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Responsible Commercial Transparency in Health Short Videos for Older Adults: A Cross-Platform Case Study

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Abstract

Health-related short videos increasingly combine health education, personal experience and product promotion within the same compressed media format. This is particularly visible in supplement-related content, where claims about nutrition, bodily function and everyday health management may appear alongside product display, shopping links, influencer endorsement or expert-style explanation. This article examines commercial transparency in supplement-related short videos as a responsible design issue.

The article presents a literature-informed cross-platform case study of selected videos from Douyin, Kuaishou, Xiaohongshu, TikTok, Instagram and YouTube Shorts. Drawing on literature on health-related claims, supplement advertising, short-video persuasion, advertising disclosure and influencer marketing, it develops a Responsible Commercial Transparency Framework with three dimensions: commercial identity disclosure, the education–promotion boundary, and risk and limitation communication. The framework is applied to six selected cases representing doctor-led explanation, product-focused promotion, structured product information, personal testimony, paid partnership content and risk-aware health advice.

Questionnaire findings from older Chinese adults are used as audience-related contextual evidence. The article argues that commercial transparency should not be treated only as a regulatory or marketing issue. It should also be understood as a responsible design concern, because visual hierarchy, source cues, platform selling functions and risk information shape how older viewers may interpret the boundary between health advice and commercial persuasion.

Keywords: ***commercial transparency; health short videos; dietary supplements; responsible design; older adults; advertising disclosure; visual communication design***

1. Introduction

Short-video platforms have become important spaces for everyday health communication, where health information is increasingly encountered through influencer recommendations, personal stories, product demonstrations and platform-based shopping functions rather than only through hospitals, public health campaigns or long-form educational materials (Tripathi, de Vries and Lemke, 2022; Park, Lee and Lazenby, 2026). In dietary-supplement-related content, health education, personal experience, product recommendation and commercial promotion may therefore appear within the same short video (Iye et al., 2021; Park, Lee and Lazenby, 2026). In this article, dietary supplements are defined as non-prescription products intended to supplement the normal diet and containing vitamins, minerals, herbs, amino acids or other substances with nutritional or

physiological effects; they are presented as supporting nutrition, health or bodily function rather than diagnosing or treating disease (European Parliament and Council, 2006; Iye et al., 2021).

Dietary supplements occupy an ambiguous position between food, everyday health management and medical expectation. The scale of the sector increases the significance of how these products are communicated: one recent industry estimate valued the global dietary supplements market at USD 100.92 billion in 2025 and projected continued growth to USD 219.31 billion by 2034 (Fortune Business Insights, 2026). Although dietary supplements are not medicines, they are frequently promoted through health-related claims that associate products with bodily improvement, risk reduction or general wellbeing (European Parliament and Council, 2006; Muela-Molina, Perelló-Oliver and García-Arranz, 2021). Such claims commonly relate products to fatigue, immunity, bone health, digestion, sleep, ageing and weight control, making promotion appear educational by presenting products through recognisable health concerns rather than through direct selling alone (Iye et al., 2021; Muela-Molina, Perelló-Oliver and García-Arranz, 2021). Short-video formats may strengthen these claims through presenter identity, subtitles, personal testimony, product display and direct purchasing links, guiding viewers from attention and engagement towards product-related action (Iye et al., 2021; Tripathi, de Vries and Lemke, 2022).

This creates a problem of commercial transparency, which refers to the extent to which audiences can recognise the commercial purpose of a message and understand the relationship between the presenter, the product, the brand and the purchasing pathway (Wojdynski and Evans, 2016; Boerman, Willemsen and Van Der Aa, 2017). Previous research has shown that advertising disclosure influences audiences'

recognition of persuasive intent, while source credibility and influencer marketing shape how branded health content is perceived and trusted (Lou and Yuan, 2019; Boerman, 2020). However, commercial cues may still be integrated with expert explanation, personal testimony and health advice, making the boundary between education and promotion difficult to identify.

This issue is particularly relevant to older viewers because dietary supplement promotion frequently addresses concerns associated with later life, including fatigue, blood pressure, sleep, immunity and bone health (Iye et al., 2021; Wierzejska et al., 2022). Older viewers may rely on professional identity, visible titles, familiar examples and source-related cues when judging credibility (Friemel, 2016). Where commercial purpose, product limitations or risk information are unclear, health advice and product promotion may become difficult to distinguish (Boerman, 2020; Lou and Yuan, 2019).

2. Literature Review and Analytical Framework

Building on the concepts introduced in the Introduction, this section reviews previous research on dietary-supplement-related health claims, short-video persuasion and commercial transparency. It then develops the Responsible Commercial Transparency Framework used in the subsequent case study analysis, focusing on commercial identity disclosure, the education–promotion boundary, and risk and limitation communication.

2.1 Health-related claims in supplement promotion

Video-based supplement advertising often blurs the boundary between health education and commercial promotion. Iye et al. (2021) found that YouTube dietary supplement advertisements often used "health concerns" and "easy solutions" as persuasive themes.

