

The Perfect Illusion: A Bibliometric Review of Social Media, Body Image, and Aesthetic Behaviors

Alfonso Pellegrino¹, Alessandro Stasi²

¹Columbia University, USA. Email: ap4273@columbia.edu, ORCID 0000-0003-4175-6034

²Mahidol University International College, Thailand. Email: alessandro.sta@mahidol.edu

Correspondence: Alessandro Stasi, Ph.D., Mahidol University International College, Thailand. Email: alessandro.sta@mahidol.edu

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Abstract

This bibliometric review maps the intellectual and thematic organization of research on social media, body image, mental health, and aesthetic behavior, combining descriptive indicators with author co-citation and keyword co-occurrence analyses of 259 Scopus publications selected from 325 retrieved records. The corpus shows annual publication output reaching 55 in 2025, with the largest reported affiliation-based contributions coming from the United States, Australia, and the United Kingdom. The networks connect strands concerning appearance comparison and body image, psychological and behavioral concerns, and positive body image and prevention, thereby characterizing scholarly attention while substantive findings are interpreted through the designs and populations of the cited studies. Because the review encompasses adolescent, young-adult, and adult-focused scholarship, population-specific interpretation informs the use of this map as an organizing framework for research on content, forms of engagement, cultural context, and protective approaches. The resulting policy and practice agenda identifies appearance literacy, sponsorship disclosure, cosmetic-procedure promotion, and recommendation pathways as subjects for direct evaluation, connecting research priorities while maintaining distinctions among bibliometric relationships, study-level evidence, and prospective policy assessment.

Keywords: social media, body image, body dissatisfaction, adolescent, social comparison, cosmetic surgery, mental health, bibliometric analysis

1. Introduction

Social media provide settings in which adolescents and adults encounter peers, celebrities, influencers, advertising, and digitally altered appearance imagery, with photographs, filters, editing tools, and feedback metrics making visual platforms relevant to research on appearance evaluation. Widespread teenage use in the United States places these appearance-related experiences within the everyday media settings documented by surveys of young people's social-media use (Faverio & Sidoti, 2024). Surveys in the United Kingdom likewise document widespread use among teenagers, situating the research agenda within a media environment extending across both national contexts (Ofcom, 2023). Public concerns about young users' body image have also received attention through reports of internal company research, which supply a contextual perspective on this agenda (Wells, Horwitz, & Seetharaman, 2021). Subsequent litigation has brought these concerns into the surrounding public debate, where reporting on alleged harms adds context to the questions addressed by the empirical literature (Horwitz, 2023).

Appearance-based social comparison is a prominent explanatory framework in this literature, organizing questions about how idealized celebrity and peer imagery and appearance-focused activity relate to mood and body dissatisfaction (Perloff, 2014). Social comparison during appearance-focused platform activity is examined in relation to body-image concerns and mood, extending attention from the imagery encountered to activity within these visual settings (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). Fitspiration research examines another form of appearance imagery in relation to body image, preserving the importance of content when considering the questions raised by visual platforms (Tiggemann & Zaccardo, 2015). The literature also examines appearance-focused platform activity alongside exposure to idealized images, maintaining both activity and content within its account of mood and body dissatisfaction (Sherlock & Wagstaff, 2019). A qualitative perspective emerges from early adolescent girls' accounts of artificial beauty imagery, which describe

awareness of its artificiality alongside pressure to present an attractive, socially validated self (Burnette, Kwitowski, & Mazzeo, 2017). These questions build on broader body-image scholarship concerning cultural ideals and self-evaluation, placing social-media experiences within an established account of how appearance is perceived and evaluated (Cash & Smolak, 2011). Teasing and self-objectification are also examined in relation to body-image concerns, extending attention from idealized imagery to other appearance-related experiences considered within that scholarship (Slater & Tiggemann, 2011). The platform scope is similarly broad, as research on thinspiration and fitspiration communities on Twitter demonstrates that appearance-focused content is not confined to Instagram or TikTok (Tiggemann, Churches, Mitchell, & Brown, 2018).

Findings nevertheless vary across users, content, and research designs, as illustrated by a daily diary study that found no consistent between- or within-person association between objective social-media screen time and body dissatisfaction (Goh, Hartanto, Kasturiratna, & Majeed, 2025). The review literature on social comparison emphasizes forms of engagement and individual differences, keeping these dimensions central to interpretation alongside the overall duration of social-media use (Verduyn, Gugushvili, Massar, Täht, & Kross, 2020). Positive-body-image scholarship introduces body acceptance and self-compassion into this discussion, extending attention beyond dissatisfaction while maintaining the conceptual distinctions needed to interpret positive body image (Tiggemann, 2024). Conceptual reviews caution against treating all body-positive material as equivalent, so that the broader agenda of acceptance and self-compassion remains attentive to the meaning of the content under consideration (Cohen, Newton-John, & Slater, 2021).

Related scholarship broadens the discussion to depressive symptoms, anxiety, disordered eating, and cosmetic-procedure attitudes across adolescent and adult populations, placing appearance-related questions within a wider account of psychological and behavioral concerns. Research on social-media use and anxiety addresses one dimension of these concerns, maintaining attention to the psychological questions that accompany users' experiences within social-media settings (Marino et al., 2023). Reviews of body-image satisfaction and mental health consider another dimension, examining appearance-related concerns within the broader discussion of psychological well-being rather than treating body image as an isolated subject (Merino et al., 2024). The clinical literature addresses the identification and management of eating disorders, supplying a distinct clinical context for topics that also occur within social-media and body-image research (Owens, Attia, Fitzpatrick, Phillips, & Nolan, 2023). Spanning psychology, public health, communication, and gender research, this scholarship calls for a map that clarifies connections among strands without pooling clinical findings or assuming that adult results apply to adolescents.

1.1 Review Purpose and Research Questions

Bibliometric analysis provides a structured account of research production and the relationships connecting a multidisciplinary literature, using publication and citation indicators to describe the contributors and outlets represented in that research. Co-citation identifies shared intellectual foundations, while keyword co-occurrence organizes recurring concepts, allowing the review to examine intellectual relationships and thematic organization alongside the descriptive account of research production. With these complementary perspectives, the review integrates these analyses with population coding and sensitivity checks to address three questions:

RQ1. How did publication volume, geographic participation, authorship influence, and journal concentration develop between 2013 and August 2026?

RQ2. Which intellectual and thematic clusters emerge from author co-citation and keyword co-occurrence networks?

RQ3. How do population composition, document-type selection, and counting conventions inform interpretation of the mapped themes and the research priorities they suggest?

