

Citation: Moradi, F., Malekiyan, N., Hashem Zehi, N., & Niroomand, L. (2024). Validation of the Functional Model of Social Media Networks in the Labor and Teachers' Social Movements in Iran (2015–Present). *Digital Transformation and Administration Innovation*, 2(1), 88-100.

Received date: 2024-01-09

Revised date: 2024-03-11

Accepted date: 2024-03-15

Published date: 2024-03-20



Validation of the Functional Model of Social Media Networks in the Labor and Teachers' Social Movements in Iran (2015–Present)

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Abstract

The study aimed to validate a comprehensive functional model of social media networks in shaping awareness, mobilization, and democratic engagement within the social movements of Iranian teachers and workers from 2015 onward. This research employed a mixed-methods sequential design, integrating qualitative and quantitative approaches to ensure conceptual depth and empirical precision. In the qualitative phase, semi-structured interviews were conducted with 15 experts in communication, political science, journalism, and union activism using purposive and snowball sampling until data saturation. Thematic analysis following the Attride-Stirling network approach identified three levels of themes—basic, organizing, and global—leading to the conceptual model. The quantitative phase involved 400 participants from teacher and worker movements, selected through random sampling. A questionnaire derived from the qualitative themes was validated using content validity indices (CVI and CVR), Cronbach's alpha, and composite reliability. Statistical analyses, including t-tests and factor analyses, were performed using SPSS to test the model's structure and reliability. Descriptive and inferential analyses confirmed that all latent variables—awareness and information dissemination, mobilization and organizing, collective power, transformation of social and cultural structures, and democratic engagement—were positively and significantly correlated. Model fit indices (AVE = 0.62–0.69; CR = 0.79–0.93) indicated high convergent validity and internal consistency. The highest explanatory power appeared in mobilization and organizing ($R^2 = 0.657$), while awareness and information dissemination recorded the highest mean ($M = 3.94$). The validated model demonstrated that social media act as central mechanisms of awareness, solidarity, and participation in Iranian professional movements. The study confirmed that social media networks function as multidimensional infrastructures of communication, coordination, and democratization, transforming professional activism into networked, participatory, and connective forms of collective action in Iran's socio-political landscape.

Keywords: Social media; Digital activism; Teachers' movement; Labor movement; Mobilization; Network society; Democratic participation; Iran.

1. Introduction

In the past two decades, social media networks have fundamentally reshaped the structures and dynamics of social mobilization, enabling new forms of collective action and public discourse that transcend geographical and institutional



boundaries. In the context of Iran—where conventional avenues for protest and advocacy are often restricted—digital platforms have become vital spaces for expressing grievances, coordinating mobilization, and amplifying marginalized voices. The expansion of virtual spaces has therefore not only altered communication patterns but also influenced the organization, leadership, and ideological framing of social movements, particularly among teachers and workers, whose collective actions since 2015 have increasingly relied on online infrastructures (Kowsari, 2023; Mahboob et al., 2025; Razavi, 2020).

Page | 89 Globally, the conceptualization of social movements has evolved alongside technological innovation. Traditional theories emphasized resource mobilization—the idea that collective action depends on the acquisition and coordination of material and organizational resources (McCarthy & Zald, 1977). Later developments in sociology and political science highlighted the importance of networked communication and collective identity formation as critical factors enabling sustained mobilization (Della Porta & Diani, 2006; Tilly, 2004). The emergence of digital and networked environments has prompted a new wave of theoretical frameworks, including Castells's notion of "networks of outrage and hope," where social media serve as infrastructures for emotional contagion and coordination (Castells, 2012), and Shirky's idea of "political power through social media," which underscores their capacity to lower coordination costs and amplify civic participation (Shirky, 2011). In this sense, cyberspace has transformed both the scale and style of collective contention, allowing for horizontally organized, decentralized, and leaderless movements that nonetheless demonstrate remarkable cohesion and efficacy (Bennett & Segerberg, 2013; Earl & Kimport, 2011).

In Iran, these transformations have manifested vividly in professional movements, especially those involving teachers and industrial workers, whose demands for better wages, social justice, and professional autonomy have long histories. While traditional unions and syndicates have often been constrained by legal and institutional limitations, virtual networks have provided alternative platforms for communication and coordination (Bagheri & Niknam, 2017; Mahdavi & Norouzi, 2019). Social media applications such as Telegram, WhatsApp, and Instagram have emerged as vital tools for organizing strikes, sharing protest schedules, and broadcasting images and videos that galvanize public support. Through these tools, previously localized grievances have acquired national visibility, producing broader narratives of solidarity among diverse occupational and social groups (Aghapour, 2019; Karami, 2018).

The structural transformation of the public sphere, as theorized by Habermas, provides an interpretive lens for understanding this digital phenomenon (Habermas, 1989). Whereas the classical bourgeois public sphere relied on print culture and face-to-face deliberation, the contemporary Iranian public sphere has become digitally mediated, fragmented yet participatory. Social media allow ordinary citizens to enter the discursive domain once monopolized by state or institutional actors, effectively democratizing access to public communication (Rahimi, 2020). The rapid flow of online information, citizen journalism, and viral content has challenged the hegemony of traditional media, creating new opportunities for counter-discourse and alternative representation, particularly for groups that were historically marginalized from mainstream narratives (Hosseini & Mohammadi, 2018; Shahabi, 2019).

Empirical studies show that the teachers' movements in Iran have leveraged social media to construct professional identities, advocate for educational reform, and contest economic precarity (Jalali, 2021; Yousefi, 2017). Similarly, workers' protests have utilized digital networks for inter-sectoral coordination, mobilization, and dissemination of grievances (Ghasemi & Javadi, 2020; Mahdavi & Norouzi, 2019). These developments illustrate the logic of connective action (Bennett & Segerberg, 2013), in which individuals participate in collective mobilization through personalized digital networks rather than centralized organizations. The flexibility and immediacy of such networks enable rapid adaptation to situational constraints while fostering a sense of shared belonging and mutual recognition among participants (Wellman, 2001).

