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THE INFLUENCE OF SOCIAL MEDIA ON MOTIVATION FOR PHYSICAL ACTIVITY AND SPORTS PARTICIPATION: A SYSTEMATIC REVIEW

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Abstract: *Background: Social media platforms have increasingly been used as tools to promote physical activity and sports participation through digital interventions and online social interaction. Objective: The aim of this systematic review was to examine the influence of social media-based interventions on motivation for physical activity and sports participation. Methods: A systematic search of PubMed, Scopus, Web of Science, and Google Scholar was conducted, and studies published between 2012 and 2025 were included according to predefined inclusion and exclusion criteria. A total of 15 primary studies were analyzed, and methodological quality was assessed using the PEDro scale. Results: The majority of included studies reported positive effects of social media-based interventions on physical activity outcomes, including increased moderate-to-vigorous physical activity, daily step counts, exercise adherence, and motivation. Facebook was the most commonly used platform, followed by mobile applications and hybrid digital interventions. Sample sizes ranged from 25 to 301 participants, and intervention durations varied from 3 weeks to 6 months. Conclusion: Social media-based interventions appear to be effective in improving motivation and participation in physical activity; however, heterogeneity among studies limits strong general conclusions.*

Keywords: Instagram, Facebook, online, digital, social media

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Introduction

Physical inactivity is recognized as one of the leading global public health concerns and is associated with increased risk of cardiovascular disease, obesity, diabetes, and mental health disorders (World Health Organization [WHO], 2022). In recent years, the rapid expansion of digital technologies and social media platforms has significantly changed the ways individuals communicate, access health information, and participate in physical activity-related communities. Platforms such as Facebook, Instagram, TikTok, Twitter, and YouTube are increasingly used to promote healthy lifestyles, exercise participation, and sports engagement.

Social media enables users to share experiences, communicate with peers, and receive social support, which may positively influence motivation for physical activity (Centola, 2013). Previous studies have shown that online social interaction may increase exercise adherence, accountability, and engagement in health-related behaviors (Cavallo et al., 2012). Furthermore, social media-based interventions frequently incorporate behavioral change strategies such as goal setting, feedback, self-monitoring, and gamification, which may contribute to increased physical activity levels (Edney et al., 2020). The integration of social networking components into physical activity interventions has become increasingly common during the past decade. Several randomized controlled trials have demonstrated positive effects of Facebook groups, mobile applications, and online fitness communities on exercise participation and motivation (Maher et al., 2015; Looyestyn et al., 2018). In addition, wearable devices and smartphone applications connected to social platforms enable users to monitor progress and receive immediate feedback regarding their physical activity behaviors (Direito et al., 2015).

Young adults and university students represent one of the populations most exposed to social media platforms, making them an important target group for digital health interventions (Pew Research Center, 2021). Since sedentary behavior and insufficient physical activity are highly prevalent among young populations, social media may provide a practical and cost-effective strategy for promoting healthier lifestyles (Hebden et al., 2014). Moreover, the COVID-19 pandemic further increased the reliance on online exercise programs and virtual fitness communities, emphasizing the growing importance of social media in physical activity promotion (Stockwell et al., 2021). Despite the growing popularity of social media-based interventions, findings regarding their effectiveness remain inconsistent. While some studies have reported significant improvements in physical activity levels and exercise motivation, others have found limited or non-significant effects (Cavallo et al., 2012). Additionally, concerns have been raised regarding potential negative consequences of social media use, including body dissatisfaction, unhealthy social comparison, and exercise addiction (Vaterlaus et al., 2015).

Therefore, the aim of this systematic review was to examine the influence of social media-based interventions on motivation for physical activity and sports participation. In addition, the methodological quality of the included studies was assessed using the Physiotherapy Evidence Database (PEDro) scale in order to evaluate the strength and reliability of the available evidence.

Materials and Methods

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The aim of the review was to examine the influence of social media-based interventions on motivation for physical activity and sports participation. Relevant studies published between 2012 and 2025 were identified, screened, and analyzed using predefined eligibility criteria.

