mua'zu Musa: Conceptualization, Supervision, Writing – review & editing.

Fanora Mat: Data curation, Investigation, Resources.

Radhiah Ismail: Validation, Writing – review & editing.

ORCID:

Zaffira Firzana Zaffri: <https://orcid.org/0009-0004-5320-7387>

Nurul Hidayah Mat: <https://orcid.org/0000-0001-9910-8772>

Rabiu Muazu Musa: <https://orcid.org/0000-0001-5332-1770>

Fanora Mat: <https://orcid.org/0009-0007-7692-0750>

Radhiah Ismail: <https://orcid.org/0000-0002-6011-3088>

Editor: Larissa Michelle Lara.

Received on Aug 09, 2025.

Reviewed on Nov 22, 2025.

Accepted on Dec 17, 2025.

Corresponding author: Nurul Hidayah Mat, email: hidayah.mat@umt.edu.my