

Fear of Missing Out (FoMO) and Compulsive Social Media Use: A Systematic Review and Meta-Analysis of the Association and Moderating Effects of Age and Gender.

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REVIEW TITLE AND BASIC DETAILS

Review title

Fear of Missing Out (FoMO) and Compulsive Social Media Use: A Systematic Review and Meta-Analysis of the Association and Moderating Effects of Age and Gender.

Review type

No preview available

Condition or domain being studied

Adolescence; Student; Well Adult; Social media; Psychological well-being; Anxiety; Depression; Psychological Addiction; Internet addiction disorder; Behavior ; Addiction; Compulsive Behavior; Compulsions

This review focuses specifically on the association between Fear of Missing Out (FoMO) and compulsive/problematic social media use (a subtype of internet addiction disorder). FoMO is measured using validated self-report scales (e.g., Przybylski et al., 2013). Compulsive social media use is measured using validated instruments including the Bergen Social Media Addiction Scale (BSMAS), Social Media Disorder Scale (SMDS), and Social Media Addiction Scale (SMAS). Moderators examined include age, gender, platform type (TikTok, Instagram, Facebook), and self-esteem.

Rationale for the review

Fear of Missing Out (FoMO) the apprehension that others are having rewarding experiences from which one is absent has been identified as a significant psychological driver of excessive social media engagement. While individual studies consistently report a positive association between FoMO and compulsive social media use, the magnitude of this relationship varies considerably across studies, and no comprehensive meta-analysis has systematically quantified it while testing boundary conditions.

This review is theoretically grounded in Kahneman and Tversky's (1979) prospect theory, specifically the principle of loss aversion, which proposes that perceived losses carry greater psychological weight than equivalent gains. Applied to the social media context, FoMO represents a form of social loss aversion the disproportionate distress of potentially missing a rewarding social experience that may compel compulsive platform checking and use.

Existing meta-analytic work (e.g., Jing et al., 2025) has examined FoMO and social media addiction primarily in student samples without systematically testing moderators. The present review adds to existing knowledge by: (1) providing a pooled effect size estimate across diverse populations including adolescents and adults; (2) testing whether age and gender moderate the association, with narrative synthesis of self-esteem and platform type where data permit and (3) applying a novel theoretical lens (loss aversion) to integrate and explain heterogeneity in findings. Results will have implications for digital wellbeing interventions and platform design policy.

Review objectives

1. What is the magnitude of the association between Fear of Missing Out (FoMO) and compulsive social media use, as

measured by the pooled Pearson correlation coefficient (r) across all available quantitative studies?

2. Does the strength of the association between FoMO and compulsive social media use differ significantly by age group (adolescents aged 13–17 vs. young adults aged 18–25 vs. adults aged 26+)?

3. Does the strength of the association between FoMO and compulsive social media use differ significantly by gender (studies with higher proportions of female participants vs. male-majority samples)?

6. Is there evidence of publication bias in the published literature on FoMO and compulsive social media use?

7. Exploratory: Does effect size vary by social media platform studied? [Note: insufficient data for formal testing; addressed narratively]

8. Where studies reported a validated self-esteem measure, the association between self-esteem and compulsive social media use will be described narratively (formal meta-regression not conducted due to $k < 5$)

Keywords

Meta-analysis; Fear of missing out; FoMO; Internet addiction; Social media; Social media addiction; Addiction; Social networking sites; Loss aversion; Prospect theory; Self-esteem; Adolescents; Young adults; Instagram; Facebook; Digital wellbeing; Behavioural addiction; Psychological well-being; Social comparison

Country

United Kingdom

ELIGIBILITY CRITERIA

Population

Included

Adults, young adults, and adolescents aged 13 years and above from any country, cultural background, or setting. Samples may include university students, community samples, and general population groups. No restriction is placed on gender, ethnicity, or educational level. Participants must be active social media users.

Excluded

Children under 13 years of age. Clinical samples recruited solely on the basis of a diagnosed psychiatric disorder (e.g., major depressive disorder, anxiety disorder, substance use disorder) where FoMO or social media use is not the primary focus of the study. Samples that exclusively measure general internet use without distinguishing social media use specifically.

