

PAPER

The Impact of Social Media on Women's Body Image Perception: A Meta-Analysis of Well-being Outcomes

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ABSTRACT

This study examines the correlation between female body image and social media usage, focusing on the impact it has on overall well-being. The popularity of social networking sites (SNSs) has significantly impacted our digital culture, providing options for self-expression, engagement, and communication. However, SNSs also bring certain drawbacks, such as the potential for body dissatisfaction and negative psychological effects. Gap: While previous research has examined the relationship between social media use and body image, there is a need for a comprehensive analysis that specifically focuses on the effects on female well-being. This study aims to fill the gap by providing a comprehensive exploration of the effects of social media use on female body image and its influence on overall well-being. The objective of this study is to examine the correlation between social media usage and female body image, specifically focusing on the detrimental effects on well-being and mental health. By analyzing academic papers and research findings, this study aims to contribute to the understanding of the intricate relationship between social media, body image, and well-being. The preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework was used to compile relevant literature. Data from Scopus sources was analyzed using the RStudio 4.2.1-win program. Various factors, such as the publishing year, author details, keywords, and document categories, were considered to identify important patterns and insights. It is recommended that awareness and educational campaigns be developed to promote a healthy body image and address the potential negative consequences of social media use. The analysis significantly contributes to the body of knowledge by offering a thorough examination of the connection between female body image on social media and usage, highlighting the detrimental effects on well-being and mental health.

KEYWORDS

social media, female body image, body dissatisfaction, well-being, social networking sites (SNS), psychological effects, beauty standards

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1 INTRODUCTION

Social networking sites (SNSs) are becoming an essential component of our contemporary digital culture, providing users with a platform for communication and interaction. These platforms offer opportunities to discover new aspects of people's lives, exchange stories, and develop connections [1]. But in addition to these advantages, SNSs also have certain disadvantages, such as the potential for body dissatisfaction [2]. According to [3], the ability of users to upload and exchange photographs is a crucial aspect of SNS. Through this function, people can promote their identity, profession, and appearance. It might be entertaining and interesting, but it also invites social comparison [4]. Particularly when it comes to physical characteristics, people frequently compare themselves to others, which can lead to increased scrutiny and contribute to potential body dissatisfaction [5]. In addition, traditional mass media has long been accused of promoting unrealistic beauty standards and distorting perceptions of female body image. However, the emphasis on bodies and beauty has increased due to the popularity of image-based social media platforms such as Instagram [6]. Users frequently post images of themselves, exposing their bodies to criticism and encouraging comparison [7].

An increasing body of academic studies has been conducted in recent years to examine how social media affects women's perceptions of their bodies [8]. These studies have repeatedly shown that the well-being of young female users may be negatively affected when they engage with social media sites [9] [10]. Social media usage and poor sleep quality are related, which is a significant discovery. Users who excessively use social media platforms often have trouble falling asleep [11] [12]. That may be the result of various factors, such as the potentially addictive nature of social media, the exposure to stimulating content before going to bed, or the tendency to compare oneself to others, which increases stress and anxiety levels. Additionally, research has linked the use of social media to several harmful psychological effects [13]. Young female social media users who frequently utilize these sites report having lower self-esteem, increased anxiety, and higher levels of sadness [14]. Feelings of inadequacy and dissatisfaction with one's appearance are influenced by the constant exposure to meticulously edited photos and the societal pressure to conform to conventional beauty standards [15]. In addition, it has been noted that the phenomenon of "thinness obsession" occurs when individuals become fixated on achieving an unrealistic, slender body type. This obsession often leads to negative behaviors and attitudes towards their own bodies [16].

Furthermore, most studies on the impacts of social media on female body image and well-being consistently find unfavorable outcomes [17]. These include irregular sleep patterns, low self-esteem, increased anxiety and depression, low satisfaction with one's appearance, unhappy emotional states, a significant risk of body dissatisfaction, and a preoccupation with thinness [18]. To promote healthy social media usage, body positivity, and self-acceptance among young female users, it is crucial to raise awareness of these issues and implement strategies [19]. The rise of social media and networking platforms, as well as the Internet, has had a tremendous impact on the landscape of media and peer settings in recent years [20]. Individuals' perceptions of and interactions with these settings have changed significantly because of this transition [21]. Particularly, social media sites such as

Instagram, which offer services such as photo uploading, viewing, and commenting, have become an integral part of the daily lives of most teenagers [22]. These technological developments, which are changing the social landscape, emphasize the need to investigate their effects on body dissatisfaction. This issue has been well-established in both theoretical and empirical studies on the evolution of body image [23].

In addition to examining the relationship between social media and body image, this study contributes to the existing body of knowledge by investigating desires to modify one's appearance [24], [25]. Prior research on body image has primarily focused on outcome factors, including the desire for thinness, body dissatisfaction, body image concerns, weight concerns, and body esteem [26]. The number of studies examining behavioral intentions, particularly intentions to enhance one's appearance, as outcome variables is relatively limited [27]. Given their close ties to both psychological and physical health, it is critical to understand psychological attitudes and perceptions about one's body and appearance [28]. This study recognizes the importance of investigating these variables and their potential impact on individuals' overall well-being.

The prime objective of this study is to investigate the relationship between women's perceptions of body image and their intention to engage with social media. Additionally, the study aims to investigate the impact of this engagement on the behavioral intentions of female users to alter their appearance. Through an examination of the potential adverse effects of social media on body image and its implications for individuals' psychological and physical well-being, this research aims to make a significant contribution to the existing body of literature in this field.

2 MATERIALS AND METHODS

The authors of the study utilized the preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework, following the recommendations by [29] and depicted in Figure 1, to analyze the collected data. A comprehensive content analysis was conducted to efficiently organize the material. The R software was used to generate research clusters based on the frequency and co-occurrence of keywords. The literature review was conducted using a two-stage systematic process. Initially, relevant data were extracted using the PRISMA framework. It was followed by descriptive and scientometric analyses to ensure the accuracy and validity of the records. The authors utilized the R program to investigate significant research clusters through the analysis of centrality and co-occurrence keywords.

For this study, a content analysis was performed on data obtained from Scopus sources to synthesize the literature. A comprehensive search using specific search phrases such as "social media AND body image dissatisfaction AND influencers AND females" yielded 107 results. The number of publications was then narrowed down to 95 by applying subject filters that considered disciplines such as computer science, engineering, social science, business, management, and accounting. To ensure robustness, only articles and review papers were included, resulting in a final total of 87. Finally, a language filter was applied, limiting the database search to 84 English entries.