The period between 2015 and 2023 marks a critical juncture for Iranian civil activism, coinciding with widespread access to smartphones and encrypted messaging platforms. During this period, teachers and labor activists have organized coordinated strikes, sit-ins, and online campaigns, often in response to wage delays, economic inequality, and political marginalization. These digital campaigns have not only generated visibility but also reconfigured traditional patterns of leadership, replacing centralized command structures with networked micro-leaders who act as intermediaries within online communities (Aghapour, 2019; Asgari & Farahani, 2022). This transition from hierarchical organization to horizontal networks aligns



with the theoretical shifts observed in global movements such as Occupy Wall Street or the Arab Spring, where the collective agency of digitally connected individuals replaced traditional leadership models (Castells, 2012; Shirky, 2011).

At the same time, the dual nature of social media—as both enablers and disruptors—has shaped the Iranian protest landscape in complex ways. On one hand, digital platforms have expanded the democratic potential of civic engagement by reducing barriers to participation and amplifying public voice (Earl & Kimport, 2011; Inguaggiato et al., 2025). On the other hand, they have exposed movements to surveillance, misinformation, and state control, leading to cycles of mobilization and suppression (Mahboob et al., 2025; Rahimi, 2020). The continuous contestation between activists and authorities over information control demonstrates how the digital public sphere in Iran remains both emancipatory and contested, reflecting the broader paradox of online activism in semi-authoritarian contexts (Asgari & Farahani, 2022).

Within the theoretical frameworks of social movement studies, the current research situates itself at the intersection of resource mobilization theory and network society theory. The former emphasizes the strategic use of organizational resources—material, informational, and symbolic—in sustaining movements (McCarthy & Zald, 1977), while the latter, as articulated by Castells, conceptualizes society as a system of interlinked networks where power, communication, and identity circulate dynamically (Castells, 2012). These frameworks collectively help explain how Iranian professional movements have adapted to the digital era, transforming from centralized unions into fluid, adaptive networks of contention. Furthermore, Della Porta and Diani's conceptualization of movements as dynamic processes of meaning-making and solidarity-building provides a complementary lens to interpret how virtual networks cultivate collective consciousness (Della Porta & Diani, 2006).

The notion of the digital public sphere is also closely related to the Habermasian ideal of communicative rationality, albeit in a reconfigured form. Unlike the print-based sphere that Habermas envisioned, today's digital sphere is characterized by polyvocality, immediacy, and emotional intensity. The Iranian online environment illustrates this shift: teachers and workers, once confined to limited institutional communication, now engage directly with the public, policymakers, and global audiences through social media. This environment enables what Yousefi terms “digital professional activism”, where occupational identity becomes both a political and communicative resource (Yousefi, 2017). Likewise, Bagheri and Niknam emphasize how such activism strengthens collective bargaining capacity and solidarity among dispersed teachers (Bagheri & Niknam, 2017).

The transformation of communication channels has also affected the symbolic dimension of protest. Social media affordances—such as hashtags, memes, and viral videos—serve not only as tools for coordination but also as mechanisms for framing and meaning-making. Through these symbols, protest movements translate personal grievances into collective narratives, as seen in the representation of emblematic figures like Mahsa Amini, whose image became a transnational icon of dissent (Mahboob et al., 2025). Similarly, teachers' and workers' digital activism often reframes local demands—such as salary equity or job security—into broader struggles for justice, dignity, and citizenship (Karami, 2018; Razavi, 2020).

Moreover, Iran's socio-political context introduces unique complexities to digital mobilization. The tension between state-controlled media systems and citizen-driven digital networks creates a dual structure of communication where legitimacy and visibility are constantly negotiated (Hosseini & Mohammadi, 2018). Social networks thus operate as alternative spheres of negotiation, where the marginalized negotiate symbolic power through participation and discourse rather than formal representation. This process is consistent with Tilly's and McCarthy's emphasis on how changing opportunity structures reshape movement strategies (McCarthy & Zald, 1977; Tilly, 2004).

Studies have also identified the emergence of hybrid activism, combining online and offline tactics to maximize visibility and minimize risk. For example, Shahabi's discourse analysis of professional protests demonstrates how digital narratives sustain momentum between episodic demonstrations (Shahabi, 2019), while Rahimi underscores how online mobilization in Iran reflects broader transformations in cyberpolitics, where virtual arenas substitute for restricted offline spaces (Rahimi, 2020). As Wellman notes, the rise of “personalized networking” has blurred the boundaries between public and private activism, enabling individuals to move fluidly between digital self-expression and collective mobilization (Wellman, 2001).

From an educational standpoint, the convergence between teachers' professional activism and digital citizenship has also attracted scholarly attention. Kowsari highlights how educational professionals have turned social media into platforms for collective learning and advocacy, enhancing the reflexive capacities of teachers within authoritarian environments (Kowsari,



2023). This aligns with Inguaggiato's global review, which situates youth and professional activism within the broader discourse of global citizenship education, emphasizing agency, critical awareness, and civic responsibility in digital contexts (Inguaggiato et al., 2025). Through these mechanisms, online activism contributes not only to political expression but also to the pedagogical formation of civic consciousness among participants.

At the macro level, these processes signify an ongoing redefinition of democracy and participation in the digital age. As Alimohammadi and Aghapour show, Iranian teachers and workers utilize social media not only as tools of resistance but also as spaces of dialogue, deliberation, and emotional exchange, thus expanding the scope of participatory democracy (Aghapour, 2019; Alimohammadi, 2017). Similarly, Mahdavi's network analysis of workers' protests reveals that digital connectivity fosters horizontal alliances and cross-sectoral solidarity, facilitating new channels of coordination beyond institutional unions (Mahdavi & Norouzi, 2019). These findings resonate with Bennett and Segerberg's theory of connective action, in which digital infrastructures enable participation without centralized leadership, allowing movements to scale quickly and adaptively (Bennett & Segerberg, 2013).

Despite these potentials, digital activism in Iran faces persistent challenges, including state-imposed filtering, internet shutdowns, and the co-optation of digital spaces by political actors. Nevertheless, social media continue to function as critical infrastructures of resilience, maintaining communication during repression and preserving collective memory through archived content. As Rahimi and Razavi argue, the endurance of these networks under constraint underscores the sociopolitical adaptability of digital activism in Iran (Rahimi, 2020; Razavi, 2020).