2. Method

2.1 Bibliometric Design

This study combines performance analysis and science mapping to examine how the literature has developed and how its publications relate to one another, using publication and citation indicators to characterize productivity and scholarly visibility (Durieux & Gevenois, 2010). The performance component compares contributions among authors and outlets, situating influential publications within the wider distribution of research production represented in the corpus (Merigó, Mas-Tur, Roig-Tierno, & Ribeiro-Soriano, 2015). Software-assisted bibliometric analysis allows these descriptive indicators to be considered alongside the networks generated from citation and keyword metadata, combining information about research activity with its organization (Moral-Muñoz, Herrera-Viedma, Santisteban-Espejo, & Cobo, 2020). Within this relational component, co-citation mapping identifies connections among cited authors through their appearance in the reference lists of the retained publications (Small, 1999). Keyword co-occurrence provides a complementary account of recurring concepts, allowing thematic relationships to be examined alongside the distribution of publication activity (Zupic & Čater, 2015). The networks are constructed and visualized in VOSviewer, which presents bibliographic relationships as maps that can be

interpreted together with the descriptive indicators (van Eck & Waltman, 2010). PRISMA-style reporting documents retrieval and eligibility decisions (Page et al., 2021), while structured population coding supports age-specific interpretation within an analytical design focused on corpus composition and bibliographic relationships.

2.2 Data Source and Search Strategy

Scopus was selected as the single bibliographic source because it provides standardized citation, affiliation, source, and keyword metadata across social-science and health scholarship, allowing the performance indicators and networks to be constructed from a consistent export. The search was executed in Scopus Advanced Search on 31 August 2026, with the bibliographic and citation snapshot exported at 18:00 UTC on the same day; Appendix A records the dated web-interface snapshot, complete query, and export-field specification.

TITLE-ABS-KEY(("social media" OR TikTok OR Instagram OR Facebook) AND ("beauty standards" OR "self-esteem" OR "social comparison")) AND ("body dissatisfaction" OR "plastic surgery" OR "body modification" OR "cosmetic surgery" OR "body dysmorphia" OR "appearance anxiety")) AND (LIMIT-TO(DOCTYPE, "ar") OR LIMIT-TO(DOCTYPE, "re") OR LIMIT-TO(DOCTYPE, "cp") OR LIMIT-TO(DOCTYPE, "ch"))

The query combines three concept blocks within TITLE-ABS-KEY, with document filters admitting articles, reviews, conference papers, and book chapters. Retrieval through August 2026 defines the observation period represented in the corpus. English-language eligibility was applied during screening rather than as a retrieval filter, allowing the four non-English records to remain visible and to be accounted for explicitly in the selection flow. Eligible publications connected social-media exposure or activity with body image, beauty perceptions, appearance anxiety, disordered eating, body modification, or cosmetic-procedure-related outcomes, across adolescent, young-adult, adult, and mixed-age populations. Within this topical scope, body positivity, body appreciation, and self-compassion were included when the retrieved publication otherwise met the eligibility criteria; Appendix A records the field codes, filters, date boundaries, and export fields.

2.3 Screening and Eligibility

Duplicate checking began with DOI and Scopus record-identifier matching, followed by comparison of normalized titles, publication years, and author names, which established that all 325 retrieved records were unique. Two reviewers independently screened titles and abstracts against the topical and language criteria, excluding 58 records outside the review's scope and four non-English publications before full-text assessment. Agreement at initial screening was Cohen's $\kappa = 0.87$; of the 14 disagreements, eight were resolved through discussion and six by a three-member adjudication panel, with 12 resolved as inclusions and two as exclusions (Appendix A, Table A1). All 263 remaining full texts were retrieved and assessed, and four were excluded: two lacked body-image or appearance-related outcomes, one did not investigate social-media exposure, and one, although indexed by Scopus as an article, proved on full-text inspection to be an editorial. This yielded a final corpus of 259 publications. Each decision was recorded against a stable record identifier with one primary exclusion reason assigned per record, and Appendix A reproduces the reviewer decision matrix and the screening fields.

Bibliometric quality control followed explicit record-integrity rules covering bibliographic completeness, matching record identifiers, consistency of publication type, and publication-status checks against source records and publisher notices. These checks identified zero retracted records and produced zero additional exclusions. The screening log records the reviewers' decisions and adjudication outcomes against one primary reason for each excluded record, making the basis for exclusion explicit throughout the selection process.

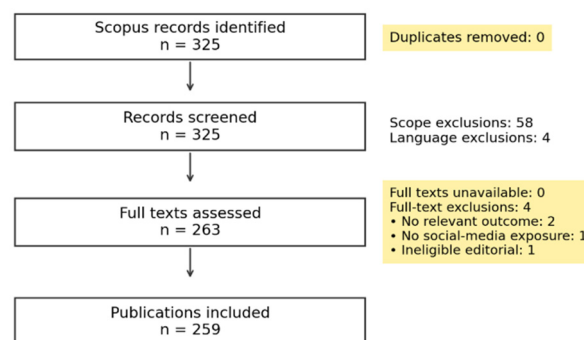


Figure 1. Document selection for the bibliometric review

Note. The selection flow accounts for 325 identified records, 58 topical exclusions, four language exclusions, and four

full-text exclusions, leaving 259 publications in the corpus. The duplicate check yielded zero duplicate records, all 263 full texts sought were retrieved, and each exclusion was counted once.

Table 1. Record accounting through retrieval and eligibility.

Selection stage	Count
Records identified	325
Duplicates removed	0
Records screened	325
Excluded outside topical scope	58
Excluded for language	4
Full texts sought	263
Full texts unavailable	0
Full texts assessed	263
Full-text exclusions	4
No body-image/appearance outcome	2
No social-media exposure	1
Ineligible editorial	1
Included publications	259

2.4 Data Extraction and Network Analysis

The export brought together publication year, document type, title, DOI, Scopus identifier, author names and identifiers, affiliation countries, source title, author keywords, index keywords, abstracts, cited references, and citation counts for the descriptive and network analyses. Microsoft Excel 365 was used to reconcile this metadata and tabulate the indicators, while author variants were resolved through identifiers, full names, and affiliation checks, with ambiguous cases reviewed against the publication. Keyword cleaning used a documented thesaurus to standardize spelling, singular/plural forms, and exact synonyms, while retaining conceptually distinct procedure and body-image terms within the keyword field. The full-period author co-citation and all-keyword co-occurrence maps were constructed in VOSviewer 1.6.20, using full counting and association-strength normalization for both analyses. Appendix A details the map-specific thresholds, retained items, clustering and layout settings, and shared-item sensitivity comparisons. Co-citation relates authors appearing in the same reference lists (Jeong, Song, & Ding, 2014), whereas keyword co-occurrence relates concepts appearing in the same record; the thematic labels summarize these relationships interpretively.

Ranking conventions were fixed before tabulation, with country indicators using distinct affiliation countries, author indicators assigning full coauthor credit, and outlet indicators allocating each publication to its source; raw citation totals provide the principal ranking. The normalized comparison divides each publication's citation count by the mean for its publication year within the retained corpus, assigning zero when that year's mean is zero. These normalized values therefore compare publications with records from the same year within the corpus, rather than representing an external field-normalized metric.

The screening worksheet recorded population scope as adolescent-focused, young-adult-focused, adult-focused, mixed-age, or nonparticipant/conceptual scholarship, allowing the corpus to be interpreted with reference to the populations represented in its studies. Reviewers assigned these mutually exclusive categories from sample eligibility and reported age ranges using the hierarchy specified in Appendix A, while recording participant setting separately from institutional affiliations and keyword labels.

3. Results

Applying these methods, the results examine the development of publication activity and its geographic distribution before considering influential contributors, publication outlets, and the intellectual and thematic relationships that organize the retained literature.

