



## City Research Online

### City, University of London Institutional Repository

---

**Citation:** Han, J. & Balabanis, G. (2024). Meta-analysis of social media influencer impact: Key antecedents and theoretical foundations. *Psychology & Marketing*, 41(2), pp. 394-426. doi: 10.1002/mar.21927

This is the published version of the paper.

This version of the publication may differ from the final published version.

---

**Permanent repository link:** <https://openaccess.city.ac.uk/id/eprint/31583/>

**Link to published version:** <https://doi.org/10.1002/mar.21927>

**Copyright:** City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

**Reuse:** Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

---

---



# Meta-analysis of social media influencer impact: Key antecedents and theoretical foundations

Jiseon Han  | George Balabanis

Department of Management, Bayes Business School (Formerly Cass) City, University of London, London, UK

## Correspondence

Jiseon Han, Department of Management, Bayes Business School (Formerly Cass) City, University of London, 106 Bunhill Row, London, EC1Y 8TZ, UK.  
Email: [jiseon.han@bayes.city.ac.uk](mailto:jiseon.han@bayes.city.ac.uk)

## Abstract

This meta-analytic review offers a comprehensive framework for studying social media influencers by integrating multiple theoretical perspectives and measures. It analyzes 250 effect sizes from 53 studies, highlighting the significance of credibility, trustworthiness, and perceived expertise of social media influencers in shaping attitudinal outcomes. Source Credibility Theory emerges as the most robust explanatory framework, while Parasocial Interaction Theory and Congruity Theory also play essential roles. For behavioral outcomes, Source Credibility Theory and Congruity Theory remain influential, with moderate effects observed for homophily and variables from the two-step flow model. Methodological diversity, geographical context, platform context, product context, and influencer type contribute to variations in effect sizes. These findings provide insights into social media influencer influence dynamics and guide future research. Moreover, they contribute to theory development by shedding light on the mechanisms and conditions underlying social media influencer influence on consumer attitudes and behaviors.

## KEYWORDS

congruity theory, meta-analysis, parasocial interaction theory, persuasion knowledge model, social media influencers, source credibility theory, two-step flow model

## 1 | INTRODUCTION

Social media influencers are individuals who have built up a large following on social media and are able to influence their audience's attitudes and behaviors (Hudders et al., 2021). They have become the subject of much scholarly research due to the powerful impact they have on consumer behavior, from influencing purchase decisions to changing societal norms (IZEA Insights, 2022). In fact, 56% of consumers have admitted to making purchases inspired by social media influencers (IZEA Insights, 2022). As a result, spending on influencer marketing has increased by 87.5% from 2019 to 2020, growing from \$8 billion to \$15 billion (Business Insider, 2021), and is now a \$16.4 billion industry in 2022

(IZEA Insights, 2022). Not surprisingly, influencer marketing is included in 90% of marketers' strategies (SocialPubli, 2020).

Despite the benefits of influencer marketing, there are also some drawbacks to consider (Hudders & Lou, 2022). These include the spread of false information, exacerbation of body image and mental health issues, particularly among young women, engagement in unethical practices that erode trust and lead to legal issues, perpetuation of stereotypes and social divisions, commodification of personal identity, and the impact on adolescents' identity development and attitudes toward potentially harmful products.

From 2011 to 2020, social media influencer academic research has significantly increased, according to Hudders et al. (2021),

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. *Psychology & Marketing* published by Wiley Periodicals LLC.

Fernández-Prados et al. (2021), and Ye et al. (2021). The bibliometric analyses by Fernández-Prados et al. (2021) and Ye et al. (2021) showed an almost exponential growth in social media influencer-related publications since 2017, with an annual doubling rate. Anglo-Saxon countries, especially the United States, mostly contribute to the published literature, as reported by Fernández-Prados et al. (2021). Primary research areas in social media influencer marketing converge, as revealed by recent literature reviews conducted by Hudders et al. (2021), Vrontis et al. (2021), and Cho et al. (2022). Hudders et al. (2021) identified three key areas in influencer marketing research: (1) conceptualization, including deployment and responsibilities; (2) content strategies, particularly the use of autobiographical narratives for authentic sponsored endorsements; and (3) audience research, examining factors like authenticity, parasocial relationships, and congruent expertise that contribute to influencer effectiveness. Three qualitative themes identified by Cho et al. (2022) are credibility (expertise, trustworthiness, and quality content), engagement (interpersonal interaction, quality presentation, and personal branding), and connectivity (participatory activities, collaboration, and social networking). Vrontis et al. (2021) conducted a systematic review and found similar themes, including source characteristics, influential factors, content attributes, sponsorship disclosure, and strategic assessment of social media influencers. The studies reviewed highlighted the need for stronger theoretical foundations in some areas. They also identified primary research themes and gaps in literature. Hudders et al. (2021) recommended further exploration of source characteristics, content strategies, and emerging influencer types and platforms. They stressed the importance of additional audience research, specifically examining authenticity and expertise effects, and investigating factors contributing to expertise, intimacy, and authenticity. Vrontis et al. (2021) suggested more context-specific research, such as cross-cultural and cross-platform comparisons. Voorveld (2019) emphasized the significance of future research to comprehend the mechanisms (e.g., similarity, credibility) and conditions under which social media influencers affect users, thus facilitating the development of theories regarding their effectiveness. A research gap concerns the explanation of variations in the strength of identified effects in empirical studies, as well as the presence of inconsistent and contradictory findings in the literature, which systematic reviews may not adequately capture with respect to the effects and characteristics of social media influencers on consumer attitudes and behaviors. This study fills a research gap by conducting a meta-analytic review of the social media influencer literature. Unlike existing systematic reviews, this meta-analysis offers quantitative synthesis to develop a comprehensive framework for examining social media influencers. Meta-analytical studies contribute to theory development and knowledge generation by providing robust and precise estimates of effects and relationships. By aggregating results from multiple studies, meta-analyses enhance statistical power, precision of effect size estimates, and address potential publication bias, offering a more accurate and comprehensive overview of the research field. Meta-analyses enhance theory development by identifying patterns, inconsistencies, and potential

moderators in the literature, refining existing theories, and guiding future research directions. By examining study characteristics and contextual factors, meta-analyses elucidate conditions and effect mechanisms, informing theory development. This study integrates multiple perspectives and measures from the social media influencer literature to develop a comprehensive framework for studying social media influencers. Using a meta-analytic model with 250 effect sizes from 58 studies (53 articles) and 25,080 samples, this study contributes to customer engagement theories and practice in three ways: (1) presenting a theoretical framework of social media influencers based on the literature, (2) providing a comprehensive empirical synthesis of social media influencers' drivers and consequences, and (3) identifying conditions that enhance or diminish the effectiveness of social media influencers. By examining the characteristics, content, and brand attributes of social media influencers that influence consumer engagement on social media and exploring boundary conditions, this study addresses inconsistencies and contradictions in previous research.

## 2 | THEORETICAL BACKGROUND

### 2.1 | Social media influencers

Social media influencers can be conceptualized as "individuals who have accrued a sizable and engaged following on one or more social media platforms, and who possess the power to shape attitudes, opinions, and behaviors of their audience through their online content" (Freberg et al., 2011, p. 90). The term "influencer" is rooted in the concept of "opinion leaders," first introduced by Katz and Lazarsfeld (1964). These opinion leaders held sway over others' choices and behaviors through personal influence (Katz & Lazarsfeld, 1964, p. 15). As social media emerged, the concept of opinion leaders evolved, giving rise to "social media influencers" (Freberg et al., 2011, p. 90). Hudders et al. (2021) argue that social media influencers, often termed "micro-celebrities," play a crucial role in contemporary marketing, deriving their appeal from their ability to endorse brands rather than traditional fame. The professionalization of the sector has led to an increase in both influencers and specialized marketing agencies. According to Hudders et al. (2021), the critical characteristics of a social media influencer are reach and impact. Reach refers to the influencer's direct and secondary connections with followers, while impact denotes their influence on their audience's decision-making. Influencers attain this impact through expertise, authenticity, and intimacy, which help attract larger audiences.

Social media influencers, evolving from the initial bloggers of the late 1990s, have leveraged platforms like Instagram and YouTube to expand their reach and diversify their content. Unlike their predecessors, influencers engage larger audiences, collaborate with brands, and maintain a curated online presence, establishing trust and significantly impacting consumer behavior through authenticity and relatability. The evolving field of influencer marketing requires

universally accepted conceptual frameworks to enable consistent research and comparison. Researchers face challenges in keeping up with the dynamic nature of social media platforms, features, and marketing strategies. Existing research primarily focuses on Western contexts, necessitating the examination of culture and context's influence on social media influencer effectiveness (Hudders et al., 2021). Increasing consumer skepticism toward sponsored content undermines the effectiveness of social media influencers and complicates the process of identifying suitable influencers and determining performance metrics. Ye et al. (2021) bibliometric study explained that while past studies have focused on social media influencer's characteristics, future research can also consider the characteristics of the content created by influencers. This meta-analysis aims to consolidate the factors impacting social media influencer effectiveness, isolate the effects of cultural and contextual factors, and ultimately contribute to informed managerial decision-making and theoretical advancement.

## 2.2 | Theoretical framework

In their bibliometric study, Ye et al. (2021) elucidated three critical determinants affecting the persuasiveness of social media influencers: influencer characteristics, content attributes, and consumer features. Similarly, Vrontis et al. (2021) identified analogous categories through a systematic literature review utilizing inductive thematic analysis. Employing a meta-analytical approach confined to empirical studies, this research aligns with the factor categories proposed by Ye et al. (2021) and Vrontis et al. (2021). Following Moher (2009) guidelines, we systematically reviewed extant empirical literature, focusing on relationships substantiated by a sufficient corpus of empirical studies for meta-analysis. The relevance of each study was evaluated based on its research objective alignment and applicability of findings to our research question (RQ). The Cochrane Handbook for Systematic Reviews of interventions suggests a minimum of two independent studies for a meaningful meta-analysis (Higgins et al., 2019). This research identified antecedent variables such as influencer characteristics, content attributes, and brand properties. The two categories of consequences identified are attitudinal and behavioral. Moreover, four moderators were discerned: the type of social media, geographical location, product context, and type of influencer. A multitude of researchers have adopted a multitheoretical approach in their investigations (Djafarova & Trofimenko, 2019; Ki & Kim, 2019). Nevertheless, Vrontis et al. (2021) identified that a considerable number of social media influencer-centric studies exhibit an absence of theoretical foundations.

Our analysis of empirical studies reveals that no single overarching theory can fully explain social media influencer persuasiveness due to its complexity and multifaceted nature. Instead, we identified six complementary theories that elucidate different aspects of social media influencers' effects on consumers: the theory of source credibility, persuasion knowledge model, congruity theory, parasocial interaction theory, similarity-attraction theory, and two-

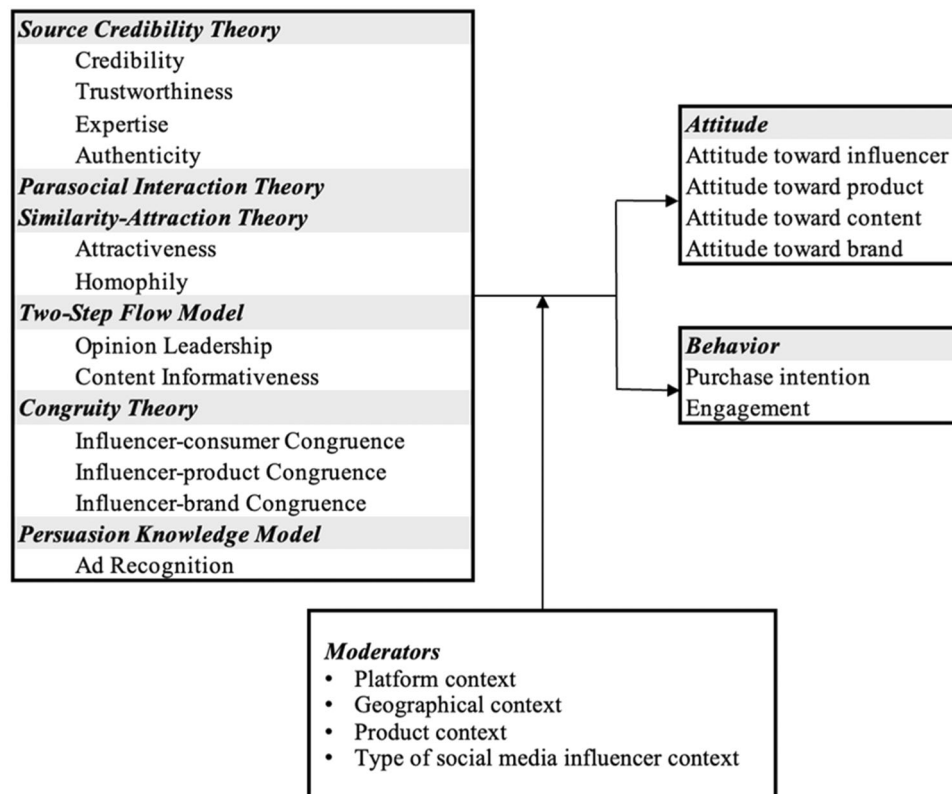
step flow model. Using a single overarching theory simplifies complexities but may fall short for multifaceted phenomena requiring broader perspectives (Whetten, 1989). This approach has faced criticism for rigidity and reductionism, potentially overlooking vital aspects due to bias or oversimplification. Given the diverse nature and context of the phenomenon, integrating various theories is essential (Whetten, 1989).

To effectively integrate the above theories and contribute to the advancement of social media influencer persuasiveness knowledge, we considered the following guidelines. Theories must be conceptually or methodologically compatible (Bacharach, 1989), complementary, and empirically grounded, addressing diverse aspects of the phenomenon and avoiding redundancy. The developed framework should consider the unique context of social media influencers (Whetten, 1989), address gaps in existing theories, and maintain logical coherence and clear concept relationships (Whetten, 1989).

Based on the above critical examination reveals that these theories share compatible and complementary perspectives and do not contradict each other which makes their integration possible. Despite potential redundancy, such as the overlapping homophily concept in Parasocial Interaction Theory and Similarity-Attraction Theory, the collective use of these theories bridges literature gaps and provides a nuanced understanding of social media influencer persuasiveness. This integrative framework offers insights into the multifaceted elements impacting social media influencer persuasiveness, assembling an array of theories that collectively constitute a comprehensive model despite their individual shortcomings. Social media influencer effectiveness hinges on the intersection of credibility, congruity, parasocial relationships, similarity, and opinion leadership, as delineated by various theories. The synthesis of these theories not only clarifies individual components of influencer persuasiveness but also imparts a holistic perspective on the subject. The consolidated theoretical framework, as illustrated in Figure 1, is dissected in the following sections for a detailed examination.

### 2.2.1 | Source credibility theory. Credibility, trustworthiness, expertise, and authenticity of social media influencer

Hovland et al.'s (1953) Source Credibility Theory contends that a source's credibility significantly impacts message persuasiveness and effectiveness, with individuals being more likely to be persuaded by credible sources. Credibility is a broad construct and refers to characteristics attributed to a social media influencer that influence the receiver's acceptance of a message (Ohanian, 1990). It is often assessed based on factors such as credentials, track record, and the consistency and accuracy of the information provided as well as goodwill (i.e., the perceived caring, empathy, or responsiveness of the social media influencer to the needs and interests of the users). Expertise refers to the source's perceived knowledge, skills, and experience, influenced by factors such as education and accomplishments. Expertise is more focused on the qualifications and



**FIGURE 1** Integrative framework depicting the theoretical synthesis of elements impacting attitudinal and behavioral outcomes in social media influencers.

capabilities of the source. However, having expertise does not automatically ensure credibility, as other factors, such as goodwill, also play a role. Trustworthiness encompasses the source's perceived honesty, fairness, and integrity of the source. In the social media influencer context, authenticity is defined as the degree to which an influencer appears genuine, honest, and trustworthy in their online presence and content (Kim & Kim, 2021). Authenticity is linked to source credibility theory, as an authentic social media influencer is perceived as more credible, leading to increased influence on consumer attitudes and behaviors. According to Source Credibility Theory, credibility, trustworthiness, expertise, and authenticity can influence audience attitudes and behaviors by enhancing message persuasiveness, increasing confidence in the information provided, and fostering a sense of reliability and genuineness in the source. This theory has been employed in social media influencer research to understand how influencers persuade followers (Djafarova & Rushworth, 2017; Lou & Yuan, 2019). Based on this, we hypothesize:

**H1:** Consumer-related attitudinal outcomes are positively related to (a) social media influencer's credibility, (b) social media influencer's trustworthiness, (c) social media influencer's expertise, and (d) social media influencer's authenticity.

**H2:** Consumer-related behavioral outcomes are positively related to (a) social media influencer's credibility, (b) social media

influencer's trustworthiness, (c) social media influencer's expertise, and (d) social media influencer's authenticity.

## 2.2.2 | Parasocial interaction theory. Attractiveness and homophily

Parasocial interaction theory, originally proposed by Horton and Richard Wohl (1956), refers to the unidirectional emotional bonds formed by audience members with media personalities, such as television characters, radio hosts, or celebrities. Despite the absence of reciprocity, these relationships can mimic genuine social interactions. The strength of parasocial interaction and media figure influence is influenced by various factors, including media figure characteristics and context (Giles, 2002; Perse & Rubin, 1989). Additionally, the credibility and expertise of the media figure, along with the intensity of the parasocial relationship, can impact media figure's influence. Furthermore, factors such as physical attractiveness and likeability of the media figure contribute to developing stronger parasocial relationships (Rubin & McHugh, 1987). Homophily, which refers to the perception of similarity between the audience and the media figure in terms of values, beliefs, and attitudes, also plays a role in reinforcing parasocial relationships (Rubin & McHugh, 1987). Finally, familiarity arising from frequent and prolonged exposure to a media figure enhances the strength of

parasocial relationships (Giles, 2002). Parasocial relationships with social media influencers have a significant impact on consumer attitudes and behaviors. Social media influencers can effectively shape consumer decision-making by fostering identification, attachment, and emotional involvement (Marwick & Boyd, 2011). Through mechanisms such as identification and emotional involvement, followers who feel a strong connection with an influencer are more likely to trust their opinions and recommendations, thus becoming more receptive to sponsored content and product endorsements (Kassing & Sanderson, 2010). This can be attributed to followers perceiving social media influencers as integral to their social identity, leading to a heightened sense of affiliation and loyalty. Consequently, consumer attitudes and behaviors are influenced as followers strive to align their self-concept with the values and products promoted by their chosen influencers. Observing others engaging with a social media influencer's content or purchasing endorsed products further reinforces this parasocial relationship through social proof, strengthening the follower's bond with the influencer.