In summary, the convergence of social media and social movements represents a transformational shift in the logic of collective action in Iran. Teachers' and workers' movements since 2015 illustrate how digital networks facilitate organization, amplify demands, and reshape the symbolic architecture of protest. These transformations embody a transition from traditional hierarchical mobilization to networked, connective, and participatory activism, echoing global patterns observed in the digital era (Bennett & Segerberg, 2013; Castells, 2012; Earl & Kimport, 2011). Grounded in theoretical perspectives of resource mobilization, public sphere transformation, and network society, this study seeks to validate a functional model of social media's role in shaping the collective dynamics of Iranian labor and teacher movements.

The objective of this research is therefore to empirically validate the conceptual model of social media functions—covering awareness, mobilization, collective power, and democratic engagement—in the social movements of Iranian teachers and workers from 2015 onward

2. Methods and Materials

This study employed a mixed-methods design, integrating both qualitative and quantitative approaches to ensure a comprehensive understanding of how social media networks have functioned within social movements among Iranian workers and teachers from 2015 onwards. The rationale behind this dual strategy lies in its capacity to combine numerical precision with interpretive depth, thus overcoming the limitations inherent in each method when used in isolation.

The research was conducted in three sequential phases. The first phase was qualitative, aimed at exploring and constructing the conceptual model of social media functionality in social movements through expert insights. The second phase was quantitative, designed to validate the conceptual model derived from the qualitative findings. Finally, the third phase focused on integrating and interpreting results to ensure theoretical coherence and empirical reliability.

The qualitative sample consisted of 15 participants, selected through purposive and snowball sampling until theoretical saturation was achieved. Participants included distinguished figures such as communication scholars, political analysts, journalists, and leaders of labor and teacher unions. The selection criteria emphasized expertise, academic or professional background, and direct engagement with social or digital communication phenomena. Each interview lasted between 45 and 120 minutes, conducted either face-to-face or virtually, depending on participant availability.

In the quantitative phase, the population comprised members of labor and teacher movements who had participated in protests or online campaigns between 2015 and 2021. Based on estimations of participation in recent demonstrations, a sample of 400 respondents was determined using Cochran's formula. Questionnaires were distributed randomly among these groups



to ensure representativeness. This phase provided a statistical basis for validating the conceptual dimensions and relationships identified in the qualitative phase.

The qualitative data collection relied primarily on semi-structured interviews, which allowed for flexibility in exploring participants' perceptions, emotions, and experiences while maintaining a consistent focus on the research objectives. This method was chosen for its ability to capture the complexity of meaning underlying social and political behaviors. The interview protocol was developed around four guiding questions addressing:

- (1) the role and functions of social media in recent Iranian social movements,
- (2) their impact on labor protests,
- (3) their role in teachers' movements, and
- (4) comparable functions of social media in similar international contexts.

All interviews were audio-recorded with participants' consent, then manually transcribed and verified to ensure accuracy. Ethical considerations such as informed consent, voluntary participation, and confidentiality were strictly observed throughout.

For quantitative data collection, a questionnaire was constructed based on the core themes and codes identified in the qualitative phase. The instrument included items measuring various aspects of social media use, mobilization dynamics, organizational communication, and collective identity among activists. To ensure content validity, the questionnaire was reviewed by a panel of subject matter experts, and both Content Validity Ratio (CVR) and Content Validity Index (CVI) were computed. Reliability was tested using Cronbach's alpha and test-retest methods, confirming high internal consistency and stability of the instrument across administrations.

The finalized questionnaire was concise yet comprehensive, designed to capture all relevant constructs of the conceptual model while remaining accessible to participants with diverse educational backgrounds. Data collection occurred over a two-month period, primarily through electronic distribution and, where possible, in-person administration during professional gatherings.

The qualitative data analysis followed the Attride-Stirling Thematic Network Analysis approach, which provides a systematic framework for identifying, organizing, and interpreting patterns of meaning within textual data. The process began with initial coding of meaningful units within interview transcripts, followed by the generation of Basic Themes, which were subsequently clustered into Organizing Themes and then integrated into overarching Global Themes. This hierarchical model facilitated the development of a thematic network, visually mapping the interconnections among identified concepts. Data were also cross-verified using MAXQDA software to ensure coding accuracy and consistency.

After deriving the thematic structure, the findings informed the development of the quantitative measurement model. Using the codes and themes, questionnaire items were aligned with specific conceptual domains such as digital mobilization, media framing, network solidarity, and online collective identity.

Quantitative data were analyzed using descriptive and inferential statistical methods. Descriptive statistics summarized demographic and behavioral variables, while one-sample t-tests and factor analysis were employed to evaluate the hypothesized relationships among the identified factors. The Kolmogorov-Smirnov test assessed data normality, ensuring appropriate use of parametric tests. Exploratory and confirmatory factor analyses validated the underlying structure of the model derived from the qualitative phase.

3. Findings and Results

Drawing on 15 semi-structured expert interviews, the thematic network analysis yielded a coherent, multi-level structure linking participants' verbatim statements ("Representative quotes") to Basic Themes, Organizing Themes, and ultimately to Global Themes. Across interviews, social media platforms repeatedly appeared as catalysts for organization and coordination, accelerants of information diffusion and mobilization, reframers of leadership and authority, and broadeners of participation—especially for less-visible groups (e.g., teachers, workers, and minorities). These dynamics converge into global patterns of organization, awareness-raising, mobilization, structural change, collective power, and democratization.