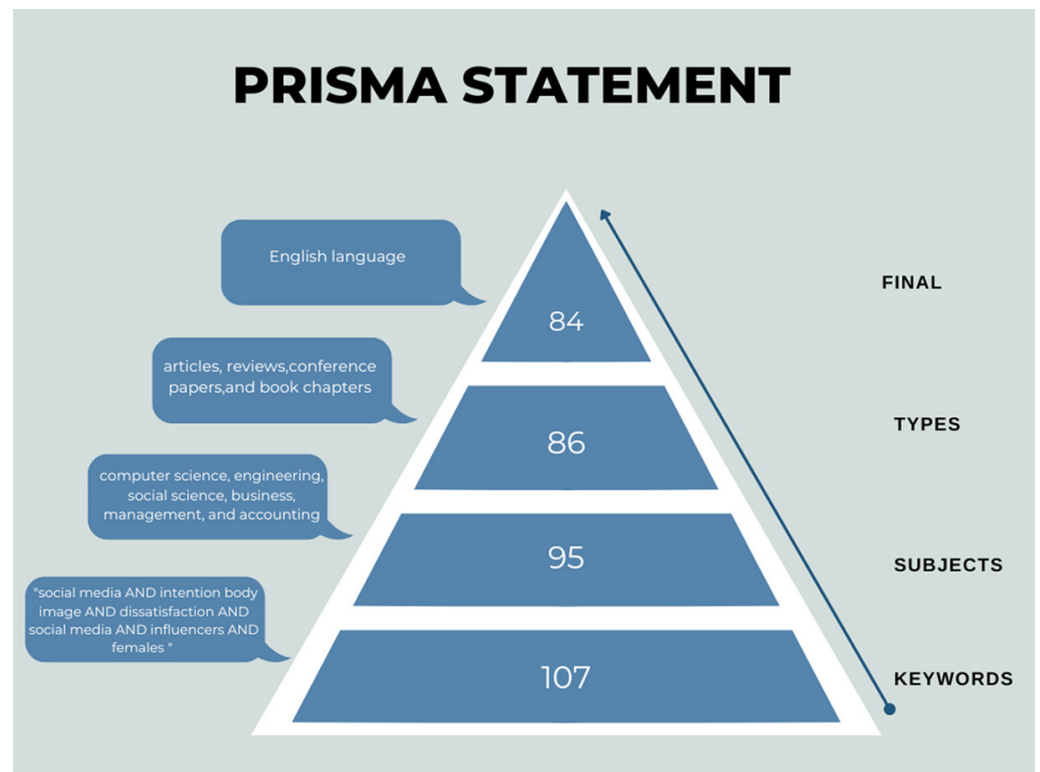


Fig. 1. PRISMA 2020

3 DESCRIPTIVE STATISTICS

3.1 Results

The descriptive analysis research in this bibliometric investigation utilised the Bibliometrix RStudio 4.2.1-win software. This software is widely recognised and commonly used in bibliometric studies. The bibliometrics R package, known for its robust functionality, is increasingly being employed in a growing number of research papers [30]. R users can import a Scopus bibliography database into their analysis using the bibliometrics tool. This specialised tool was developed using statistical computing and the R programming language, following a systematic bibliometric process. R, known as a leading platform for statistical algorithm development, is widely recognised and utilised for data analysis and visualisation tasks. The tool bibliometrics leverages the capabilities of R to enable researchers to map and analyse research using biblioshiny [31]. The data analysis in this study includes various aspects, such as the publishing year, author information, publisher details, organisation affiliations, the nation of origin, and the keywords used in the research paper. These factors are examined to gain insights into the characteristics and trends of the analysed publications.

The key details and outcomes of the data analysis are presented in Table 1 below. The time scope of the analysis for the data spans from 2013 to 2023. A dataset of 84 documents was compiled from a total of 68 sources, including journals, books, and other publications. The paper's yearly growth rate was determined to be 33.51%, demonstrating a significant increase in publications over time. The average age of the papers, which was found to be 1.8 years, indicates a recent literary collection. Each document earned, on average, about 4.893 citations, illustrating the importance and intellectual significance of the research.

The dataset contained a total of 17,714 references, indicating the wide range of expertise and comprehensive research that was taken into account in the analysed papers. Moving on to the document's content, we found 278 distinct Keywords Plus (ID), which provide additional context and insights into the study themes. Additionally, 300 author's keywords (DE) were used to indicate the specific language and ideas that the writers utilized. There were a total of 263 authors who contributed to the materials, and 14 of them wrote their own papers independently. There were an average of 3.29 co-authors per document, according to an analysis of author collaboration. Global collaboration and the cross-border nature of the study were demonstrated by the approximately 23.81% of co-authorships that were international. The collection contained a variety of document formats, including 62 articles, 10 books, 5 book chapters, 1 conference paper, and 6 reviews. This spectrum of document types points to a wide variety of scholarly contributions in the area.

Table 1. Overview of data analysis results in the study

Description	Results
Timespan	2013:2023
Sources (Journals, Books, etc)	68
Documents	84
Annual Growth Rate %	33.51
Document Average Age	1.8
Average citations per doc	4.893
References	17714
Keywords Plus (ID)	278
Author's Keywords (DE)	300
Authors	263
Authors of single-authored docs	14
Single-authored docs	15
Co-Authors per Doc	3.29
International co-authorships %	23.81
article	62
book	10
book chapter	5
conference paper	1
review	6

In addition, Figure 2 presents a breakdown of the research publications by year. The figure displays the number of papers published each year from 2013 to 2023. One article was released in 2013, another in 2014, and a third in 2015 thereafter. With the release of two papers in 2016, the number of publications somewhat increased. Each year in 2017 and 2018, one article was released. With five articles published in 2019, there was a noticeable increase in article production. 2020 was the following year, and four articles were published. With 17 papers published in 2021, there was a significant increase in publishing. The number of publications peaked in 2022 with 33 articles, continuing the upward trend. The last 18 publications published during the research period were in 2023. This table provides a visual

representation of the distribution of articles over time and highlights the variation in article creation during the years analysed in the study.

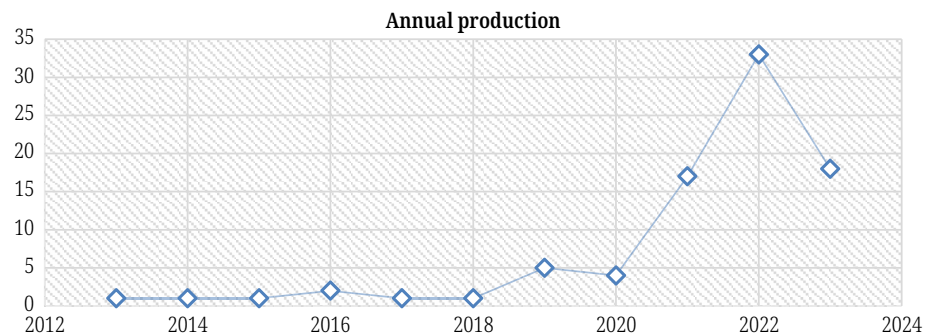


Fig. 2. Articles production by year

Table 2 includes information on the overall number of citations per year, along with other statistical data. The information helps determine the average number of citations received and the impact of citations on the papers produced each year. The relevant publication years are displayed in the “Year” column. The term “MeanTCperArt” denotes the average number of citations per article published in a specific year. The number of papers published per year is shown in column “N”. The average number of citations each year, based on all papers published during that year, is shown in the “MeanTCperYear” column. The term “Citable Years with Title” refers to the cumulative number of years during which article titles can be cited.

A single article with an average of six citations in total was published in 2013. The average total number of citations per year for 2013 is 0.55, which is calculated based on the availability of 11 years’ worth of titles. Four citations were included in a single paper published in 2014, similar to this. When considering a span of 10 years, the average number of citations per year for 2014 is 0.40. In subsequent years, this trend continues, with variations in the number of papers written, the average total number of citations per article, and the annual mean number of citations. It is interesting to observe that certain years either had no papers published or had zero total citations, resulting in an average total citation count of zero.

Table 2. Annual total citation per year

Year	Mean TC Per Art	N	Mean TC Per Year	Citable Years
2013	6	1.00	0.55	11
2014	4	1.00	0.40	10
2015	5	1.00	0.56	9
2016	6	2.00	0.75	8
2017	11	1.00	1.57	7
2018	0	1.00	0.00	6
2019	21.2	5.00	4.24	5
2020	6.5	4.00	1.62	4
2021	9.59	17.00	3.20	3
2022	2.12	33.00	1.06	2

According to the number of articles published in each source, Figure 3 lists the most relevant sources. These sources make a significant contribution to the body of knowledge in the research area. The source “Body Image” is notable for having the most articles, seven in total. This site is essential for understanding body dissatisfaction and related topics because it primarily focuses on studies related to body image. With five papers published, “Frontiers in Psychology” is another well-known source. The research presented in this multidisciplinary magazine on the various aspects of psychology, including the study of body image and related psychological issues, is significant.

Three papers from the journal “Health Communication” were then published. This site, which focuses on communication tactics and health-related therapies, offers insightful information on the communication aspects of body image and the associated health issues. Each of the books “Computers in Human Behaviour” and “Encyclopedia of Child and Adolescent Health, First Edition” has two articles available. These websites examine the relationship between technology, behaviour, and health, offering insightful perspectives on how digital media influences individuals’ body image perception. These resources provide academics with a wide variety of materials to read and use as references in their work. Together, they contribute to the knowledge of body image beliefs, body dissatisfaction, and related themes.