### 2.2.3 | Similarity-attraction theory. Homophily

Similarity-Attraction Theory, proposed by Byrne (1971), asserts that individuals are more inclined to form relationships with others who share similar characteristics, attitudes, and beliefs. This attraction toward similar others stems from the expectation of enhanced understanding, validation, and reduced conflict in interactions. Homophily refers to the tendency of individuals to connect with others who exhibit similar attributes or characteristics. The principle of similarity-attraction suggests that people generally find others who resemble them more attractive. Perceiving similarities with others can engender familiarity, trust, and likability, influencing attitudes, behaviors, and decision-making. Additionally, when individuals identify with an influencer who mirrors their own characteristics, they may engage in social comparison processes, leading to the adoption of similar attitudes, behaviors, or preferences. Based on these theories, the following hypotheses can be formulated:

**H3:** Consumer-related attitudinal outcomes are positively associated with (a) the attractiveness of the social media influencer and (b) the homophily between the social media influencer and the consumer.

**H4:** Consumer-related behavioral outcomes are positively associated with (a) the attractiveness of the social media influencer and (b) the homophily between the social media influencer and the consumer.

### 2.2.4 | Two-step flow model. Opinion leadership—content informativeness

Opinion leadership is intertwined with an individual's role as a role model, the appeal of their information, and their persuasive abilities.

It is based on Katz and Lazarsfeld (1964) "two-step flow model" that explains how mass communication indirectly influences behavior. Opinion leaders serve as intermediaries, acquiring information from mass media and disseminating it through interpersonal communication. Katz and Lazarsfeld (1964) propose that individuals' reactions to media messages are mediated by their social interactions, ultimately influencing purchase decisions. Opinion leaders have a disproportionate influence on the opinions and behavior of others. They are more exposed to media and actively transmit messages to less active segments of the population. Opinion leaders play a crucial role in shaping consumer attitudes and behaviors through various mechanisms. They actively engage with mass media, interpreting and simplifying information based on their knowledge, expertise, and personal experiences. This enhances their credibility and persuasiveness, leading consumers to adopt endorsed attitudes or behaviors, relying on social proof. Interpersonal communication is another critical process through which opinion leaders exert influence, sharing their interpretations with their social network, thereby shaping their peers' attitudes and behaviors. Consumers often view opinion leaders as role models, seeking to emulate their attitudes and behaviors. Research by Casaló et al. (2020) confirms the positive influence of perceived opinion leadership of social media influencers on consumer engagement and behavioral intentions.

Within the opinion leadership framework, studies on social media influencers (social media influencers) suggest that the informativeness of social media influencer content reflects their opinion leadership. Social media influencers can position themselves as opinion leaders by providing noteworthy information that captures public attention. Opinion seekers consider social media influencers more reliable sources of information, as they describe product features, quality, and share personal experiences through reviews, comments, and recommendations. This elevated informativeness establishes them as opinion leaders in their respective domains.

**H5:** Consumer-related attitudinal outcomes are positively associated with (a) social media influencer's opinion leadership status and (b) the informativeness of social media influencer content.

**H6:** Consumer-related behavioral outcomes are positively associated with (a) social media influencer's opinion leadership status and (b) the informativeness of social media influencer content.

### 2.2.5 | Congruity theory. Social media influencer–consumer congruence and social media influencer–brand congruence

Congruity theory, proposed by Osgood and Tannenbaum (1955), suggests that individuals strive for cognitive consistency in evaluating attitudes and opinions. In the context of communication, the theory posits that a message from a source, such as an influencer, is more



persuasive and accepted when it aligns with the receiver's attitudes and beliefs (congruency). Conversely, an incongruent message may be less persuasive and lead to a negative evaluation of the source. The alignment of an influencer's image, values, and expertise with the endorsed brand influences consumer attitudes toward both the influencer and the product, creating cognitive consistency. Greater influencer–brand congruence enhances authenticity and persuasiveness, resulting in increased purchase intentions (Kim & Kim, 2021).

The theory suggests that when the source and the object (e.g., influencer and brand) exhibit congruence, the audience is more likely to perceive the message positively and be persuaded (Torres et al., 2019). Perceived congruity between the influencer and the brand influences consumer attitudes toward both the influencer and the product, as well as purchase intentions. Freberg et al. (2011) found that congruity between the audience's self-concept and the influencer's image positively influenced attitudes toward the endorsed product and purchase intentions. Similarly, Chu and Kamal (2008) found that congruence in values between the influencer and the audience resulted in more positive attitudes toward the influencer, the endorsed product, and the message itself.

In social media influencer research, congruity theory has been utilized to explore how perceived congruity between influencers and the brands they endorse impacts consumer attitudes and behavioral intentions (Torres et al., 2019). De Veirman et al. (2017) discovered that the number of followers and the alignment between the endorsed product and the influencer's area of expertise significantly affected brand attitudes. The study demonstrated that congruity between influencers and the promoted products positively influenced consumer attitudes.

**H7:** Consumer-related attitudinal outcomes are positively associated with (a) social media influencer–consumer congruence, (b) social media influencer–product congruence, and (c) social media influencer–brand congruence.

**H8:** Consumer-related behavioral outcomes are positively associated with (a) social media influencer–consumer congruence, (b) social media influencer–product congruence, and (c) social media influencer–brand congruence.

## 2.2.6 | Persuasion knowledge model: Advertising recognition

The Persuasion Knowledge Model, proposed by Friestad and Wright (1994), asserts that consumers acquire knowledge about persuasion strategies and employ this knowledge to interpret and respond to persuasive efforts. This theory postulates three types of knowledge possessed by individuals: knowledge about the objectives of the persuasion agent, knowledge about persuasion tactics, and knowledge about how to handle persuasion attempts. When a message is recognized as an advertisement, it activates the consumer's persuasion knowledge, leading to a more critical interpretation of the message. This

heightened scrutiny often results in negative attitudes toward the message, its source, and the brand, particularly if the advertisement is perceived as manipulative or excessively persuasive. Additionally, identifying persuasive intent can prompt resistance behaviors, such as avoiding the source or disregarding the message. In the realm of social media influencer research (De Veirman et al., 2017), the Persuasion Knowledge Model is utilized to examine how awareness of social media influencer persuasive strategies and content sponsorship influences consumer attitudes and behaviors toward social media influencers and sponsored content. These studies indicate that when consumers recognize that social media influencer content is sponsored or classified as an advertisement, its impact on consumer attitudes and behavior diminishes. Consequently,

**H9:** The recognition of social media influencer content as advertising is negatively associated with consumer-related attitudinal outcomes.

**H10:** The recognition of social media influencer content as advertising is negatively associated with consumer-related behavioral outcomes.

## 2.2.7 | Contextual moderators

### *Platform context*

The prevalence of social media influencers varies across platforms, with Instagram being the dominant choice for influencer marketing in the United States (68% adoption rate in 2021), followed by Facebook (52%) and TikTok (42%) (Dixon, 2023). This diversity can be attributed to an array of factors including demographic appeal, content presentation, algorithmic visibility, communal networking, interface user-friendliness, and perceived trustworthiness. For instance, Instagram and YouTube cater to varied age groups, while Snapchat and TikTok target a younger demographic. Content styles differ too, with Instagram specializing in visual stimuli, short clips, and YouTube in longer videos. TikTok's algorithm optimizes content visibility, while LinkedIn and Facebook prioritize communal interaction and networking. Usability and unique features like Instagram's "Stories" or YouTube's "playlists" also shape user engagement. Furthermore, platform integrity, encapsulated by policies on misinformation and data management, influences both influencer attraction and consumer persuasion. Deciphering these multifaceted influences on social media influencer behavior across platforms is a sophisticated endeavor. Abidin's (2018) proposition argues that each platform is characterized by distinct norms, guiding social media influencers to construct socially engaging personae. The media context, along with its characteristics, play significant roles in facilitating parasocial relationships where personal disclosure and emotional resonance are crucial elements (Giles, 2002). While the role of parasocial relationships in influencing user behavior is highlighted on platforms such as Instagram and YouTube, it's pertinent to explore their relevance on other platforms. It's



undeniable that parasocial interactions occur across various media; however, the nature of these interactions and their influence might vary based on platform-specific characteristics. Interactivity and personalized communication with media figures amplify parasocial relationships (Kassing & Sanderson, 2010), a phenomenon more pronounced on interactive platforms such as YouTube and Instagram. The accessibility and perceived authenticity of social media content bolster parasocial relationships, with Instagram's visual emphasis and "stories" feature heightening intimacy and authenticity (Lee & Watkins, 2016), and YouTube's long-form content and interactive commenting enhancing connectivity (Molyneux, 2015). While the strength of these relationships on platforms like Instagram and YouTube is undoubtedly pronounced due to their inherent design and user engagement mechanisms, the manifestation of these relationships varies across the spectrum of social media platforms. This variance can be attributed to factors like content style, platform design, user demographics, and the nature and frequency of user interactions. On the contrary, platforms such as LinkedIn or Snapchat, which may have different user expectations and engagement patterns, might not offer the same depth or type of parasocial relationships. While the visual intimacy of Instagram Stories or the comprehensive content of YouTube videos can bolster the perceived closeness with influencers, the brief and transient nature of Snapchat or the professional detachment of LinkedIn might not evoke the same level of unilateral audience-media figure relationships. Individual features and user expectations of different social media platforms mold consumer attitudes and behaviors—YouTube accentuates comprehensive information and expert reviews, whereas Instagram underscores esthetic appeal and aspirational lifestyles. Influencer attributes such as credibility, trustworthiness, expertise, and authenticity vary across platforms. For instance, LinkedIn primarily values expertise and credibility, while Instagram prioritizes authenticity. Trustworthiness gains critical importance on YouTube for product appraisals, with opinion leadership being consequential on platforms like Twitter or LinkedIn. Information relevance is paramount on YouTube, contrasting with Snapchat or TikTok where it is less valued. Congruence between influencers and consumers is emphasized on platforms like Instagram and TikTok, whereas professional-oriented platforms like LinkedIn focus on brand-influencer alignment. While advertising recognition often incites resistance on Instagram or YouTube, its impact is relatively attenuated on LinkedIn or Twitter where sponsored content is less prevalent. Parasocial interactions, which often contribute to trustworthiness, are not exclusive to any platform. However, Instagram and YouTube, due to their specific user engagement dynamics, content style, and audience demographics, might accentuate these relationships more than others. This is not to undermine the presence of such interactions on other platforms but to emphasize the varying levels and impacts of parasocial relationships across the social media spectrum. Our objective is to elucidate how the specific nature and depth of these interactions can differently influence trustworthiness across platforms.

In pursuit of deciphering user behaviors on social media platforms, Wilkes et al. (2016) proffered a nuanced, dualistic

classification framework for social media platforms, rooted in two seminal categories: (1) rational classifiers (emphasizing aspects like mobile/desktop optimization, distinctions in visual/textual content, propagation dynamics, affinity clusters, and the dichotomy between personal and professional interactions, alongside other affordance-features); and (2) social influence processes-related classifiers (encapsulating facets like "liking," authority, conformity-compliance, and reciprocity). Given the nascent theoretical landscape of this domain, we've employed Wilkes et al. (2016) classification to postulate the direction of expected moderating effects (see details in Supporting Information: Web Appendix 1). While the discourse predominantly revolves around Instagram and YouTube due to the focus of empirical studies in this meta-analysis, it's essential to emphasize that the impact of parasocial relationships is multifaceted and can manifest differently across platforms. The unique interactive nature of Instagram and YouTube might amplify parasocial effects, leading to a heightened influence on perceived trustworthiness. However, platforms such as Snapchat, TikTok, or LinkedIn might foster different relational dynamics with their users, which in turn could influence how trustworthiness, expertise, and congruence are perceived. Recognizing the fledgling state of the subject and the consequent speculative stances, we've characterized our moderating hypotheses as "RQ." Due to space constraints in the journal, the expected moderating effects for YouTube and Instagram are outlined below without elaboration. Detailed theoretical reasoning and arguments can be found in Supporting Information: Web Appendix 1.

For H1 and H2, YouTube is anticipated to exert a stronger moderating effect than Instagram. Similarly, for H3 and H4, YouTube's moderation is expected to overshadow Instagram's, while for H5 and H6, YouTube again holds prominence. However, in H7 and H8, Instagram's moderating effect is predicted to surpass YouTube's. In the context of H9 and H10, while Instagram might have a pronounced negative moderation for overt promotions, YouTube remains more neutral. Beyond these platforms, TikTok is projected to dominate in H3 and H4. For H1 & H2 and H5 & H6, Twitter is likely the predominant moderator. Facebook's influence is anticipated to be most significant for H3 & H4 and H1 & H2, while LinkedIn is expected to stand out for H1 & H2 and H3 & H4.

Therefore,

RQ1: The effects postulated in hypotheses H1 to H10 are anticipated to display significant variations across social media influencers operating on disparate platforms, reflecting the distinctive characteristics and dynamics of each platform.

#### *Geographical context*

Academic research on social media influencers is disproportionately concentrated in Anglo-Saxon regions, predominantly the United States (Fernández-Prados et al., 2021). The global footprint of social media influencers, however, suggests a varied impact across regions. A Statista survey (2023) ranked Brazil as the top country in terms of social media influencer advertisement receptivity, with other countries, such as China and India, also showing high receptivity. A comprehensive examination by Abidin and Brown (2018) mapped out

differing social media influencer strategies across global contexts, highlighting cultural, behavioral, and regulatory factors as major contributors to these differences. One pivotal factor is the cultural dimension of individualism versus collectivism, defined by Hofstede (2001).

In Western societies rooted in individualism, social media influencers are valued for their authenticity, unique perspective, and personal connection with followers. This emphasis aligns with the Western preference for platforms like Instagram, Facebook, and YouTube, which favor personal storytelling and aspirational content (Semrush, 2022). In contrast, Eastern, collectivist societies such as China show a preference for group-endorsed or institution-backed influencers. This cultural inclination does not imply that trustworthiness and expertise are solely the domains of collectivist cultures. Rather, it highlights that in such cultures, trustworthiness and expertise often derive significance from collective endorsements, reflecting societal emphasis on group harmony and cohesion. Thus, while trustworthiness and expertise are universally important for influencing attitudes, their source, and manifestation might vary culturally. Distinct platform preferences further amplify these cultural differences. In the East, WeChat, Douyin, and Weibo are the leading platforms (Semrush, 2022). They emphasize features and algorithms that foster group interactions and consensus-building, reflecting the collectivist ethos.

Moreover, influencer categorizations exhibit regional differences. While the West often classifies influencers based on metrics like follower count and niche, China's landscape has specialized categories, including Key Opinion Leaders and Wanghongs. While sharing some commonalities with their Western counterparts, these influencers have distinct attributes, often tied to community endorsement or institutional backing (Zhang & de Seta, 2018). Content styles also diverge. Western influencers often leverage personal narratives for relatability and aspiration. Conversely, Eastern influencers, especially in China, prioritize livestreaming, a medium that offers immediate authenticity, enabling real-time community interactions and group validations (Moriuchi, 2021). E-commerce integration highlights another regional variance. Eastern markets, especially China, seamlessly integrate influencer content with direct product purchases. The West, although adopting shoppable posts, hasn't reached the same depth in social commerce as observed in Eastern platforms (Business Insider, 2021). Finally, influencer marketing regulations exhibit regional disparities. While the US Federal Trade Commission mandates clear disclosures for sponsored content, Eastern markets show variations in their approach, influenced by both cultural attitudes and regulatory perspectives. Acknowledging the nascent nature of the topic and its inherent uncertainties, we present RQ instead of formal hypotheses. Due to journal space limitations, the expected moderating effects for Eastern (collectivistic) and Western (individualistic) cultures are summarized below. Comprehensive theoretical justifications are available in the Supporting Information: Web Appendix 1. In Eastern collectivist cultures, stronger effects are anticipated in areas of credibility, trustworthiness (H1, H2), homophily (H3, H4), and the impact of opinion leaders (H5,

H6), with an increased negative effect observed for overt advertising (H9, H10). Conversely, Western individualistic cultures exhibit stronger effects in the domains of expertise, authenticity (H1, H2), attractiveness (H3, H4), and informativeness of content (H5, H6). However, the congruence between influencers and brands is equally valued in both Eastern and Western (H7, H8), albeit for varying reasons. Consequently, we formulate the following RQ,

RQ2: The anticipated effects outlined in hypotheses H1 to H10 are expected to exhibit significant variations across geographical areas where social media influencers operate.

### *Product context*

According to a survey by Influencer Marketing Hub (2023), social media influencer involvement fluctuates across product categories, with Fashion and Beauty leading (25%), followed by Gaming (12.9%), Travel and Lifestyle (12.5%), Sports (12%), Family, Parenting, and Home (10.7%), and trailing is Health and Fitness (6.8%). The social media influencer influence on consumer attitudes and behavior hinges on product nature—hedonic or utilitarian. Hedonic products, which pivot around emotional benefits and impulsive purchases, align with influencers who evoke positive emotions, aspirations, and a sense of identity (Bridges & Florsheim, 2008). Such influencers adeptly integrate products into alluring lifestyles via compelling narratives and personal styles. Conversely, influencers promoting utilitarian products highlight practicality, usefulness, and cost-effectiveness. In this sphere, trust and credibility are paramount, augmented by the supply of practical information. An influencer's efficacy relies on credibility, content informativeness, and congruence between the influencer and the product. Consumers value expert opinions for utilitarian products, while lifestyle and aspirational connections presented by influencers influence hedonic product decisions more (Parker & Wang, 2016). In essence, influencers impact hedonic products via emotional bonds and impulsive purchases, and utilitarian products via informative content and rational choices. Given this binary, our hypothesis posits greater significance for source credibility theory, two-step flow model, and persuasion knowledge model variables for utilitarian products, thereby influencing attitudinal and behavioral outcomes. Conversely, variables related to parasocial interaction theory and similarity-attraction theory gain more weight for hedonic products. Notably, congruity theory variables maintain relevance for both hedonic and utilitarian products.