3.1 Publication Growth and Geographic Distribution

The final corpus comprised 259 documents, including 253 journal articles, four conference papers, one book chapter, and one review article as classified by the Scopus document-type field, which together formed the basis of the descriptive analyses. Annual output increased from two publications in 2013 to 15 in 2020, before reaching 30 in 2023, 43 in 2024, and 55 in 2025, as illustrated in Figure 2. The 27 publications recorded for 2026 cover only the period through August, so the latest year is identified as a partial observation period within this pattern of increasing scholarly output.

Population coding classified the 259 included publications as 72 adolescent-focused, 96 young-adult-focused, 41 adult-focused, 28 mixed-age, and 22 nonparticipant or conceptual records, as reported in Table 2. This distribution supports the broad body-image framing of the title while maintaining population-specific interpretation of the cited findings across the age groups represented in the corpus.

Table 2. Population scope of the included publications.

Population scope	Publications	Share
Adolescent-focused	72	27.8%
Young-adult-focused	96	37.1%
Adult-focused	41	15.8%
Mixed-age	28	10.8%
Nonparticipant/conceptual	22	8.5%
Total	259	100.0%

Note. The mutually exclusive categories sum to 259 publications.

Conference papers and the book chapter together accounted for five publications (1.9%), and these document categories were retained in the main map to preserve the breadth of indexed scholarship. Removing these records for the article-and-review-only comparison left 254 publications, while the leading three country affiliations and the leading five author and outlet names remained unchanged. Both the author and keyword maps retained three clusters, with shared-item adjusted Rand indices of 0.94 and 0.92, respectively, and the detailed comparison counts are presented in Appendix A.

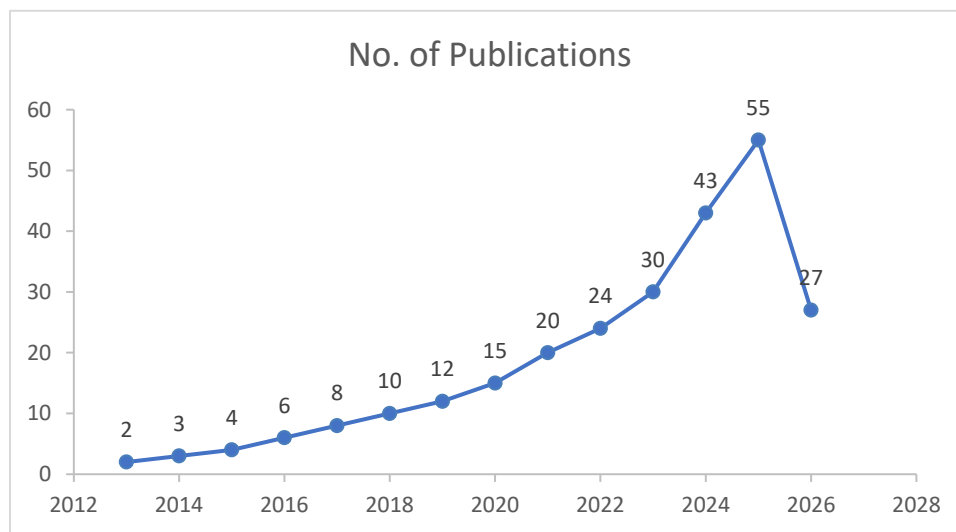


Figure 2. Annual publication volume, 2013-August 2026 (n = 259)

Note. Publication totals are tabulated by year from the Scopus corpus, with the 2026 count covering January through August and therefore representing a shorter observation period than the preceding complete years.

The United States made the largest affiliation-based contribution, with 35 publications, followed by Australia with 27 and the United Kingdom with 14, while China and Spain each contributed nine. Portugal, India, and Italy each contributed seven publications, with Turkey contributing six and Canada five, completing the ten-country distribution in Figure 3. Full counting credits each distinct affiliation country once per document regardless of repeated affiliations within that country, whereas fractional counting allocates $1/k$ to each of the k countries as a robustness comparison. These indicators locate contributing institutions, while cultural interpretation depends on participant settings and study constructs, including scholarship on locally meaningful beauty ideals in Asia (Chen, Lian, Lorenzana, Shahzad, & Wong, 2020). Research on traditional and contemporary beauty ideals in China further illustrates why institutional geography and the cultural setting of a sample should be considered separately (Jung, 2018).

These publication and affiliation patterns address RQ1 by describing increased scholarly output and the distribution of contributing institutions, bringing together the temporal and geographic dimensions of activity within the Scopus corpus. Annual counts follow publication year, with 2026 reported separately as a partial year, while citation comparisons use the dated snapshot and are interpreted alongside the age of the publications. The United States, Australia, and the United Kingdom remained the three leading affiliation countries under fractional counting, consistent with their position in the main affiliation-based country distribution.

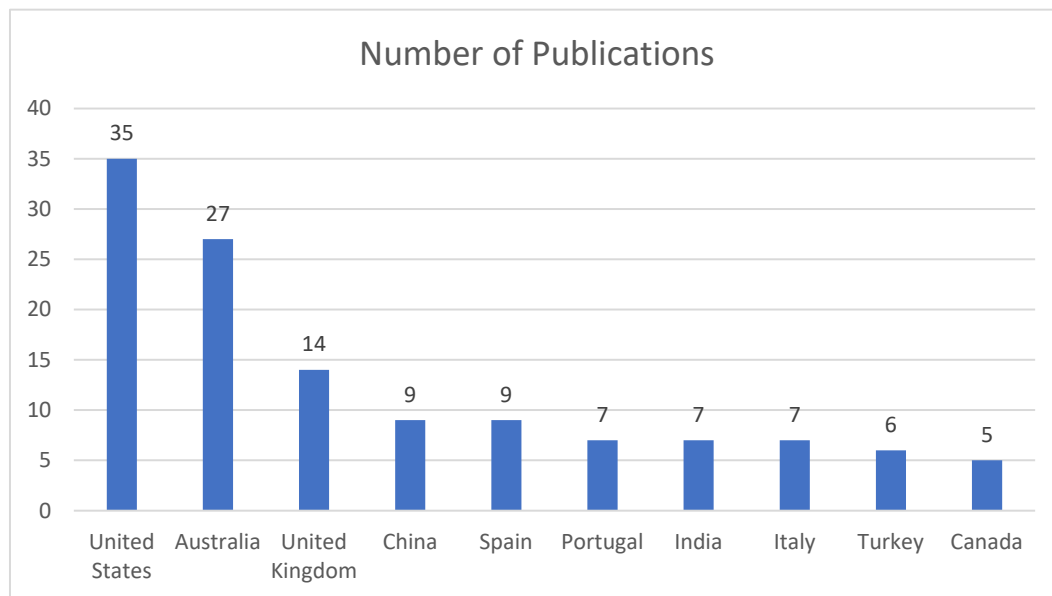


Figure 3. Ten countries with the largest publication counts in the corpus

Note. Country labels refer to publication affiliations, with the main results using full counting that credits each country once per document and the fractional comparison reported in Appendix A.