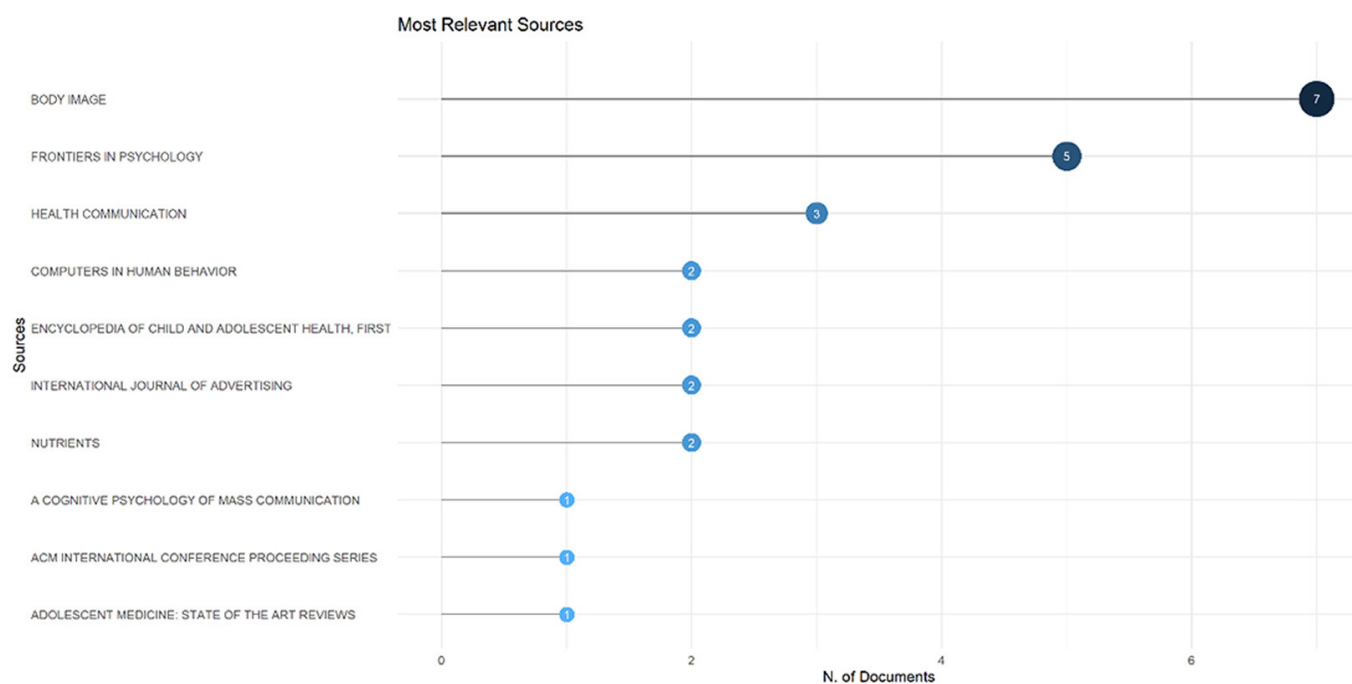


Fig. 3. Most relevant sources

Figure 4 lists the most frequently cited sources in the literature. These resources reflect well-known works that have significantly advanced the field of study and are often cited by academics. With 600 citations, “Body Image” emerges as the most frequently cited source, underscoring its significant influence on research pertaining to body image views and related topics. With 240 citations, “Computers in Human Behaviour” stands out as a valuable source for researching the interaction between technology and human behaviour, particularly its impact on body image.

In addition, the “Journal of Communication” and the “Journal of Personality and Social Psychology” have significant citation counts of 221 and 170, respectively. These resources offer insightful information about social psychology, communication, and their intersection with body image studies. Other notable sources with a high number of citations include “Media Psychology” (167), “Sex Roles” (162), “The New York Times” (156), “Journal of Consumer Research” (152), “Journal of Business Research” (151), “Journal of Marketing” (114), “Journal of Marketing Research” (111), “Journal of Advertising” (109), “Psychological Bulletin” (104), and “Communication Research” (100).

The diversity of literature that has shaped and influenced our understanding of body image and related issues is depicted in Figure 4. These materials are often used by researchers to enhance current understanding and establish a solid theoretical foundation for future research.



Fig. 4. Most cited sources

The most frequently referenced papers are listed in Table 3, along with their publication year, local and global citation counts, LC/GC ratio, and normalised local and global citation counts. This table provides information on the influence and respect that these papers have gained within the academic world. With 5 local citations and 51 worldwide citations, “Fardouly et al., 2019, Body Image” stands out as the most referenced paper among the featured papers. It demonstrates a significant global impact and an LC/GC ratio of 9.80, indicating its relevance beyond regional settings.

With 4 local citations and 58 global citations, “Sokolova, K., 2021, J Retail Consum Serv” closely follows, showcasing its significant impact worldwide. It has a 6.90 LC/GC ratio, which indicates a balanced citation effect. Other noteworthy papers include “Tiggemann, M., 2020, Body Image” with 4 local and 18 global citations; “Wang, Y., 2019, Body Image” with 3 local and 42 global citations; and “Pan, W., 2022, Front Psychol” with 2 local and 4 global citations.

On the other hand, there are no citations from local sources for the remaining documents in the table. However, a number of them have received international citations, demonstrating their influence on broader academic debates. The LC/GC ratio for these publications is 0.00, which indicates their minimal impact on the surrounding environment. Table 3 shows how the various documents mentioned have received different amounts of attention and influence. It implies that while some publications have received major attention and have established themselves as important references in their fields, others have not yet attained comparable notoriety.

Table 3. Top cited documents and their impact on the academic community

Document	Local Citations	Global Citations	LC/GC Ratio (%)	Normalized Local Citations	Normalized Global Citations
[32]	5	51	9.80	3.13	2.41
[33]	4	58	6.90	11.33	6.05
[34]	4	18	22.22	4.00	2.77
[35]	3	42	7.14	1.88	1.98
[36]	2	4	50.00	33.00	1.89
[37]	2	27	7.41	5.67	2.82
[38]	0	0			0.00
[39]	0	4	0.00		9.00
[40]	0	0			0.00
[41]	0	0			0.00
ZHANG Y, 2023, J RES INTERACT MARK	0	0			0.00
[42]	0	0			0.00
[43]	0	1	0.00		2.25
[44]	0	0			0.00
[45]	0	0			0.00
[46]	0	0			0.00
[47]	0	0			0.00
[48]	0	0			0.00
[49]	0	0			0.00
[50]	0	0			0.00
[51]	0	0			0.00
[52]	0	1	0.00		2.25
[53]	0	1	0.00		2.25
[54]	0	1	0.00		2.25
[55]	0	0		0.00	0.00

The terms that appear the most frequently in academic writing are shown in Figure 5. The frequency of each term is listed, providing information on the main subjects and themes covered in the research. With 28 instances, “social media” is among the top terms, highlighting the importance that academic studies have placed on the influence and impact of social media platforms. “Female” comes in second with 26 occurrences, indicating a focus on studies related to gender, while “body image” comes in at 25 occurrences, emphasizing the significance of body perception and self-image.

The use of terms such as “human”, “adult”, “male”, and “young adult” indicates that research investigations focus on human beings and different demographic groups. Furthermore, terms such as “major clinical study”, “human experiment”, and “controlled study” emphasise the scientific research methodologies used. Additionally, the word “psychology” indicates that the material under review is relevant to psychological viewpoints. These key terms represent the predominant fields of study and research within the academic world.



The author's keywords were used to create thematic maps in order to study the development of topics across the academic literature. The thematic map constructed from the author's keywords is depicted in Figure 6. These themes were generated using a text processing and mapping function integrated into the biblioshiny programme, which utilises the R package. To enhance the readability of the map and provide valuable information, specific settings were utilised. Notably, the maps were created using a corpus of 200 words, ensuring a minimum of 5 clusters per word and 2 labels for each cluster. All other variables' default values were retained. These approaches have made it easier to create visually informative thematic maps that aid in understanding the evolving themes present in the literature being studied.



