

## **"#WorkoutwithSocialMedia": Ameliorating effects of social media on health-promoting behaviour among Adults**

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### **Abstract**

**Objective:** Social media is known for creating bonds, sharing tailored information, increased accessibility towards health-related information which has grown exponentially. This systematic review synthesized evidence using PRISMA guidelines which have been conducted across Web of Science, PsycINFO and Scopus published between 2010 and 2022. The objectives were to explore social media and health-promoting behaviours. **Method:** Literature that explains how these constructs are related was reviewed. Findings were classified into three domains: health, exercise regime and diet. **Results:** it has been inferred that social media is positively linked with encouragement towards healthy behaviour among adults. **Conclusion:** The implications of this research state the importance of exercising and using social media to stay fit and healthy. The modern-day usage of social media can be used by policymakers, experts, societies and researchers to appraise the proposal of future social media-based interventions.

**Keywords:** social media, health, encouragement towards exercise, adults, fitness

### **Introduction**

#### **Social-Media: an inexpensive tool**

Social media is a conspicuous digital platform which enables people to create bonds virtually (Carrs & Hayes, 2015; Correa et al., 2013). The usage of social media is highly prevalent among adolescents and budding youths in our country (Lenhart, Smith, Anderson, Duggan & Perrin, 2015). Predictably, according to Pew Research Center 2021, usage of social media among adults has been 81% on the YouTube platform, whereas 69% on Facebook, 40% on Instagram and the rest on miscellaneous platforms such as Twitter, Pinterest and Snapchat (Social Media Use in 2021, Pew Research Center, n.d.). According to Digital India, 2021, the population of India stands up to 1.39 billion, out of which 64 million are internet users. Amongst these, social media users were 376.1 million in 2020, expected to cross 448.0 million in India by 2023 leading to exponential growth (Digital in India: All the Statistics You Need in 2021 – Data Reportal – Global Digital Insights, n.d.).

Furthermore, Facebook is the most widely used platform with around 86% of the traffic found in the former including a majority of men within the age range of 25 to 34 years, whereas 5% in Instagram with young adults up to 18 to 24 years. India is the second largest country with Instagram users after the U.S. with 73 million users and 3.2% on YouTube. As per Demographics of Social Media Users of India (2019), 54% of social media users fall between 20 and 39 years, the age group comprising young adults, for middle-aged adults, the smallest share of users is found among the former and largest is among adolescents (The Demographics of Social Media in 2019, Infographic, Social Media Today, n.d.). This indicates the impeccable growth of social media over the years considering its usage among young, middle and old age adults.

### ***Existing Repercussions of Social -Media***

There is psychological literature (Scott et al., 2017) on the negative impacts of social media such as carpal tunnel syndrome, an increase in levels of anxiety, and impact on cognition such as negative body image or low self-esteem due to comparison or social withdrawal. However, this creates a barrier that the adults might not be aware of the health-promoting behaviour of social media (Gupta et al., 2013; Harrell et al., 2021).

Contrary to the evidence of negative effects of social media, younger adults reported growth in the areas of learning, increased access to learning from various sources, and emotional support (Scott et al., 2017; Ganguly & Kumaraguru, 2019; Valsesia et al., 2020). According to Shah et al, (2020), a negative correlation between social media and loneliness was found during the lockdown as anxious people who used social media helped them to deal with uncertainties.

Furthermore, there were different reasons found for utilizing this platform. According to Pew Research Centre (2021), 69% of a middle-aged group of adults accessed social media out of which 42% were on Facebook and statistics reported 58% were on YouTube, comprising the same age group. Additionally, social media is not only limited to posts, likes and pictures, rather, it reaches citizens of any country enabling them to know about emergencies, policies and events. In certain emerging markets, social media is a cost-effective and useful way to reach citizens.

As per the New York Foundation for Senior Citizens (NYFSC), their programs enable senior citizens to reach out for affordable housing to accommodate younger adults through a platform which is social media itself (Home Page - New York Foundation for Senior Citizens, n.d.). Research by Khoo & Yang (2020) elucidates the ameliorating effects of social among middle-aged adults and older citizens by understanding the indispensable nature of social support which is provided by social media, thus leading to lesser cognitive decline among the former group.

### **Objective**

Previous research (Hogue & Mills, 2019; Gupta et al., 2013; Harrell et al., 2021) has shown the influence of social media on body dissatisfaction and anxiety levels. There have been numerous studies underlying the negative consequences such as sleeping problems, carpal tunnel syndrome, and upward or downward comparison. The caveats on the benefits of using social media among adults have been reviewed however there has been a gap in reflecting the health-promoting behaviours of the former.