Electronic database searches were performed using PubMed, Scopus, Web of Science, and Google Scholar. Only peer-reviewed articles published in English were considered for inclusion. Studies were independently screened based on titles and abstracts, followed by full-text assessment when eligibility was unclear. Duplicates were removed before the screening process.

The methodological quality of the included randomized and controlled studies was assessed using the Physiotherapy Evidence Database (PEDro) scale. The PEDro scale consists of 11 criteria evaluating methodological rigor, including randomization, allocation concealment, blinding, follow-up adequacy, and statistical reporting. Studies with higher PEDro scores were considered to have better methodological quality.

Data extracted from the included studies consisted of the following variables: author and publication year, study design, sample characteristics, population type, social media platform used, intervention duration, outcome measures, measurement tools, and main findings related to physical activity and exercise motivation. The extracted data were summarized and presented in tabular form.

Search Strategy

We performed a thorough literature search across several electronic databases, including PubMed, Web of Science, Scopus, and Google Scholar. The investigation targeted papers released from 2012 to 2025. We utilized combinations of keywords and Boolean terms to locate publications exploring how social platforms associate with bodily movement. The search query incorporated the following combinations: “social media” AND “physical activity”; “social networking” AND “exercise motivation”; “Facebook” AND “physical activity intervention”; “Instagram” AND “exercise behavior”; “TikTok” AND “physical activity”; “social media intervention” AND “sports participation”; “online platforms” AND “exercise adherence”.

Inclusion Criteria

Papers were selected for this systematic review based on the following eligibility parameters:

- First-hand research papers from peer-reviewed scientific journals
- Manuscripts written and published in English

- Designs including randomized controlled trials, non-randomized controlled trials, pilot trials, or experimental designs
- Projects evaluating digital, social-media-focused programs targeting sports engagement or bodily movement
- Investigations documenting results linked to exercise adherence, physical activity levels, sport involvement, or workout motivation
- Research published within the 2012–2025 timeframe

Exclusion Criteria We excluded studies if they met any of the following conditions:

- Syntheses (systematic reviews, meta-analyses), conference proceedings, opinion pieces, or individual case profiles
- Articles written in languages other than English
- Research lacking measurements of physical exercise or movement outcomes
- Interventions lacking any online community or social media elements
- Overlapping/duplicate datasets or unfinished drafts
- Papers with missing methodology that prevented scoring with the PEDro instrument

This systematic analysis ultimately incorporated 15 primary research papers, detailed in Table 1. These publications mostly utilized randomized controlled trials alongside experimental approaches to evaluate the effects of social media platforms on physical activity participation and exercise motivation. Most interventions utilized Facebook groups, mobile applications, or online social support components to encourage engagement in physical activity behaviors. Program lengths spanned from 3 weeks up to 6 months, observing diverse cohorts such as teenagers, college students, individuals with overweight, and active leisure participants. On the whole, most of the selected papers identified positive impacts of online social platforms on workout consistency, movement metrics, and motivational factors.

Table 1. Original empirical studies.