In addition, incorporating the criteria of density and centrality, which are applicable across various research domains, keywords play a crucial role in succinctly capturing the essence of a specific research theme [56]. Density refers to the degree of interconnectedness among keywords, indicating their close association, while centrality indicates the level of proximity between different topics [57]. By considering density and centrality, the thematic map, also known as a strategic diagram, is divided into four sections, each representing a distinct quadrant. Figure 7 illustrates the presence of multiple facets within each quadrant, which reflects the density and prominence of the respective issues.

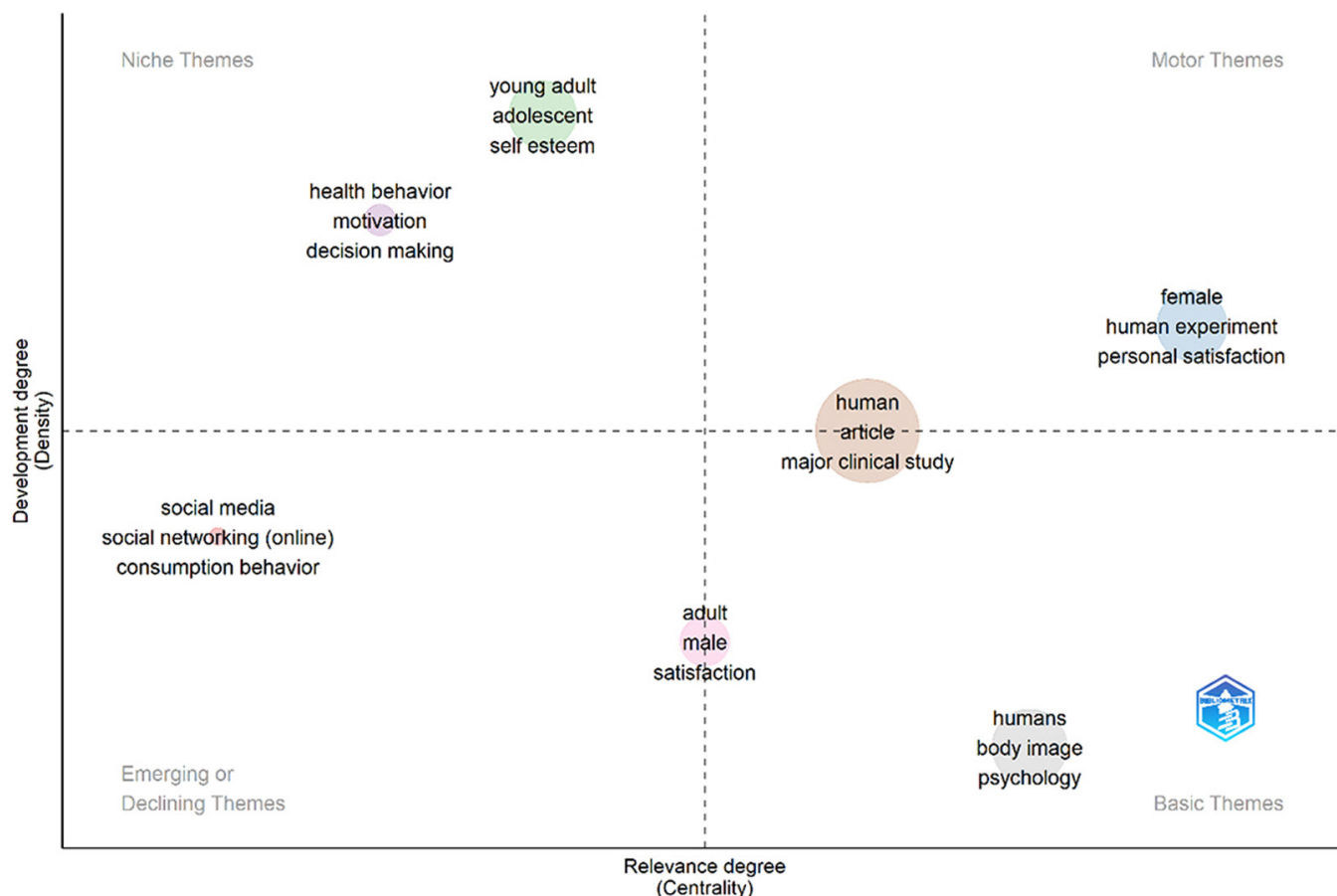


Fig. 7. Thematic evolution of literature

The thematic evolution of literature is depicted in Figure 7, where keywords play a crucial role in identifying research themes. However, Table 4 examines the centrality, density and frequency of term clusters found in academic writing. These metrics provide valuable information on the popularity and connectivity of clusters within the research landscape. With a frequency of 28 occurrences, the cluster “social media” ranks first in terms of Callon centrality (4.532355635) and Callon density (78.5130719), demonstrating its significant importance and concentrated presence in the literature. This indicates the significant time and effort invested in researching the impact of social media sites. On the other hand, the cluster labelled “female” exhibits high centrality (14.73744537) and density (119.3108974), highlighting its importance and strong connections to other

clusters in the field. This cluster, which occurs 53 times, demonstrates a significant focus on topics related to women and gender studies. The cluster “young adult” is suggested to have literature-relevant news and interconnections due to its relatively high centrality (9.871320346) and density (151.6358025). The study of the experiences and traits of young adults is given emphasis, as evidenced by the cluster’s frequency of 51.

“Health behaviour” has a significant centrality (9.842222222) and density (139.2777778), indicating its importance and interconnectedness in the study. This cluster, which has a frequency of 33, highlights the significance of comprehending and investigating health-related behaviours in research. Along with having high centrality and density values, the clusters “human”, “adult”, and “humans” are also significant and interconnected in the literature. These groupings highlight the comprehensive study of human behaviour, development, and traits, and demonstrate a broad focus on issues related to humans.

Table 4. Analysis of clusters: centrality, density, and frequency of key clusters

Cluster	Callon Centrality	Callon Density	Rank Centrality	Rank Density	Cluster Frequency
social media	4.532355635	78.5130719	1	3	28
female	14.73744537	119.3108974	7	5	53
young adult	9.871320346	151.6358025	3	7	51
health behaviour	9.842222222	139.2777778	2	6	33
human	12.02396104	87.18690476	5	4	79
adult	10.09233183	68.91774892	4	2	41
humans	12.17263391	56.06227106	6	1	56

The analysis presents the social media cluster and examines its presence in emerging or declining fields within the academic literature (see Table 5). Keywords associated with social media platforms, online social networking, consumer behaviour, empirical research, Instagram, and sales are included in this cluster. The examination of this cluster sheds light on the importance and interconnection of subjects related to social media in the context of academic study. The social media cluster, which has a high betweenness centrality of 3,960.893316, is essential for connecting various subjects and bridging different study fields. This demonstrates the impact of enabling the exchange of ideas and information among the academic community. With a cohesive network of interconnected ideas, the social media cluster seems to be moderately tightly knit, as indicated by the closeness centrality of 0.002525253.

With a PageRank centrality of 0.024366291, the social media cluster stands out in the academic literature due to its significance and exposure. This highlights the significance of the keywords in this cluster in academic discussions and research by demonstrating their frequency of citation and reference. The social media cluster encompasses a range of terms, with the phrase “social media” being the most commonly used (17 times). This demonstrates that the concept of social media has been extensively studied and explored in academic literature, highlighting its significant impact on various fields and disciplines.

Other terms within the social media cluster, such as “online social networking”, “consumer behaviour”, “empirical research”, “Instagram” and “sales”, also contribute to the cluster’s overall importance and interconnectedness. These keywords indicate specific aspects and subtopics within the broader subject of social media, emphasizing the complex nature of this field of study.

Table 5. Analysis of the social media cluster in academic literature

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
social media	17	3960.893	0.002525	0.024366
social networking (online)	3	337.2932	0.001887	0.005539
consumption behaviour	2	96.7788	0.001754	0.00336
empirical studies	2	178.6825	0.00188	0.003562
Instagram	2	48.25177	0.001832	0.003668
sales	2	162.9911	0.001792	0.003925

In addition, Table 6 presents an analysis of the Humans cluster in relation to key topics discussed in scholarly literature. The “Occurrences” column in the Humans cluster displays the frequency of each keyword, illustrating the prominence of these phrases in the reviewed literature. For instance, the terms “human”, “article” and “major clinical study” are mentioned 21, 16 and 12 times, respectively. This group was given the cluster name “human,” emphasising its thematic focus. This cluster focuses on studying people in various situations and academic fields, with an emphasis their relationships, behaviours and characteristics.