**Method****Protocol**

The present report utilized the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) statement. To effectuate the same, Psych INFO, SCOPUS and Web of Science or Web of Knowledge (WOS) were used.

**Eligibility Criteria**

Only research papers in English were considered. To specify the theme social media, Adults, and Exercise Adherence were targeted, while others were excluded. Post refining the literature, the following inclusion criteria were utilized: a) study incorporating at least one platform of social media be it, Instagram, Facebook or any other; b) designed to address types of influences exerted by the social media; c) Including narrative/systematic and meta-analyses, longitudinal, experimental designs, cross-sectional studies incorporating the keywords; d) Study incorporating keywords such as technology, exercise and its salient effects were targeted and e) participants aged 18 to 50 years old.

**Search Strategy**

The systematic review was carried out between the 14<sup>th</sup> of March 2021 and the 10<sup>th</sup> of April 2022 and focused on studies which analyzed the effects of social media on exercise adherence among adults. The time range was delimited as 2010-2022 and the keywords social media, Adults, and Exercise Adherence were explored using the Boolean operator “and” being used. Truncations were used for keywords.

**Data Extraction**

Mendeley reference management software had been used for storing and using the papers for references. Post literature review, duplicates were removed and screening was done to remove insignificant studies.

**Data Analysis**

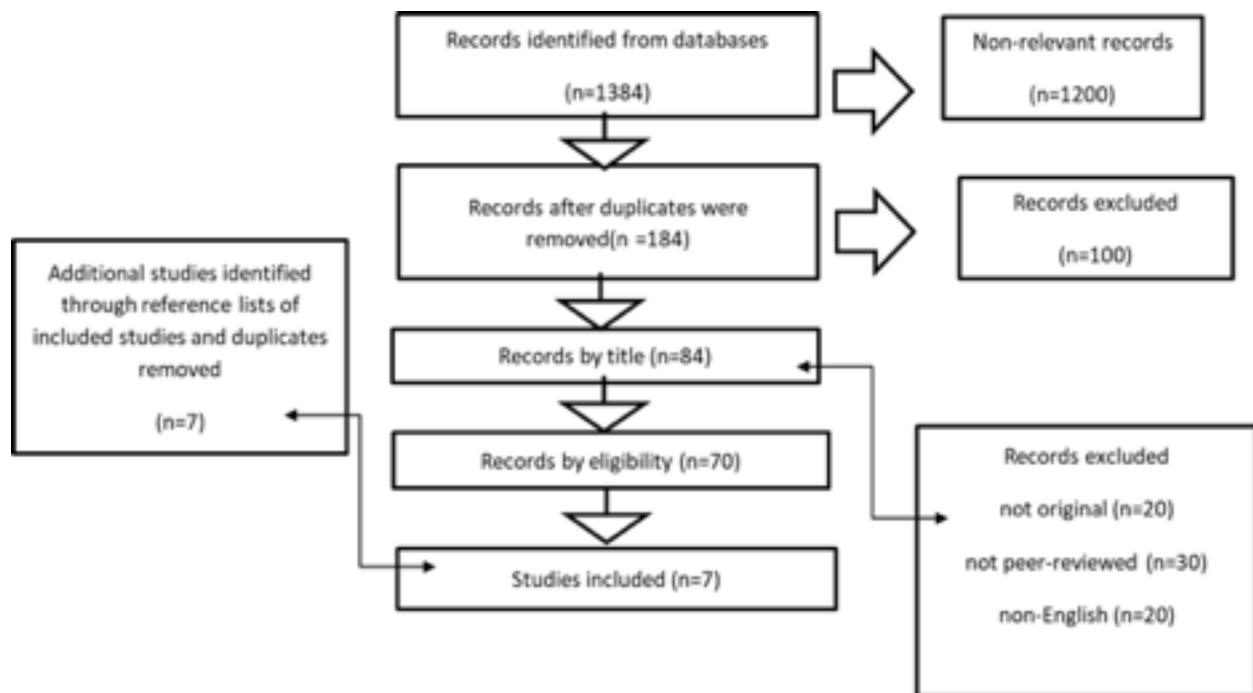
Since the outcomes varied, so the authors of this paper were unable to conduct meta-analysis which could be a future direction for further research. Each study has been described, followed by synthesis.