Study	Design	N	Population	Platform	Duration	Outcomes	Measure	Main Findings
Cavallo et al., 2012	RCT	134	Female students	Facebook	12 weeks	PA, social support	IPAQ	↔ PA, ↑ social support
Maher et al., 2015	RCT	110	Inactive adults	Facebook App	50 days	MVPA	IPAQ, pedometer	↑ MVPA
Valle et al., 2013	CT	47	Young adults	Facebook	8 weeks	Exercise participation	PA questionnaires	↑ PA
Turner-McGrievy & Tate, 2013	RCT	96	Overweight adults	Twitter + podcasts	6 months	PA motivation	Accelerometry	↑ adherence, ↑ motivation
Joseph et al., 2015	PS	25	African-American women	Facebook	8 weeks	Lifestyle behavior	Self-report	↑ adherence
Direito et al., 2015	RCT	51	Adults	Fitness apps/social media	8 weeks	Physical activity	Accelerometers	↑ PA
Fukuoka et al., 2015	RCT	67	Overweight adults	Facebook + mobile app	12 weeks	Daily steps	Pedometer	↑ daily steps
Hebden et al., 2014	PS/RCT	250	Young adults	Facebook + SMS	12 weeks	Lifestyle behavior	Online survey	↑ PA behaviors
Wójcicki et al., 2014	PS/RCT	57	Adolescents	Facebook	12 weeks	Moderate PA	Accelerometry	↑ moderate PA
Looyestyn et al., 2018	RCT	89	Recreational runners	Facebook group	5 weeks	Running adherence	Online tracking	↑ adherence
Edney et al., 2020	RCT	301	Adults	Social fitness app	3 months	Steps/day	Smartphone tracking	↑ steps/day
Kim & Glanz, 2013	IS	92	Adolescents	Social media program	10 weeks	Exercise motivation	Surveys	↑ motivation
Hansen et al., 2012	Web-based RCT	118	Adults	Online platform	16 weeks	PA adherence	Activity logs	↑ adherence

Pagoto et al., 2016	Observational	63	Adults	Twitter	12 weeks	Engagement & PA	Analytics + surveys	↑ engagement, ↑ PA
Carson et al., 2025	RCT	160	Latina adolescents	Instagram + mobile intervention	6 months	MVPA, daily steps, motivation	ActiGraph accelerometers, 7-Day PAR Interview	↑ MVPA, ↑ daily steps, ↑ motivation

Legend: ↑ statistically significant increase; ↓ statistically significant decrease; ↔ no statistically significant change; ↑* positive trend without statistical significance; RCT = randomized controlled trial; PA = physical activity; MVPA = moderate-to-vigorous physical activity; IPAQ = International Physical Activity Questionnaire; SMS = short message service; App = mobile application; PEDro = Physiotherapy Evidence Database scale; CT = Controlled trial; PS = Pilot study; IS = Intervention study.

Results

To improve the clarity and consistency of the findings, quantitative outcomes were reported whenever possible. However, due to differences in study design, intervention characteristics, social media platforms, and physical activity measurement tools, several findings were described qualitatively. While some studies explicitly reported changes in moderate-to-vigorous physical activity (MVPA), daily step counts, or exercise adherence, other outcomes such as motivation, social support, and behavioral engagement were presented descriptively. Greater standardization of intervention protocols and reporting methods in future studies may facilitate more accurate comparisons across social media-based physical activity interventions.

Literature Characteristics

The study selection process is presented in Figure 1 according to the PRISMA 2020 flow diagram. A total of 472 records were initially identified through database searching, including PubMed, Scopus, Web of Science, and Google Scholar. Additional studies were identified through manual searches of reference lists and other relevant sources.

The included studies primarily consisted of randomized controlled trials and intervention-based research examining the effects of social media platforms on physical activity participation and exercise motivation. Most interventions utilized Facebook groups, mobile applications, or online social support components to encourage engagement in physical activity behaviors. Intervention duration ranged from 3 weeks to 6 months, while study populations included adolescents, university students, overweight adults, and recreationally active individuals. Overall, the majority of studies reported positive effects of social media-based interventions on physical activity levels, exercise adherence, and motivational outcomes.

The characteristics of the included studies are presented in Table 1. A total of 15 studies published between 2012 and 2025 were included in this systematic review. The majority of studies used randomized controlled trial (RCT) designs (n = 9), while the remaining studies consisted of controlled trials, pilot studies, intervention studies, observational studies, and web-based randomized interventions 12 (Page et al., 2021).