Due to space limits, we've summarized the moderating effects for hedonic and utilitarian products. Full justifications are in the Supporting Information: Web Appendix 1. In the interplay of influencer characteristics and consumer behavior, hedonic products are expected to have a stronger moderating effect on authenticity (H1 and H2) and on factors like attractiveness and influencer–consumer congruence (H3, H4, and H7). Conversely, utilitarian products have a stronger expected moderating effect on the credibility, trustworthiness, and expertise of influencers (H1 and H2), as well as on content informativeness (H5 and H6) and influencer–product congruence (H8). Recognition of content as

advertising has a more tempered negative effect for utilitarian products (H9 and H10). However, for influencer-brand congruence (H7 and H8), the expected moderating effects of both product types are equal, emphasizing the consistent importance of brand alignment across product categories.

RQ3: The effects postulated in hypotheses H1 through H10 are anticipated to manifest significant variations across hedonic and utilitarian products endorsed social media influencers.

#### *Type of social media influencer context*

Social media influencers are categorized into five tiers based on follower count: nano (1–5 K), micro (5–20 K), mid-tier (20–100 K), mega (100 K–1 M), and celebrities (>1 M) (HypeAuditor, 2021). The majority (47.3%) are microinfluencers, followed by mid-tier (26.8%) and nano (18.74%), with macro, mega, and celebrities being rare (0.5% combined). Notably, nano influencers display the highest engagement rates at 5%, dwindling to 1.6% at the celebrity level (HypeAuditor, 2021). Social media influencers impact on consumer attitudes and behaviors varies significantly due to differences in reach, engagement, and perceived authenticity. Nano influencers, despite smaller followings, forge more personal, frequent audience connections, thereby driving higher engagement. Their perceived authenticity, relatability, and trustworthiness (Abidin, 2018) make their endorsements seem like genuine recommendations (Brown & Phifer, 2018), rendering their promotions particularly effective for niche or local products and services.

Mega influencers, commanding enormous followings, derive their impact from substantial reach, celebrity status, high-quality content, collaborations with reputable brands, and trendsetting authority (De Veirman et al., 2017). Their endorsements rapidly heighten awareness, while their status ignites product desire. The professionally crafted content enhances product allure, and their association with esteemed brands augments credibility.

Due to space constraints, we've summarized the moderating effects for influencers' follower counts. Details are in the Supporting Information: Web Appendix 1. High follower counts are expected to have a stronger moderating effect on an influencer's perceived credibility (H1 and H2), attractiveness (H3 and H4), and opinion leadership (H5 and H6) due to the principle of social proof. On the other hand, low follower counts are anticipated to produce a stronger effect on authenticity (H1 and H2) and more intimate influencer-consumer and influencer-product congruence (H7 and H8). Trustworthiness and expertise (H1 and H2) present varied effects based on follower count, with genuine content often overriding sheer numbers. For recognizing content as advertising (H9 and H10), the expected moderating effect relies more on the nature of content than follower count, highlighting the intricate balance between reach and genuine engagement in influencing consumer outcomes. Based on these considerations, we propose:

RQ4: The effects proposed in hypotheses H1 through H10 are expected to exhibit significant variations across different types of social media influencers.

## 3 | METHODOLOGY

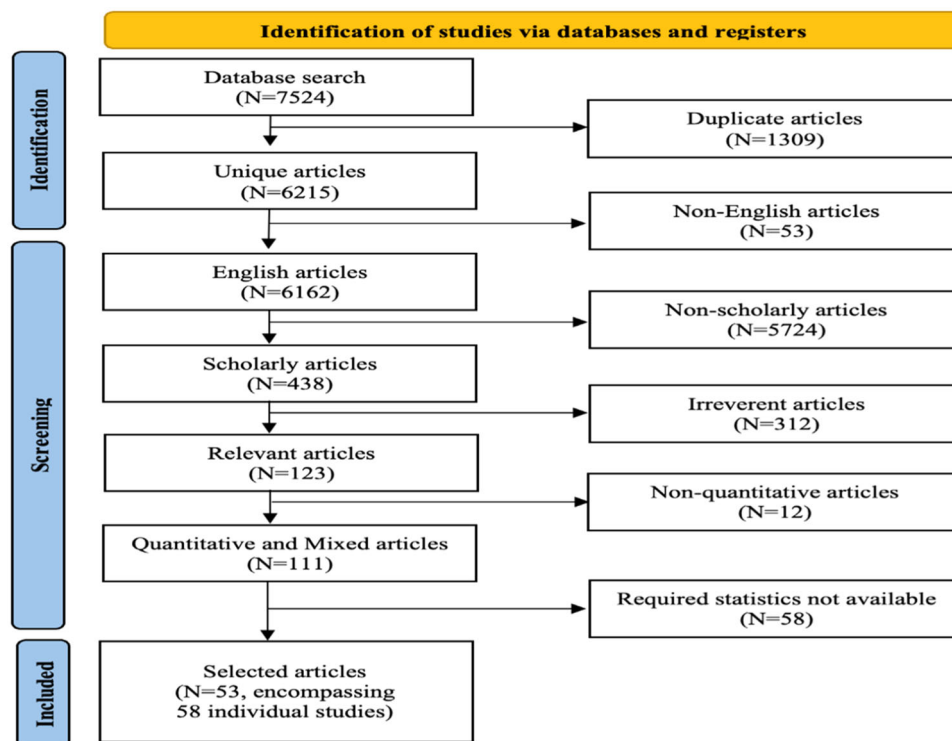
In the previous sections, we introduced meta-analysis as a tool to reconcile scholarly literature discrepancies, juxtapose extant theoretical frameworks, and synthesize a comprehensive understanding of the way social media personalities hold over consumer behavior. Subsequent sections delineate the processes encompassed within this meta-analysis.

### 3.1 | Search for the relevant literature

The process of term-searching was guided by the parameters set forth in Cochrane's handbook (Higgins et al., 2019) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, 2009). Given the focus of this research on the implications of social media influencers on consumer behavior, the "population" was defined in line with Cochrane's recommendations as social media users. The "intervention/exposure" was identified as social media influencers, while the "outcome" was recognized as consumer attitudes and behavior. A thoughtful selection of relevant keywords and synonyms representing social media influencers was compiled. Utilizing Boolean operators, particularly "OR," expedited the identification of pertinent articles. These keywords encompassed terms such as "social media influencer," "influencer," "Instagrammer," "YouTuber," "vlogger," "microcelebrity," "content creators," "opinion leaders," and "blogger." The retrieval of significant literature was executed via scholarly databases, as well as Google Scholar for academic articles. Additional resources included the ProQuest database, the Social Science Citation Index, the Social Science Research Network websites, and the Electronic List for Marketing Academics and Researchers.

### 3.2 | Eligibility criteria

The definitions previously established relating to the population, intervention/exposure, and outcome, as they pertain to social media influencers and consumer behavior, served as a foundation for the creation of our inclusion and exclusion criteria in this meta-analytical study, as per PRISMA guidelines. Articles included met the following requirements: (a) authored in English, (b) represent academic work, published or unpublished, (c) focus primarily on social media influencer impact on consumer attitudes and behavior, (d) adopt a quantitative approach, and (e) report a statistical relationship metric, providing sufficient information for effect size computation. Data extraction was performed independently by two authors, with discrepancies resolved via dialogue. Information was gleaned from each study regarding (a) bibliographic details, (b) methodological facets, including study design, data collection, and sampling strategy, (c) operationalization of key constructs, and (d) statistical data necessary for effect size computation. The search yielded an initial 6215 articles, which were scrutinized against the PRISMA-based criteria. Later stages applied the established eligibility criteria. Figure 2 illustrates the data inclusion/exclusion process via a PRISMA



**FIGURE 2** Preferred reporting items for systematic reviews and meta-analyses flow diagram illustrating the process of study selection through application of eligibility criteria.

flow diagram. A list of these empirical studies is available in Supporting Information: Web Appendix 2.

### 3.3 | Quality assessment

The quality of the examined studies was assessed using a modified Cochrane's GRADE framework (Balshem et al., 2011) reported in Supporting Information: Web Appendix 3. The process involved collaborative evaluation by two authors across five factors: risk of bias, inconsistency, indirectness, imprecision, and publication bias. Risk of bias was determined by survey methodology, including sampling method, sample size, response rate, and scales used. Inconsistency and indirectness were examined by correlating findings with previous research and the directness of evidence, respectively. Precision was measured via statistical power, influenced by sample size and reported significance levels. Potential publication bias was probed by seeking selective reporting and inconsistencies with other published studies. The report also included aspects like journal quality rating, citation count, sample size, sampling method, scale usage, reported reliabilities, average variance extracted, and discriminant validity assessment.

### 3.4 | Assessment of methodological diversity

Our evaluation of methodological diversity in the included studies underscored significant variances, reflecting the complexity inherent

in the social media influencer field and necessitating the consideration of such heterogeneity in our meta-analysis. A preponderance of the articles (48) were peer-reviewed academic pieces, whereas a smaller portion (5) were classified as gray literature, encompassing conference papers, dissertations, and unpublished works. These studies employed diverse designs: 15 utilized experimental methods and 43 implemented correlational designs. Sampling strategies exhibited considerable variation in size, demographic composition, geographic distribution, and collection techniques. Sample sizes spanned from fewer than "104" in small-scale investigations to several thousand in larger studies. The demographic profile was broadly inclusive, although predominantly focusing on young adults and adolescents ( $n = 37$ ) and females ( $n = 40$ ). Geographically, the studies were globally represented, with several originating from Europe ( $n = 20$ ), North America ( $n = 17$ ), Asia ( $n = 15$ ), and other regions ( $n = 1$ ).

The studies employed a range of measurement tools to gauge consumer attitudes and behaviors, including self-report scales ( $n = 49$ ) and observational measures ( $n = 4$ ). Structural equation modeling ( $n = 18$ ) was the most frequently used statistical technique, followed by regression analysis ( $n = 16$ ) and analysis of variance ( $n = 4$ ). A minority of studies utilized more advanced methods, such as mediation and moderation analyses.

Methodological diversity in the studies carries implications for interpreting and generalizing findings, enabling a comprehensive understanding of social media influencer effects on consumer attitudes and behaviors yet introducing potential heterogeneity in

the meta-analysis. To address this, robust subgroup analyses were employed to explore and address biases stemming from diverse study designs.

### 3.5 | Coding

Using the Cochrane Handbook guidelines (Higgins et al., 2019), key constructs were categorized based on similarities in concept, measurement, or statistics (see Supporting Information: Web Appendix 4). We employed a deductive approach with predefined categories from the framework, ensuring consistent variable coding. Two authors independently handled the coding, with discrepancies settled through discussion. Besides main constructs, supplementary details like publication specifics, sample demographics, research methodology, influencer traits, promoted products, and platform were coded. Contextual moderating variables were classified considering empirical studies, theoretical bases, and statistical considerations, with coding details found in Supporting Information: Web Appendix 4.

## 3.6 | Meta-analytical procedure

### 3.6.1 | Publication bias

Publication bias, a prevalent concern in meta-analysis, introduces a risk of including studies with larger effect sizes, potentially compromising findings validity (Borenstein et al., 2021). This bias can stem from selective reporting favoring authors' or sponsors' perspectives, commonly known as the "file drawer problem" where studies with nonsignificant results remain unpublished. To address publication bias, multiple approaches were employed. First, funnel plots were used to assess symmetry, indicating potential bias (Egger et al., 1997). Second, the fail-safe N, measuring the number of missing studies needed to invalidate the relationship statistically, was calculated. A fail-safe N exceeding  $5k + 10$  ( $k$  = number of studies) suggests lower bias likelihood. Additionally, Egger's regression test examined the significance of the intercept's deviation from zero (Egger et al., 1997). Moreover, the trim-and-fill method was utilized to estimate the overall effect, address asymmetric studies, and compute missing studies based on bias-adjusted estimates (Duval & Tweedie, 2000). These combined methods enhance the meta-analysis's robustness and credibility by providing insights into publication bias.

### 3.6.2 | Effect-size calculation

Our analysis involved studies examining the relationships between antecedents and outcomes using correlation coefficients, specifically Fisher's Z transformation. For studies using regressions or reporting standardized beta coefficients, a conversion to correlation

coefficients was achieved using Peterson and Brown's (2005) method. This transformed standardized beta coefficients into correlation coefficients for inclusion in the meta-analysis. Experimental studies that presented means and standard deviations had their effect-size metric calculated as the standardized mean difference (Cohen's  $d$ ), which was subsequently converted to correlation coefficients (Peterson & Brown, 2005).

### 3.6.3 | Bivariate analysis

Our study uses individual effect sizes as the basic unit of analysis, backed by a Q statistics test that uncovers significant heterogeneity among correlation coefficients. It performs bivariate analysis to study how antecedents influence social media influencer outcome variables. The synthesis of existing research is achieved by computing average correlation coefficients, weighted by sample size, for each variable in the conceptual model and examining their relation to the dependent variables.

### 3.6.4 | Assessment of heterogeneity

In meta-analyses, statistical heterogeneity arises from participant characteristics, interventions, contextual, and methodological factors (Higgins, 2003). We used the Q-statistic and I-squared test to measure heterogeneity for each relationship in our analysis (Hunter & Schmidt, 2004). If these indicators show heterogeneity, a moderator analysis is necessary, suggesting that observed heterogeneity isn't solely due to sampling errors (Borenstein et al., 2021).

### 3.6.5 | Moderation analysis

We recognize that there might be methodological and contextual factors that could affect our results. To investigate these factors, we used the "metafor" package in R, which is suitable for subgroup analysis. We've detailed how we categorized, defined, and coded each of these potential factors in Supporting Information: Web Appendix 5. This provides a structured approach to our analysis.

## 4 | RESULTS

### 4.1 | Hypotheses testing

Table 1 presents the random and fixed effect sizes and their heterogeneity for the proposed relationships. Fisher's z transformation of Pearson's correlation coefficient  $r$  calculated the overall effect size for accurate interstudy comparisons.

**H1a:** Social media influencer credibility significantly influenced attitudes toward the influencer ( $r = 0.726$ ,  $p < 0.0001$ ), content

TABLE 1 Results—effect sizes and heterogeneity analysis for proposed relationships: Random and fixed effects.

Hypotheses			Random-effects model					Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value	
H1(a)	Credibility → Attitude toward influencer	4	0.726	<0.001	0.666	0.787	0.722	<0.001	0.672	0.772	29	3.669	0.300			
	Platform	2	0.763	<0.001	0.677	0.849	0.763	<0.001	0.677	0.849	0	0.156	0.693	0.877	0.349	
	Others	2	0.707	<0.001	0.677	0.849	0.701	<0.001	0.640	0.762	54	2.178	0.140			
Geography	East	1	0.711	<0.001	0.643	0.780	0.707	<0.001	0.651	0.763	28	2.422	0.298	0.794	0.373	
	West	3	0.776	<0.001	0.669	0.883	0.776	<0.001	0.669	0.883	0	0.000	1.000			
Influencer	Micro	1	0.740	<0.001	0.597	0.883	0.740	<0.001	0.597	0.883	0	0.000	1.000	0.024	0.878	
	Others	3	0.726	<0.001	0.653	0.799	0.719	<0.001	0.666	0.773	45	3.598	0.166			
Method	Experiment	1	0.740	<0.001	0.597	0.883	0.740	<0.001	0.597	0.883	0	0.000	1.000	0.024	0.878	
	Survey	2	0.129	0.085	-0.018	0.275	0.719	<0.001	0.666	0.773	66	2.921	0.087			
Credibility → Attitude toward content		4	0.604	<0.001	0.545	0.662	0.604	<0.001	0.545	0.662	0	3.130	0.372			
	Platform	1	0.540	<0.001	0.404	0.676	0.540	<0.001	0.404	0.676	0	0.000	1.000	0.477	0.788	
	Others	2	0.610	<0.001	0.473	0.747	0.610	<0.001	0.514	0.706	51	2.042	0.153			
Geography	East	2	0.610	<0.001	0.473	0.747	0.610	<0.001	0.514	0.706	51	2.042	0.153	0.046	0.830	
	West	2	0.599	<0.001	0.522	0.676	0.600	<0.001	0.526	0.674	6	1.063	0.303			
Product	Hedonic	3	0.618	<0.001	0.553	0.683	0.618	<0.001	0.553	0.683	0	2.093	0.351	2.093	0.351	
	Others	1	0.540	<0.001	0.404	0.675	0.540	<0.001	0.404	0.676	0	0.000	1.000			
Influencer	Mega	1	0.625	<0.001	0.537	0.713	0.625	<0.001	0.537	0.713	0	0.000	1.000	0.477	0.788	
	Micro	1	0.540	<0.001	0.404	0.676	0.540	<0.001	0.404	0.676	0	0.000	1.000			
Credibility → Attitude toward brand	Others	2	0.610	<0.001	0.473	0.747	0.610	<0.001	0.514	0.706	51	2.042	0.153			
		3	0.670	<0.001	0.604	0.735	0.664	<0.001	0.610	0.718	28	3.316	0.191			
	Platform	2	0.706	<0.001	0.588	0.824	0.692	<0.001	0.618	0.766	54	2.161	0.142	0.578	0.142	
Geography	Others	1	0.633	<0.001	0.555	0.711	0.633	<0.001	0.555	0.711	0	0.000	1.000			
	East	1	0.633	<0.001	0.555	0.711	0.633	<0.001	0.555	0.711	0	0.000	1.000	0.578	0.447	
Influencer	West	2	0.706	<0.001	0.588	0.824	0.692	<0.001	0.618	0.766	54	2.161	0.142			
	Mega	2	0.706	<0.001	0.588	0.824	0.692	<0.001	0.618	0.766	54	2.161	0.142	0.578	0.447	
	Others	1	0.633	<0.001	0.555	0.711	0.633	<0.001	0.555	0.711	0	0.000	1.000			