**Data source**

The literature search yielded 1384 articles from the bibliographic databases. After 1200 duplicates were removed, screening for 184 articles was done. The remaining articles were screened on abstract, with the removal of 100 papers. On reading full papers, 70 papers were removed considering the age range. A total of 7 papers were left which fit the criteria. The PRISMA (Moher, Liberati, Tetzlaff, & Altman, [2009a](#)) flowchart (Figure 1) provides further details.

**Figure 1***PRISMA publication review chart*

(Adapted from: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews)



## Results

Table 1

## *Summary of reviewed studies*

Authors/year	Sample	Findings
Vaterlaus et al., (2015)	Young adult comprised in the sample aged (18-25 yrs old) with the adequate sample size. (N=34) Phenomenological qualitative analysis was used to explore the themes for understanding the food choices, exercises while utilising social media.	As per the findings, young adults claimed that social media can be deleterious or even beneficial depending on the context for which it is used.
Villanti et al., (2016)	Young adults' participants were taken into consideration aged between 18-24 years into 2 waves. Wave7 (N=1259) and Wave 9 (N=989). Frequency was checked for 11 social media sites used weekly.	Findings were concluded as in 2014, around 89.42% of young adults have been utilising social media. They usually used for health-related information and for entertainment purposes.

Nelson & Fleming (2019)	Social media perception on food related item were discovered. 2X4 MANOVA was used to understand healthy, unhealthy food perceived same or differently. Sample included young and middle age adults.	Men ate more unhealthy food as compared to women post using social media.
Atre, Dandekar & Ganvir (2020)	Survey method was used with the sample size of 1132 responses from 1110 were included in the study.	Exercise adherence increased during lockdown as people had more time with increased use of social media.
Chen & Wang (2021)	Systematic study	Social media has many ameliorating effects for health purposes.
Chaudhary & Dhillon (2021)	Experimental study was conducted to find the impact on social media on exercise regime. Sample consisted of n=102 for week 1 and n=68 for week 2. Age range of the participants were 18-22 years.	Participants who used social media pre-exercise were motivated for exercise routine as compared to those who were in control group.
Frey, Bonfiglioli, Brunner & Frawley (2022)	Scoping review examining a) how do parents use social media to find health information for their children, b) What motivates parents to engage with social media to seek health information for their children? c) How do parents seek to understand and evaluate the health	The scoping review has revealed the parents' motivation for using social media. This was analysed through 42 included studies being scrutinised between 2011 to 2020.

	information they find on social media	
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### ***Analysis of studies***

Key findings of the studies were classified into three domains of exposure to social media for health-promoting behaviours: exercise regime, diet and health. For each domain, the importance associated with social media has been discussed.

#### ***Health***

Health Promotion as per World Health Organization Europe (1986) is defined as the process of enabling people to increase and have control over their health to stay fit and healthy. It includes diet and exercise. Health is a broader term which comprises mental, physical, and social components. Here the primary focus is on physical health and mental health. Chen & Wang (2021) encapsulated the role of social media uses for health such as social mobilization, disease-outbreak surveillance, health campaigns and others through a systematic review study. Also, another research done by Frey, Bonfiglioli, Brunner & Frawley (2022) elucidated the increased use of health emergency-related information from social media by middle-aged adults which were mostly parents. This indicates the growing use of social media among middle-aged adults.

Villanti & her colleagues, (2016) reported young adults utilize an average of 7.6 social media apps which help adults explore their identities and transmit norms about health risk behaviours. Besides the healthy effects of social media, certain consequences can be negative such as inadequate sleep, and sleep disturbances (Reynolds, et al., 2019; Sharma, John & Sahu, 2020). Kaur, Singh, Arya & Mittal (2020) reported a heightened lack of motivation during the initial phase of the lockdown but gradually with increased free time, people became fitness conscious by exercising at home which helped them overcome psychological issues such as negative situational perception and fitness concerns.

A study done by Jane et al., (2018) analyzed the importance of social resources in bringing a change in attitude towards health. As the former provides an opportunity for social connection and motivation by family, friends, and community in the form of encouragement, this improved their mental health. Research stated by them reveals social media as a tool for increasing participant engagement. Vassilev et al., (2014) elucidated the role of social learning theories which involves health behaviour exerting a strong positive influence on individual's behaviour further improving their self-efficacy towards health-promoting behaviour.