Various social media platforms and digital communication tools were utilized across the included studies. Facebook was the most frequently used platform, appearing in eight studies (Cavallo et al., 2012; Valle et al., 2013; Joseph et al., 2015; Fukuoka et al., 2015; Hebden et al., 2014; Wójcicki et al., 2014; Looyestyn et al., 2018; Maher et al., 2015). Other interventions included Twitter-based programs, fitness mobile applications, online platforms, Instagram-supported interventions, and smartphone-based social fitness applications. Several studies combined multiple technologies, such as Facebook with SMS support or mobile applications integrated with social networking components. The included populations varied considerably across studies and involved adolescents, university students, overweight adults, recreational runners, African-American women, and insufficiently active adults. Sample sizes ranged from 25 participants in the study by Joseph et al. (2015) to 301 participants in the study conducted by Edney et al. (2020). Most studies included adult populations, while four studies specifically targeted adolescents or young adults.

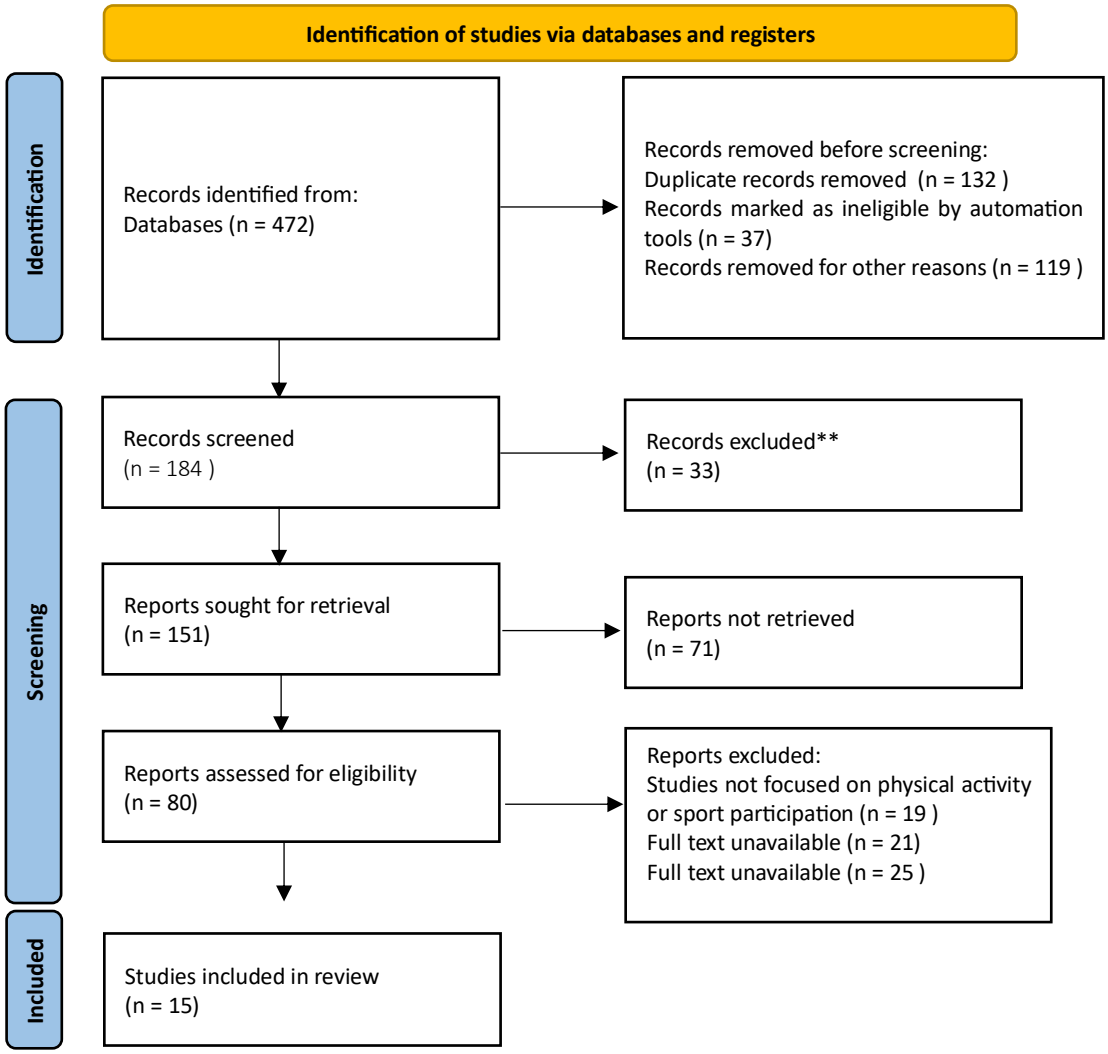

Figure 1. PRISMA Flowchart diagram of the study selection.

Intervention duration also varied substantially among studies. The shortest intervention lasted 3 weeks in the study by Stephens and Allen (2013), while the longest interventions lasted 6 months in the studies by Turner-McGrievy and Tate (2013) and Carson et al. (2025). Most interventions were conducted over periods ranging from 8 to 12 weeks, which represented the most common duration across the included studies.

Several different methods were used to assess physical activity outcomes and motivational variables. The International Physical Activity Questionnaire (IPAQ) was used in two studies, while accelerometry-based measurements were utilized in four studies. Other commonly used assessment methods included pedometers, smartphone tracking applications, activity logs, online questionnaires, self-report surveys, and accelerometer-based movement analysis. In addition, some studies assessed exercise adherence, social support, and motivational outcomes using validated behavioral and psychological questionnaires.