The betweenness centrality metric sheds light on the importance of keywords in connecting different nodes in the network. The Humans cluster exhibits a reasonably high betweenness centrality, suggesting that the keywords within this cluster play an essential role as bridges or mediators between various themes or fields of study. The degree of connection among the terms within the cluster is indicated by closeness centrality. The moderate closeness centrality of the Humans cluster indicates that the keywords contained within it have strong connections to other similar topics or concepts.

Table 6. Analysis of human cluster in basic themes

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
human	21	1868.757	0.002571	0.031848
article	16	1483.276	0.002525	0.025956
major clinical study	12	1156.532	0.002342	0.019018
exercise	5	134.8369	0.001965	0.007618
physical activity	5	1193.737	0.002079	0.00739
diet	2	73.92649	0.002066	0.003008
behavioral research	2	105.5922	0.001996	0.003387

(Continued)

Table 6. Analysis of human cluster in basic themes (*Continued*)

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
body fat	2	54.60416	0.002088	0.0027
college student	2	139.418	0.001992	0.003977
content analysis	2	34.11797	0.001957	0.00299
fitness	2	150.7375	0.002012	0.002719
human computer interaction	2	224.5931	0.002062	0.003084
skill	2	67.12709	0.00202	0.003599
students	2	340.16	0.002105	0.004237
videorecording	2	8.544805	0.00189	0.002952
body image	13	2032.786	0.002611	0.020906
humans	14	990.862	0.002421	0.022095
psychology	10	936.9409	0.002381	0.015582
controlled study	10	739.5594	0.002268	0.016146
muscle	3	120.582	0.00189	0.005323
conceptual framework	2	77.19036	0.002066	0.003231
gender	2	96.00314	0.00202	0.00358
theoretical study	2	82.62398	0.002079	0.003393

Moreover, Table 7 analyses the adult cluster found in the academic literature, with a focus on the frequency and centrality scores of the terms. The occurrence column represents the frequency of each keyword within the adult cluster, indicating how often these phrases appear in the literature being reviewed. For instance, the terms “young adult” and “adolescent” both appear seven times, while the term “adult” appears six times. For this demographic group, the cluster label “young adult” has been assigned to describe its members. The term “adult” also encompasses a broader concept that includes terms associated with adulthood and related ideas.

The betweenness centrality metric sheds light on the importance of keywords in connecting different nodes in the network. The young adult cluster displays a moderate betweenness centrality, indicating that the keywords within this cluster play a crucial role in connecting different subjects or academic disciplines. The degree of connection among the terms within the cluster is indicated by closeness centrality. The Young Adult cluster exhibits a significant degree of closeness centrality, suggesting strong connections between the keywords within this cluster and their proximity to other relevant themes or concepts.

The importance and influence of the young adult cluster on the larger network are demonstrated by the PageRank centrality metric. This cluster's PageRank centrality indicates the volume and importance of citations and referrals that other nodes in the network have made to its keywords.

Table 7. Analysis of adult cluster: occurrences and centrality measures in academic literature

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
young adult	7	614.0719	0.002315	0.013053
adolescent	6	429.3464	0.002217	0.011639
self-esteem	5	1302.284	0.002288	0.008509
child	3	167.2426	0.002128	0.006066
feeding behaviour	2	80.06013	0.002137	0.004589
lifestyle	3	112.6979	0.00198	0.003511
marketing	3	389.5196	0.002179	0.005046
obesity	2	81.25977	0.002049	0.003342
qualitative research	2	80.06013	0.002137	0.004589
body dissatisfaction	2	88.25699	0.002141	0.004231
cross-sectional study	2	86.88394	0.002105	0.004496
food preference	2	80.06013	0.002137	0.004589
health promotion	2	59.08826	0.002101	0.004269
lifestyle	2	28.17373	0.002012	0.002718
parents	2	61.74163	0.001988	0.003778
physical appearance	2	123.1675	0.002119	0.005131
review	2	52.50962	0.002083	0.004046
united states	2	105.0813	0.001976	0.002756
adult	14	1380.729	0.002584	0.023937
male	11	1127.283	0.002469	0.018872
satisfaction	5	181.9757	0.002088	0.009515
experimental study	2	130.1068	0.002101	0.004233
perception	3	1181.45	0.002123	0.005446
photography	2	151.7577	0.002141	0.004678
questionnaire	2	95.99171	0.002075	0.003713
randomized controlled trial	2	121.1657	0.002058	0.004216

Additionally, the health behaviour cluster in the academic literature is examined in Table 8, with a focus on the frequency and centrality scores of the keywords. Each term in the health behaviour cluster is listed in the occurrence column, indicating its frequency of appearance in the literature under review. For instance, the phrases “health behaviour” and “motivation” are mentioned five times each, while the terms “decision-making” “advertising” and “medical information” are each mentioned three times. The betweenness centrality metric assesses the significance of keywords in connecting different network nodes. The moderate betweenness centrality of the Health Behaviour cluster indicates that the keywords in this cluster play a significant role in connecting different themes or areas of research related to health behaviour.

The degree of connection among the terms within the cluster is indicated by closeness centrality. The health behaviour cluster exhibits a significant degree of closeness centrality, indicating strong connections between the keywords within this cluster and their proximity to other pertinent topics or concepts. The significance and impact of the Health Behaviour cluster within the broader network are demonstrated by the PageRank centrality indicator. This cluster's PageRank centrality indicates the volume and importance of citations and referrals that other nodes in the network have made to its keywords.

This cluster's title, "health behaviour," denotes the overarching subject that unites the many keywords in this group.

Table 8. Analysis of health behaviour cluster: occurrences and centrality measures in academic literature

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
health behaviour	5	502.3143	0.002278	0.010299
motivation	5	678.1462	0.002232	0.008845
decision making	3	757.7879	0.002273	0.006993
advertising	3	186.6704	0.002165	0.006526
medical information	3	108.3401	0.002075	0.005308
attitude to health	2	135.9381	0.002128	0.004895
behaviour change	2	138.0348	0.002151	0.004842
communication	2	23.62821	0.002024	0.003843
interpersonal communication	2	23.62821	0.002024	0.003843
mental health	2	410.3093	0.002151	0.004868
peer pressure	2	155.0672	0.002141	0.005054
sex difference	2	159.0727	0.002146	0.004922

Finally, the female cluster exists in the motor theme of Figure 7. Table 9 analyses the female cluster found in the academic literature, paying particular attention to the frequency and centrality scores of the terms. This cluster, rich in keywords, illustrates the topic of motors. Each term in the "Female" cluster is listed in the "occurrences" column, along with its frequency of appearance in the research literature. Examples include the words "female" (16 times), "human experiment" (11 times), and "self-concept" (3 times). This cluster is named "female," indicating that the terms within it are specifically related to the study of females or women. The betweenness centrality metric evaluates the significance of keywords in connecting different network nodes.

The female cluster exhibits a reasonably high betweenness centrality, suggesting that the keywords in this cluster are important for connecting various subjects or areas of research related to females in the context of the motor theme. The degree of connection among the terms within the cluster is indicated by closeness centrality. A moderate closeness centrality is observed in the female cluster, indicating strong connections between the terms included in it and their proximity to other relevant topics or concepts. The importance and influence of the female cluster within the larger network are demonstrated by the PageRank centrality metric. This cluster's PageRank centrality indicates the volume and importance of citations and referrals that other nodes in the network have made to its keywords.