Table 1. Final themes extracted from all interviews with respect to the study's main question

Representative quote	Basic Themes	Organizing Themes	Global Themes
Social media have influenced social change—not only for information dissemination but also for organizing and shifting movement audiences. (a/c/b/j/h/d)	Information dissemination and organizing	Facilitating organizing and information dissemination	Organizing
These networks have made movements appear leaderless, yet in practice we face multiple small leaders. (a/e/i/k)	Networked movements with multiple leaders	Transformation of leadership structure in movements	Changes in social and political structures
Social media reduce inequality and enable minorities to be seen, as in the Mahsa Amini case. (a/k/b/l/e/h)	Enhancing minority visibility	Expanding media justice and visibility	Increased public participation
One reason some movements fail is the lack of clear organization and charismatic leaders. (a/k/b)	Micro-leaders	Proliferation of diverse micro-leaders	Structural changes in movements
Due to rapid, wide information flows, social media have fanned protests. (b/l/k/j)	Speeding up protests	Arousal and intensification of protests	Expansion and strengthening of movements
Since 2009, social media have been used as tools for information and coordination in protests. (a/k/e/d)	Information and coordination in protests	Facilitating information and coordination	Awareness-raising
These networks expand and intensify protests through large-scale resharing of news and images. (b/a/c/e/f/b)	Expansion and intensification of protests	Arousal and incitement of protests	Mobilization
Social media are tools for rapid dissemination of messages and demands and for attracting public participation. (l/k/i/d/a/b/e)	Attracting public participation	Tools for engagement and participation	Collective power
Opposition groups inside and outside the country leverage these networks to steer protests. (k/d/b/e)	Guiding protests	Political exploitation of social media	Broader mass participation
In sectoral protests like those of teachers and workers, social media have aided awareness-raising and linking separate circles. (b/f/j)	Awareness-raising and linking sectoral circles	Strengthening sectoral communications and awareness	Collective power
Social media have enabled greater interaction among diverse social groups. (b/d/f/j/k/i)	Facilitating social interactions	Strengthening group cohesion and interactions	Building national solidarity
Using social media, the voices of less-visible groups reach society. (a/k/l/i/b/h)	Amplifying marginalized groups' visibility	Increasing awareness of minority issues	Reducing social distances
These networks have played a key role in coordinating and planning protests. (b/c/e/f/g)	Coordination and planning of protests	Facilitating movement actions	Movement expansion
In terms of speed and reach, social media transmit information to every part of the country. (a/b/h/j/k/l)	Rapid information spread	Accelerating communications and dissemination	Awareness-raising and information
Social media have served as tools for mobilizing and coordinating protests. (a/c/e/b/j/k)	Mobilization and coordination of protests	Facilitating mobilization and organizing	Mobilization
These networks allow the swift spotlighting of movement demands. (l/k/j/i/b/e/c)	Spotlighting movement demands	Increasing demand visibility	Strengthening democracy
Social media let individuals share personal experiences and cultivate solidarity. (a/b/e/h/k/l)	Sharing experiences and building solidarity	Strengthening social solidarity	Knowledge transfer
These platforms are used to broadly disseminate information and raise public awareness. (l/k/d/c)	Broad information dissemination	Increasing public awareness	Facilitating communication and information
Opponents also use social media to organize and influence the trajectory of protests. (l/k/h/e)	Organizing	Political and social exploitation	Movement expansion
Social media have diversified news production sources and challenged state and legacy media authority. (b/d/f/j/k/i)	Strengthening information dissemination	Diversifying news sources; challenging state media authority	Awareness-raising and communication
The message-broadcasting power, mobilization capacity, and tool diversity of these platforms for rallying public opinion were striking. (b/a/g/j/k/i)	Social mobilization	Mobilization power and diversity of communication tools	Increased public participation
In the 2009 election, Facebook played a role; even post-election protests were primarily hosted on Facebook. (l/b/j/k/i)	Strengthening protest movements	Mass mobilization	Tool for structural change
This phenomenon damages the authority of parties, media, and governments. (k/l/d/e)	Strengthening information dissemination	Weakening traditional power authorities	Strengthening democracy
In 2013 and 2017, Rouhani's campaigns ran on Viber, Telegram, and Instagram. (e)	Platform for political change	Use of social media in electoral campaigns	Tool for social and political change
Mahsa Amini became the product of protest synergy nationwide; "Mahsa became a character." (e/a/b/k/l)	Symbol-making in movements	Turning individuals into symbols of protest	Symbolization
Social media have crucially linked protest strands, content production, messaging, and mobilization. (l/a/d/e/c/i)	Linking diverse groups via social media	Creating virtual social networks	Strengthening social networks
They penetrated so deeply that they rendered the heads of the three branches reactive. (c/d/i/k/e)	Societal penetration	Information and transparency	Changes in political and social structures
A late revolution without collapse; there was no social or political collapse. (e)	Preconditions for revolutions	Laying groundwork for revolutions	Changes in political and social structures
Social media play a major role in forming social movements. (a/d/f/j/k/i/a)	Movement formation	Movement expansion	Shaping democratic structures
Social media are effective in organizing movements. (a/b/l/k/f)	Organizing movements	Mass mobilization	Organizing

Taken together, the coded evidence converges on several dominant global themes. Organizing emerges as a central function, with social media serving as infrastructures for coordination, planning, and rapid information diffusion, thereby accelerating mobilization and expanding movements beyond their traditional cores. Participants consistently describe shifts in leadership structures—from charismatic, centralized figures toward distributed, networked micro-leadership—which reflects broader changes in social and political structures. Another recurrent pattern is the broadening of participation and visibility, particularly for marginalized or less-visible groups, which supports media justice, reduces social distance, and contributes to national solidarity. The platforms’ symbol-making capacity—exemplified by the Mahsa Amini case—amplifies grievances and focalizes collective identity, while the diversification of news sources challenges legacy media dominance and weakens traditional authority in agenda-setting. Episodes linked to electoral cycles and earlier protest waves (2009, 2013, 2017) illustrate the durable role of social media as tools for social and political change, consolidating a thematic network where awareness-raising, mobilization, democratization, and structural transformation are tightly interwoven.