TABLE 1 (Continued)

Hypotheses		Random-effects model						Fixed-effects model				Heterogeneity		Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value
H1(b) Trustworthiness → Attitude toward influencer		3	0.604	<0.001	0.384	0.824	0.608	<0.001	0.551	0.664	93	21.782	<0.001		
	Platform	2	0.598	0.003	0.210	0.985	0.598	<0.001	0.514	0.681	95	21.670	<0.001	0.003	0.954
	Others	1	0.617	<0.001	0.539	0.695	0.617	<0.001	0.539	0.695	0	0.000	1.000		
	Geography	2	0.700	<0.001	0.526	0.875	0.672	<0.001	0.607	0.737	84	6.093	0.014	3.648	0.056
Influencer	West	1	0.400	<0.001	0.282	0.518	0.400	<0.001	0.282	0.518	0	0.000	1.000		
	Micro	2	0.598	0.003	0.210	0.985	0.598	<0.001	0.514	0.681	95	21.670	<0.001	0.003	0.954
	Others	1	0.617	<0.001	0.539	0.695	0.617	<0.001	0.539	0.695	0	0.000	1.000		
	Trustworthiness → Attitude toward content	4	0.525	<0.001	0.324	0.726	0.561	<0.001	0.493	0.630	88	24.909	<0.001		
Platform	Instagram	1	0.750	<0.001	0.632	0.868	0.750	<0.001	0.632	0.868	0	0.000	1.000	2.595	0.107
	Others	3	0.448	<0.001	0.258	0.637	0.464	<0.001	0.380	0.548	80	9.886	0.007		
	Geography	3	0.448	<0.001	0.258	0.637	0.464	<0.001	0.380	0.548	80	9.886	0.007	2.595	0.107
	West	1	0.750	<0.001	0.632	0.868	0.750	<0.001	0.632	0.868	0	0.000	1.000		
Product	Hedonic	3	0.592	<0.001	0.384	0.800	0.606	<0.001	0.532	0.680	87	15.600	0.000	1.657	0.198
	Others	1	0.308	0.001	0.132	0.484	0.308	0.001	0.132	0.484	0	0.000	1.000		
Influencer	Micro	1	0.750	<0.001	0.632	0.868	0.750	<0.001	0.632	0.868	0	0.000	1.000	2.595	0.107
	Others	3	0.448	<0.001	0.258	0.637	0.464	<0.001	0.380	0.548	80	9.886	0.007		
Trustworthiness → Attitude toward brand		9	0.565	<0.001	0.442	0.689	0.574	<0.001	0.535	0.613	90	58.443	<0.001		
	Platform	5	0.665	<0.001	0.548	0.783	0.654	<0.001	0.599	0.709	76	15.711	0.003	6.060	0.048
	YouTube	1	0.617	<0.001	0.499	0.735	0.617	<0.001	0.499	0.735	0	0.000	1.000		
	Others	3	0.384	0.000	0.172	0.596	0.465	<0.001	0.404	0.526	90	21.887	<0.001		
Geography	East	3	0.484	<0.001	0.257	0.710	0.552	<0.001	0.493	0.610	92	14.569	0.001	0.793	0.373
	West	6	0.606	<0.001	0.453	0.760	0.592	<0.001	0.540	0.643	88	42.853	0.001		
	Hedonic	4	0.511	<0.001	0.371	0.651	0.525	<0.001	0.471	0.580	82	17.155	0.001	6.214	0.045
	Utilitarian	3	0.736	<0.001	0.593	0.879	0.711	<0.001	0.642	0.780	75	8.394	0.015		
Product	Others	2	0.403	0.015	0.079	0.727	0.475	<0.001	0.386	0.564	90	10.052	0.002		
	Mega	2	0.611	<0.001	0.535	0.687	0.611	<0.001	0.535	0.687	0	0.016	0.899	1.080	0.583

(Continues)



TABLE 1 (Continued)

Hypotheses		Random-effects model				Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	p Value
H1(c)	Expertise → Attitude toward influencer													
	Platform													
	Micro	3	0.463	<0.001	0.301	0.626	0.461	<0.001	0.389	0.533	78	10.240	0.006	
	Others	4	0.612	<0.001	0.349	0.876	0.625	<0.001	0.567	0.682	94	34.780	<0.001	
	Instagram	3	0.396	0.001	0.168	0.625	0.426	<0.001	0.374	0.479	94	43.407	<0.001	
	YouTube	1	0.320	<0.001	0.202	0.438	0.320	<0.001	0.202	0.438	0	0.000	1.000	1.000
	Others	1	0.243	<0.001	0.155	0.331	0.243	<0.001	0.155	0.331	0	0.000	1.000	
	East	1	0.620	<0.001	0.542	0.698	0.620	<0.001	0.542	0.698	0	0.000	1.000	
	West	2	0.271	<0.001	0.198	0.344	0.270	<0.001	0.200	0.341	6	1.062	0.303	
	Micro	1	0.320	<0.001	0.202	0.438	0.320	<0.001	0.202	0.438	0	0.000	1.000	0.734
	Others	2	0.432	0.022	0.062	0.802	0.452	<0.001	0.394	0.511	97	39.501	<0.001	
	Expertise → Attitude toward content	2	0.369	0.048	0.003	0.735	0.435	<0.001	0.337	0.533	92	11.955	0.001	
	Expertise → Attitude toward brand	9	0.534	<0.001	0.421	0.646	0.536	<0.001	0.500	0.572	89	64.448	<0.001	
	Platform													
	Instagram	4	0.651	<0.001	0.550	0.751	0.643	<0.001	0.585	0.700	67	9.147	0.027	0.074
	YouTube	1	0.533	<0.001	0.415	0.651	0.533	<0.001	0.415	0.651	0	0.000	1.000	
	Others	5	0.413	<0.001	0.236	0.591	0.452	<0.001	0.401	0.504	91	31.814	<0.001	
	East	4	0.555	<0.001	0.451	0.659	0.564	<0.001	0.514	0.613	75	10.473	0.015	0.839
	West	5	0.523	<0.001	0.327	0.719	0.504	<0.001	0.450	0.557	92	51.341	<0.001	
	Hedonic	4	0.445	<0.001	0.265	0.625	0.470	<0.001	0.421	0.519	92	32.784	<0.001	0.037
	Utilitarian	3	0.702	<0.001	0.633	0.771	0.702	<0.001	0.633	0.771	0	0.068	0.967	
	Others	2	0.480	<0.001	0.384	0.575	0.482	<0.001	0.393	0.571	8	1.090	0.297	
	Mega	3	0.592	<0.001	0.492	0.693	0.594	<0.001	0.535	0.654	65	5.688	0.058	0.110
	Micro	2	0.338	0.052	−0.003	0.678	0.356	<0.001	0.279	0.433	95	19.113	<0.001	
	Others	4	0.591	<0.001	0.453	0.729	0.581	<0.001	0.523	0.638	79	12.715	0.005	
	Authenticity → Attitude toward brand	2	0.336	<0.001	0.225	0.445	0.335	<0.001	0.225	0.445	0	0.960	0.327	
	Credibility → Purchase intention	9	0.466	<0.001	0.325	0.608	0.535	<0.001	0.502	0.567	94	112.067	<0.001	
	Platform													
	Instagram	1	0.440	<0.001	0.304	0.576	0.440	<0.001	0.304	0.576	0	0.000	1.000	0.966
	YouTube	3	0.454	<0.001	0.376	0.532	0.454	<0.001	0.378	0.531	3	1.829	0.401	

TABLE 1 (Continued)

Hypotheses		Random-effects model						Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value	
Geography	Others	5	0.484	0.000	0.222	0.746	0.561	<0.001	0.524	0.599	98	102.266	<0.001			
	East	3	0.588	<0.001	0.485	0.690	0.576	<0.001	0.520	0.631	67	5.441	0.066	1.782	0.182	
	West	6	0.399	<0.001	0.209	0.590	0.513	<0.001	0.473	0.554	94	103.464	<0.001			
Product	Hedonic	5	0.484	0.000	0.221	0.746	0.563	<0.001	0.525	0.601	98	102.046	<0.001	0.067	0.967	
	Utilitarian	3	0.458	<0.001	0.378	0.538	0.462	<0.001	0.391	0.534	17	2.129	0.345			
Influencer	Others	1	0.440	<0.001	0.304	0.576	0.440	<0.001	0.304	0.576	0	0.000	1.000			
	Micro	1	0.440	<0.001	0.304	0.576	0.440	<0.001	0.304	0.576	0	0.000	1.000	0.014	0.907	
	Others	8	0.469	<0.001	0.309	0.629	0.540	<0.001	0.507	0.574	95	110.090	<0.001			
Credibility → Engagement		3	0.670	<0.001	0.583	0.756	0.670	<0.001	0.603	0.737	39	3.128	0.209			
	East	1	0.670	<0.001	0.594	0.745	0.670	<0.001	0.527	0.813	0	0.000	1.000	0.000	0.997	
Geography	West	2	0.670	<0.001	0.535	0.804	0.670	<0.001	0.594	0.745	68	3.128	0.077			
	Micro	1	0.670	<0.001	0.527	0.813	0.670	<0.001	0.527	0.813	0	0.000	1.000	0.000	0.997	
Influencer	Others	2	0.670	<0.001	0.535	0.804	0.670	<0.001	0.594	0.745	68	3.128	0.077			
	Experiment	1	0.670	<0.001	0.527	0.813	0.670	<0.001	0.527	0.813	0	0.000	1.000	0.000	0.997	
Method	Survey	2	0.670	<0.001	0.535	0.804	0.670	<0.001	0.594	0.745	68	3.128	0.077			
		20	0.426	<0.001	0.313	0.539	0.446	<0.001	0.421	0.471	95	342.665	<0.001			
H2(b) Trustworthiness → Purchase intention	Instagram	6	0.473	<0.001	0.409	0.537	0.479	<0.001	0.434	0.525	45	8.780	0.118	1.230	0.541	
	YouTube	2	0.224	0.568	−0.545	0.994	0.332	<0.001	0.238	0.427	98	61.623	<0.001			
Geography	Others	12	0.439	<0.001	0.281	0.597	0.442	<0.001	0.411	0.474	96	264.537	<0.001			
	East	12	0.418	<0.001	0.264	0.571	0.419	<0.001	0.388	0.451	96	249.463	<0.001	0.029	0.865	
	West	8	0.439	<0.001	0.262	0.615	0.491	<0.001	0.450	0.532	94	85.862	<0.001			
Product	Hedonic	10	0.541	<0.001	0.434	0.648	0.550	<0.001	0.516	0.585	89	80.188	<0.001	4.488	0.106	
	Utilitarian	7	0.303	0.017	0.054	0.552	0.320	<0.001	0.277	0.362	97	167.658	<0.001			
Influencer	Others	3	0.327	0.002	0.121	0.533	0.342	<0.001	0.270	0.415	86	17.573	0.000			
	Mega	6	0.543	<0.001	0.470	0.616	0.552	<0.001	0.505	0.599	55	10.990	<0.001	2.988	0.225	
	Micro	4	0.248	0.081	−0.031	0.526	0.306	<0.001	0.247	0.366	95	48.624	<0.001			
	Others	10	0.435	<0.001	0.252	0.618	0.435	<0.001	0.401	0.469	96	241.834	<0.001			

(Continues)

TABLE 1 (Continued)

Hypotheses		Random-effects model				Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	p Value
Method	Experiment	5	0.521	<0.001	0.447	0.595	0.530	<0.001	0.477	0.582	46	7.374	0.117	0.430
	Survey	15	0.399	<0.001	0.252	0.546	0.421	<0.001	0.392	0.449	96	322.442	<0.001	
	Journal	16	0.412	<0.001	0.291	0.533	0.435	<0.001	0.406	0.463	94	236.319	<0.001	0.865
	Gray	4	0.480	0.004	0.151	0.810	0.487	<0.001	0.432	0.541	97	103.567	<0.001	
Trustworthiness → Engagement		6	0.457	<0.001	0.334	0.579	0.470	<0.001	0.424	0.517	85	36.138	<0.001	
Platform	Instagram	5	0.503	<0.001	0.401	0.606	0.513	<0.001	0.463	0.564	75	17.528	0.002	0.032
	Others	1	0.225	0.000	0.104	0.346	0.225	0.000	0.104	0.346	0	0.000	1.000	
Geography	East	2	0.455	0.047	0.007	0.902	0.496	<0.001	0.419	0.573	97	32.633	<0.001	0.982
	West	4	0.455	<0.001	0.396	0.514	0.455	<0.001	0.396	0.514	0	2.806	0.423	
Product	Hedonic	5	0.410	<0.001	0.310	0.509	0.411	<0.001	0.358	0.464	72	14.061	0.007	0.024
	Utilitarian	1	0.682	<0.001	0.582	0.782	0.682	<0.001	0.582	0.782	0	0.000	1.000	
Influencer	Mega	1	0.682	<0.001	0.582	0.782	0.682	<0.001	0.582	0.782	0	0.000	1.000	0.024
	Micro	5	0.410	<0.001	0.310	0.509	0.411	<0.001	0.358	0.464	72	14.061	0.007	
H2(c)	Expertise → Purchase intention	18	0.363	<0.001	0.290	0.436	0.381	<0.001	0.354	0.407	86	112.246	<0.001	
	Instagram	7	0.411	<0.001	0.357	0.465	0.416	<0.001	0.374	0.457	38	9.841	0.132	0.082
	YouTube	1	0.610	<0.001	0.492	0.728	0.610	<0.001	0.492	0.728	0	0.000	1.000	
	Others	10	0.304	<0.001	0.190	0.418	0.333	<0.001	0.298	0.369	89	78.206	<0.001	
Geography	East	10	0.340	<0.001	0.239	0.441	0.350	<0.001	0.316	0.385	87	71.426	<0.001	0.494
	West	8	0.392	<0.001	0.284	0.499	0.425	<0.001	0.383	0.466	84	33.450	<0.001	
Product	Hedonic	10	0.385	<0.001	0.289	0.481	0.415	<0.001	0.382	0.449	87	53.215	<0.001	0.640
	Utilitarian	5	0.300	0.002	0.113	0.486	0.286	<0.001	0.233	0.339	89	39.822	<0.001	
Influencer	Others	3	0.392	<0.001	0.312	0.471	0.393	<0.001	0.321	0.466	14	2.867	0.239	
	Mega	7	0.455	<0.001	0.374	0.536	0.466	<0.001	0.424	0.508	72	19.372	0.004	0.111
	Micro	2	0.298	0.001	0.115	0.481	0.304	<0.001	0.228	0.380	83	5.733	0.017	
	Others	9	0.303	<0.001	0.188	0.418	0.328	<0.001	0.290	0.366	87	59.678	<0.001	
Method	Experiment	6	0.391	<0.001	0.237	0.545	0.448	<0.001	0.398	0.499	88	30.823	<0.001	0.533
	Survey	12	0.347	<0.001	0.265	0.429	0.355	<0.001	0.324	0.386	84	71.974	<0.001	

TABLE 1 (Continued)

Hypotheses		Random-effects model						Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value	
Publication	Journal	15	0.356	<0.001	0.267	0.445	0.380	<0.001	0.351	0.409	88	110.390	<0.001	0.471	0.492	
	Gray	3	0.384	<0.001	0.323	0.445	0.384	<0.001	0.323	0.445	0	1.844	0.398			
Expertise → Engagement		11	0.274	<0.001	0.145	0.402	0.288	<0.001	0.254	0.321	93	147.801	<0.001			
Platform	Instagram	7	0.375	<0.001	0.240	0.509	0.380	<0.001	0.338	0.421	90	68.735	<0.001	6.252	0.012	
	Others	4	0.098	0.242	-0.066	0.261	0.115	<0.001	0.058	0.172	88	25.500	<0.001			
Geography	East	1	0.693	<0.001	0.593	0.793	0.693	<0.001	0.593	0.793	0	0.000	1.000	2.933	0.087	
	West	10	0.231	<0.001	0.123	0.339	0.236	<0.001	0.200	0.271	89	76.468	<0.001			
Product	Hedonic	10	0.231	<0.001	0.123	0.339	0.236	<0.001	0.200	0.271	89	76.468	<0.001	6.533	0.011	
	Utilitarian	1	0.693	<0.001	0.593	0.793	0.693	<0.001	0.593	0.793	0	0.000	1.000			
Influencer	Mega	2	0.490	0.016	0.091	0.888	0.490	<0.001	0.419	0.560	97	31.856	<0.001	14.042	0.001	
	Micro	4	0.388	<0.001	0.329	0.446	0.388	<0.001	0.329	0.446	0	0.465	0.927			
	Others	5	0.097	0.135	-0.030	0.223	0.110	<0.001	0.059	0.160	84	25.660	<0.001			
Method	Experiment	3	0.032	0.670	-0.114	0.178	0.032	0.371	-0.038	0.102	77	8.793	0.012	8.913	0.003	
	Survey	8	0.363	<0.001	0.245	0.482	0.366	<0.001	0.327	0.404	89	71.601	<0.001			
Publication	Journal	10	0.272	0.000	0.130	0.415	0.288	<0.001	0.252	0.324	94	147.799	<0.001	6.533	0.011	
	Gray	1	0.286	<0.001	0.186	0.386	0.286	<0.001	0.186	0.386	0	0.000	1.000			
H3(a)	Attractiveness → Attitude toward influencer	4	0.380	<0.001	0.241	0.518	0.389	<0.001	0.326	0.452	78	13.484	0.004			
Platform	Instagram	1	0.380	<0.001	0.262	0.498	0.380	<0.001	0.262	0.498	0	0.000	1.000	0.000	0.993	
	Others	3	0.378	0.000	0.179	0.578	0.393	<0.001	0.318	0.467	86	13.452	0.001			
Product	Hedonic	2	0.434	<0.001	0.331	0.537	0.435	<0.001	0.354	0.516	37	1.598	0.206	0.514	0.473	
	Others	2	0.322	0.033	0.027	0.617	0.322	<0.001	0.223	0.421	89	8.883	0.003			
Influencer	Micro	2	0.434	<0.001	0.331	0.537	0.435	<0.001	0.354	0.516	37	1.598	0.206	0.514	0.473	
	Others	2	0.322	0.033	0.027	0.617	0.322	<0.001	0.223	0.421	89	8.883	0.003			
Method	Experiment	3	0.378	0.000	0.179	0.578	0.393	<0.001	0.318	0.467	86	13.452	0.001	0.000	0.993	
	Survey	1	0.380	<0.001	0.262	0.498	0.380	<0.001	0.262	0.498	0	0.000	1.000			
Attractiveness → Attitude toward content		2	0.433	<0.001	0.330	0.537	0.435	<0.001	0.337	0.533	8	1.091	0.296			