Intervention(s) or exposure(s)

Included

Social media; Acknowledging Anxiety

The primary exposure is Fear of Missing Out (FoMO), measured using any validated multi-item self-report scale. The most widely used measure is the 10-item Fear of Missing Out Scale (Przybylski et al., 2013). Other validated FoMO instruments are also eligible (e.g., Wegmann et al., 2017). Studies must use a validated, multi-item FoMO measure; single ad-hoc items will be excluded.

Excluded

Studies using single-item or non-validated measures of FoMO. Studies where FoMO is not measured as a distinct construct but is conflated with general anxiety or social anxiety without differentiation.

Comparator(s) or control(s)

This review does not have any comparators

Study design

Only nonrandomized study types will be included.

Included

Cross-sectional survey studies reporting a quantitative association between FoMO and compulsive social media use. Longitudinal observational studies reporting baseline correlational data. Studies must report or provide sufficient statistics to calculate a Pearson correlation coefficient (r) or convertible effect size (e.g., standardised regression coefficient β , odds ratio). Both peer-reviewed published studies and grey literature (dissertations, preprints) will be included.

Excluded

Qualitative studies. Case reports, case series, editorials, commentaries, and conference abstracts without full data. Systematic reviews and meta-analyses (used for reference searching only). Studies that do not report or allow computation of an effect size for the FoMO and compulsive social media use association.

Context

This review includes studies conducted in any country, geographic region, or cultural setting worldwide. No restrictions are placed on the setting in which data were collected (e.g., online surveys, laboratory-based studies, classroom-based studies, community settings). Both high-income and low-to-middle-income countries are eligible. Studies conducted in any institutional setting (universities, schools, workplaces, community organisations) are included, provided participants meet the population eligibility criteria. The review is restricted to studies published in the English language from January 2013 onwards, corresponding to the publication of the foundational Fear of Missing Out Scale (Przybylski et al., 2013). Studies must involve participants who are active users of at least one social media platform.

SIMILAR REVIEWS

Check for similar records already in PROSPERO

PROSPERO identified a number of existing PROSPERO records that were similar to this one (last check made on 20 February 2026). These are shown below along with the reasons given by that the review team for the reviews being different and/or proceeding.

- The Relationship Between Fear of Missing Out and Social Media Fatigue: A Systematic Review and Meta-Analysis [published 9 June 2024] [CRD42024550754]. The review was judged **not to be similar**
- The Correlation Between Fear of Missing Out and Social Media Addiction: A Meta-Analysis [published 30 November 2024] [CRD42024616283]. The review was judged **not to be similar**
- Fear of Missing Out (FoMO) and Sleep Health: A Systematic Review and Meta-Analysis [published 31 July 2023] [CRD42023446430]. The review was judged **not to be similar**

TIMELINE OF THE REVIEW

Date of first submission to PROSPERO

21 February 2026

Review timeline

Start date: 1 February 2026. End date: 1 April 2026.

Date of registration in PROSPERO

08 May 2026

AVAILABILITY OF FULL PROTOCOL

Availability of full protocol

A full protocol has not been written.

SEARCHING AND SCREENING

Search for unpublished studies

Both published and unpublished studies will be sought.

Main sources that will be searched

The main databases to be searched are *ASSIA - Applied Social Sciences Index & Abstracts*, *MEDLINE*, *PsycInfo*, *PubMed*, *SCI - Science Citation Index*, *SSCI - Social Science Citation Index* and *Scopus*.

Other important or specialist databases that will be searched

Google Scholar; Semantic Scholar; CORE ProQuest Dissertations & Theses Open; PsyArXiv; OSF Preprints

Search language restrictions

The review will only include studies published in English.

Search date restrictions

Databases will be searched for articles published from 1 January 2013, there are no search end date restrictions.

Other methods of identifying studies

Other studies will be identified by: *contacting authors or experts, looking through all the articles that cite the papers included in the review ("snowballing" or forward citation searching), reference list checking (backward citation searching) and searching dissertation and thesis databases.*

Additional information about identifying studies

Preprint servers will be searched including PsyArXiv and OSF Preprints. Key journals will be hand-searched including *Computers in Human Behavior*, *Cyberpsychology Behavior and Social Networking*, *Addictive Behaviors*, and *Journal of Behavioral Addictions*. Forward citation searching of Przybylski et al. (2013) will be conducted via Google Scholar.