Table 2. Descriptive statistics of the main research variables

Variable	Minimum	Maximum	Mean	Variance	Standard Deviation
Awareness and Information Dissemination	1.75	5.00	3.9441	0.79632	0.651
Mobilization and Organizing	2.00	4.90	3.8943	0.83104	0.672
Collective Power	1.20	5.00	3.5533	0.93249	0.853
Transformation of Cultural and Social Structures	1.10	5.00	3.8858	0.77964	0.583
Expansion of Awareness	1.30	5.00	3.6278	0.82781	0.673
National Solidarity	1.35	5.00	3.6567	0.87538	0.752
Formation of Movements	1.20	5.00	3.7600	0.97454	0.931
Strengthening Democracy	1.35	5.00	3.5700	1.24618	1.553
Connection between Masses and Activists	1.10	5.00	3.6388	0.72364	0.533

The descriptive statistics presented in Table 2 illustrate the distribution and central tendency of the key variables that define the perceived functions of social media networks within the teachers’ and workers’ movements in Iran. The mean values, which generally range between 3.55 and 3.94, indicate that respondents’ evaluations of all dimensions are above the midpoint of the measurement scale, reflecting a generally positive perception of social media’s impact on social mobilization and awareness. The highest mean score belongs to “Awareness and Information Dissemination” ($M = 3.94$, $SD = 0.65$), suggesting that participants view information sharing as the most prominent and effective function of social media in these movements. Close behind are “Mobilization and Organizing” ($M = 3.89$) and “Transformation of Cultural and Social Structures” ($M = 3.88$), implying that social media are also seen as powerful instruments for collective coordination and sociocultural change.

By contrast, “Strengthening Democracy” ($M = 3.57$, $SD = 1.55$) shows greater variability, as indicated by its high variance and standard deviation, reflecting differing opinions among respondents about whether social media directly foster democratic practices. Variables such as “National Solidarity” ($M = 3.65$) and “Connection between Masses and Activists” ($M = 3.64$) reveal moderately high perceptions, emphasizing the platforms’ bridging function across societal segments. Overall, the narrow variance observed in most variables (ranging from 0.65 to 0.85) suggests a relatively consistent perception among respondents regarding the key roles of social media in awareness creation, mobilization, and the reinforcement of collective identity. These descriptive results confirm the thematic findings from the qualitative phase, showing convergence between narrative insights and quantitative tendencies in understanding social media’s socio-political functions.

Table 3. Model Fit Indicators

Variable	Convergent Validity	Composite Reliability	VIF	R ²	Cronbach’s Alpha
Awareness and Information Dissemination	0.665	0.891	1.425	0.472	0.896
Mobilization and Organizing	0.683	0.795	2.361	0.657	0.891
Collective Power	0.629	0.894	1.496	0.561	0.883
Transformation of Cultural and Social Structures	0.681	0.796	1.436	0.493	0.856
National Solidarity	0.692	0.927	1.545	0.250	0.910
Collective Awareness Enhancement	0.628	0.817	1.636	0.342	0.810
Movement Formation	0.640	0.902	1.525	0.400	0.899
Strengthening Democracy	0.694	0.792	1.596	0.236	0.861
Connection among Activists	0.691	0.790	1.523	0.414	0.864



The model fit indicators in Table 3 demonstrate satisfactory psychometric quality across all dimensions of the proposed research model. The convergent validity (AVE values ranging between 0.62 and 0.69) confirms that the observed variables adequately represent their respective latent constructs, meeting the commonly accepted threshold of 0.50. Similarly, the composite reliability (CR values between 0.79 and 0.93) and Cronbach's alpha (ranging from 0.81 to 0.91) show high internal consistency, indicating that the items within each construct reliably measure the same underlying concept. The VIF values (1.4–2.3) remain well below the critical limit of 5, confirming the absence of multicollinearity among latent variables.