Overall, the majority of included studies reported positive effects of social media-based interventions on physical activity participation and exercise motivation. Fourteen of the fifteen studies demonstrated statistically significant improvements in at least one physical activity-related outcome, including increased MVPA, daily step counts, exercise adherence, or exercise motivation. Only one study (Cavallo et al., 2012) reported no statistically significant improvement in physical activity levels, although improvements in social support were observed. No studies reported statistically significant negative effects of social media interventions on physical activity participation.

The Methodological Quality Assessment of the Included Studies

The methodological quality of the included studies was assessed using the Physiotherapy Evidence Database (PEDro) scale and is presented in Table 3. PEDro scores of the included studies ranged from 5 to 8 points, indicating overall moderate to high methodological quality. The majority of studies achieved scores between 7 and 8 points, suggesting generally acceptable methodological rigor among the included randomized and controlled trials. Higher PEDro scores were primarily observed in studies that reported clear randomization procedures, baseline comparability between groups, appropriate statistical analyses, and adequate reporting of outcome measures. In contrast, lower methodological scores were mainly associated with the absence of blinding procedures, particularly blinding of participants, therapists, and assessors. Such limitations are common in physical activity and social media-based interventions due to the practical difficulty of concealing intervention allocation in behavioral research.

Most studies demonstrated appropriate between-group statistical comparisons and reported point estimates together with measures of variability. In addition, intention-to-treat analysis and adequate follow-up procedures were reported in several studies, further strengthening the methodological quality of the included evidence. Among the included studies, Pagoto et al. (2016) achieved the lowest PEDro score (5 points), primarily due to its observational design and limited methodological control. Conversely, several randomized controlled trials, including Cavallo et al. (2012), Maher et al. (2015), Direito et al. (2015), Edney et al. (2020), and Carson et al. (2025), achieved the highest PEDro scores (8 points), reflecting stronger

methodological quality and reduced risk of bias. Overall, the findings suggest that the available evidence regarding social media-based interventions and physical activity outcomes is supported by studies of generally moderate to high methodological quality.

Table 2. Evidence Database (PEDro) score of the included studies.