Table 9. Analysis of female cluster in the motor theme

Words	Occurrences	Btw_Centrality	Clos_Centrality	PageRank_Centrality
female	16	1606.287	0.002674	0.027453
human experiment	11	469.38	0.002188	0.016496
self-concept	3	66.52869	0.001965	0.005461
affect	2	21.28309	0.001916	0.004082
face	2	52.68935	0.002062	0.00435
personal satisfaction	4	77.25593	0.001957	0.007391
social comparison	3	735.3592	0.002045	0.004638
aesthetics	2	47.25086	0.002066	0.003242
social network	2	65.69236	0.002083	0.003906
cosmetics	2	69.80478	0.002096	0.00369
internalisation	2	48.52584	0.002033	0.003888
mood	2	21.28309	0.001916	0.004082
student	2	215.3688	0.002053	0.003639

4 DISCUSSION

The research conducted on the intricate relationship between social media use and the well-being of young people has provided valuable insights into the potential impacts of online platforms on individuals' lives. According to the findings of the literature review and meta-analysis, social media use can have both positive and negative effects on the well-being of young people [50]. On the bright side, moderate and conscientious use of social media has been associated with improved well-being due to its ability to foster social support and connection. Young people may connect with others on social media platforms, engage in conversations, and share experiences and interests, which can help them establish a sense of community and receive support from others [58]. Additionally, these platforms can be valuable tools for fostering creativity and self-expression, allowing young people to share their opinions, ideas, and talents with to a broader audience. However, the study did point out a few potential problems associated with excessive social media use. Excessive use has been linked to fewer face-to-face interactions, social isolation, elevated stress levels, and irregular sleep cycles [50]. Young individuals may become too focused on virtual interactions, resulting in fewer opportunities for meaningful real-life connections [48]. Furthermore, exposure to unrealistic beauty and lifestyle standards on social media can lead to feelings of inadequacy and body dissatisfaction, especially among young girls [46].

It is crucial to address this issue while being mindful of the vulnerabilities of young people and to provide age-appropriate advice and assistance. Young users can navigate online environments more successfully and avoid potential harm by being educated and encouraged to develop their digital literacy [59]. Furthermore, parents, educators, and caregivers have an important role in moderating young people's social media use and establishing a healthy balance between online and offline activities [38]. Because the relationship between social media use and well-being is complex and

dependent on the context, additional research is needed to examine the characteristics and circumstances that may moderate or mitigate the effects [37]. Investigating the significance of personal traits, social support, and coping mechanisms in evaluating the impact of social media on well-being may be included in this study [33].

5 CONCLUSION AND FUTURE AGENDA

This study's conclusion emphasises the nuanced connections among social media use, views of female bodies and well-being. It emphasises the potential negative impacts of social media on adolescent female users, including body dissatisfaction, low self-esteem, anxiety, despair and an obsession with thinness. Feelings of inadequacy and unhappiness with one's appearance is intensified by the constant exposure to edited photographs and societal beauty ideals on social media platforms. The study emphasises the importance of increasing awareness about these concerns and implementing policies that promote positive body image, responsible use of social media and self-acceptance among young women.

The investigation of behavioural goals connected to altering one's appearance, which has received less attention in earlier studies, contributes to the existing body of knowledge. Due to their strong impact on overall well-being, it is crucial to comprehend psychological moods and beliefs regarding one's body and appearance. This study aims to make a significant contribution to our comprehension of female body image evaluations, engagement with social media, and intentions to alter one's appearance by investigating the correlation between these factors and their potential impact on individuals' overall well-being. Figure 8 illustrates the outcomes of the literature and future research.

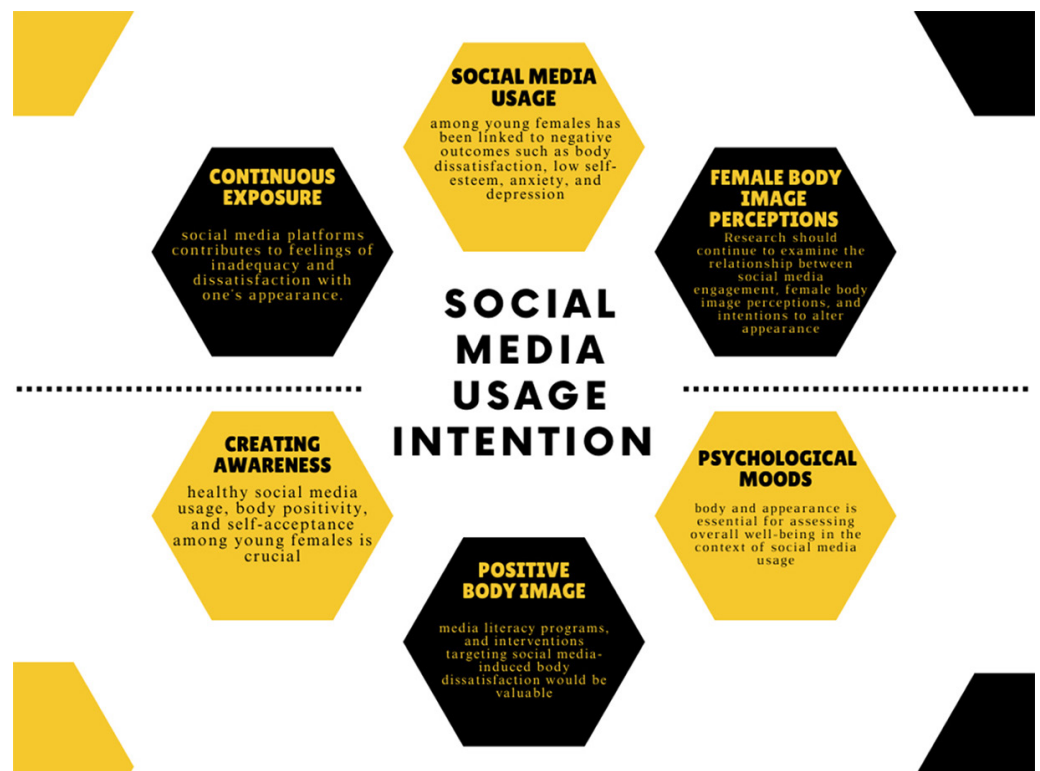


Fig. 8. Relationship between social media usage and female body image: implications for well-being

The underlying processes and mediators of the association between social media use and judgments of female body image should be further investigated in future studies. The causal nature of these connections can be better understood through longitudinal research, which can also identify relevant therapies or protective factors. Investigating the effects of media literacy initiatives, interventions aimed at reducing body dissatisfaction caused by social media, and campaigns promoting body image might also be beneficial. Such studies can help establish evidence-based strategies to mitigate the detrimental effects of social media on female body image and enhance overall well-being in the digital era.

6 REFERENCES

- [1] A. E. Simay, Y. Wei, T. Gyulavári, J. Syahrivar, P. Gaczek, and Á. Hofmeister-Tóth, “The e-WOM intention of artificial intelligence (AI) color cosmetics among Chinese social media influencers,” *Asia Pacific Journal of Marketing and Logistics*, vol. ahead-of-print, no. ahead-of-print, 2022. <https://doi.org/10.1108/APJML-04-2022-0352>
- [2] N. Ameen, J. H. Cheah, and S. Kumar, “It’s all part of the customer journey: The impact of augmented reality, chatbots, and social media on the body image and self-esteem of generation Z female consumers,” *Psychol Mark*, vol. 39, no. 11, pp. 2110–2129, 2022. <https://doi.org/10.1002/mar.21715>
- [3] J. H. Park, “The effects of personalization on user continuance in social networking sites,” *Inf. Process Manag.*, vol. 50, no. 3, pp. 462–475, 2014. <https://doi.org/10.1016/j.ipm.2014.02.002>
- [4] W. J. Yu, S. Y. Hung, A. P. I. Yu, and Y. L. Hung, “Understanding consumers’ continuance intention of social shopping and social media participation: The perspective of friends on social media,” *Information and Management*, p. 103808, 2023. <https://doi.org/10.1016/j.im.2023.103808>
- [5] J. P. Stein, E. Krause, and P. Ohler, “Every (Insta)Gram counts? Applying cultivation theory to explore the effects of Instagram on young users’ body image,” *Psychology of Popular Media*, vol. 10, no. 1, pp. 87–97, 2021. <https://doi.org/10.1037/ppm0000268>
- [6] E. Chatzopoulou, R. Filieri, and S. A. Dogruyol, “Instagram and body image: Motivation to conform to the ‘Instabod’ and consequences on young male wellbeing,” *Journal of Consumer Affairs*, vol. 54, no. 4, pp. 1270–1297, 2020. <https://doi.org/10.1111/joca.12329>
- [7] F. B. Alberty, “Fat shaming, feminism and Facebook: What ‘women who eat on tubes’ reveal about social media and the boundaries of women’s bodies,” *European Journal of Cultural Studies*, vol. 24, no. 6, pp. 1304–1318, 2021. <https://doi.org/10.1177/13675494211055499>
- [8] R. E. Buller, “Performing the breastfeeding body: Lactivism and art interventions,” *Studies in the Maternal*, vol. 8, no. 2, 2016. <https://doi.org/10.16995/sim.225>
- [9] M. A. Bock, P. Pain, and J. C. Jhang, “Covering nipples: News discourse and the framing of breastfeeding,” *Fem. Media Stud.*, vol. 19, no. 1, pp. 53–69, 2019. <https://doi.org/10.1080/14680777.2017.1313754>
- [10] M. Yasir, A. Ullah, M. Siddique, Z. Hamid, and N. Khan, “The Capabilities, challenges, and resilience of digital learning as a tool for education during the COVID-19,” *International Journal of Interactive Mobile Technologies*, vol. 16, no. 13, pp. 160–174, 2022. <https://doi.org/10.3991/ijim.v16i13.30909>
- [11] M. I. Qureshi, N. Khan, H. Raza, A. Imran, and F. Ismail, “Digital technologies in education 4.0. does it enhance the effectiveness of learning?” *International Journal of Interactive Mobile Technologies*, vol. 15, no. 4, pp. 31–47, 2021. <https://doi.org/10.3991/ijim.v15i04.20291>