3.2 Influential Authors

Table 3. Authors ranked by reported citation total in the retained corpus.

Rank	Author	Country	Documents	Total citations
1	Tiggemann M.	Australia	6	1171
2	Fardouly J.	Australia	4	828
3	Vartanian L.R.	Australia	3	801
4	Brown Z.	Australia	2	507
5	Zaccardo M.	Australia	1	471
6	Diedrichs P.C.	United Kingdom	2	467
7	Perloff R.M.	United States	1	450
8	Halliwel E.	United Kingdom	1	449
9	Sacker A.	United Kingdom	1	389
10	Kelly Y.	United Kingdom	1	389

Note. Source: Scopus citation counts recorded in the export of 31 August 2026, 18:00 UTC. Rankings use raw citation totals, with authors receiving full credit for each coauthored corpus publication and its citations, so the totals attributed to different authors can overlap. The sensitivity comparison assesses publication-year-normalized values by dividing each document's citation count by the mean for its publication year within the corpus. Country labels identify the reported publication affiliation.

Within the retained corpus, Tiggemann was the most productive and most cited author, with six publications and 1,171 citations, followed by Fardouly, whose four publications received a total of 828 citations. Vartanian contributed three publications with 801 citations, whereas Brown and Zaccardo had fewer papers but high citation totals, indicating the influence of individual studies on celebrity imagery, fitspiration, and appearance comparison. Diedrichs, Perloff, Halliwel, Sacker, and Kelly also appear in the table, reflecting the intersection of body-image psychology, adolescent mental health, and media-effects research within this author ranking.

The author ranking describes visibility within the retained corpus, where the leading author's six publications represent a small share of the 259 documents and citation accumulation reflects both publication age and coauthorship. Restricting the comparison to articles and reviews retained the same five leading author names, although their totals changed modestly in the comparison with the full corpus. The interpretation therefore considers robustness alongside the main ranking, emphasizing the contributors' role as intellectual anchors while retaining attention to the conditions that shape their citation visibility.

3.3 Intellectual Structure

Author co-citation mapping organized the cited authors into three interconnected bodies of scholarship: an appearance-comparison cluster, a psychological-concerns cluster, and a positive-body-image and prevention cluster. Nodes are

weighted by citations to each author within the corpus reference lists, while links represent joint citation and the layout summarizes bibliographic relatedness among the authors included in the map. A minimum threshold of 20 citations defined inclusion, with all eligible items retained, and Appendix A specifies the configuration used to construct and interpret the author co-citation network.

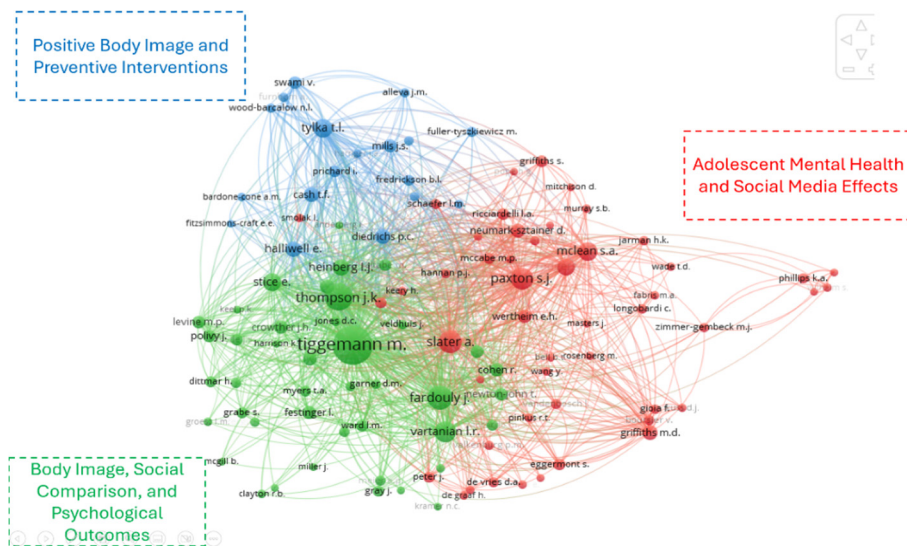


Figure 4. Author co-citation network and principal intellectual strands

Note. Green, red, and blue distinguish the intellectual strands, with node size representing citations within corpus reference lists and links representing co-citation. Appendix A gives the configuration and its sensitivity comparison.

The green cluster centres on body image and appearance comparison in visual-platform activity, with work on celebrity and peer imagery illustrating how these topics enter the intellectual foundations of the mapped literature (Brown & Tiggemann, 2016). These studies sit within a broader discussion of social-media use and body-image concerns, which provides a context for interpreting the appearance-comparison strand (Fardouly & Vartanian, 2016). Selfie-editing research extends this discussion to the way users prepare images for posting, placing selective appearance presentation alongside the visual content they encounter (Tiggemann, Anderberg, & Brown, 2020b). Research on likes and appearance-focused feedback addresses another aspect of platform activity, although exposure–outcome interpretation depends on the empirical designs of the individual studies whose work is cited together (Tiggemann, Hayden, Brown, & Veldhuis, 2018).

The red cluster connects mental-health and body-image scholarship through studies of social-media use and depressive symptoms, bringing these concerns into the same set of intellectual relationships (Kelly et al., 2018). Clinically significant body dissatisfaction provides a related focus, locating appearance concerns within research that considers their psychological significance across the populations being studied (McLean et al., 2022). Differences across users and platforms give this strand a further dimension, directing interpretation toward the circumstances under which particular social-media activities and psychological outcomes are examined (Gentzler, Hughes, Johnston, & Alderson, 2023).

The blue cluster develops the positive-body-image and prevention strand through intervention research, bringing work on approaches to improving body image into the intellectual relationships represented by the map (Alleva, Sheeran, Webb, Martijn, & Miles, 2015). Experimental work on self-compassion imagery reported improved immediate outcomes in young adult women, giving this strand a finding that should be interpreted for the particular content, population, and observation period examined (Slater, Varsani, & Diedrichs, 2017). The importance of those distinctions is evident in a separate adult experiment in which body-positive captions had no overall effect on dissatisfaction or appreciation, making the intervention’s content central to interpretation (Tiggemann, Anderberg, & Brown, 2020a). These differing findings give the preventive strand a specific empirical context, within which the content, design, population, and follow-up of each study guide interpretation of the relationships shown in the map.

Together, the clusters answer RQ2 by identifying interconnected intellectual strands around appearance comparison, psychological concerns, and preventive approaches, whose relationships suggest connections for subsequent synthesis of the evidence. Evaluation of temporal relationships and sustained outcomes follows from the empirical designs of the studies being synthesized, keeping those questions tied to study-level evidence within the mapped intellectual structure.

3.4 Leading Journals

Whereas co-citation identifies intellectual connections, the outlet profile shows where this literature is published: the 259 documents appeared across 67 outlets, with Body Image receiving 2,243 citations, followed by Sex Roles with 558 and

Computers in Human Behavior with 394. Table 4 also includes the health-oriented International Journal of Environmental Research and Public Health, Journal of Youth and Adolescence, Journal of Eating Disorders, International Journal of Eating Disorders, and Journal of Affective Disorders among the leading outlets.