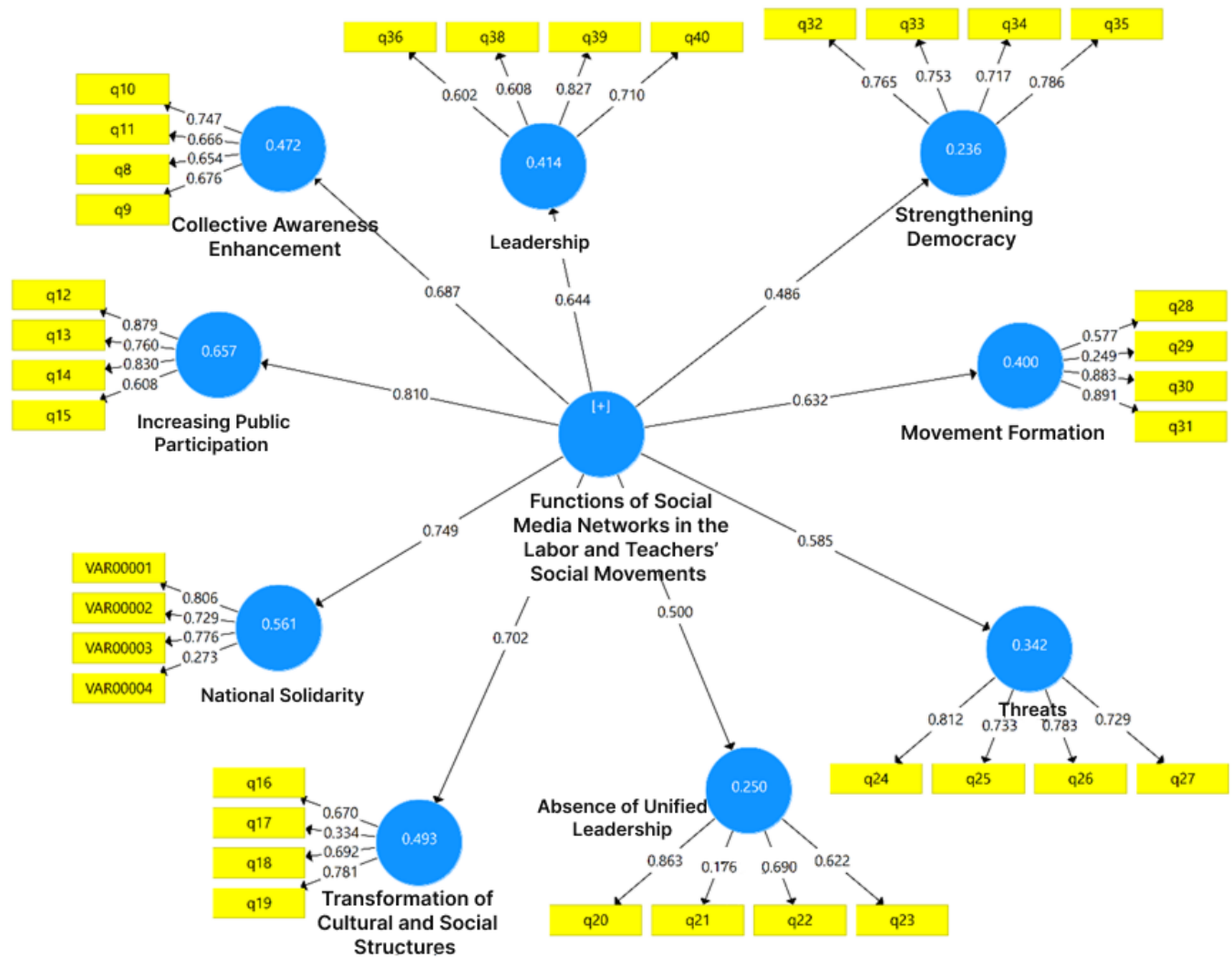


Figure 1. Model with Beta Values

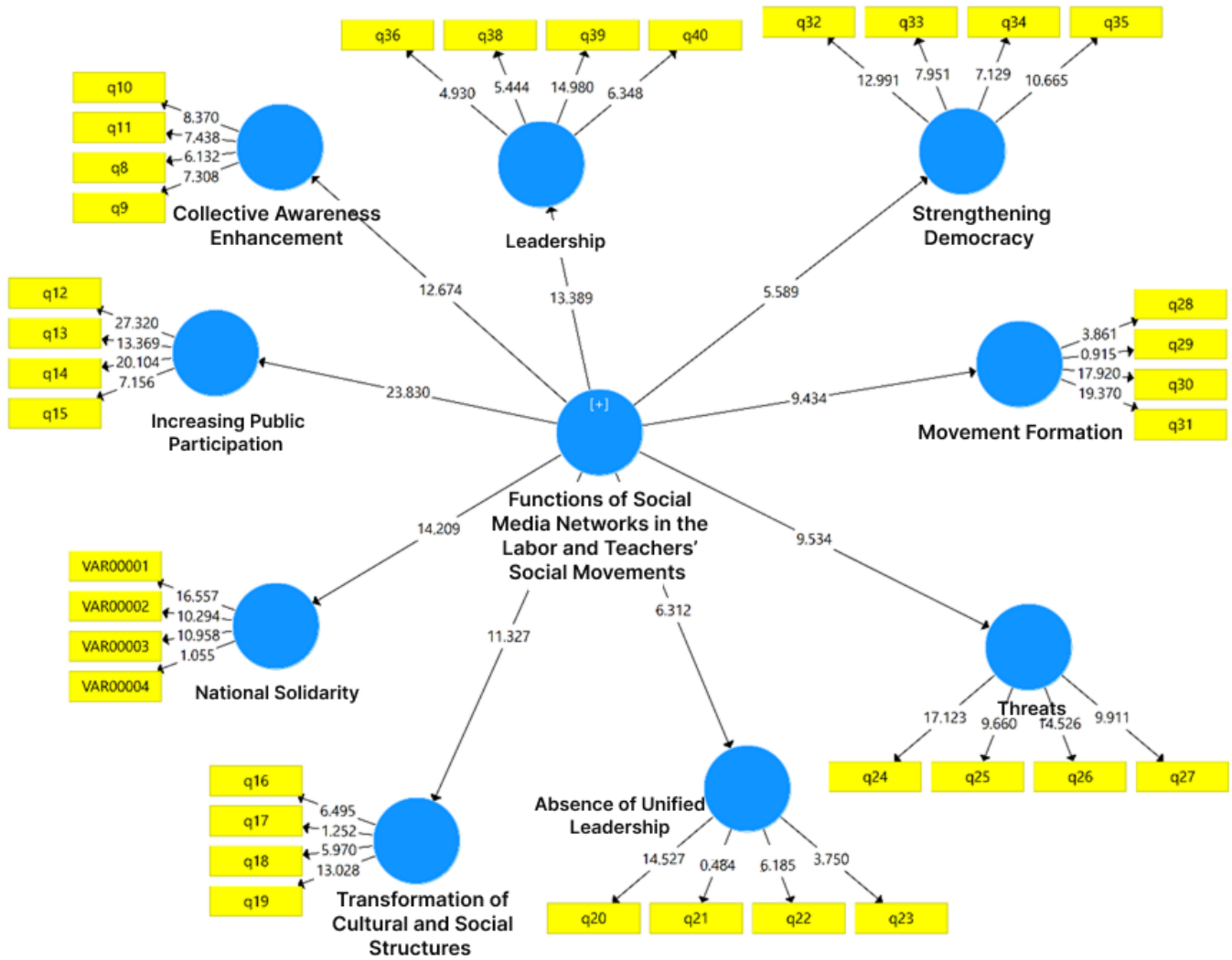


Figure 2. Model with T-Values

In terms of explained variance (R^2), the model accounts for a substantial portion of variance in key constructs: “Mobilization and Organizing” ($R^2 = 0.657$), “Collective Power” ($R^2 = 0.561$), and “Transformation of Cultural and Social Structures” ($R^2 = 0.493$) show the highest explanatory strength, suggesting that social media functions strongly predict these dimensions. Overall, the indicators confirm that the measurement model demonstrates both statistical adequacy and conceptual coherence, ensuring its robustness for structural interpretation in subsequent analyses.

Table 4. Goodness-of-Fit Indices

Variable	Coefficient of Determination (R^2)	Communality Index	Goodness-of-Fit (GOF)
Transformation of Cultural and Social Structures	0.212	0.745	0.579
Absence of Unified Leadership	0.436	0.802	—
National Solidarity	0.696	0.796	—
Movement Formation	0.296	0.712	—
Strengthening Democracy	0.412	0.879	—
Connection among Activists	0.634	0.754	—
Transformation of Cultural and Social Structures	0.678	0.713	—
Increasing Public Participation	0.619	0.893	—
Collective Awareness Enhancement	0.637	0.720	—

The results in Table 4 provide additional evidence of the structural soundness and overall goodness-of-fit (GOF) of the research model. The communality values (ranging from 0.71 to 0.89) demonstrate that the latent constructs share a high proportion of variance with their observed indicators, confirming the adequacy of the measurement representation. The

coefficient of determination (R^2) values—particularly for National Solidarity (0.696), Connection among Activists (0.634), and Increasing Public Participation (0.619)—indicate that the model explains a substantial part of variance in these outcome variables, reinforcing the predictive validity of the conceptual framework.