- [12] A. F. Abbas, N. A. Qureshi, N. Khan, R. Chandio, and J. Ali, "The blockchain technologies in healthcare: Prospects, obstacles, and future recommendations; Lessons learned from digitalization," *International Journal of Online and Biomedical Engineering (iJOE)*, vol. 18, no. 9, pp. 144–159, 2022. <https://doi.org/10.3991/ijoe.v18i09.32253>
- [13] S. F. Yap, Y. Xu, and L. P. Tan, "Coping with crisis: The paradox of technology and consumer vulnerability," *Int. J. Consum. Stud.*, vol. 45, no. 6, pp. 1239–1257, 2021. <https://doi.org/10.1111/ijcs.12724>
- [14] E. Kross, P. Verduyn, G. Sheppes, C. K. Costello, J. Jonides, and O. Ybarra, "Social media and well-being: Pitfalls, progress, and next steps," *Trends Cogn. Sci.*, vol. 25, no. 1, pp. 55–66, 2021. <https://doi.org/10.1016/j.tics.2020.10.005>
- [15] N. Zhao and G. Zhou, "Social media use and mental health during the COVID-19 pandemic: Moderator role of disaster stressor and mediator role of negative affect," *Appl. Psychol. Health Well Being*, vol. 12, no. 4, pp. 1019–1038, 2020. <https://doi.org/10.1111/aphw.12226>
- [16] M. Wortelboer, "Lil Miquela makes me feel uncomfortable, but I keep following her": An interview study on motivations to engage with virtual influencers on social networking sites," 2022.
- [17] C. S. Gordon, R. F. Rodgers, A. E. Slater, S. A. McLean, H. K. Jarman, and S. J. Paxton, "A cluster randomized controlled trial of the SoMe social media literacy body image and wellbeing program for adolescent boys and girls: Study protocol," *Body Image*, vol. 33, pp. 27–37, 2020. <https://doi.org/10.1016/j.bodyim.2020.02.003>
- [18] F. C. Ryding and D. J. Kuss, "The use of social networking sites, body image dissatisfaction, and body dysmorphic disorder: A systematic review of psychological research," *Psychology of Popular Media*, vol. 9, no. 4, pp. 412–435, 2020. <https://doi.org/10.1037/ppm0000264>
- [19] K. Rounsefell APD *et al.*, "Social media, body image and food choices in healthy young adults: A mixed methods systematic review," *Nutrition & Dietetics*, vol. 77, no. 1, pp. 19–40, 2020. <https://doi.org/10.1111/1747-0080.12581>
- [20] A. Slater, N. Cole, and J. Fardouly, "The effect of exposure to parodies of thin-ideal images on young women's body image and mood," *Body Image*, vol. 29, pp. 82–89, 2019. <https://doi.org/10.1016/j.bodyim.2019.03.001>
- [21] R. J. Limaye *et al.*, "Social media strategies to affect vaccine acceptance: A systematic literature review," *Expert Review of Vaccines*, vol. 20, no. 8, pp. 959–973, 2021. <https://doi.org/10.1080/14760584.2021.1949292>
- [22] D. Smith, T. Leonis, and S. Anandavalli, "Belonging and loneliness in cyberspace: Impacts of social media on adolescents' well-being," *Australian Journal of Psychology*, vol. 73, no. 1, pp. 12–23, 2021. <https://doi.org/10.1080/00049530.2021.1898914>
- [23] J. Lutaaya and J. C. Cronje, "A social constructivist approach to enhance the literacy skills of English as second language pre-service students," 2021. [Online]. Available: <http://scholar.ufs.ac.za/xmlui/handle/11660/11420> [Accessed: May 28, 2023].
- [24] J. Fardouly and R. M. Rapee, "The impact of no-makeup selfies on young women's body image," *Body Image*, vol. 28, pp. 128–134, 2019. <https://doi.org/10.1016/j.bodyim.2019.01.006>
- [25] I. Mustapha, N. Khan, and M. I. Qureshi, "Is technology affecting the way our minds operate? Digital psychology of users in the era of digitalization," *Advanced Structured Materials*, vol. 174, pp. 71–92, 2022. https://doi.org/10.1007/978-3-031-01488-8_8
- [26] N. Khan, M. I. Qureshi, I. Mustapha, A. A. Harasis, and M. Ashfaq, "The digital marketing past, present, and future in Malaysia," *J. Comput. Theor. Nanosci.*, vol. 17, no. 2, pp. 583–595, 2020. <https://doi.org/10.1166/jctn.2020.8732>
- [27] D. Shome, S. Vadera, S. R. Male, and R. Kapoor, "Does taking selfies lead to increased desire to undergo cosmetic surgery," *J. Cosmet. Dermatol.*, vol. 19, no. 8, pp. 2025–2032, 2020. <https://doi.org/10.1111/jocd.13267>