The outlet distribution locates this literature across psychology, health, communication, and related social sciences, with the citation prominence of body-image journals identifying an intellectual focus within that range of venues. The diversity of outlets also suggests opportunities for interdisciplinary evidence synthesis and targeted policy research, in which findings from these contributing disciplines can be considered together.

Table 4. Leading outlets by reported citation total in the retained corpus

Rank	Outlet	Citations	Publisher	Primary discipline
1	Body Image	2243	Elsevier	Psychology
2	Sex Roles	558	Springer New York	Psychology
3	Computers in Human Behavior	394	Elsevier	Communication
4	International Journal of Environmental Research and Public Health	334	MDPI	Public Health / Medicine
5	Journal of Youth and Adolescence	290	Springer	Psychology
6	Journal of Eating Disorders	137	BioMed Central	Public Health / Medicine
7	International Journal of Eating Disorders	130	John Wiley & Sons	Public Health / Medicine
8	Journal of Affective Disorders	109	Elsevier	Public Health / Medicine
9	Cyberpsychology, Behavior, and Social Networking	94	Mary Ann Liebert, Inc.	Communication
10	Psychology of Popular Media	88	American Psychological Association	Psychology

Note. Source: Scopus citation counts recorded in the export of 31 August 2026, 18:00 UTC. Citations are assigned to the outlet in which each corpus publication appeared, so the ranking reflects total citations received by those publications within each outlet.

3.5 Principal Themes

Keyword frequency emphasizes appearance evaluation, with 134 occurrences of “social media,” followed by “body image” at 101, “body dissatisfaction” at 87, “adolescent” at 57, “self-esteem” at 48, and “social comparison” at 36. Depression and eating disorder each occurred 23 times, while mental health and physical appearance occurred 17 and 16 times, respectively, completing the ten-keyword frequency distribution reported in Table 5. These counts describe the frequency of indexed concepts within the retrieved corpus, while search-related vocabulary and cleaning choices shape the distribution and guide interpretation of the relationships represented in the network.

Table 5. Ten keywords with the highest reported occurrence counts

Keyword	Occurrence
Social media	134
Body image	101
Body dissatisfaction	87
Adolescent	57
Self-esteem	48
Social comparison	36
Depression	23
Eating disorder	23
Mental health	17
Physical appearance	16

Note. Counts describe the union of author and index keywords after thesaurus cleaning, with each term counted once per publication to define its frequency within the corpus. “Social media” is one search alternative alongside the named platforms, while the frequency of “adolescent” describes keyword use and Table 2 reports the independently coded population distribution.

The keyword map contains the terms meeting a minimum of five document occurrences, distributed across three clusters. The red cluster connects social media, body image, adolescent, social comparison, Instagram, fitspiration, body appreciation, and appearance-related terms, including cosmetic surgery and appearance anxiety, while the green cluster brings together body dissatisfaction, depression, anxiety, eating-related concepts, and risk factors within the same thematic map. The blue cluster connects self-esteem, physical appearance, mental health, and aesthetic- and plastic-surgery terminology, with procedure-related terms appearing across cluster boundaries, so these groupings describe recurring conceptual relationships in the corpus.

Individual studies give the mapped concepts a more specific substantive meaning, as in research examining self-concept clarity in responses to idealized bodies and the appearance comparisons that such content invites (Carter & Vartanian, 2022). The examination of social comparison, body surveillance, and adolescent selfie behavior extends this focus to an identifiable form of engagement, illustrating how broad body-image concepts are investigated within particular online activities (Lyu, Zheng, & Kou, 2025). Disordered eating attitudes bring a further outcome into this discussion, locating eating-related concerns alongside the appearance-evaluation concepts represented in the network (Aparicio-Martinez et al., 2019). Responses to fitspiration and thinspiration offer a content-specific perspective, giving the mapped appearance terms an empirical context in which the imagery encountered by users becomes part of the research question (Hogue, Minister, Samson, Campbell, & Mills, 2023). Research on different appearance ideals broadens that context, while interpretation of these examples continues to depend on the designs and participant groups through which the underlying concepts were examined (McComb & Mills, 2022).

Through complementary views of cited intellectual foundations and recurring concepts, the co-citation and keyword maps answer RQ2 by describing different aspects of the literature's organization. Population composition and the document-type and counting comparisons in Appendix A inform RQ3, while less prominent commercial, cultural, platform, and intervention concepts provide topics for dedicated searches and subsequent empirical evaluation.

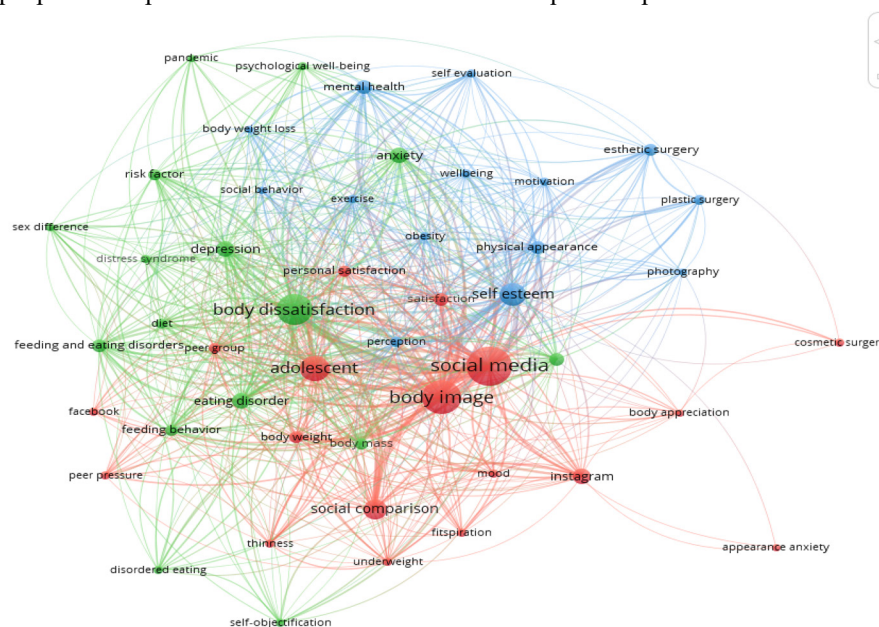


Figure 5. Keyword co-occurrence network at a five-document occurrence threshold

Note. Red, green, and blue distinguish thematic clusters, with node size representing document occurrence and links connecting terms that appear together. Appendix A gives the configuration. Node labels display the keyword forms exported to VOSviewer (e.g., “esthetic surgery,” “self esteem”), whereas Table 5 and the reported counts use the thesaurus-standardized terms.