Link to search strategy

A full search strategy is not available.

Selection process

Studies will be screened by one person (or machine) only.

Other relevant information about searching and screening

Screening will be conducted using Rayyan (rayyan.ai), a free web-based systematic review screening tool. Search results from all databases will first be imported into Zotero (zotero.org) for reference management and deduplication before being exported to Rayyan for screening. All title and abstract screening and full-text screening decisions will be recorded with reasons for exclusion documented at the full-text stage. A pilot screen of 50 randomly selected records will be conducted prior to formal screening to test and refine the eligibility criteria. Where full texts cannot be retrieved through open-access sources, the Unpaywall browser extension will be used, and corresponding authors will be contacted directly by email to request full-text copies. A maximum of two contact attempts will be made per study with a two-week waiting period before the study is classified as unobtainable. All screening decisions and retrieval attempts will be documented and reported in a PRISMA 2020 flow diagram.

DATA COLLECTION PROCESS

Data extraction from published articles and reports

Data will be extracted by one person (or machine) only.

Authors will be asked to provide any required data not available in published reports.

Study risk of bias or quality assessment

Risk of bias will be assessed using:

JBICritical Appraisal Checklist for Analytical Cross-Sectional Studies

Data will be assessed by one person (or machine) only.

Additional information will **not** be sought from study investigators if required information is unclear or unavailable in the study publications/reports.

Reporting bias assessment

Publication bias will be assessed using visual inspection of a funnel plot, Egger's regression test for funnel plot asymmetry, Begg's rank correlation test, and Duval and Tweedie's trim-and-fill procedure. An adjusted pooled effect size

will be reported if publication bias is detected.

Certainty assessment

Certainty of findings will not be assessed

OUTCOMES TO BE ANALYSED

Main outcomes

Primary outcome: The strength of the association between Fear of Missing Out (FoMO) and compulsive social media use, quantified as the Pearson product-moment correlation coefficient (r).

Compulsive social media use will be operationalised as scores on any validated self-report measure of social media addiction, problematic social media use, or compulsive social media engagement, including but not limited to: Bergen Social Media Addiction Scale (BSMAS), Social Media Disorder Scale (SMDS), Social Media Addiction Scale (SMAS), Bergen Facebook Addiction Scale (BFAS), Facebook Intrusion Questionnaire (FIQ), and Social Networking Sites Addiction Scale (SNSAS).

The effect measure used in synthesis will be the Pearson correlation coefficient (r), following Fisher's z -transformation for analysis and back-transformation for reporting. Data will be extracted at a single time point (cross-sectional) or from baseline measurements in longitudinal studies.

Additional outcomes

Moderator outcomes: The following moderating variables will be examined as secondary outcomes:

1. Age: Mean age of the sample (continuous) and age group category (adolescents 13–17 vs. young adults 18–25 vs. adults 26+). Extracted from study demographic tables.
2. Gender: Percentage of female participants in the sample (continuous). Extracted from study demographic tables.
3. Platform type: Insufficient between-study variation in platform measurement precluded formal subgroup analysis ($k < 5$ per category); addressed narratively
4. Self-esteem: Only $k = 2$ studies reported validated self-esteem measures, below the pre-specified minimum for meta-regression; addressed narratively
5. Study quality: JBI Critical Appraisal score (0–8) as a continuous moderator in meta-regression.
6. Publication year: Year of publication as a continuous moderator to test for temporal trends.

All moderator analyses will use the Pearson correlation coefficient (r) as the effect measure, consistent with the primary outcome.

PLANNED DATA SYNTHESIS

Strategy for data synthesis

A random-effects meta-analysis will be conducted using the restricted maximum likelihood (REML) estimator, which accounts for the expected heterogeneity across studies differing in population, measurement instruments, and cultural context. All Pearson correlation coefficients (r) will be transformed to Fisher's z prior to analysis and back-transformed to r for reporting. The pooled effect size will be reported with 95% confidence intervals, a z -statistic, and associated p -value.

Heterogeneity will be assessed using Cochran's Q test (significance threshold $p < 0.10$) and the I^2 statistic, interpreted as low (25%), moderate (50%), or high (75%). Between-study variance will be reported as τ^2 .