(Continues)

TABLE 1 (Continued)

Hypotheses		Random-effects model					Fixed-effects model					Heterogeneity		Subgroup analysis		
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value	
Attractiveness → Attitude toward brand		8	0.452	<0.001	0.333	0.570	0.468	<0.001	0.429	0.508	89	53.024	<0.001			
	Platform	Instagram	2	0.522	<0.001	0.450	0.594	0.522	<0.001	0.450	0.594	0	0.987	0.321	0.786	0.675
		YouTube	1	0.534	<0.001	0.416	0.652	0.534	<0.001	0.416	0.652	0	0.000	1.000		
		Others	5	0.403	<0.001	0.216	0.590	0.428	<0.001	0.377	0.480	92	46.368	<0.001		
Geography	East	3	0.380	<0.001	0.224	0.536	0.415	<0.001	0.351	0.479	81	7.971	0.019	0.922	0.337	
	West	5	0.497	<0.001	0.334	0.660	0.502	<0.001	0.451	0.552	91	40.649	<0.001			
Product	Hedonic	5	0.467	<0.001	0.305	0.629	0.465	<0.001	0.416	0.514	91	40.643	<0.001	0.248	0.883	
	Utilitarian	1	0.487	<0.001	0.387	0.587	0.487	<0.001	0.387	0.587	0	0.000	1.000			
Influencer	Others	2	0.385	0.035	0.027	0.742	0.466	<0.001	0.377	0.556	92	12.223	0.001			
	Mega	3	0.472	<0.001	0.403	0.540	0.470	<0.001	0.410	0.529	25	2.661	0.264	2.218	0.330	
	Micro	4	0.487	<0.001	0.278	0.697	0.494	<0.001	0.439	0.550	25	2.661	0.264			
	Others	1	0.195	0.030	0.019	0.371	0.195	0.030	0.019	0.371	0	0.000	1.000			
		6	0.207	0.001	0.085	0.329	0.202	<0.001	0.163	0.241	89	50.893	<0.001			
Homophily → Attitude toward influencer		1	0.350	<0.001	0.232	0.468	0.350	<0.001	0.232	0.468	0	0.000	1.000	0.833	0.660	
	Platform	Instagram	4	0.187	0.029	0.019	0.354	0.187	<0.001	0.143	0.231	93	43.750	<0.001		
		Others	5	0.147	0.040	0.007	0.287	0.147	0.040	0.007	0.287	0	0.000	1.000		
		Hedonic	5	0.218	0.003	0.073	0.363	0.207	<0.001	0.166	0.248	92	50.250	<0.001	0.141	0.707
Product	Others	1	0.147	0.040	0.007	0.287	0.147	0.040	0.007	0.287	0	0.000	1.000			
		1	0.350	<0.001	0.232	0.468	0.350	<0.001	0.232	0.468	0	0.000	1.000	1.004	0.317	
	Micro	5	0.180	0.008	0.046	0.313	0.183	<0.001	0.141	0.225	90	44.032	<0.001			
	Others	1	0.147	0.040	0.007	0.287	0.147	0.040	0.007	0.287	0	0.000	1.000	0.141	0.707	
Influencer	Experiment	1	0.218	0.003	0.073	0.363	0.207	<0.001	0.166	0.248	92	50.250	<0.001			
	Survey	3	0.511	<0.001	0.355	0.667	0.516	<0.001	0.442	0.590	77	8.392	0.015			
Homophily → Attitude toward content		1	0.570	<0.001	0.452	0.688	0.570	<0.001	0.452	0.688	0	0.000	1.000	0.164	0.686	
	Platform	Instagram	2	0.480	0.000	0.225	0.735	0.480	<0.001	0.384	0.576	86	7.042	0.008		
		Others	2	0.480	0.000	0.225	0.735	0.480	<0.001	0.384	0.576	86	7.042	0.008	0.164	0.686
		East	1	0.570	<0.001	0.452	0.688	0.570	<0.001	0.452	0.688	0	0.000	1.000		
Geography	West	2	0.480	0.000	0.225	0.735	0.480	<0.001	0.384	0.576	86	7.042	0.008	0.164	0.686	
		1	0.570	<0.001	0.452	0.688	0.570	<0.001	0.452	0.688	0	0.000	1.000			

TABLE 1 (Continued)

Hypotheses		Random-effects model						Fixed-effects model				Heterogeneity		Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value
Influencer	Micro	1	0.570	<0.001	0.452	0.688	0.570	<0.001	0.452	0.688	0	0.000	1.000	0.164	0.686
	Others	2	0.480	0.000	0.225	0.735	0.480	<0.001	0.384	0.576	86	7.042	0.008		
H4(a)	Attractiveness → Purchase intention														
	Platform	21	0.386	<0.001	0.328	0.444	0.402	<0.001	0.381	0.423	86	129.422	<0.001		
		Instagram	6	0.365	<0.001	0.256	0.475	0.373	<0.001	0.332	0.415	86	35.941	<0.001	1.722
	YouTube	3	0.485	<0.001	0.304	0.667	0.510	<0.001	0.432	0.588	81	11.215	0.004		
	Others	12	0.374	<0.001	0.299	0.448	0.401	<0.001	0.375	0.428	86	73.109	<0.001		
Geography	East	8	0.324	<0.001	0.232	0.415	0.325	<0.001	0.288	0.363	83	40.324	<0.001	3.006	0.083
	West	13	0.419	<0.001	0.354	0.484	0.433	<0.001	0.408	0.458	83	68.233	<0.001		
Product	Hedonic	12	0.427	<0.001	0.343	0.511	0.432	<0.001	0.407	0.457	90	92.943	<0.001	2.904	0.234
	Utilitarian	5	0.326	<0.001	0.257	0.396	0.321	<0.001	0.272	0.370	47	7.433	0.115		
Influencer	Others	4	0.321	<0.001	0.199	0.443	0.343	<0.001	0.276	0.409	68	10.078	0.018		
	Mega	5	0.476	<0.001	0.365	0.586	0.467	<0.001	0.422	0.511	84	22.832	0.000	3.574	0.167
	Micro	4	0.392	<0.001	0.249	0.534	0.396	<0.001	0.340	0.452	85	19.136	0.000		
	Others	12	0.345	<0.001	0.271	0.418	0.379	<0.001	0.352	0.406	85	76.445	<0.001		
	Experiment	6	0.456	<0.001	0.318	0.594	0.474	<0.001	0.428	0.519	89	38.343	<0.001	2.504	0.114
Publication	Survey	15	0.359	<0.001	0.300	0.417	0.382	<0.001	0.358	0.406	81	78.963	<0.001		
	Journal	18	0.383	<0.001	0.320	0.447	0.404	<0.001	0.381	0.427	86	112.714	<0.001	2.689	0.101
	Gray	3	0.402	<0.001	0.227	0.576	0.390	<0.001	0.331	0.449	89	16.531	0.000		
Attractiveness → Engagement		9	0.288	<0.001	0.211	0.366	0.287	<0.001	0.249	0.325	76	36.871	<0.001		
Platform	Instagram	6	0.325	<0.001	0.229	0.420	0.324	<0.001	0.279	0.369	77	24.808	0.000	2.073	0.150
	Others	3	0.204	<0.001	0.113	0.296	0.196	<0.001	0.126	0.267	38	3.121	0.210		
Geography	East	2	0.493	<0.001	0.393	0.593	0.493	<0.001	0.393	0.593	0	0.000	1.000	0.126	0.722
	West	8	0.259	<0.001	0.194	0.324	0.252	<0.001	0.211	0.293	59	17.709	0.013		
Product	Hedonic	6	0.262	<0.001	0.179	0.345	0.251	<0.001	0.206	0.296	70	17.265	0.004	5.371	0.068
	Utilitarian	1	0.493	<0.001	0.393	0.593	0.493	<0.001	0.393	0.593	0	0.000	1.000		
Influencer	Others	2	0.255	<0.001	0.156	0.354	0.255	<0.001	0.156	0.354	0	0.440	0.507		
	Mega	2	0.315	0.077	-0.034	0.664	0.315	<0.001	0.244	0.386	96	24.372	<0.001	1.808	0.405

(Continues)

TABLE 1 (Continued)

Hypotheses		Random-effects model						Fixed-effects model				Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value	
Method	Micro	4	0.330	<0.001	0.271	0.389	0.330	<0.001	0.271	0.389	0	0.333	0.954			
	Others	3	0.204	<0.001	0.113	0.296	0.196	<0.001	0.126	0.267	38	3.121	0.210			
	Experiment	2	0.255	<0.001	0.156	0.354	0.255	<0.001	0.156	0.354	0	0.440	0.507	0.169	0.681	
	Survey	7	0.297	<0.001	0.201	0.393	0.292	<0.001	0.251	0.333	82	35.957	<0.001			
Publication	Journal	8	0.309	<0.001	0.232	0.386	0.312	<0.001	0.271	0.353	71	26.809	0.000	0.126	0.722	
	Gray	1	0.137	0.007	0.037	0.237	0.137	0.007	0.037	0.237	0	0.000	1.000			
H4(b)	Homophily → Purchase intention	11	0.509	<0.001	0.422	0.596	0.541	<0.001	0.509	0.574	84	49.630	<0.001			
	Platform	5	0.556	<0.001	0.468	0.644	0.568	<0.001	0.516	0.621	61	10.128	0.038	1.062	0.588	
Geography	YouTube	2	0.413	<0.001	0.308	0.518	0.413	<0.001	0.308	0.518	0	0.217	0.641			
	Others	4	0.499	<0.001	0.285	0.713	0.545	<0.001	0.500	0.590	93	32.477	<0.001			
	East	1	0.660	<0.001	0.524	0.796	0.660	<0.001	0.524	0.796	0	0.000	1.000	1.142	0.285	
	West	10	0.494	<0.001	0.403	0.585	0.534	<0.001	0.500	0.568	84	46.511	<0.001			
Product	Hedonic	6	0.586	<0.001	0.528	0.644	0.588	<0.001	0.549	0.628	41	10.007	0.075	23.587	<0.001	
	Utilitarian	4	0.489	<0.001	0.410	0.568	0.492	<0.001	0.427	0.557	26	4.340	0.227			
Influencer	Others	1	0.167	0.019	0.027	0.307	0.167	0.019	0.027	0.307	0	0.000	1.000			
	Mega	4	0.546	<0.001	0.427	0.664	0.566	<0.001	0.507	0.624	72	10.081	0.018	0.663	0.718	
	Micro	1	0.580	<0.001	0.462	0.698	0.580	<0.001	0.462	0.698	0	0.000	1.000			
	Others	6	0.473	<0.001	0.331	0.615	0.524	<0.001	0.483	0.566	89	37.818	<0.001			
Method	Experiment	5	0.465	<0.001	0.290	0.641	0.506	<0.001	0.453	0.560	90	36.594	<0.001	0.646	0.422	
	Survey	6	0.547	<0.001	0.477	0.618	0.561	<0.001	0.520	0.602	55	10.502	0.062			
Homophily → Engagement		8	0.424	<0.001	0.327	0.522	0.439	<0.001	0.397	0.480	82	43.065	<0.001			
	Platform	6	0.460	<0.001	0.346	0.574	0.469	<0.001	0.423	0.515	84	34.204	<0.001	1.897	0.169	
Geography	Others	2	0.307	<0.001	0.210	0.404	0.307	<0.001	0.210	0.404	0	0.125	0.724			
	East	1	0.702	<0.001	0.602	0.802	0.702	<0.001	0.602	0.802	0	0.000	1.000	15.170	<0.001	
	West	7	0.383	<0.001	0.321	0.445	0.384	<0.001	0.338	0.430	45	10.875	0.092			
	Hedonic	6	0.391	<0.001	0.322	0.460	0.391	<0.001	0.343	0.439	50	10.113	0.072	14.216	0.001	
Product	Utilitarian	1	0.702	<0.001	0.602	0.802	0.702	<0.001	0.602	0.802	0	0.000	1.000			



TABLE 1 (Continued)

Hypotheses		Random-effects model				Fixed-effects model				Heterogeneity			Subgroup analysis		
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value
Influencer	Others	1	0.325	<0.001	0.185	0.465	0.325	<0.001	0.185	0.465	0	0.000	1.000		
	Mega	1	0.702	<0.001	0.602	0.802	0.702	<0.001	0.602	0.802	0	0.000	1.000	41.790	<0.001
	Micro	4	0.443	<0.001	0.384	0.501	0.443	<0.001	0.384	0.501	0	1.021	0.796		
	Others	3	0.295	<0.001	0.223	0.367	0.295	<0.001	0.223	0.367	0	0.254	0.881		
H6(a)	Opinion leadership → Purchase intention	6	0.443	<0.001	0.286	0.599	0.484	<0.001	0.441	0.528	92	57.337	<0.001		
	Platform	5	0.439	<0.001	0.247	0.632	0.491	<0.001	0.444	0.539	94	56.900	<0.001	0.004	0.951
	Others	1	0.454	<0.001	0.354	0.554	0.454	<0.001	0.354	0.554	0	0.000	1.000		
	East	3	0.297	0.000	0.131	0.462	0.325	<0.001	0.256	0.393	82	0.183	0.669	7.335	0.007
Geography	West	3	0.553	<0.001	0.442	0.665	0.558	<0.001	0.509	0.606	81	15.805	0.001		
	Hedonic	5	0.403	<0.001	0.235	0.570	0.447	<0.001	0.399	0.495	91	45.161	<0.001	1.328	0.249
	Others	1	0.641	<0.001	0.543	0.739	0.641	<0.001	0.543	0.739	0	0.000	1.000		
	Mega	2	0.548	<0.001	0.365	0.731	0.549	<0.001	0.479	0.619	85	6.857	0.009	6.764	0.034
Influencer	Micro	1	0.660	<0.001	0.568	0.752	0.660	<0.001	0.568	0.752	0	0.000	1.000		
	Others	3	0.297	0.000	0.131	0.462	0.325	<0.001	0.256	0.393	82	12.283	0.002		
	Opinion leadership → Engagement	5	0.442	<0.001	0.361	0.524	0.463	<0.001	0.428	0.497	82	19.623	0.001		
	Platform	4	0.465	<0.001	0.382	0.549	0.479	<0.001	0.442	0.515	80	13.179	0.004	1.518	0.218
Platform	Others	1	0.341	<0.001	0.241	0.441	0.341	<0.001	0.241	0.441	0	0.000	1.000		
	Mega	1	0.341	<0.001	0.241	0.441	0.341	<0.001	0.241	0.441	0	0.000	1.000	8.219	0.016
	Micro	3	0.500	<0.001	0.440	0.560	0.500	<0.001	0.461	0.539	58	4.752	0.093		
	Others	1	0.341	<0.001	0.241	0.441	0.341	<0.001	0.241	0.441	0	0.000	1.000		
H6(b)	Content informativeness → Purchase intention	4	0.286	0.001	0.110	0.462	0.295	<0.001	0.245	0.346	92	33.635	<0.001		
	Platform	2	0.344	<0.001	0.202	0.486	0.343	<0.001	0.273	0.413	76	4.123	0.042	0.333	0.564
	Others	2	0.226	0.238	-0.149	0.602	0.242	<0.001	0.169	0.316	96	25.735	<0.001		
	East	1	0.226	0.238	-0.149	0.602	0.242	<0.001	0.169	0.316	96	25.735	<0.001	0.333	0.564
Geography	West	3	0.368	<0.001	0.273	0.463	0.367	<0.001	0.310	0.425	64	5.533	0.063		
	Hedonic	2	0.417	<0.001	0.346	0.488	0.417	<0.001	0.346	0.488	0	0.000	1.000	33.635	<0.001
(Continues)															

TABLE 1 (Continued)