4. Discussion

4.1 Interpretation of the Findings

The principal contribution of this review is an account of how social-media and body-image research is organized around prominent, related areas of scholarly attention, including appearance comparison, dissatisfaction, self-esteem, mental-health concerns, and aesthetic-procedure attitudes. Co-citation maps describe shared intellectual foundations and keyword networks describe recurring conceptual relationships, while substantive outcomes are interpreted through the experimental, observational, and qualitative evidence in the cited studies. The distinct evidentiary roles of these designs become clear when interpreting an objective screen-time study that found no consistent between- or within-person association with body dissatisfaction, despite the prominence of appearance-related topics in the map (Goh et al., 2025). Broader reviews emphasize variation across users and forms of engagement, indicating why the interpretation of exposure requires attention to content and activity alongside its duration (Valkenburg, 2022). The maps can thus identify research connections while these more precise exposure measures preserve the questions and evidence through which individual studies examine substantive outcomes.

Within this organization, the proximity of comparison, dissatisfaction, and aesthetic-procedure terms marks an intersection between psychological and appearance-management research, where observational studies examine social-media use, body-image concerns, and cosmetic-surgery attitudes (Ateq et al., 2024). Reviews of social media and body image consider these relationships across the evidence they examine, allowing appearance-related questions to be interpreted within the scope of the relevant research (Rounsefell et al., 2020). Cosmetic-surgery attitudes enter the discussion through reviews of body image and procedural considerations, while remaining distinct from the psychological concerns examined alongside them (Mironica et al., 2024). The relevant empirical questions concern temporal ordering, selection, bidirectionality, and individual vulnerability, with procedure interest, treatment intention, actual uptake, and adverse outcomes retained as analytically distinct endpoints. Preserving these distinctions makes the map useful for designing targeted studies, because thematic proximity identifies questions for investigation without establishing a progression from exposure to treatment seeking.

Positive-body-image scholarship adds a preventive strand whose findings depend on the intervention, imagery, and participant group, as illustrated by experimental self-compassion research reporting immediate benefits in young adult women (Slater et al., 2017). Body-positive captions had no overall effect on dissatisfaction or appreciation in another adult experiment, making the distinction between the content tested and the outcomes measured central to interpretation (Tiggemann et al., 2020a). Content analyses instead describe the diversity and appearance emphasis of body-positive material, supplying evidence about what it contains rather than the responses produced by an experimental exposure (Cohen et al., 2019). Further content analysis maintains this attention to diversity and appearance emphasis, so that a shared body-positive description does not by itself establish a common preventive effect (Harriger et al., 2023). These distinctions sharpen the prevention agenda by directing future evaluations to specify the content being tested, distinguish short-term responses from sustained outcomes, and assess transfer to adolescent populations directly.

4.2 Implications for Policy and Practice Evaluation

The mapped strands support a focused agenda for evaluating education and health practice, with body-image intervention research offering a study-level basis for considering programs that address appearance comparison and the interpretation of online imagery (Alleva et al., 2015). Experimental work on self-compassion offers a complementary basis for considering such programs, while its design and participant group continue to define the evidence available for that assessment (Slater et al., 2017). Candidate programs could examine filters, selective self-presentation, sponsorship, and appearance-based feedback, with evaluations defining the target age group, intervention content, comparator, and follow-up period alongside prespecified body-dissatisfaction, body-appreciation, and relevant behavioral outcomes. Through these specifications, the bibliometric themes become testable intervention questions whose assessment retains the population and design distinctions needed to interpret any resulting practice evidence.

For platform governance, the evaluation agenda concerns sponsorship disclosure, cosmetic-procedure promotion to minors, and recommendation pathways for appearance-related content, with UK cosmetic-intervention advertising guidance supplying a legal and normative context for examining promotional claims (Advertising Standards Authority, 2023). US endorsement guidance supplies a corresponding context for examining disclosure, keeping the assessment of commercial communications within the legal and normative setting in which they operate (Federal Trade Commission, 2023). Policy evaluation should connect each proposed measure to a defined mechanism and outcome, examining disclosure in relation to recognition of commercial intent and advertising safeguards in relation to promotional exposure. Assessment of recommendation interventions should likewise specify their relationship to the composition of repeated content exposure, incorporating comparators, implementation, legal setting, privacy costs, and unintended effects within the same evaluative framework. The bibliometric contribution is to organize these questions, while estimates of policy effectiveness depend on evidence from the relevant intervention and population under the conditions in which the proposed measure operates.

AI-generated appearance imagery and automated moderation extend this evaluation agenda to questions of detection accuracy and differential performance across age groups and cultural contexts, alongside false positives, missed harmful material, privacy, and access to human review. Studying these outcomes would clarify whether a particular tool improves the proposed safeguard and under which conditions, giving its assessment the same attention to defined mechanisms and outcomes that informs the wider policy agenda. This approach treats AI as a technology requiring direct assessment, so that its proposed protective value is examined through the performance and conditions of the tool rather than inferred from its visibility in the research field.

4.3 Limitations and Future Research

The findings should be interpreted within the scope of a single-database, English-language bibliometric map, in which database coverage, search vocabulary, and network thresholds shape the scholarship represented and the visibility of individual topics. Citation-based indicators also reflect publication age, and the partial 2026 year requires interpretation separately from complete years, while affiliation patterns describe contributing institutions rather than the participants and settings on which cultural and population interpretations depend. These limitations inform the review's distinction

among adolescent, young-adult, and adult evidence at the point of substantive interpretation, with keyword frequency retained as a measure of scholarly attention within the mapped literature. Within this scope, co-citation and co-occurrence provide an organizing structure for subsequent synthesis of effect sizes, study quality, and causal mechanisms, connecting the present map to the evidence assessments needed for more substantive interpretation.

The next empirical step is to test temporal ordering and variation within individuals, using longitudinal cohorts, experiments, natural experiments, and intervention trials to distinguish exposure-related change from selection and stable between-person differences. Platform-specific work should define the activity, content, and age group under investigation, keeping these distinctions explicit rather than combining disparate forms of use into a single measure (Gentzler et al., 2023). Adult evidence, including a cosmetic-surgery survey of respondents aged 18 and above, provides a basis for adult interpretation while identifying questions that require direct testing in adolescents (Ateq et al., 2024). Separating viewing, posting, editing, procedure interest, and treatment uptake would further strengthen construct precision, allowing future studies to investigate relationships among these activities and endpoints without combining their distinct meanings.

Cross-cultural research offers a complementary priority, as work on beauty ideals in Asia illustrates why locally meaningful appearance norms and cultural interpretation require attention when examining appearance-related questions (Chen et al., 2020). Comparative studies should therefore distinguish researcher affiliation from sample location, involve regional expertise in measurement, and test the transferability of constructs and interventions within the cultural settings under investigation. Sustained follow-up would complement this work by clarifying whether immediate body-image responses translate into durable benefits across adolescent and adult populations, retaining both cultural and developmental distinctions in the evaluation of longer-term outcomes.

5. Conclusion

This review organizes 259 publications into a structured account of research activity and related intellectual strands concerning appearance comparison, body-image concerns, mental health, aesthetic-procedure attitudes, and positive body image, connecting these areas of scholarship to focused questions for further evidence synthesis and empirical research. Interpretation follows the designs and populations of the cited studies, with particular attention to distinctions between adolescent and adult evidence, so that the connections identified in the map retain their relationship to the evidence represented. The policy and practice agenda translates these thematic connections into evaluable interventions with defined populations, comparators, outcomes, and implementation conditions, giving the priorities identified through the map a structure for subsequent assessment. More precise exposure measures, cross-cultural research, and sustained intervention assessment can build on this framework to determine which approaches produce meaningful benefits and for whom, extending the review's organizing contribution through direct empirical evaluation.