- [28] A. Eke, M. Adam, K. Kowalski, and L. Ferguson, "Narratives of adolescent women athletes' body self-compassion, performance and emotional well-being," *Qualitative Research in Sport, Exercise and Health*, vol. 12, no. 2, pp. 175–191, 2019. <https://doi.org/10.1080/2159676X.2019.1628805>
- [29] C. Pan, J. Abbas, S. Álvarez-Otero, H. Khan, and C. Cai, "Interplay between corporate social responsibility and organizational green culture and their role in employees' responsible behavior towards the environment and society," *J. Clean. Prod.*, vol. 366, p. 132878, 2022. <https://doi.org/10.1016/j.jclepro.2022.132878>
- [30] H. Majiwala and R. Kant, "A bibliometric review of a decade' research on industry 4.0 & supply chain management," *Mater Today Proc.*, vol. 72, pp. 824–833, 2023. <https://doi.org/10.1016/j.matpr.2022.09.058>
- [31] B. Buyamin *et al.*, "The influence of war and global economy on article publication (Bibliometric Analysis using Biblioshiny-R)," *Research Square*, Preprint, 2023. <https://doi.org/10.21203/rs.3.rs-2680363/v1>
- [32] R. Cohen, J. Fardouly, T. Newton-John, and A. Slater, "#BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image," *New Media & Society*, vol. 21, no. 7, pp. 1546–1564, 2019. <https://doi.org/10.1177/1461444819826530>
- [33] K. Sokolova and C. Perez, "You follow fitness influencers on YouTube. But do you actually exercise? How parasocial relationships, and watching fitness influencers, relate to intentions to exercise," *Journal of Retailing and Consumer Services*, vol. 58, p. 102276, 2021. <https://doi.org/10.1016/j.jretconser.2020.102276>
- [34] "Sociocultural perspectives on human appearance and body image." https://psycnet.apa.org/record/2011-20792-002?utm_medium=email&utm_source=transaction [Accessed May 30, 2023].
- [35] Y. Wang, J. Fardouly, L. R. Vartanian, and L. Lei, "Selfie-viewing and facial dissatisfaction among Chinese adolescents: A moderated mediation model of general attractiveness internalization and body appreciation," *Body Image*, vol. 30, pp. 35–43, 2019. <https://doi.org/10.1016/j.bodyim.2019.05.001>
- [36] W. Pan, Z. Mu, and Z. Tang, "Social media influencer viewing and intentions to change appearance: A large scale cross-sectional survey on female social media users in China," *Front. Psychol.*, vol. 13, 2022. <https://doi.org/10.3389/fpsyg.2022.846390>
- [37] J. Linardon, C. Anderson, M. Messer, R. F. Rodgers, and M. Fuller-Tyszkiewicz, "Body image flexibility and its correlates: A meta-analysis," *Body Image*, vol. 37, pp. 188–203, 2021. <https://doi.org/10.1016/j.bodyim.2021.02.005>
- [38] Y. Zhang, Y. Li, M. Xia, M. Han, L. Yan, and S. Lian Id, "The relationship between loneliness and mobile phone addiction among Chinese college students: The mediating role of anthropomorphism and moderating role of family support," *PLoS One*, vol. 18, no. 4, p. e0285189, 2023. <https://doi.org/10.1371/journal.pone.0285189>
- [39] T. L. Tylka, R. F. Rodgers, R. M. Calogero, J. K. Thompson, and J. A. Harriger, "Integrating social media variables as predictors, mediators, and moderators within body image frameworks: Potential mechanisms of action to consider in future research," *Body Image*, vol. 44, pp. 197–221, 2023. <https://doi.org/10.1016/j.bodyim.2023.01.004>
- [40] A. Kalam, C. L. Goi, and Y. Y. Tiong, "Student motivations for social media use and their effects on academic performance—A meditational approach in emerging market," *Interactive Technology and Smart Education*, vol. ahead-of-print, no. ahead-of-print, 2023. <https://doi.org/10.1108/ITSE-09-2022-0115>
- [41] G. Zhang, C. L. Wang, J. Liu, and L. Zhou, "Why do consumers prefer a hometown geographical indication brand? Exploring the role of consumer identification with the brand and psychological ownership," *Int. J. Consum. Stud.*, vol. 47, no. 1, pp. 74–85, 2023. <https://doi.org/10.1111/ijcs.12806>

- [42] D.-C. Dabija, R. Z. Shen, A. Samavi, and R. Wagner, "Consumers' body image expressions: Reflection of a snow white or an evil queen," *Front. Psychol.*, vol. 14, pp. 1097740–1097740, 2023. <https://doi.org/10.3389/fpsyg.2023.1097740>
- [43] H. Gahler, L. Dajches, L. Terán, K. Yan, and J. S. Aubrey, "Instagram influences: An examination of the tripartite influence model of body image among a racially diverse sample of young-adult women," *Comput. Human Behav.*, vol. 145, p. 107785, 2023. <https://doi.org/10.1016/j.chb.2023.107785>
- [44] T. Jefferson *et al.*, "Physical interventions to interrupt or reduce the spread of respiratory viruses," *Cochrane Database of Systematic Reviews*, vol. 2023, no. 1, 2023. <https://doi.org/10.1002/2F14651858.CD006207.pub4>
- [45] J. F. Willoughby *et al.*, "Examining science and media literacy health communication messages to reduce intentions to use cannabis while pregnant," *Psychol. Addict Behav.*, vol. 37, no. 6, pp. 746–757, 2023. <https://doi.org/10.1037/adb0000923>
- [46] H. N. Do, W. Shih, and Q. A. Ha, "Effects of mobile augmented reality apps on impulse buying behavior: An investigation in the tourism field," *Heliyon*, vol. 6, no. 8, p. e04667, 2020. <https://doi.org/10.1016/j.heliyon.2020.e04667>
- [47] O. de Lenne, C. Mahon, S. Eggermont, T. Smits, D. Hevey, and L. Vandenbosch, "Intercultural insights on the impact of different non-idealized models on men's body image and advertising perceptions," *Journal of Health Psychology*, vol. 28, no. 10, pp. 913–928, 2023. <https://doi.org/10.1177/13591053231152012>
- [48] R. Pucci *et al.*, "Odontogenic-related head and neck infections: From abscess to mediastinitis: Our experience, limits, and perspectives—A 5-year survey," *International Journal of Environmental Research and Public Health*, vol. 20, no. 4, p. 3469, 2023. <https://doi.org/10.3390/ijerph20043469>
- [49] T. English and L. Eldesouky, "We're not alone: Understanding the social consequences of intrinsic emotion regulation," *Emotion*, vol. 20, no. 1, pp. 43–47, 2020. <https://doi.org/10.1037/emo0000661>
- [50] T. Yang, F. Yang, and J. Men, "Understanding consumers' continuance intention toward recommendation vlogs: An exploration based on the dual-congruity theory and expectation-confirmation theory," *Electron Commer. Res. Appl.*, vol. 59, p. 101270, 2023. <https://doi.org/10.1016/j.elerap.2023.101270>
- [51] J. A. Johnson, N. J. Turro, J. T. Koberstein, and J. E. Mark, "Some hydrogels having novel molecular structures," *Prog. Polym. Sci.*, vol. 35, no. 3, pp. 332–337, 2010. <https://doi.org/10.1016/j.progpolymsci.2009.12.002>
- [52] L. Hudders and C. Lou, "The rosy world of influencer marketing? Its bright and dark sides, and future research recommendations," *Int J Advert*, vol. 42, no. 1, pp. 151–161, 2023. <https://doi.org/10.1080/02650487.2022.2137318>
- [53] "Religion and Consumer Behaviour: Influence of Religiosity and Culture on ... – Google Books," https://books.google.com.my/books?hl=en&lr=&id=1oOsEAAQ-BAJ&oi=fnd&pg=PT186&dq=SOOD+A,+2023,+J+INT+CONSUM+MARK&ots=BYAUw-m5qZ0&sig=OO15K4IV9MWg-EofEHXUiwiBoJc&redir_esc=y#v=onepage&q&f=false [Accessed May 30, 2023].
- [54] M. J. Zimmer-Gembeck *et al.*, "A pattern-centered analysis of adolescents' concerns and hopes about future crises: Differences in ways of coping and personal adjustment," *J. Adolesc.*, 2023. <https://doi.org/10.1002/jad.12194>
- [55] S. S. Subramanian, K. Asimakopoulou, T. Newton, A. Chopra, W. Luo, and A. Joiner, "The impact of priming on dentally induced social judgements: An experimental study," *J. Dent.*, vol. 127, p. 104347, 2022. <https://doi.org/10.1016/j.jdent.2022.104347>
- [56] M. J. Cobo, A. G. López-Herrera, E. Herrera-Viedma, and F. Herrera, "Science mapping software tools: Review, analysis, and cooperative study among tools," *Journal of the American Society for Information Science and Technology*, vol. 62, no. 7, pp. 1382–1402, 2011. <https://doi.org/10.1002/asi.21525>

- [57] B. Ayan, E. Güner, and S. Son-Turan, "Blockchain technology and sustainability in supply chains and a closer look at different industries: A mixed method approach," *Logistics* 2022, vol. 6, no. 4, p. 85, 2022. <https://doi.org/10.3390/logistics6040085>
- [58] I. Mustapha, N. Khan, M. I. Qureshi, and N. T. Van, "Assessing hospital management performance in intensive care units (icuc) during the COVID-19: A study from the pandemic outbreak perspective," *International Journal of Online and Biomedical Engineering*, vol. 18, no. 10, pp. 154–168, 2022. <https://doi.org/10.3991/ijoe.v18i10.32733>
- [59] F. Fasoli, J. Ogden, and S. Johnson, "Body positivity or humorous parody? The impact of Instagram imagery on body image concerns," *The Journal of Psychology*, vol. 157, no. 5, pp. 273–296, 2023. <https://doi.org/10.1080/00223980.2023.2198686>

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