The overall Goodness-of-Fit ($GOF = 0.579$) for “Transformation of Cultural and Social Structures” surpasses the recommended threshold (0.36 for strong models), signifying a high level of overall model adequacy. These findings collectively suggest that the validated model captures the essential functional dimensions of social media in social movements—linking awareness, mobilization, and participation within a coherent structural pattern—and supports the theoretical proposition that digital networks act as primary facilitators of collective action and democratic transformation in the Iranian social context.

4. Discussion and Conclusion

The findings of this study confirm that social media networks play a multidimensional role in shaping, organizing, and amplifying social movements among teachers and workers in Iran. Both the qualitative and quantitative results converge on the conclusion that these digital platforms have transformed the mechanisms of collective action by facilitating awareness, mobilization, coordination, and the construction of collective power. In the qualitative phase, themes such as *information dissemination, coordination, solidarity, democratization, and structural transformation* emerged as central dimensions, illustrating how social networks serve simultaneously as tools for communication and as arenas of contention. Quantitatively, the high mean scores for variables such as *awareness and information dissemination* ($M = 3.94$), *mobilization and organizing* ($M = 3.89$), and *transformation of social and cultural structures* ($M = 3.88$) further emphasize the powerful impact of virtual platforms in sustaining and expanding professional activism. These results align with the theoretical expectations drawn from network society theory and resource mobilization frameworks, affirming that the digital sphere has redefined participation patterns, leadership dynamics, and the organizational texture of Iranian civil activism (Bennett & Segerberg, 2013; Castells, 2012; McCarthy & Zald, 1977).

A central contribution of this research lies in demonstrating that awareness-raising and information dissemination constitute the foundational layer of social media’s functional model in contemporary Iranian activism. Participants repeatedly highlighted that digital networks have enabled previously localized grievances—such as salary inequities, employment insecurity, and professional dignity—to be transformed into nationally visible issues, triggering empathy and engagement across social boundaries. This finding supports Habermas’s notion of the *public sphere* as a communicative space where citizens collectively deliberate and challenge power structures (Habermas, 1989). However, in the digital age, this sphere is no longer mediated by traditional institutions; rather, it is fragmented yet inclusive, shaped by online interactions that transcend spatial and institutional limits. Similar to what Rahimi observed regarding the Iranian digital public sphere, online activism provides an alternative communicative platform where discourse, rather than institutional representation, becomes the primary medium of power negotiation (Rahimi, 2020). Thus, social media serve as extensions of the public sphere, facilitating the horizontal exchange of ideas and the collective production of social meaning.

In addition to communication, social networks have proven to be instrumental in mobilization and organizing. Thematic analysis identified “mobilization and coordination of protests” and “collective planning” as recurrent motifs across interviews. This finding mirrors global patterns of digitally enabled activism, where decentralized online structures substitute for traditional hierarchical organizations (Earl & Kimport, 2011; Shirky, 2011). In Iran’s restrictive political environment, such flexibility allows activists to organize around temporary alliances and micro-leadership networks, reducing vulnerability to repression. The data reveal that teachers’ and workers’ movements rely on these horizontal connections to coordinate simultaneous strikes, disseminate protest schedules, and maintain consistency between online and offline actions. This aligns with Bennett and Segerberg’s concept of *connective action*, in which digital platforms enable individual participation without the need for formal membership structures (Bennett & Segerberg, 2013). The study further corroborates Aghapour’s and Karami’s findings that social media have been decisive in providing new organizational logics for social movements in Iran, converting fragmented professional demands into coherent, collective campaigns (Aghapour, 2019; Karami, 2018).

A noteworthy dimension emerging from this research is the reconfiguration of leadership within social movements. Interview data indicated that social media have encouraged the emergence of *micro-leaders*—individuals or small clusters who



coordinate limited segments of the movement while maintaining overall network cohesion. This structure of *leaderful movements* rather than *leaderless movements* aligns with Castells's interpretation of network-based organization as a dynamic interplay between autonomy and interdependence (Castells, 2012). By reducing dependency on centralized leadership, social media distribute agency among multiple nodes, thus increasing resilience against suppression. In the Iranian context, this distributed structure reflects a strategic adaptation to state monitoring, ensuring the continuity of collective action despite constraints. Similar observations are made in Mahdavi's network analysis of workers' protests, which found that online coordination fosters diverse forms of decentralized leadership (Mahdavi & Norouzi, 2019). This evolution resonates with Tilly's argument that changing political opportunity structures inevitably reshape the organizational forms of movements (Tilly, 2004).

Another significant outcome is the confirmation that social media enhance collective power and solidarity among disparate social and occupational groups. The quantitative findings on *collective power* ($M = 3.55$) and *national solidarity* ($M = 3.65$) indicate that digital networks foster emotional and symbolic unity, linking individuals who share grievances across different provinces and professions. This phenomenon exemplifies Wellman's concept of *personalized networking*, where online interactions create overlapping social clusters that extend beyond physical and institutional constraints (Wellman, 2001). In this sense, digital activism bridges the gap between local and national scales, reinforcing collective identity. Previous studies confirm this integrative potential: Bagheri and Niknam observed that digital platforms enabled teachers' unions to form cross-regional alliances and create a shared repertoire of slogans, while Hosseini and Mohammadi found that virtual spaces enhance social cohesion among working-class communities (Bagheri & Niknam, 2017; Hosseini & Mohammadi, 2018). Together, these findings underscore that the connective architecture of social media amplifies the emotional and cognitive dimensions of solidarity, transforming scattered voices into coordinated collective agency.

Moreover, the findings highlight social media's transformative role in raising civic and democratic awareness. The emergence of *democratic discourse* and *citizenship awareness* as thematic categories reflects how online participation exposes individuals to new political vocabularies and rights-based narratives. This finding supports Yousefi's argument that digital activism functions as a space of *pedagogical empowerment*, nurturing critical consciousness among professionals and fostering civic responsibility (Yousefi, 2017). Similarly, Kowsari emphasizes that the Iranian education system has witnessed a gradual rise in teachers' digital activism, where professional identity intersects with democratic engagement (Kowsari, 2023). At a broader scale, the results resonate with Inguaggiato's global scoping review, which identifies youth and professional activism as key components of global citizenship education in the digital era (Inguaggiato et al., 2025). The quantitative data—showing moderate to high scores for *democratic reinforcement* ($M = 3.57$)—suggest that digital participation indirectly fosters democratic sensibilities even in constrained political systems.