Declarations

Ethics Approval and Consent to Participate. Ethics approval and consent to participate were not applicable because the study involved no human participants, animals, or identifiable personal data.

Registration and Protocol. This bibliometric review was not registered in a public registry, and no formal protocol was published before the review.

Availability of Data and Materials. Appendix A brings together the complete search and export specification, selection accounting, screening fields and agreement matrix, population-coding rules, network configuration, thesaurus examples, counting conventions, and sensitivity results. The availability of copyright-controlled database records remains governed by the provider's redistribution conditions, while the supporting inventory specifies the cleaned-record list, record-level decisions, cleaning rules, and map/network files needed for an independently reusable analysis bundle.

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Author contributions

Alfonso Pellegrino was responsible for methodology, investigation, data curation, formal analysis, software, resources, data acquisition, and writing the original draft. Alessandro Stasi was responsible for conceptualization, supervision, visualization, project administration, and review and editing of the manuscript. Both authors contributed to the interpretation of the findings, reviewed the revised manuscript, and read and approved the final version. No special agreement regarding equal authorship contribution applies.

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The authors declare no competing interests.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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References

- Advertising Standards Authority. (2023). *Guidance on the marketing of surgical and non-surgical cosmetic procedures*. <https://www.asa.org.uk/resource/cosmetic-interventions.html>
- Alleva, J. M., Sheeran, P., Webb, T. L., Martijn, C., & Miles, E. (2015). A meta-analytic review of stand-alone interventions to improve body image. *PLoS ONE*, 10(9), e0139177. <https://doi.org/10.1371/journal.pone.0139177>
- Aparicio-Martinez, P., Perea-Moreno, A.-J., Martinez-Jimenez, M. P., Redel-Macias, M. D., Pagliari, C., & Vaquero-Abellan, M. (2019). Social media, thin-ideal, body dissatisfaction and disordered eating attitudes: An exploratory analysis. *International Journal of Environmental Research and Public Health*, 16(21), 4177. <https://doi.org/10.3390/ijerph16214177>
- Ateq, K., Alhajji, M., & Alhusseini, N. (2024). The association between use of social media and the development of body dysmorphic disorder and attitudes toward cosmetic surgeries: A national survey. *Frontiers in Public Health*, 12, 1324092. <https://doi.org/10.3389/fpubh.2024.1324092>
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, 19, 37-43. <https://doi.org/10.1016/j.bodyim.2016.08.007>
- Burnette, C. B., Kwitowski, M. A., & Mazzeo, S. E. (2017). "I don't need people to tell me I'm pretty on social media": A qualitative study of social media and body image in early adolescent girls. *Body Image*, 23, 114-125. <https://doi.org/10.1016/j.bodyim.2017.09.001>
- Carter, J. J., & Vartanian, L. R. (2022). Self-concept clarity and appearance-based social comparison to idealized bodies. *Body Image*, 40, 124-130. <https://doi.org/10.1016/j.bodyim.2021.12.001>
- Cash, T. F., & Smolak, L. (Eds.). (2011). *Body image: A handbook of science, practice, and prevention* (2nd ed.). Guilford Press.
- Chen, T., Lian, K., Lorenzana, D., Shahzad, N., & Wong, R. (2020). Occidentalisation of beauty standards: Eurocentrism in Asia. *International Socioeconomics Laboratory*, 1(2), 1-11. <https://doi.org/10.5281/zenodo.4325856>
- Cohen, R., Irwin, L., Newton-John, T., & Slater, A. (2019). #Bodypositivity: A content analysis of body positive accounts on Instagram. *Body Image*, 29, 47-57. <https://doi.org/10.1016/j.bodyim.2019.02.007>
- Cohen, R., Newton-John, T., & Slater, A. (2021). The case for body positivity on social media: Perspectives on current advances and future directions. *Journal of Health Psychology*, 26, 2365-2373. <https://doi.org/10.1177/1359105320912450>

- Durieux, V., & Gevenois, P. A. (2010). Bibliometric indicators: Quality measurements of scientific publication. *Radiology*, 255, 342-351. <https://doi.org/10.1148/radiol.09090626>
- Fardouly, J., & Vartanian, L. R. (2016). Social media and body image concerns: Current research and future directions. *Current Opinion in Psychology*, 9, 1-5. <https://doi.org/10.1016/j.copsyc.2015.09.005>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 13, 38-45. <https://doi.org/10.1016/j.bodyim.2014.12.002>
- Faverio, M., & Sidoti, O. (2024). *Teens, social media and technology 2024*. Pew Research Center. <https://www.pewresearch.org/internet/2024/12/12/teens-social-media-and-technology-2024/>
- Federal Trade Commission. (2023, June 29). *Federal Trade Commission announces updated advertising guides to combat deceptive reviews and endorsements*. <https://www.ftc.gov/news-events/news/press-releases/2023/06/federal-trade-commission-announces-updated-advertising-guides-combat-deceptive-reviews-endorsements>
- Gentzler, A. L., Hughes, J. L., Johnston, M., & Alderson, J. E. (2023). Which social media platforms matter and for whom? Examining moderators of links between adolescents' social media use and depressive symptoms. *Journal of Adolescence*, 95, 1725-1748. <https://doi.org/10.1002/jad.12243>
- Goh, A. Y. H., Hartanto, A., Kasturiratna, K. T. A. S., & Majeed, N. M. (2025). No consistent evidence for between- and within-person associations between objective social media screen time and body image dissatisfaction: Insights from a daily diary study. *Social Media + Society*, 11, 20563051251313855. <https://doi.org/10.1177/20563051251313855>
- Harriger, J. A., Wick, M. R., Sherline, C. M., & Kunz, A. L. (2023). The body positivity movement is not all that positive on TikTok: A content analysis of body positive TikTok videos. *Body Image*, 46, 256-264. <https://doi.org/10.1016/j.bodyim.2023.06.003>
- Hogue, J., Minister, C., Samson, L., Campbell, G., & Mills, J. (2023). Young women's dialectical responses to fitspiration and thinspiration: A qualitative study. *Eating Behaviors*, 50, 101758. <https://doi.org/10.1016/j.eatbeh.2023.101758>
- Horwitz, J. (2023). States sue Meta alleging harm to young people on Instagram, Facebook. *The Wall Street Journal*. <https://www.wsj.com/tech/states-sue-meta-alleging-harm-to-young-people-on-instagram-facebook-f9ff4641>
- Jeong, Y. K., Song, M., & Ding, Y. (2014). Content-based author co-citation analysis. *Journal of Informetrics*, 8(1), 197-211. <https://doi.org/10.1016/j.joi.2013.12.001>
- Jung, J. (2018). Young women's perceptions of traditional and contemporary female beauty ideals in China. *Family and Consumer Sciences Research Journal*, 47, 56-72. <https://doi.org/10.1111/fcsr.12273>
- Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2018). Social media use and adolescent mental health: Findings from the UK Millennium Cohort Study. *EClinicalMedicine*, 6, 59-68. <https://doi.org/10.1016/j.eclinm.2018.12.005>
- Lyu, Z., Zheng, P., & Kou, D. (2025). Social comparison and female adolescents' selfie behaviors: Body surveillance as the mediator and self-esteem as the moderator. *Psychological Reports*, 128(2), 920-937. <https://doi.org/10.1177/00332941231162006>
- Marino, C., Manari, T., Vieno, A., Imperato, C., Spada, M. M., Franceschini, C., & Musetti, A. (2023). Problematic social networking sites use and online social anxiety: The role of attachment, emotion dysregulation and motives. *Addictive Behaviors*, 138, 107572. <https://doi.org/10.1016/j.addbeh.2022.107572>
- McComb, S. E., & Mills, J. S. (2022). Eating and body image characteristics of those who aspire to the slim-thick, thin, or fit ideal and their impact on state body image. *Body Image*, 42, 375-384. <https://doi.org/10.1016/j.bodyim.2022.07.017>
- McLean, S. A., Rodgers, R. F., Slater, A., Jarman, H. K., Gordon, C. S., & Paxton, S. J. (2022). Clinically significant body dissatisfaction: Prevalence and association with depressive symptoms in adolescent boys and girls. *European Child & Adolescent Psychiatry*, 31, 1921-1932. <https://doi.org/10.1007/s00787-021-01824-4>
- Merigó, J. M., Mas-Tur, A., Roig-Tierno, N., & Ribeiro-Soriano, D. (2015). A bibliometric overview of the Journal of Business Research between 1973 and 2014. *Journal of Business Research*, 68, 2645-2653. <https://doi.org/10.1016/j.jbusres.2015.04.006>
- Merino, M., Tornero-Aguilera, J. F., Rubio-Zarapuz, A., Villanueva-Tobaldo, C. V., Martín-Rodríguez, A., & Clemente-Suárez, V. J. (2024). Body perceptions and psychological well-being: A review of the impact of social media and physical measurements on self-esteem and mental health with a focus on body image satisfaction and its relationship with cultural and gender factors. *Healthcare*, 12, 1396. <https://doi.org/10.3390/healthcare12141396>
- Mironica, A., Popescu, C. A., George, D., Tegzeşiu, A. M., & Gherman, C. D. (2024). Social media influence on body image and cosmetic surgery considerations: A systematic review. *Cureus*, 16, e65626. <https://doi.org/10.7759/cureus.65626>