Reference	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total
Cavallo et al. (2012)	+	+	+	+	−	−	+	−	+	+	+	**8**
Maher et al. (2015)	+	+	+	+	−	−	+	−	+	+	+	**8**
Valle et al. (2013)	+	+	−	+	−	−	+	−	+	+	+	**7**
Turner-McGrievy et al. (2013)	+	+	+	+	−	−	+	−	+	+	+	**8**
Joseph et al. (2015)	+	−	−	+	−	−	+	−	+	+	+	**6**
Direito et al. (2015)	+	+	+	+	−	−	+	−	+	+	+	**8**
Fukuoka et al. (2015)	+	+	+	+	−	−	+	−	+	+	+	**8**
Hebden et al. (2014)	+	+	−	+	−	−	+	−	+	+	+	**7**
Wójcicki et al. (2014)	+	+	+	+	−	−	+	−	+	+	+	**8**
Looyestyn et al. (2018)	+	+	+	+	−	−	+	−	+	+	+	**8**
Edney et al. (2020)	+	+	+	+	−	−	+	−	+	+	+	**8**
Kim & Glanz (2013)	+	−	−	+	−	−	+	−	+	+	+	**6**
Hansen et al. (2012)	+	+	+	+	−	−	+	−	+	+	+	**8**
Pagoto et al. (2016)	+	−	−	−	−	−	+	−	+	+	+	**5**
Carson et al. (2025)	+	+	+	+	−	−	+	−	+	+	+	**8**

PEDro criteria: (1) eligibility criteria specified; (2) random allocation; (3) concealed allocation; (4) baseline comparability; (5) blinding of participants; (6) blinding of therapists; (7) blinding of assessors; (8) adequate follow-up (>85%); (9) intention-to-treat analysis; (10) between-group statistical comparisons; (11) point estimates and variability measures reported.

Discussion

This systematic review examined the influence of social media-based interventions on motivation for physical activity and sports participation, including 15 primary studies conducted between 2012 and 2025. Overall, the findings suggest that social media platforms can have a positive influence on physical activity levels and motivational outcomes, although the magnitude of effects varies depending on study design, population, and intervention characteristics. The majority of included studies reported improvements in at least one physical activity-related outcome, particularly MVPA, daily step counts, exercise adherence, and self-reported motivation. The dominance of Facebook-based interventions in the included studies indicates that earlier research primarily focused on established social networking platforms. Studies such as Cavallo et al. (2012) and Maher et al. (2015) demonstrated that Facebook-based interventions can improve social support and moderate-to-vigorous physical

activity, supporting the idea that online peer interaction plays a key role in behavior change. These findings are consistent with the broader literature suggesting that social support is a strong determinant of exercise adherence and long-term engagement in physical activity (Centola, 2013).

Similarly, more recent studies included in this review expanded beyond Facebook and incorporated mobile applications, hybrid platforms, and fitness tracking technologies. For example, Edney et al. (2020) and Direito et al. (2015) reported significant increases in daily steps and physical activity levels when social media features were combined with mobile tracking systems. This suggests that the integration of social networking functions with self-monitoring tools may enhance intrinsic motivation and behavioral adherence. The findings from this review are also consistent with intervention research showing that digital behavior change techniques such as goal setting, feedback, and gamification can positively influence exercise behavior (Michie et al., 2011). In particular, studies included in the present analysis that used multi-component interventions (e.g., Facebook + SMS or mobile apps) tended to report stronger effects on physical activity motivation compared to single-platform interventions. However, not all included studies demonstrated strong or consistent effects. For instance, Cavallo et al. (2012) reported no significant improvement in physical activity despite increased social support, suggesting that social engagement alone may not be sufficient to produce behavioral change. This aligns with previous evidence indicating that online interaction must be combined with structured behavioral strategies to effectively increase physical activity levels (Maher et al., 2015).

The heterogeneity of findings across studies may be explained by differences in population characteristics. Adolescents and young adults, who are highly active social media users, tended to show more pronounced motivational responses, as observed in studies such as Wójcicki et al. (2014) and Carson et al. (2025). In contrast, interventions targeting adults or overweight populations showed more variable outcomes, possibly due to differences in baseline motivation and exercise habits. Another important factor influencing outcomes is intervention duration. Short-term interventions (≤8 weeks) often reported immediate increases in engagement and motivation, whereas longer interventions showed more variable adherence over time. This suggests that maintaining long-term engagement remains a key challenge in digital physical activity interventions.