#### ***Exercise Regime as part of health-promoting behaviour***

According to a 2018 WHO report, India ranks 117<sup>th</sup> out of 168 countries in being physically active, leaving the remaining 34% of the population being inactive. Exercise has its advantages such as decreasing all causes of mortality rate by 30%, reducing the risk of getting cardiovascular disease by up to 35%, regulating type-2 diabetes by 40%, colon cancer by 30%, breast cancer by 20% and mental illness such as depression, dementia (memory loss) up to 30% and 30% respectively (Dhivyadharshini & Mohanraj, 2019). An experimental study conducted by Chaudhary & Dhillon (2020) on Indian adults found the effect of Instagram on exercise adherence and their inclination

to do the same through a two-week intervention suggested greater self-efficacy in doing exercise post using Instagram as compared to those who did not use Instagram.

Atre, Dandekar & Ganvir, (2020) laid out the importance of adhering to exercise especially during COVID-19, where 64.54% regularly exercised, as the lockdown phase brought various challenges, however with challenges, there were opportunities such as idle time, boredom just to name a few. As per the American College of Sports Medicine, (2021) individuals during lockdown exercised for about 30 min to 1 hour which is healthy and beneficial.

### **Diet**

Vaterlus, et al., (2015), reported in their study about the perceived social media influence on young adults. It acted as a motivator, it also provided the former group with the right food choice through awareness on social media and lastly, exercise posts were labelled as inspirational or sometimes misused. Nelson & Fleming (2019) conducted a study to understand the relationship between diet and social media. Their study indicated that people used Facebook to explore recipes and chose what to eat by viewing pictures on social media.

## **Discussion**

The present research was conducted to understand the repercussions of social media underlying health-promoting behaviour through systematic review. Initially, the authors began with documenting social media usage among different age groups which was highest among adolescents and youths (Lenhart, Smith, Anderson, Duggan & Perrin, 2015) along with apps being widely utilized such as Instagram, Twitter and Snapchat. It acknowledges the ameliorating effects of social media (Vassilev et al., 2014; Jane et al., 2018) on promoting healthy behaviours such as exercise, preferences towards diet and besides that, creating awareness of social bonding for older citizens to overcome loneliness (Home Page - New York Foundation for Senior Citizens, n.d.).

Additionally, among younger adults, the perceived influence has been observed in the form of imitating role models, working out, and uploading reels and pictures which has proven to be rewarding for the youth of the country which goes in line with research done by Vaterlus et al., (2015). Chaudhary & Dhillon, (2020) also discussed increased self-efficacy post-intervention given of Instagram pictures to the experimental group as compared to a control group where self-efficacy did not change. Thus, the research encapsulated the ameliorating effects of social media for advocating health-promoting behaviour thus making citizens more fit and healthy.

## **Limitations**

Several limitations have been identified while adding this systematic review to the existing literature. Firstly, few studies did not determine cause and effect relationship between the variables. In some of the studies, a small sample size limits its applicability and generalizability to the larger population. The usage and impact of social media by rural and urban youth have not been compared which is of crucial relevance. Along with that, the comparison among nonadherent adults towards exercise with adherent adults is not taken into consideration. The impact of social media on middle-aged adults has been not significantly discussed as compared to younger and older adults. Social media for the management of obesity and weight programs can be used in future studies. Also, while conducting a systematic review, metanalysis has not been taken into consideration which can further point to research.

## **Future Implications**

With the prevalent digital infrastructure, social media has become a necessary commodity in today's 21<sup>st</sup> century. The systematic review will enable adults in India along with psychologists, youth and middle-aged adults to understand that social media has health-promoting behaviour as it leads to social connectivity, reduction in social isolation and mental health illness, sharing of tailored information along with overcoming the stigma shell which has been embedded in the society due to externalized stereotype biases.

## **Conclusion**

With the prevalent statistics, it is apparent that social media platforms are proliferating and have had a successful leap since 2020. While people gain motivation by using social media through observing and imitating videos of exercise, this promotes a healthy and fit India which is a vision and mission, with apps such as Instagram, Snapchat and LinkedIn gaining popularity. Thus, social media is an impeccable platform for better connectivity, sharing health-related information and other strategies.

## **Data Availability Statement**

All the possible contributions have been inclusive of this study, for further material, the primary author can be contacted.

## **Ethics Statement**

All procedures in this study followed ethics as per the protocols strictly maintaining confidentiality along with the written consent of the participants was obtained.

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## **Conflict of Interest**

There was a strict absence of any kind of financial/emotional/personal interest which might have led to a conflict of interest.

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## **Author Contribution Statement**

Kashish Pandey: Conceptualization, Data-curation, Writing- Original draft preparation.

Azmat Jahan: Data analysis, Software, Writing- Reviewing and Editing

Naseem Ahmad: Methodology, Reviewing and Editing

Gauri Shanker Kaloya: Supervision.

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