Hypotheses			Random-effects model					Fixed-effects model					Heterogeneity			Subgroup analysis	
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value		
Influencer	Utilitarian	1	0.034	0.541	-0.075	0.143	0.034	0.541	-0.075	0.143	0	0.000	1.000				
	Others	1	0.272	<0.001	0.174	0.370	0.272	<0.001	0.174	0.370	0	0.000	1.000				
	Mega	2	0.344	<0.001	0.202	0.486	0.343	<0.001	0.273	0.413	76	4.123	0.042	0.333	0.564		
	Others	2	0.226	0.238	-0.149	0.602	0.242	<0.001	0.169	0.316	96	25.735	<0.001				
	Journal	3	0.242	0.030	0.024	0.460	0.253	<0.001	0.194	0.312	93	25.960	<0.001	11.208	0.001		
Publication	Gray	1	0.417	<0.001	0.317	0.517	0.417	<0.001	0.317	0.517	0	0.000	1.000				
	Content informativeness → Engagement	6	0.181	0.001	0.075	0.287	0.195	<0.001	0.150	0.240	82	27.242	<0.001				
Platform	Instagram	2	0.230	0.009	0.057	0.403	0.236	<0.001	0.163	0.310	82	5.496	0.019	0.369	0.544		
	Others	4	0.155	0.035	0.011	0.300	0.170	<0.001	0.113	0.227	84	19.797	0.000				
Geography	East	1	0.317	<0.001	0.217	0.417	0.317	<0.001	0.217	0.417	0	0.000	1.000	1.435	0.231		
	West	5	0.153	0.008	0.041	0.265	0.163	<0.001	0.113	0.214	79	20.023	0.001				
Influencer	Mega	1	0.317	<0.001	0.217	0.417	0.317	<0.001	0.217	0.417	0	0.000	1.000	1.435	0.231		
	Others	5	0.153	0.008	0.041	0.265	0.163	<0.001	0.113	0.214	79	20.023	0.001				
H7(a)	Influencer-consumer congruence → Attitude toward content	3	0.089	0.492	-0.165	0.343	0.098	<0.001	0.049	0.147	96	52.371	<0.001				
	Geography	East	1	-0.170	0.000	-0.258	-0.082	-0.170	0.000	-0.258	-0.082	0	0.000	1.000	51.998	<0.001	
	West	2	0.218	<0.001	0.160	0.277	0.218	<0.001	0.160	0.277	0	0.373	0.541				
	Product	1	-0.170	0.000	-0.258	-0.082	-0.170	0.000	-0.258	-0.082	0	0.000	1.000	51.998	<0.001		
	Others	2	0.218	<0.001	0.160	0.277	0.218	<0.001	0.160	0.277	0	0.373	0.541				
Influencer	Micro	1	-0.170	0.000	-0.258	-0.082	-0.170	0.000	-0.258	-0.082	0	0.000	1.000	51.998	<0.001		
	Others	2	0.218	<0.001	0.160	0.277	0.218	<0.001	0.160	0.277	0	0.373	0.541				
H7(b)	Influencer-product congruence → Attitude toward influencer	2	0.300	<0.001	0.197	0.404	0.300	<0.001	0.197	0.404	0	0.138	0.711				
	Influencer-product congruence → Attitude toward product	5	0.297	0.129	-0.086	0.680	0.745	<0.001	0.651	0.839	81	33.837	<0.001				
	Product	3	0.370	0.202	-0.198	0.938	0.795	<0.001	0.697	0.893	87	19.023	<0.001	0.328	0.567		
	Utilitarian	2	0.120	0.536	-0.261	0.501	0.115	0.517	-0.233	0.463	16	1.189	0.276				
	Mega	4	0.090	0.470	-0.154	0.335	0.090	0.470	-0.154	0.335	0	1.444	0.695	32.393	<0.001		

TABLE 1 (Continued)

Hypotheses	Context	Subgroup	k	Random-effects model				Fixed-effects model				Heterogeneity			Subgroup analysis	
				Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value
	Method	Micro	1	0.859	<0.001	0.757	0.961	0.859	<0.001	0.757	0.961	0	0.000	1.000		
		Experiment	4	0.090	0.470	-0.154	0.335	0.090	0.470	-0.154	0.335	0	1.444	0.695	32.393	<0.001
		Survey	1	0.859	<0.001	0.757	0.961	0.859	<0.001	0.757	0.961	0	0.000	1.000		
		Influencer-product congruence → Attitude toward content	4	0.143	0.252	-0.101	0.387	0.143	0.934	-0.101	0.387	0	0.431	0.934		
	Product	Hedonic	2	0.125	0.478	-0.219	0.468	0.125	0.478	-0.219	0.468	0	0.022	0.883	0.022	0.884
		Utilitarian	2	0.161	0.362	-0.185	0.507	0.161	0.362	-0.185	0.507	0	0.388	0.534		
		Influencer-brand congruence → Attitude toward influencer	2	0.536	0.158	0.914	0.471	0.407	<0.001	0.407	0.535	97	30.407	<0.001		
H7(c)	Influencer-consumer congruence → Purchase intention	Platform	9	0.399	<0.001	0.207	0.592	0.366	<0.001	0.334	0.398	97	305.464	<0.001		
		Instagram	5	0.574	<0.001	0.420	0.728	0.602	<0.001	0.551	0.652	88	36.936	<0.001	5.877	0.015
		Others	4	0.193	0.181	-0.090	0.476	0.208	<0.001	0.167	0.250	98	129.814	<0.001		
		East	2	0.056	0.850	-0.523	0.635	0.088	0.003	0.030	0.147	99	97.023	<0.001	5.596	0.018
	Geography	West	7	0.500	<0.001	0.361	0.639	0.486	<0.001	0.448	0.524	92	84.210	<0.001		
		Hedonic	5	0.404	0.027	0.046	0.763	0.363	<0.001	0.320	0.406	98	299.758	<0.001	0.152	0.927
		Utilitarian	2	0.449	<0.001	0.367	0.532	0.449	<0.001	0.367	0.532	0	0.166	0.683		
		Others	2	0.330	<0.001	0.271	0.389	0.330	<0.001	0.271	0.389	0	0.166	0.683		
	Influencer	Mega	4	0.511	<0.001	0.392	0.630	0.529	<0.001	0.470	0.587	72	12.623	0.006	0.771	0.680
		Micro	2	0.292	0.584	-0.751	1.334	0.213	<0.001	0.146	0.279	100	240.872	<0.001		
		Others	3	0.338	<0.001	0.291	0.385	0.338	<0.001	0.291	0.385	0	0.341	0.843		
		Influencer-consumer congruence → Engagement	4	0.444	<0.001	0.308	0.580	0.464	<0.001	0.428	0.500	93	34.817	<0.001		
	Platform	Instagram	3	0.509	<0.001	0.449	0.569	0.509	<0.001	0.470	0.548	57	4.667	0.097	15.962	<0.001
		Others	1	0.240	<0.001	0.152	0.328	0.240	<0.001	0.152	0.328	0	0.000	1.000		
		East	1	0.240	<0.001	0.152	0.328	0.240	<0.001	0.152	0.328	0	0.000	1.000	15.962	<0.001
		West	3	0.509	<0.001	0.449	0.569	0.509	<0.001	0.470	0.548	57	4.667	0.097		
H8(b)	Influencer-product congruence → Purchase intention	Platform	4	0.214	0.089	-0.033	0.460	0.214	0.867	-0.033	0.460	0	0.728	0.867		
		Instagram	3	0.509	<0.001	0.449	0.569	0.509	<0.001	0.470	0.548	57	4.667	0.097	15.962	<0.001
		Others	1	0.240	<0.001	0.152	0.328	0.240	<0.001	0.152	0.328	0	0.000	1.000		
		East	1	0.240	<0.001	0.152	0.328	0.240	<0.001	0.152	0.328	0	0.000	1.000	15.962	<0.001
	Geography	West	3	0.509	<0.001	0.449	0.569	0.509	<0.001	0.470	0.548	57	4.667	0.097		
		Hedonic	2	0.216	0.223	-0.131	0.564	0.216	0.223	-0.131	0.564	0	0.154	0.695	0.000	0.985
		Utilitarian	2	0.216	0.223	-0.131	0.564	0.216	0.223	-0.131	0.564	0	0.154	0.695	0.000	0.985
		Others	2	0.216	0.223	-0.131	0.564	0.216	0.223	-0.131	0.564	0	0.154	0.695	0.000	0.985

(Continues)

TABLE 1 (Continued)

Hypotheses		Random-effects model					Fixed-effects model					Heterogeneity			Subgroup analysis		
Context	Subgroup	k	Est.	p Value	CI lb	CI ub	Est.	p Value	CI lb	CI ub	I <sup>2</sup> (%)	Q	p Value	Q	p Value		
Influencer-product congruence → Engagement	Utilitarian	2	0.211	0.235	-0.138	0.560	0.211	0.235	-0.138	0.560	0	0.573	0.449				
		4	0.337	0.008	0.090	0.585	0.365	<0.001	0.305	0.425	93	52.880	<0.001				
	East	1	0.236	0.250	-0.166	0.637	0.236	0.250	-0.166	0.637	0	0.000	1.000	0.108	0.742		
	West	3	0.357	0.023	0.050	0.665	0.357	0.023	0.050	0.665	96	52.471	<0.001				
	Micro	2	0.498	0.019	0.082	0.913	0.643	<0.001	0.544	0.742	76	4.202	0.040	48.354	<0.001		
	Others	2	0.201	<0.001	0.125	0.277	0.201	<0.001	0.125	0.277	0	0.323	0.570				
Method	Experiment	1	0.236	0.250	-0.166	0.637	0.236	0.250	-0.166	0.637	0	0.000	1.000	0.108	0.742		
	Survey	3	0.357	0.023	0.050	0.665	0.368	<0.001	0.307	0.429	96	52.471	<0.001				
H8(c)	Influencer-brand congruence → Purchase intention	2	0.518	<0.001	0.384	0.652	0.503	<0.001	0.436	0.570	73	3.682	0.055				
H10	Ad recognition → Purchase intention	3	0.168	0.000	0.079	0.258	0.171	<0.001	0.096	0.246	28	2.749	0.253				
	Platform	1	0.100	0.211	-0.057	0.257	0.100	0.211	-0.057	0.257	0	0.000	1.000	0.669	0.414		
		2	0.192	0.001	0.079	0.304	0.192	<0.001	0.106	0.277	43	1.740	0.187				
	Geography	2	0.192	0.001	0.079	0.304	0.192	<0.001	0.106	0.277	43	1.740	0.187	0.669	0.414		
		1	0.100	0.211	-0.057	0.257	0.100	0.211	-0.057	0.257	0	0.000	1.000				
	Product	2	0.192	0.001	0.079	0.304	0.192	<0.001	0.106	0.277	43	1.740	0.187	0.669	0.414		
		1	0.100	0.211	-0.057	0.257	0.100	0.211	-0.057	0.257	0	0.000	1.000				
	Ad recognition → Engagement	7	0.063	0.065	-0.004	0.131	0.068	<0.001	0.044	0.093	69	14.969	0.021				
	Platform	1	0.020	0.784	-0.123	0.163	0.020	0.784	-0.123	0.163	0	0.000	1.000	0.180	0.671		
		6	0.069	0.081	-0.009	0.146	0.070	<0.001	0.045	0.094	75	14.517	0.013				
Geography	East	4	0.082	0.003	0.027	0.138	0.074	<0.001	0.048	0.100	41	5.114	0.164	0.631	0.427		
	West	3	0.028	0.698	-0.115	0.172	0.028	0.425	-0.041	0.098	76	8.429	0.015				
Influencer	Micro	4	0.082	0.003	0.027	0.138	0.074	<0.001	0.048	0.100	35	5.114	0.164	0.631	0.427		
	Others	3	0.028	0.698	-0.115	0.172	0.028	0.425	-0.041	0.098	76	8.429	0.015				
Method	Experiment	5	0.040	0.285	-0.034	0.115	0.063	<0.001	0.038	0.088	65	9.968	0.041	1.334	0.248		
	Survey	2	0.129	0.085	-0.018	0.275	0.129	0.003	0.043	0.214	66	2.921	0.087				

Abbreviations: CI lb, confidence interval lower bound; CI ub, confidence interval upper bound; Est., estimate; k, number of studies.

( $r = 0.603$ ,  $p < 0.0001$ ), and brand ( $r = 0.669$ ,  $p < 0.0001$ ). Heterogeneity was moderate to low, with  $I^2$  statistics of 28.9%, 0.01%, and 27.72% for attitudes toward the influencer, content, and brand, respectively. Cochran's Q test indicated nonsignificant heterogeneity for attitudes toward the influencer ( $Q = 3.668$ ,  $p = 0.300$ ), content ( $Q = 3.130$ ,  $p = 0.372$ ), and brand ( $Q = 3.316$ ,  $p = 0.191$ ). A random-effects model was used due to moderate to low heterogeneity. Subgroup analysis showed no significant differences in Q test statistics for platform type, geography, product type, influencer type, or method type. These findings suggest consistent effects of social media influencer credibility on attitudes across different contexts and methodologies.

**H1b:** Social media influencer trustworthiness significantly correlated with attitudes toward the influencer ( $r = 0.604$ ,  $p < 0.0001$ ), content ( $r = 0.525$ ,  $p < 0.0001$ ), and brand ( $r = 0.565$ ,  $p < 0.0001$ ). Heterogeneity was high ( $I^2 = 89.64\% - 90.82\%$ ). Cochran's Q test confirmed significant heterogeneity for all analyses (Influencer:  $Q = 21.782$ ,  $p < 0.0001$ ; Content:  $Q = 24.909$ ,  $p < 0.0001$ ; Brand:  $Q = 58.443$ ,  $p < 0.0001$ ). Despite heterogeneity, our meta-analysis supports a strong positive relationship between social media influencer trustworthiness and attitudes. Subgroup analysis revealed variant effects of trustworthiness on brand attitudes across platform type ( $Q = 6.060$ ,  $p = 0.048$ ) and product type ( $Q = 6.214$ ,  $p = 0.045$ ), with stronger effects on Instagram ( $r = 0.665$ ,  $p < 0.0001$ ) and utilitarian products ( $r = 0.736$ ,  $p < 0.0001$ ). Methodological subgroup analysis was not feasible due to all effects being sourced from journal-published studies using experiments or surveys.

The statistical process employed for H1a and H1b was consistently utilized for subsequent hypotheses, with redundant explanations excised for brevity and clarity.

**H1c:** Social media influencer expertise had significant positive correlations with attitudes toward the influencer ( $r = 0.396$ ), content ( $r = 0.369$ ), and brand ( $r = 0.533$ ), with heterogeneity across studies. Stronger effects of expertise on brand attitudes were observed for utilitarian products.

**H1d:** Social media influencer authenticity had a moderate positive impact on brand attitudes ( $r = 0.335$ ), with negligible heterogeneity ( $I^2 = 0\%$ ), indicating consistency across studies.

**H2a:** Social media influencer credibility showed significant positive effects on purchase ( $r = 0.466$ ) and engagement ( $r = 0.670$ ), with no significant differences across platform, geography, product, or influencer type.

**H2b:** Social media influencer trustworthiness significantly impacted purchase intention ( $r = 0.466$ ) and engagement ( $r = 0.670$ ), with heterogeneity observed. The effect of

trustworthiness on engagement varied across platform, product, and influencer types, with stronger effects on Instagram, utilitarian products, and mega influencers.

**H2c:** Social media influencer expertise showed significant correlations with purchase intention ( $r = 0.396$ ) and engagement ( $r = 0.274$ ), with considerable heterogeneity. The impact of expertise on engagement varied across platform, geography, product, and influencer type, with stronger effects on Instagram, Eastern countries, utilitarian products, and microinfluencers.

**H2d:** Insufficient empirical studies prevented analysis of the relationship between social media influencer authenticity, purchase intention, and engagement.

**H3a:** Social media influencer attractiveness positively influenced attitudes toward the influencer ( $r = 0.380$ ), content ( $r = 0.433$ ), and brand ( $r = 0.452$ ), with significant heterogeneity for attitudes toward influencer and brand.

**H3b:** Homophily significantly influenced attitudes toward content ( $r = 0.511$ ) and brand ( $r = 0.565$ ), with substantial heterogeneity. Consistent effects of homophily on content attitudes were observed across platform, geography, product, influencer type, and methodology.

**H4a:** Social media influencer attractiveness correlated significantly with purchase intention ( $r = 0.386$ ) and engagement ( $r = 0.288$ ), with high heterogeneity. Consistent effects of attractiveness on engagement were observed across various contexts, while methodological and publication type differences had no significant influence.

**H4b:** Homophily showed significant positive effects on purchase intention ( $r = 0.509$ ) and engagement ( $r = 0.424$ ), with substantial heterogeneity. Stronger effects of homophily on engagement were observed for utilitarian products compared to hedonic and unspecified products.

**H5:** Insufficient valid effect sizes prevented examination of H5a and H5b.

**H6a:** Opinion leadership significantly correlated with purchase intention ( $r = 0.443$ ) and engagement ( $r = 0.442$ ), with high heterogeneity. Differences in the effect of opinion leadership on purchase intention were observed across geographical contexts and influencer types.

**H6b:** Content informativeness significantly influenced purchase intention ( $r = 0.286$ ) and engagement ( $r = 0.181$ ), with pronounced heterogeneity. Stronger effects on purchase intention were found for hedonic products and in gray literature compared to peer-reviewed articles.

**H7a:** Influencer–consumer congruence did not have a statistically significant impact on attitudes toward content. Variations in its effect were observed across geographical contexts, product types, and influencer types.

**H7b:** Influencer–product congruence had a consistent and positive impact on attitudes toward the influencer but lacked statistical significance for attitudes toward the product and content. Stronger effects were found for microinfluencers and survey data.

**H7c:** Influencer–brand congruence showed a significant correlation with attitudes toward the influencer, but a high degree of heterogeneity limited further subgroup analysis due to data sparsity.

**H8a:** Social media influencer–consumer congruence significantly influenced purchase intention ( $r = 0.399$ ) and engagement ( $r = 0.444$ ), with significant heterogeneity. Platform and geographical disparities were observed, with stronger effects on purchase intention on Instagram and in Western countries. Similarly, more pronounced effects on engagement were found on Instagram and in Western countries.

**H8b:** Social media influencer–product congruence had a marginally significant effect on purchase intention ( $r = 0.214$ ) and a statistically significant impact on engagement ( $r = 0.337$ ), with heterogeneity observed for engagement. Differences across influencer types were found, with stronger effects on engagement for microinfluencers.

**H8c:** Social media influencer–brand congruence significantly influenced purchase intention ( $r = 0.518$ ), but engagement could not be determined. Substantial heterogeneity was observed for purchase intention.

**H9:** Insufficient empirical studies prevented the evaluation of H9.

**H10:** Ad recognition significantly influenced purchase intentions ( $r = 0.168$ ) and had a marginally significant effect on engagement ( $r = 0.063$ ), with moderate heterogeneity for purchase intention and high heterogeneity for engagement. No significant differences were found across platforms, geography, influencer type, or method due to limited data.

**RQ1.** Partial support for RQ1, indicating platform variations in effect sizes. Social media influencer trustworthiness has a stronger influence on brand attitudes on Instagram and YouTube. Instagram exhibits more pronounced effects of trustworthiness, expertise, and social media influencer–consumer congruence on engagement and purchase intentions.

**RQ2.** Partial support for RQ2, revealing significant geographical differences. In Eastern countries, social media influencer trustworthiness and expertise have stronger effects on attitudes toward the influencer, while homophily has a greater impact on engagement. Western countries show higher effect sizes for social media influencer attractiveness on purchase intentions, social media influencer opinion leadership on purchase intentions, and social media influencer–consumer congruence on attitudes toward content, purchase intentions, and engagement.