Measurement approaches also contributed to variability in findings. Studies using objective measures such as accelerometers and pedometers (e.g., Fukuoka et al., 2015; Edney et al., 2020) generally provided more reliable evidence of increased physical activity compared to self-reported measures, which may be subject to bias. This methodological difference is important when interpreting the strength of evidence across included studies. Overall, the results of this systematic review support the idea that social media can be an effective tool for increasing motivation for physical activity when combined with structured intervention components. However, the evidence also highlights that social media alone is not sufficient to sustain long-term behavioral change. Instead, successful interventions appear to be those that integrate social interaction, behavioral feedback, and self-monitoring mechanisms.

These findings are consistent with broader public health research emphasizing the importance of multi-component digital interventions in promoting physical activity (WHO, 2022). Furthermore, the inclusion of the recent 2025 study (Carson et al., 2025) strengthens the evidence that modern interventions combining mobile technology and social networking platforms may produce more robust motivational effects compared to earlier single-platform approaches. Despite promising findings, several limitations should be acknowledged. The included studies exhibited moderate heterogeneity in design, sample size, and outcome measurement, which limits direct comparability. Additionally, most studies were of short to medium duration, making it difficult to assess long-term sustainability of motivational effects. Future research should focus on standardizing intervention protocols and outcome measures, as well as exploring the long-term effects of social media-based physical activity interventions. Particular attention should be given to identifying which specific social media features (e.g., peer comparison, gamification, influencer engagement) are most effective in enhancing exercise motivation and sports participation.

This systematic review indicates that social media-based interventions have generally positive effects on physical activity motivation and participation, particularly when combined with behavioral support strategies. However, the variability in findings highlights the need for more high-quality, long-term randomized controlled trials to better understand the effectiveness of these interventions in different populations.

Limitations of the Study

Several limitations within this systematic review warrant careful consideration. First, the diverse nature of the included protocols—specifically regarding study design, participant demographics, program duration, and tracking metrics—prevented direct comparative evaluation or meta-analytical pooling. Additionally, a large share of the analyzed literature gathered data through self-report scales of physical activity and motivation, potentially introducing social desirability and recall inaccuracies. Lastly, most evaluated programs operated on brief timelines, with very few tracking subjects beyond 3 to 6 months. Consequently, drawing firm conclusions about the lasting habits formed through digital interventions remains challenging. Furthermore, the wide array of social media platforms and intervention components (such as custom mobile applications, Facebook groups, or blended formats) heightened the overall heterogeneity of the methodologies. The lack of blinding for participants and investigators—a common issue in behavioral trials—could also introduce bias into the reported results. Moreover, restricting the scope to peer-reviewed publications might introduce publication bias, favoring trials with statistically positive outcomes. Finally, because digital technology changes rapidly, older research findings may not fully reflect modern social platforms and shifting user behaviors.

Conclusion

This systematic review indicates that social media-based interventions generally have a positive influence on motivation for physical activity and sports participation. Most included studies reported improvements in behavioral and psychological outcomes such as exercise adherence, daily activity levels, and motivational factors. Facebook-based interventions were

the most frequently used approach, although more recent studies increasingly incorporated mobile applications and hybrid digital platforms.

The findings suggest that combining social interaction with behavioral change strategies such as feedback, goal setting, and self-monitoring may enhance the effectiveness of these interventions. However, the overall strength of evidence is moderated by variability in study design, population characteristics, and measurement tools. In addition, short intervention durations limit conclusions regarding long-term sustainability of observed effects.

Despite these limitations, the reviewed evidence supports the potential of social media as a cost-effective and accessible tool for promoting physical activity. Future research should focus on long-term randomized controlled trials and standardized outcome measures to improve comparability across studies. Particular attention should also be given to identifying which specific digital features are most effective in enhancing motivation and sustaining physical activity participation.

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