- Moral-Muñoz, J. A., Herrera-Viedma, E., Santisteban-Espejo, A., & Cobo, M. J. (2020). Software tools for conducting bibliometric analysis in science: An up-to-date review. *Profesional de la Información*, 29, e290103. <https://doi.org/10.3145/epi.2020.ene.03>
- Ofcom. (2023). *Children and parents: Media use and attitudes 2023*. <https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-and-parents-media-use-and-attitudes-report-2023>
- Owens, R. A., Attia, E., Fitzpatrick, J. J., Phillips, K., & Nolan, S. (2023). Eating disorders: Identification and management in general medical and psychiatric settings. *Journal of the American Psychiatric Nurses Association*, 29(3), 241-251. <https://doi.org/10.1177/1078390321999713>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Perloff, R. M. (2014). Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles*, 71, 363-377. <https://doi.org/10.1007/s11199-014-0384-6>
- Rounsefell, K., Gibson, S., McLean, S., Blair, M., Molenaar, A., Brennan, L., ... McCaffrey, T. A. (2020). Social media, body image and food choices in healthy young adults: A mixed methods systematic review. *Nutrition & Dietetics*, 77, 19-40. <https://doi.org/10.1111/1747-0080.12581>
- Sherlock, M., & Wagstaff, D. L. (2019). Exploring the relationship between frequency of Instagram use, exposure to idealized images, and psychological well-being in women. *Psychology of Popular Media Culture*, 8, 482-490. <https://doi.org/10.1037/ppm0000182>
- Slater, A., & Tiggemann, M. (2011). Gender differences in adolescent sport participation, teasing, self-objectification and body image concerns. *Journal of Adolescence*, 34, 455-463. <https://doi.org/10.1016/j.adolescence.2010.06.007>
- Slater, A., Varsani, N., & Diedrichs, P. C. (2017). #Fitspo or #loveyourself? The impact of fitspiration and self-compassion Instagram images on women's body image, self-compassion, and mood. *Body Image*, 22, 87-96. <https://doi.org/10.1016/j.bodyim.2017.06.004>
- Small, H. (1999). Visualizing science by citation mapping. *Journal of the American Society for Information Science*, 50, 799-813. [https://doi.org/10.1002/\(SICI\)1097-4571\(1999\)50:9%3C799::AID-ASI9%3E3.0.CO;2-G](https://doi.org/10.1002/(SICI)1097-4571(1999)50:9%3C799::AID-ASI9%3E3.0.CO;2-G)
- Tiggemann, M. (2024). A few reflections on positive body image and body neutrality (aided by Tom Cash's model). *Body Image*, 51, 101790. <https://doi.org/10.1016/j.bodyim.2024.101790>
- Tiggemann, M., & Zaccardo, M. (2015). "Exercise to be fit, not skinny": The effect of fitspiration imagery on women's body image. *Body Image*, 15, 61-67. <https://doi.org/10.1016/j.bodyim.2015.06.003>
- Tiggemann, M., Anderberg, I., & Brown, Z. (2020a). #Loveyourbody: The effect of body positive Instagram captions on women's body image. *Body Image*, 33, 129-136. <https://doi.org/10.1016/j.bodyim.2020.02.015>
- Tiggemann, M., Anderberg, I., & Brown, Z. (2020b). Uploading your best self: Selfie editing and body dissatisfaction. *Body Image*, 33, 175-182. <https://doi.org/10.1016/j.bodyim.2020.03.002>
- Tiggemann, M., Churches, O., Mitchell, L., & Brown, Z. (2018). Tweeting weight loss: A comparison of #thinspiration and #fitspiration communities on Twitter. *Body Image*, 25, 133-138. <https://doi.org/10.1016/j.bodyim.2018.03.002>
- Tiggemann, M., Hayden, S., Brown, Z., & Veldhuis, J. (2018). The effect of Instagram "likes" on women's social comparison and body dissatisfaction. *Body Image*, 26, 90-97. <https://doi.org/10.1016/j.bodyim.2018.07.002>
- Valkenburg, P. M. (2022). Social media use and well-being: What we know and what we need to know. *Current Opinion in Psychology*, 45, 101294. <https://doi.org/10.1016/j.copsyc.2021.12.006>
- van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84, 523-538. <https://doi.org/10.1007/s11192-009-0146-3>
- Verduyn, P., Gugushvili, N., Massar, K., Täht, K., & Kross, E. (2020). Social comparison on social networking sites. *Current Opinion in Psychology*, 36, 32-37. <https://doi.org/10.1016/j.copsyc.2020.04.002>
- Wells, G., Horwitz, J., & Seetharaman, D. (2021). Facebook knows Instagram is toxic for teen girls, company documents show. *The Wall Street Journal*. <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18, 429-472. <https://doi.org/10.1177/1094428114562629>