**RQ3.** Partial support for RQ3, indicating significant differences in effect sizes across product categories. Social media influencer trustworthiness and expertise have a stronger impact on brand attitudes toward utilitarian products. The effects of trustworthiness, expertise, and attractiveness on consumer engagement are more pronounced for utilitarian products. Homophily has a stronger influence on purchase intentions and engagement for hedonic products. Content informativeness plays a significant role in driving purchase intentions for hedonic products. Social media influencer–consumer congruence has a reduced impact on attitudes toward content in hedonic products.

**RQ4.** Support for RQ4, showing variations in effect sizes across different types of social media influencers. Mega influencers have a stronger influence on engagement through trustworthiness, expertise, and homophily. Microinfluencers have a greater impact on purchase intentions and engagement through perceived opinion leadership. The effect of social media influencer–consumer congruence on attitudes toward content is diminished for microinfluencers, while the influence of social media influencer–product congruence on attitudes toward the product and engagement remains substantial.

## 4.2 | Results of publication bias tests

The results of these analyses are summarized in Supporting Information: Web Appendix 6. Visual inspection of a funnel plot (not included due to space limitations) revealed asymmetries in certain relationships, suggesting the presence of publication bias. Egger's test revealed significant small study effects in 10 relationships (social media influencer credibility–attitude toward content, social media influencer trustworthiness–engagement, homophily–engagement, opinion leadership–purchase intentions, opinion leadership–engagement, content informativeness–purchase intentions, content informativeness–engagement, social media influencer–consumer congruence–attitude toward content, social media influencer–product congruence–attitude toward product, and social media influencer–consumer congruence–engagement), indicating potential publication bias.

We performed Rosenthal's Fail-safe  $N$  test to assess publication bias. Results from Supporting Information: Web Appendix 6 indicated that some of the hypothesized relationships exceeded the benchmark of  $N > 5k + 10$ . The Fail-safe  $N$  test determined the number of additional studies (indicated as  $N$  within brackets) required to nullify the cumulative effect size observed in the meta-analysis for the

following nine effects: authenticity-attitude toward the brand ( $N = 20$ ), social media influencer-consumer congruence-attitude toward influencer ( $N = 13$ ), social media influencer-product congruence-attitude toward content ( $N = 13$ ), social media influencer-product congruence-attitude toward influencer ( $N = 18$ ), social media influencer-product congruence-attitude toward content ( $N = 0$ ), social media influencer-brand congruence-attitude toward influencer ( $N = 18$ ), social media influencer-product congruence-purchase intention ( $N = 1$ ), advertising recognition-purchase intention ( $N = 18$ ), and advertising recognition-engagement ( $N = 36$ ).

Duval and Tweedie's Trim-and-Fill method (Duval & Tweedie, 2000) was used to examine publication bias. The method revealed no missing studies ( $n = 0$ ) on the right side of the funnel plot in the majority of cases, indicating no detectable evidence of publication bias in our included studies. However, the Trim-and-Fill approach identified instances where a specific number of studies (denoted as " $n$ " within brackets) were omitted from the right side of the funnel plot for the following seven effects: social media influencer credibility-attitude toward influencer ( $n = 1$ ), social media influencer attractiveness-purchase intentions ( $n = 4$ ), homophily-engagement ( $n = 2$ ), social media influencer-product congruence-attitude toward the product ( $n = 1$ ), social media influencer-product congruence-purchase intention ( $n = 1$ ), social media influencer-product congruence-engagement ( $n = 1$ ), and advertising recognition-engagement ( $n = 1$ ). After adjusting for these potentially absent studies, the corresponding effect size estimates—0.711, 0.422, 0.469, 0.380, 0.173, 0.397, and 0.0752—deviated by  $-2.09\%$ ,  $+10.06\%$ ,  $+10.78\%$ ,  $+28.12\%$ ,  $-19.09\%$ ,  $+17.75\%$ , and  $+18.8\%$ , respectively, indicating either lower or higher values compared to the original unadjusted effect size. The observed divergence in our meta-analysis implies that the findings for certain effects may be either underestimated or overestimated due to potential publication bias. Therefore, it is crucial to interpret these results with caution.

The discrepancies among the three publication bias tests (fail-safe  $N$ , Egger's regression, and trim-and-fill) can be attributed to their different assumptions and sensitivity to data set characteristics. While the fail-safe  $N$  method considers the number of studies and effect sizes, Egger's regression and trim-and-fill methods account for effect sizes and standard errors, making them more sensitive to study precision. These differences contribute to the observed variations in results. Although statistically significant effect sizes were found for most relationships affected by publication bias, it is important to acknowledge the potential influence of publication bias. Caution should be exercised when interpreting the reported effect sizes, as the true effect size may differ, either smaller or larger, from the estimated value due to publication bias.

## 5 | DISCUSSION

The comprehensive meta-analysis underscored that credibility, trustworthiness, and perceived expertise of social media influencers emerged as the principal factors influencing attitudinal outcomes.

These salient factors indicate that the Source Credibility Theory offers the most robust and cogent explanatory framework for understanding these outcomes within the sphere of social media influencer research.

The theoretical model that assumes the second highest rank in elucidating attitudinal outcomes is the Parasocial Interaction Theory. Variables such as homophily and social media influencer attractiveness were found to significantly influence attitudes toward content and associated brands. Conversely, Congruity Theory, as it pertains to social media influencer congruence with the consumer, the product, and the brand, yielded the least substantial effect sizes concerning attitudinal outcomes.

When shifting the lens to behavioral outcomes, such as purchase intentions and engagement, the Source Credibility Theory resurfaces as the dominant predictor. The credibility and trustworthiness of the social media influencer maintain their significance, embodying the two predominant variables. Congruity Theory assumes a more significant role in this context, with social media influencer congruence with the brand and the consumer emerging as the second most potent predictor. This suggests that Congruity Theory's explanatory power is heightened for behavioral outcomes as compared to attitudinal outcomes.

The third most influential predictor of behavioral outcomes is homophily, as posited by the Parasocial Interaction Theory. Additionally, variables from the two-step flow model, including opinion leadership and content informativeness, exhibited moderate yet discernible effects on behavioral outcomes. Conversely, the Persuasion Knowledge variable, which refers to the recognition of content as advertising, registered the weakest influence on these outcomes.

An additional layer of analysis revealed that the magnitude of these effects varied across different study contexts, as revealed by the moderation analysis. The subsequent paragraphs elucidate the factors contributing to these variations, thereby offering a nuanced understanding of the underlying dynamics.

### 5.1 | Methodological diversity

We examined the influence of methodological attributes, including study design and publication type, on effect sizes. Overall, these factors had minimal impact on effect sizes, except for a few notable cases. Social media influencers expertise in customer engagement had stronger effects in correlational studies and gray literature, while the effect of content informativeness on purchase intentions was more pronounced in gray literature. Although most studies were correlational and peer-reviewed, methodological variations were not significant. However, it is crucial to acknowledge that correlational studies conducted in real-world contexts have the potential to yield stronger effects owing to common method variance, unaccounted confounding variables, and reduced constraints imposed by experimental control, which in turn facilitate a broader exploration of variables and settings or enhance their ecological validity. The difference in effect sizes between peer-reviewed studies and gray



literature may be attributed to variations in sampling techniques and the practical focus of gray literature. Nonetheless, it is essential to note the limited methodological diversity in the data set, with correlational studies and peer-reviewed articles dominating the empirical research. Additionally, the quality assessment of the included articles in Supporting Information: Web Appendix 3 suggests the need for cautious interpretation of the findings for certain relationships due to the inclusion of low-quality studies.

### 5.1.1 | Geographical context

In this discussion, we align our findings with the predicted relationships, shedding light on how our observations compare with theoretical expectations. Our study assessed the influence of geographical context on effect sizes about social media influencers. We observed distinct variances between Eastern and Western nations. Specifically, Eastern regions exhibited larger effect sizes for social media influencer trustworthiness and expertise influencing attitudes, reflecting a culture that favors group-endorsed influencers (Hofstede, 2001), and a more potent homophily effect on engagement potentially due to local user behavior (Zhang & de Seta, 2018). This pronounced influence of trustworthiness and expertise in the Eastern regions correlates well with our predictions, emphasizing the weightage of group-endorsed influencers in these cultures. Conversely, Western countries demonstrated greater effect sizes for social media influencer attractiveness on purchase intentions, and social media influencer–consumer congruence on various facets, aligning with their individualistic cultural norms (Hofstede, 2001) and preferred content presentation styles such as personal storytelling (Moriuchi, 2021). The heightened impact of attractiveness and influencer–consumer congruence in Western countries is in line with our anticipated effects for individualistic cultures. Geographical context, cultural norms, user behavior, and platform preferences substantiate the observed variances in effect sizes (Abidin & Brown, 2018), providing plausible insights into the disparities corroborated by existing literature (Fernández-Prados et al., 2021). In Western countries, influencer categorizations and content styles, namely personal storytelling and aspirational promotion, are potentially conducive to larger social media influencer opinion leadership and social media influencer–consumer congruence effect sizes (Moriuchi, 2021), further emphasizing the cultural and behavioral divergence between Eastern and Western regions. This divergence, observed in the prominence of personal storytelling in the West and the inclination toward group-endorsed influencers in the East, aligns aptly with our theoretical predictions.

### 5.1.2 | Platform context

Social media influencer trustworthiness exerted a greater influence on brand attitudes on Instagram and YouTube. As per our predictions anchored in the Rational-based Classifications (Wilkes et al., 2016),

YouTube's long-form content was expected to facilitate a deeper understanding, enhancing perceptions of an influencer's expertise. However, our observations emphasize a heightened trustworthiness more than expertise, which is intriguing. One possibility is that while users initially turn to YouTube for in-depth content, trustworthiness emerges as a dominant factor in continued engagement. In relation to source credibility theory of our predictions, the elevated influencer trustworthiness on Instagram could be due to its immediate visual storytelling, while its effects on YouTube might stem from the deeper connection users establish over time through extended content.

These findings can be contextualized through Parasocial Interaction Theory, which elucidates unilateral audience-media figure relationships, heightened on interactive platforms like Instagram and YouTube (Lee & Watkins, 2016; Molyneux, 2015). Our findings resonate well with the predicted impact of parasocial relationships, where platforms with a more personal touch, such as Instagram and YouTube, nurture deeper connections between users and influencers.

However, a notable deviation from our predictions is the limited influence of platform type on credibility effects. While we had anticipated desktop platforms like LinkedIn to show stronger effects on credibility due to their professional functionalities, our findings emphasize a more pronounced influence of trustworthiness on mobile-first platforms like Instagram. This could indicate a paradigm shift in how credibility is perceived across platforms, with mobile-first platforms offering a more immediate and authentic user experience. Social media influencer–consumer congruence significantly influences engagement and purchase intentions, particularly on visually driven, lifestyle-centric platforms like Instagram. This aligns well with our predictions surrounding the social influence-based classifications of Wilkes et al. (2016), where visual appeal and mutual interests (as seen in “liking”) boost homophily on platforms like Instagram (parasocial interaction theory).

In contrast, platforms characterized by professional or information-centric relationships, such as Twitter or LinkedIn, may experience less pronounced personal connection and lifestyle congruence, potentially limiting trustworthiness and expertise's impact on brand attitudes or engagement (Freberg et al., 2011). Our results echo the hypothesized lesser impact of attractiveness and homophily on platforms like Twitter or LinkedIn, as the nature of these platforms leans more toward information exchange than personal connections).

Our results on the impact of platform type and content diverge slightly from our predictions. While we had expected platforms like Twitter and LinkedIn to be more text-heavy and bolster credibility and informativeness, our observations highlight a predominant influence of trustworthiness. This emphasizes the evolving nature of these platforms, with users possibly valuing genuine interactions over pure information exchange.

In wrapping up the discussion, while our observations align with a number of our predictions, there are noteworthy deviations. It underscores the evolving and multifaceted nature of user–influencer dynamics on social media platforms. As the digital landscape continuously morphs, it's paramount to revisit and refine our theoretical underpinnings to remain attuned to these shifts.

### 5.1.3 | Product context

Investigating the effect variance of social media influencers on different product types—hedonic, utilitarian, and unclassified—revealed differential impacts. Social media influencer trustworthiness and expertise on brand attitudes exhibited a stronger influence for utilitarian products. This aligns with our predictions based on Source Credibility Theory where credibility, trustworthiness, and expertise were hypothesized to be more salient for utilitarian products, underpinning their functional nature. Conversely, homophily's impact on purchase intentions and engagement was more pronounced for hedonic products. This reflects our predictions rooted in Parasocial Relationships Theory and Similarity-Attraction Theory, highlighting the aspirational aspects of such products and the central role of emotional triggers. Interestingly, the informativeness of content significantly drove purchase intentions for hedonic products, deviating from conventional assumptions. This was a surprising observation, deviating from our predicted relationships where hedonic products were expected to have a weaker moderating effect on informativeness. This suggests that while hedonic purchases are emotional, consumers appreciate detailed information to make informed decisions, especially if they perceive the purchase as a significant investment. Additionally, social media influencer–consumer congruence had a diminished impact on attitudes toward content in hedonic products. This divergence from our predictions based on Congruity Theory suggests a potential shift in consumer values, where they might now desire differentiation from influencers when considering hedonic purchases, valuing uniqueness over similarity.

Our findings underscore the nuanced effectiveness of social media influencers on brand attitudes and engagement, contingent upon product nature. For utilitarian products, characterized by practical attributes, social media influencer trustworthiness, expertise, and attractiveness exert greater influence (Parker & Wang, 2016). Conversely, homophily's stronger effect on purchase intentions and engagement for hedonic products, typically emotional and aspirational, emanates from social media influencer portrayal of aligning lifestyles, fostering emotional bonds (Escalas, 2004). Despite hedonic products' emotional nature, the counterintuitive heightened impact of content informativeness facilitates confident purchasing decisions due to the significant personal and financial investment they often entail (Bridges & Florsheim, 2008). The weaker influence of social media influencer–consumer congruence on attitudes toward content within hedonic products may stem from their aspirational nature. Consumers may covet distinctiveness or differentiation from their ideal self or peers, consequently reducing congruence's relevance (Belk, 1988). This relationship warrants further exploration for comprehensive understanding.

### 5.1.4 | Type of influencer context

Our study examined the effects of influencer types, namely mega, micro, and unspecified, on effect sizes, categorized according to available research and common influencer distribution. Mega

influencers' social media influencer trustworthiness and expertise significantly impacted engagement. This was consistent with our predictions, emphasizing the role of follower count in augmenting credibility, particularly for mega influencers, even though reach could sometimes dilute their perceived credibility. Reflecting the Parasocial Interaction Theory's notion of unilateral relationships with media figures inducing robust engagement (Horton & Richard Wohl, 1956), we find a manifestation of our predictions where a larger following boosts the influencer's attractiveness. Conversely, microinfluencers wielded more influence on purchase intentions and engagement through perceived opinion leadership. This aligns with our predictions, where niche influencers can offer more tailored content and opinions that resonate deeply with their audience. Yet, social media influencer–consumer congruence's impact on content attitudes was reduced for microinfluencers. This was unexpected, diverging from our prediction, indicating a potential shift in audience values or the influencer's approach. Meanwhile, social media influencer–product congruence amplified attitudes toward the product and engagement, echoing our predictions regarding the congruence's potency in influencer–brand relationships.

Mega influencers' extensive reach and high-profile collaborations potentially heightened their perceived trustworthiness and expertise. However, as speculated in our predictions, their expansive follower base might also have introduced skepticism about their authenticity. Our study underscores homophily's amplified impact among mega influencers, attributable to their diverse followers identifying with varied influencer aspects, thereby stimulating engagement. Conversely, microinfluencers, given their smaller, focused audience, exert substantial influence on purchase intentions and engagement through perceived opinion leadership, aligning with the two-step flow model (Katz & Lazarsfeld, 1964). Social media influencer–consumer congruence influences content attitudes less among microinfluencers, possibly due to followers valuing unique perspectives over similarity (Abidin, 2018). This departure from our predictions underscores the need for future studies to dissect this nuance further. Conversely, the impact of social media influencer–product congruence on product attitudes and engagement is profound among microinfluencers, owing to their niche focus enhancing endorsement credibility (De Veirman et al., 2017).

## 5.2 | Theoretical implications

This meta-analysis contributes to the social media influencer literature in multiple ways. First, despite abundant research indicating the influence of social media influencers on consumer attitudes and behaviors, results remain inconsistent and disparate. No prior study has cohesively synthesized these findings via meta-analysis. This research fills this gap, offering robust, generalizable insights into the relationship between social media influencers' antecedents and resultant variables.

Second, many empirical studies on social media influencers are limited to singular sample sets or contexts, precluding diverse

characteristics exploration. This necessitates a meta-analytic approach to this literature. Despite qualitative syntheses attempts (e.g., Vrontis et al., 2021), examinations of inconsistency-contributing factors are scarce. For instance, the influencer characteristic of expertise has been shown as significant for positive consumer attitudes in some studies. Yet, other studies dispute its influence, positing minimal impact on consumer attitudes and behaviors.

This meta-analysis offers significant theoretical implications, mandating potential extensions to current social media influencer research models. The evident impact of credibility, trustworthiness, and perceived expertise on attitudinal outcomes validates the Source Credibility Theory's centrality, underscoring its enhanced incorporation in future social media influencer research. The findings also indicate potential to augment this theory, examining the interplay of these characteristics with the dynamic social media landscape and audience perception.

The prominent influence of homophily and social media influencer attractiveness, informed by Parasocial Interaction Theory, on attitudinal outcomes suggests potential for broader exploration and expansion of this theory to incorporate contemporary parasocial relationships in digital mediums. Future research should further scrutinize the intricate relationship between these variables and consumer attitudes. Interestingly, the relatively minor effect sizes linked to Congruity Theory for attitudinal outcomes imply a need for this theory's refinement. In contrast, its pronounced relevance in predicting behavioral outcomes confirms its value in deciphering consumer behavior. Further studies should explore the interaction between attitudinal and behavioral outcomes within the Congruity Theory framework and potential extensions, such as analyzing social media influencer, brand, and consumer congruence across various consumer behaviors.