Categorical moderators (age group, platform type, geographic region) will be examined using subgroup analysis with a mixed-effects model. Continuous moderators (mean age, percentage female, publication year, risk of bias score) will be examined using random-effects meta-regression.

Sensitivity analyses will include: leave-one-out analysis, exclusion of low-quality studies (JBI score ≤ 6), and exclusion of converted effect sizes. Publication bias will be assessed using funnel plots, Egger's regression test, Begg's rank correlation test, and Duval and Tweedie's trim-and-fill procedure.

Analyses will be conducted using the metafor and meta packages in R. A minimum of five studies will be required for meta-analytic pooling.

CURRENT REVIEW STAGE

Stage of the review at this submission

Review stage	Started	Completed
Pilot work	✓	✓
Formal searching/study identification	✓	✓
Screening search results against inclusion criteria	✓	✓
Data extraction or receipt of IPD	✓	✓
Risk of bias/quality assessment	✓	✓
Data synthesis	✓	✓

Review status

The review is completed.

Publication of review results

Results of the review will be published in English.

REVIEW AFFILIATION, FUNDING AND PEER REVIEW

Review team members

Miss kritika bakshi (review guarantor and contact) ORCID: 0009-0006-3931-7816. independent. India.

No conflict of interest declared.

Mr Peter Gait. independent. Scotland.

No conflict of interest declared.

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Review affiliation

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Funding source

Review has no funding and no agreed support from an academic institution and is done in authors' own time.

Peer review

There has been no peer review of this planned review.

ADDITIONAL INFORMATION

Additional information

This review is conducted by a first-time meta-analyst with a master's degree in psychology, working independently without institutional funding or a formal research team. The review is theoretically novel in its application of Kahneman and Tversky's (1979) prospect theory specifically the principle of loss aversion to explain the FoMO and compulsive social media use association. This theoretical framing has not been applied in any existing registered meta-analysis on this topic.

Given the solo nature of this review, single-reviewer screening and data extraction will be acknowledged as limitations in the final report. Mitigation strategies include pilot screening, a pre-registered extraction form, and full transparency of all decisions via OSF archiving.

All data extraction forms, screening records, analysis scripts, and supplementary materials will be made openly available on the Open Science Framework (OSF) upon completion of the review, in line with open science principles.

Review conflict of interest

Declared individual interests are recorded under team member details.. No additional interests are recorded for this review.

Medical Subject Headings

Adolescent; Fear; Female; Humans; Internet Addiction Disorder; Male; Publication Bias; Self Report; Social Media; Young Adult

Revision note

Protocol Deviations and Amendments

Two moderators pre-registered in the PROSPERO protocol (CRD420261322847) could not be formally tested following systematic data extraction, necessitating a major amendment (Version 2.0, May 2026). Both deviations were data-driven and identified only upon completion of extraction across all 19 included studies.

Platform type. The pre-registered protocol specified subgroup analysis comparing effect sizes across TikTok/Instagram, Facebook, and mixed/unspecified platform categories. However, the majority of included studies (17 of 19) used platform-agnostic outcome measures predominantly the Bergen Social Media Addiction Scale (BSMAS) and the Social Media Disorder Scale (SMDS) which assess compulsive social media use as a general construct without reference to a specific platform. Only one included study (Servidio et al., 2026) employed a single-platform measure. Consequently, studies could not be meaningfully coded into discrete platform categories, and the number of studies per category fell below the pre-specified minimum threshold of $k = 5$ required for meta-regression.

Self-esteem. The pre-registered protocol specified meta-regression examining self-esteem as a moderator of the FoMO–PSMU association. Following extraction, only two included studies measured self-esteem using a validated instrument specifically the Rosenberg Self-Esteem Scale (Gori et al., 2023; Sommantico et al., 2023; $k = 2$). Three further studies assessed conceptually related but operationally distinct constructs (self-construal, loneliness), which could not be recoded as self-esteem equivalents. With $k = 2$, formal meta-regression was not feasible.

Both moderators are addressed via narrative synthesis. This deviation is reported in accordance with PRISMA 2020 guidelines.

PROSPERO version history

- [Version 1.2, published 09 May 2026](#)
- [Version 1.1, published 09 May 2026](#)
- [Version 1.0, published 08 May 2026](#)

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