The role of symbolic representation in online activism also emerged as a strong dimension in the qualitative analysis. The transformation of individuals into symbols of protest, such as in the case of Mahsa Amini, illustrates the power of social media in shaping collective narratives (Mahboob et al., 2025). These symbolic representations personalize abstract injustices, turning them into emotionally resonant stories that transcend demographic boundaries. Such phenomena echo Castells's argument that movements in the network age are sustained not merely by organizational capacity but by the *emotional resonance of shared meaning* (Castells, 2012). The diffusion of protest symbols through hashtags, videos, and memes reinforces Shahabi's findings that online discourse contributes to maintaining public attention and legitimizing protests as morally justified acts (Shahabi, 2019). These results collectively point to a cultural shift in how movements construct and sustain legitimacy in the digital sphere.

Importantly, the study also reveals that while digital networks have democratized communication, they have simultaneously generated new asymmetries of power. The quantitative results show higher variance in the variable "strengthening democracy," indicating diverse perceptions among participants regarding the emancipatory potential of social media. This ambivalence aligns with Asgari and Farahani's observation that digital activism in Iran operates within an ambivalent space of empowerment and control (Asgari & Farahani, 2022). On one hand, social media enable participatory communication and global visibility; on the other, they are susceptible to state surveillance, disinformation, and manipulation, which undermine trust and cohesion. Rahimi similarly contends that Iranian cyberpolitics oscillate between civic empowerment and authoritarian adaptation



([Rahimi, 2020](#)). Therefore, while social media remain essential tools for civic mobilization, their democratic promise is mediated by institutional constraints and digital governance mechanisms.

The study also underscores that the digital transformation of activism has blurred the boundaries between online and offline engagement. Many participants emphasized that online networks serve as preparatory arenas for street-level mobilization, where information flows translate into tangible collective actions. This finding parallels Della Porta and Diani's conceptualization of social movements as *interactive systems* that bridge the virtual and material dimensions of protest ([Della Porta & Diani, 2006](#)). Likewise, Alimohammadi documented that Iranian teachers' online advocacy frequently leads to coordinated demonstrations, indicating that digital networks do not replace physical protest but rather augment and sustain it ([Alimohammadi, 2017](#)). This hybridization of activism reflects a global trend wherein movements strategically integrate online communication with offline organization to enhance durability and impact ([Earl & Kimport, 2011](#)).

Another key insight from the analysis is that virtual networks have accelerated the transformation of social and cultural structures. Participants observed that digital communication channels undermine the dominance of traditional elites, create new epistemic communities, and challenge the monopoly of official media ([Hosseini & Mohammadi, 2018](#); [Razavi, 2020](#)). These outcomes correspond with Tilly's framework of *contentious politics*, which posits that new forms of communication alter the power equilibrium between rulers and challengers ([Tilly, 2004](#)). Quantitatively, the variable "transformation of cultural and social structures" displayed strong explanatory power ($R^2 = 0.49$), suggesting that participants perceive social media as engines of cultural modernization and structural diversification. The weakening of traditional hierarchies, coupled with the rise of pluralistic communication spaces, signifies an ongoing shift toward horizontal power relations within Iranian civil society ([Mahdavi & Norouzi, 2019](#)).

Finally, the integration of both qualitative and quantitative findings demonstrates that Iran's teachers' and workers' movements have entered a new stage of connective, distributed, and digitally mediated activism. The structural model validated in this study shows high internal consistency and predictive power, supporting the notion that social media functions—awareness, mobilization, solidarity, and democratization—are interdependent and mutually reinforcing. This integrated pattern reflects the logic of the network society, wherein digital infrastructures not only transmit information but also generate new social realities and participatory norms ([Bennett & Segerberg, 2013](#); [Castells, 2012](#)). The convergence of empirical evidence and theoretical insights underscores that social media have become indispensable components of Iran's sociopolitical fabric, functioning as both *technological enablers* and *cultural catalysts* for collective transformation.

Despite its contributions, this study is not without limitations. First, although the mixed-method design enhances analytical depth, the qualitative phase was limited to 15 expert participants, potentially constraining the diversity of perspectives, especially from frontline activists or grassroots organizers. Second, the quantitative phase relied on self-reported data from participants who might have been influenced by recall bias or concerns over digital surveillance, particularly given the political sensitivity of protest-related topics. Third, the study's cross-sectional design restricts the ability to capture temporal dynamics—such as how social media functions evolve before, during, and after specific protest waves. Finally, internet filtering and state censorship may have shaped both the content and accessibility of online communication, limiting the researcher's ability to comprehensively assess the full digital ecosystem surrounding social movements.

Future research should pursue longitudinal and comparative studies that track the evolution of social media's influence on activism over time and across different political contexts. Expanding the sample to include grassroots activists, regional educators, and industrial laborers could offer richer perspectives on how digital participation intersects with socioeconomic conditions. Scholars might also employ digital ethnography and social network analysis to map the online trajectories of mobilization and identify key nodes of influence within digital ecosystems. Furthermore, comparative research between Iran and other Middle Eastern or Global South countries could elucidate how authoritarian constraints interact with digital affordances, thereby enriching theories of digital resistance and civic transformation.

Practically, the findings highlight the need for civil society organizations, educators, and policy reformers to harness the constructive potential of social media for civic education and participatory dialogue. Training programs that enhance digital literacy, critical media skills, and networked communication competence can empower teachers and workers to engage more effectively in online advocacy while safeguarding privacy and security. Educational institutions should integrate digital

citizenship education into professional development to strengthen democratic values and collective problem-solving capacities. Moreover, policymakers should recognize that digital participation is not merely oppositional but also dialogical, offering opportunities to bridge institutional divides and foster more inclusive communication between the state and society.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all who helped us through this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

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