The substantial influence of homophily and the two-step flow model predictors on behavioral outcomes present an opportunity to delve deeper into these theoretical frameworks, particularly examining the interplay among homophily, opinion leadership, and content informativeness in the realm of digital influencer marketing. The marginal influence of the Persuasion Knowledge variable calls for reassessing the role of advertising recognition within Persuasion Knowledge Theory or suggests that other factors might be more critical in the context of social media influencer-led persuasion, potentially extending the theory. This incongruity prompts a reconsideration or augmentation of the Persuasion Knowledge Model to accommodate the evolving digital advertising landscape and sophisticated audiences.

Geographically, this research advances the cultural values theory (Hofstede, 2001) by underscoring the differential effects of social media influencer attributes across Eastern and Western societies. Echoing their collectivist ethos, Eastern nations revealed a more potent influence of social media influencer trustworthiness, expertise, and homophily (Triandis, 2001). Contrastingly, Western societies, with their individualistic tendencies, showed more pronounced effects for social media influencer attractiveness, opinion leadership, and social media influencer-consumer congruence, mirroring the

prevalent self-enhancement and independent self-construal in these contexts (Markus & Kitayama, 1991).

In terms of platform context, this study expands the applicability of the Parasocial Interaction Theory (Horton & Richard Wohl, 1956) by illustrating platform-specific impacts. Interactive platforms such as Instagram and YouTube significantly amplify social media influencer trustworthiness and expertise, thereby bolstering brand attitudes. In contrast, professionally oriented platforms like LinkedIn may exhibit divergent social media influencer effects (Freberg et al., 2011). Regarding product context, this research bolsters differentiation between hedonic and utilitarian products, demonstrating a more significant influence of social media influencer trustworthiness, expertise, and attractiveness for utilitarian items, whereas homophily and content informativeness are more influential for hedonic products (Bridges & Florsheim, 2008; Parker & Wang, 2016). The influencer context investigation underscores the distinct impacts of mega and microinfluencers, thereby enhancing understanding of social media influencer effects in relation to influencer status (De Veirman et al., 2017; Lou & Yuan, 2019). Such findings underscore the multifaceted roles of different influencer types and call for further context-specific research to elucidate outcomes, highlighting the need for theoretical evolution and refinement within this dynamic digital landscape.

### 5.3 | Practical implications

The meta-analysis findings have practical implications for companies utilizing social media influencers (social media influencers) and for social media influencers aiming to improve their effectiveness and business. Companies should carefully select social media influencers who possess credibility, trustworthiness, and expertise as these attributes significantly impact consumers' attitudes toward the promoted product or brand. Therefore, prior assessment of these attributes is crucial before partnering with a social media influencer (Vrontis et al., 2021).

According to the Parasocial Interaction Theory, social media influencers who display high homophily and attractiveness can strongly influence consumers' attitudes. Thus, companies should consider social media influencers who share characteristics with their target audience and possess a certain level of appeal. This fosters stronger parasocial relationships with the audience and enhances the effectiveness of promotional activities (Freberg et al., 2011; Horton & Richard Wohl, 1956).

The findings also emphasize the significance of congruity between the social media influencer, the consumer, and the brand in driving behavioral outcomes such as purchase intentions and engagement. Companies should ensure that their chosen social media influencers align well with their brand and target audience. For instance, a tech company would benefit from partnering with a social media influencer recognized for their expertise and credibility in technology-related content (Parker & Wang, 2016).

Social media influencers can enhance their effectiveness and business by establishing and maintaining credibility, trustworthiness,

and expertise. This entails consistently delivering reliable, high-quality content, being transparent with the audience, and continuously updating knowledge and skills (Vrontis et al., 2021). To enhance homophily and attractiveness, social media influencers should understand their audience, identify shared attributes, and incorporate them into their content. This includes improving personal attractiveness in terms of physical appearance, personality, style, and other appealing attributes (Freberg et al., 2011; Horton & Richard Wohl, 1956).

Moreover, social media influencers should seek partnerships with brands that align with their persona, values, and the expectations of their audience. Establishing credibility and trust, presenting expertise, and being relatable and attractive to followers are crucial strategies (De Veirman et al., 2017; Vrontis et al., 2021).

The study highlights the significance of platforms in enhancing social media influencer marketing effectiveness. Platforms that facilitate the sharing of authentic, relatable, and expert content by social media influencers contribute to stronger social media influencer-follower relationships, thereby increasing the effectiveness of social media influencer marketing. Instagram and YouTube, known for their high interactivity and the rich, personal content shared by social media influencers, have demonstrated effectiveness in social media influencer marketing (Freberg et al., 2011).

Social media influencers have revolutionized information dissemination and consumption, influencing societal values and behaviors. Health influencers can contribute to improved health outcomes but also promote unrealistic body images and consumerist attitudes. Unlike traditional celebrities, social media influencers gain popularity through niche expertise, authenticity, and engagement, democratizing information flow. The study emphasizes the importance of trustworthiness, credibility, and perceived expertise of social media influencers in shaping follower attitudes and behaviors, reflecting a societal shift toward personalized, authentic information sources. This highlights the democratization of influence, where expertise and authenticity carry more weight than traditional status. To ensure reliability, policymakers should enforce stricter regulations on paid partnership disclosure and transparency in social media influencer-brand collaborations. Transparent rules for disclosing paid partnerships and advertisements are essential to prevent misleading endorsements. However, caution is necessary as attractiveness and relatability can perpetuate harmful beauty standards and unrealistic expectations, particularly among vulnerable demographics like teenagers. Establishing policies that enforce ethical guidelines and disclosure of paid partnerships is crucial to maintain the accuracy of information from social media influencers. Misinformation in critical domains such as health and finance can have significant societal consequences. The study's findings indicate the need for platform-specific regulations due to varying effects. Policymakers should also consider product-specific regulations, particularly for utilitarian products where incorrect information can have severe consequences.

These findings emphasize the criticality of a strategic approach in selecting and collaborating with social media influencers for successful social media influencer-led promotion. The interplay of

credibility, trustworthiness, expertise, homophily, attractiveness, and congruity is crucial for achieving favorable outcomes.

## 5.4 | Limitations and direction for future research directions

This meta-analysis provides valuable insights into the effects of social media influencers on consumer attitudes and behaviors. However, limitations should be considered when interpreting the findings and guiding future research. To advance understanding, future research should prioritize key areas in social media influencer influence on consumer behavior.

First, more empirical studies are needed to address the current scarcity in this field, allowing for the establishment of robust evidence and comprehensive meta-analyses. Researchers should prioritize conducting diverse empirical studies across various samples, industries, and geographical locations to enhance the comprehensive understanding of social media influencer influence.

Second, the search process, guided by Cochrane's handbook and PRISMA guidelines, focused on English-language articles and academic sources, potentially introducing language and publication bias. Future research should include studies in other languages to ensure a broader representation of the research landscape and minimize bias.

Third, improving research quality in the field of social media influencer influence is essential. Researchers should employ rigorous methodologies, such as well-designed experiments, random sampling, appropriate control variables, and robust statistical analyses, to enhance validity and reliability. This call for greater methodological rigor will strengthen the findings in social media influencer research.

Fourth, future research should expand the theoretical focus beyond dominant theories like Source Credibility and Parasocial Interaction. Exploring additional frameworks from consumer psychology and social influence can provide a comprehensive understanding of the underlying mechanisms driving consumer behavior in the context of social media influencers.

Fifth, methodological diversity in social media influencer research should be increased to capture complexities and nuances. Currently, correlational studies dominate, but future research should incorporate experimental designs, longitudinal studies, and mixed-method approaches for a wider range of insights into social media influencer influence.

Sixth, achieving a balanced focus across diverse contexts is crucial. Currently, there is an imbalance in emphasis on Western cultures, specific social media platforms, product types, and influencer types. Researchers should aim for a more balanced representation to capture the diverse dynamics of social media influencer influence in various settings and populations.

Finally, researchers should consider the impact of new media and AI advancements. The emergence of new social media platforms and AI integration offer opportunities for research exploration. Studying the influence of emerging platforms and incorporating AI into social

media influencer research can provide valuable insights into the evolving dynamics of social media influencer–consumer relationships.

Addressing these limitations and pursuing research directions in these areas will contribute to a more robust and comprehensive understanding of the effects of social media influencers on consumer attitudes and behaviors.

## 6 | CONCLUSION

This meta-analysis identified key factors in social media influencer marketing, including credibility, trustworthiness, and perceived expertise of social media influencers. The study supported the relevance of Source Credibility Theory for attitudinal outcomes and Parasocial Interaction Theory for homophily and attractiveness effects. Congruity Theory showed varying impacts on attitudinal and behavioral outcomes. Future research should prioritize methodological diversity, geographical and platform contexts, and product-specific regulations. Practitioners should prioritize credible and trustworthy social media influencers, consider congruity, and leverage authentic platforms. Policymakers should enforce regulations for transparency and accurate information from social media influencers. In summary, a strategic approach to social media influencer selection, considering credibility, trustworthiness, expertise, homophily, attractiveness, congruity, and context, can optimize social media influencer marketing.

## DATA AVAILABILITY STATEMENT

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.

## ORCID

Jiseon Han  <http://orcid.org/0009-0003-3496-4748>

## REFERENCES

- Abidin, C. (2018). *Internet celebrity: Understanding fame online*. Emerald Publishing Limited.
- Abidin, C., & Brown, M. L. (Eds.). (2018). *Microcelebrity around the globe: Approaches to cultures of internet fame*. Emerald Group Publishing.
- Bacharach, S. B. (1989). Organizational theories: Some criteria for evaluation. *The Academy of Management Review*, 14(4), 496–515.
- Balshem, H., Helfand, M., Schünemann, H. J., Oxman, A. D., Kunz, R., Brozek, J., Vist, G. E., Falck-Ytter, Y., Meerpohl, J., & Norris, S. (2011). GRADE guidelines: 3. Rating the quality of evidence. *Journal of Clinical Epidemiology*, 64(4), 401–406.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15(2), 139–168.
- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2021). *Introduction to meta-analysis*. John Wiley & Sons.
- Bridges, E., & Florsheim, R. (2008). Hedonic and utilitarian shopping goals: The online experience. *Journal of Business Research*, 61(4), 309–314.
- Brown, M. L., & Phifer, H. (2018). The rise of Belle from Tumblr. *Microcelebrity Around the Globe* (pp. 121–130). Emerald Publishing Limited.
- Business Insider. (2021). Influencer Marketing 2019: Why brands can't get enough of an \$8 billion ecosystem driven by Kardashians, moms, and tweens. *Business Insider Africa*. <https://africa.businessinsider.com/tech/influencer-marketing-2019-why-brands-cant-get-enough-of-an-dollar8-billion-ecosystem/22f6wzwx>
- Byrne, D. E. (1971). *The attraction paradigm* (462). Academic press.
- Casaló, L. V., Flavián, C., & Ibáñez-Sánchez, S. (2020). Influencers on Instagram: Antecedents and consequences of opinion leadership. *Journal of Business Research*, 117, 510–519.
- Cho, K., Jung, K., Lee, M., Lee, Y., Park, J., & Dreamson, N. (2022). Qualitative approaches to evaluating social media influencers: A case-based literature review. *International Journal of Electronic Commerce Studies*, 13(2), 119–136.
- Chu, S. C., & Kamal, S. (2008). The effect of perceived blogger credibility and argument quality on message elaboration and brand attitudes: An exploratory study. *Journal of Interactive Advertising*, 8(2), 26–37.
- Dixon, S. (2023, February 14). *Most popular social networks worldwide as of January 2023, ranked by number of monthly active users*. Statista. <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>
- Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1–7.
- Djafarova, E., & Trofimenko, O. (2019). 'Instafamous'—credibility and self-presentation of micro-celebrities on social media. *Information, communication & Society*, 22(10), 1432–1446.
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56(2), 455–463.
- Egger, M., Smith, G. D., & Phillips, A. N. (1997). Meta-analysis: Principles and procedures. *BMJ*, 315(7121), 1533–1537.
- Escalas, J. E. (2004). Imagine yourself in the product: Mental simulation, narrative transportation, and persuasion. *Journal of Advertising*, 33(2), 37–48.
- Fernández-Prados, J. S., Lozano-Díaz, A., Bernal-Bravo, C., & Muyor-Rodríguez, J. (2021). Influencers and social media: State of the art and bibliometric analysis. In 2021 9th international conference on information and education technology (ICIET). (456–460)
- Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, 37(1), 90–92.
- Friestad, M., & Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of Consumer Research*, 21(1), 1–31.
- Giles, D. C. (2002). Parasocial interaction: A review of the literature and a model for future research. *Media Psychology*, 4(3), 279–305.
- Higgins, J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2019). *Cochrane handbook for systematic reviews of interventions*. John Wiley & Sons.
- Higgins, J. P. T. (2003). Measuring inconsistency in meta-analyses. *BMJ*, 327(7414), 557–560.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage.
- Horton, D., & Richard Wohl, R. (1956). Mass communication and parasocial interaction: Observations on intimacy at a distance. *Psychiatry*, 19(3), 215–229.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. Yale University Press.
- Hudders, L., De Jans, S., & De Veirman, M. (2021). The commercialization of social media stars: A literature review and conceptual framework on the strategic use of social media influencers. *International Journal of Advertising*, 40(3), 327–375.
- Hudders, L., & Lou, C. (2022). A new era of influencer marketing: Lessons from recent inquires and thoughts on future directions. *International Journal of Advertising*, 41(1), 1–5.
- Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings*. Sage.



- HypeAuditor. (2021). State of Influencer Marketing 2021. HypeAuditor.com. <https://hypeauditor.com/resources/whitepapers/state-of-influencer-marketing-2021/>
- Influencer Marketing Hub. (2023). The State of Influencer Marketing 2022: Benchmark Report. *Influencer Marketing Hub*. <https://influencermarketinghub.com/influencer-marketing-benchmark-report-2022/>
- IZEA Insights. (2022). Trust in Influencer Marketing. IZEA. <https://izea.com/resources/insights/2022-influencer-marketing-trust/>
- Kassing, J. W., & Sanderson, J. (2010). Fan-athlete interaction and Twitter tweeting through the Giro: A case study. *International Journal of Sport Communication*, 3(1), 113–128.
- Katz, E., & Lazarsfeld, P. F. (1964). *Personal influence, the part played by people in the flow of mass communications*. Transaction publishers.
- Ki, C. W. C., & Kim, Y. K. (2019). The mechanism by which social media influencers persuade consumers: The role of consumers' desire to mimic. *Psychology & Marketing*, 36(10), 905–922.
- Kim, D. Y., & Kim, H. Y. (2021). Trust me, trust me not: A nuanced view of influencer marketing on social media. *Journal of Business Research*, 134, 223–232.
- Lee, J. E., & Watkins, B. (2016). YouTube vloggers' influence on consumer luxury brand perceptions and intentions. *Journal of Business Research*, 69(12), 5753–5760.
- Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising*, 19(1), 58–73.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224–253.
- Marwick, A. E., & Boyd, D. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, 13(1), 114–133.
- Moher, D. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151(4), 264–269.
- Molyneux, L. (2015). What journalists retweet: Opinion, humor, and brand development on Twitter. *Journalism*, 16(7), 920–935.
- Moriuchi, E. (2021). An empirical study on anthropomorphism and engagement with disembodied AIs and consumers' re-use behavior. *Psychology & Marketing*, 38(1), 21–42.
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39–52.
- Osgood, C. E., & Tannenbaum, P. H. (1955). The principle of congruity in the prediction of attitude change. *Psychological Review*, 62(1), 42–55.
- Parker, C. J., & Wang, H. (2016). Examining hedonic and utilitarian motivations for m-commerce fashion retail app engagement. *Journal of Fashion Marketing and Management: An International Journal*, 20(4), 487–506.
- Perse, E. M., & Rubin, R. B. (1989). Attribution in social and parasocial relationships. *Communication Research*, 16(1), 59–77.
- Peterson, R. A., & Brown, S. P. (2005). On the use of beta coefficients in meta-analysis. *Journal of Applied Psychology*, 90(1), 175–181.
- Rubin, R. B., & McHugh, M. P. (1987). *Development of parasocial interaction relationships*. Taylor and Francis.
- Semrush. (2022). Top Web sites ranking—Most Visited Web site sin the world [May 2023]. Semrush. Retrieved May 20, 2023, from <https://www.semrush.com/website/top/>
- SocialPubli. (2020). 2019 Influencer Marketing Report: A Marketer's Perspective|Social Publi Blog. Social Publi Blog.November 25. <https://socialpubli.com/blog/2019-influencer-marketing-report-a-marketers-perspective/>
- Torres, P., Augusto, M., & Matos, M. (2019). Antecedents and outcomes of digital influencer endorsement: An exploratory study. *Psychology & Marketing*, 36(12), 1267–1276.
- Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69(6), 907–924.
- De Veirman, M., Cauberghe, V., & Hudders, L. (2017). Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude. *International Journal of Advertising*, 36(5), 798–828.
- Voorveld, H. A. M. (2019). Brand communication in social media: A research agenda. *Journal of Advertising*, 48(1), 14–26.
- Vrontis, D., Makrides, A., Christofi, M., & Thrassou, A. (2021). Social media influencer marketing: A systematic review, integrative framework and future research agenda. *International Journal of Consumer Studies*, 45(4), 617–644.
- Whetten, D. A. (1989). What constitutes a theoretical contribution? *The Academy of Management Review*, 14(4), 490–495.
- Wilkes, G., Hodson, J., & Traynor, B. (2016). Folk classification of social media platforms: Preliminary findings. In 2016 IEEE International Professional Communication Conference (IPCC) (1–11).
- Ye, G., Hudders, L., De Jans, S., & De Veirman, M. (2021). The value of influencer marketing for business: A bibliometric analysis and managerial implications. *Journal of Advertising*, 50(2), 160–178.
- Zhang, G., & de Seta, G. (2018). *Being "red" on the internet, Microcelebrity around the globe*. Emerald Publishing Limited.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Han, J., & Balabanis, G. (2023). Meta-analysis of social media influencer impact: Key antecedents and theoretical foundations. *Psychology & Marketing*, 1–33. <https://doi.org/10.1002/mar.21927>