Recent research on TikTok gut-health supplement videos similarly shows that health claims are often presented through positive benefit framing, while creator credentials and disclosure may be limited (Park, Lee and Lazenby, 2026). Therefore, health-related claims provide a useful entry point for analysing how supplement short videos connect health benefits, source credibility and commercial intention, and whether viewers can recognise the evidence, purpose and limitations of such claims.Previous research has also shown that health-product advertising often gives greater visual and narrative emphasis to product benefits than to risks or limitations. Risk information may receive less prominence through its placement, presentation or organisation, making it more difficult for audiences to recognise important limitations or make informed judgements, particularly among older viewers (Sullivan et al., 2019; O'Donoghue et al., 2019). This suggests that the communication of risk and limitation information should be considered an important dimension when analysing commercial transparency in supplement-related short videos.

1.2 Packaging health claims through short-video persuasion

Short-video platforms do not simply present health-related claims; they package these claims through visual, narrative and interactive cues. A supplement claim may become more persuasive when it is delivered by a confident presenter, supported by subtitles or data, connected to personal experience, and placed close to a visible product or purchase link. In this way, viewers encounter the claim not as an isolated advertising statement, but as part of a short health narrative. Tripathi, de Vries and Lemke (2022), in their grounded

theory study of 60 YouTube protein supplement videos, describe this process through a three-step persuasion model: reaching the message, staying on the message and performing the desired action.

This model is useful for understanding supplement short videos because it shows how attention, engagement and action can be organised within a single clip. A symptom, question or eye-catching title may first attract viewers. Credibility cues, such as professional identity, personal testimony, research references, subtitles or product demonstrations, may then keep viewers engaged. Finally, product display, brand mention, shopping links or discount codes may guide viewers towards trust, trial or purchase.

The problem is not that every such video is necessarily misleading, but that short-video design can make commercial direction appear continuous with health education. Recent TikTok research on gut-health supplement promotion also shows that health claims are often framed through positive bodily benefits, while creator credentials and advertising disclosure may remain limited (Park, Lee and Lazenby, 2026). Therefore, this article examines how supplement short videos arrange health concerns, credibility cues and action prompts in ways that may blur the boundary between health information and product promotion.

Figure 1: Simplified Three-Step Persuasion Model in Supplement-Related Video Content



Source:Adapted from Tripathi, de Vries and Lemke (2022).

Note: The model is used here to explain how supplement short videos may first attract viewers, then keep them engaged through credibility cues or personal narratives, and finally guide them towards trust, trial or purchase-related action.

1.3 Commercial Transparency as a Responsible Design Concern

This is especially important in supplement-related short videos because commercial intent may be embedded within health narratives. A creator may discuss symptoms, explain a nutrient, share personal experience, display a product and provide a purchase link within the same short clip. Research on native advertising shows that audiences may fail to recognise persuasive content when disclosures are unclear, visually weak or poorly positioned (Wojdynski and Evans, 2016). Similarly, studies of influencer marketing suggest that source credibility, message value and sponsorship disclosure shape how audiences trust and interpret branded content (Lou and Yuan, 2019; Boerman, 2020).

Commercial transparency provides the general analytical starting point for this study: whether commercial purpose and the relationships among the presenter, product, brand and purchasing pathway are visible and understandable. In this article, commercial transparency refers to this general recognisability of commercial purpose, whereas Responsible Commercial Transparency refers to the design-oriented concept developed in this study, which additionally considers whether health education can be distinguished from product promotion and whether risk and limitation information is sufficiently visible. The selected videos are therefore examined not for clinical accuracy, but for how commercial purpose, educational framing and product-related limitations are visually organised. From

a responsible design perspective, transparency depends not only on whether information is technically present, but also on its placement, emphasis and relationship to platform functions such as shopping links and recommendation interfaces. These choices can support or obstruct viewers' recognition of persuasive intent and their ability to make informed decisions (Friedman and Hendry, 2019).

2.4 Responsible Commercial Transparency Framework

Based on the literature reviewed above, this article develops a Responsible Commercial Transparency Framework for the cross-platform case study. The three dimensions synthesise three recurring concerns identified in the literature: the recognisability of commercial identity, the blending of health education with product promotion, and the relative visibility of benefits, risks and limitations. The framework is not designed to assess the medical accuracy of each video. Instead, it provides a literature-informed structure for examining how visual and platform-based communication makes commercial purpose, health information and product-related limitations visible, prominent, secondary or obscured in supplement-related short videos.

(1) Commercial Identity Disclosure

This dimension examines whether the video clearly communicates its commercial status, including advertising, sponsorship, affiliate promotion, brand collaboration, product recommendation or platform shopping functions. Disclosure research suggests that audiences are more likely to recognise persuasive intent when commercial cues are explicit, visible and easy to interpret (Wojdynski and Evans, 2016; Boerman, Willemsen and Van Der Aa, 2017; Boerman, 2020).From a

visual communication perspective, this involves how disclosure cues are designed through visual elements such as labels, typography, colour, placement and visual emphasis, enabling viewers to recognise commercial identity more easily.

(2) Education–Promotion Boundary

This dimension examines whether health education, personal experience, expert explanation and product recommendation are clearly separated or blended within the same video. Supplement videos may connect everyday health concerns with product use, while short-video persuasion can strengthen such claims through speaker identity, personal testimony, subtitles, product demonstrations and action prompts (Iye et al., 2021; Tripathi, de Vries and Lemke, 2022; Park, Lee and Lazenby, 2026).From a visual communication perspective, this boundary can be reinforced through the visual separation of educational and promotional content, for example by distinguishing informational explanations from product recommendations through layout, sequencing, labelling and other visual cues.

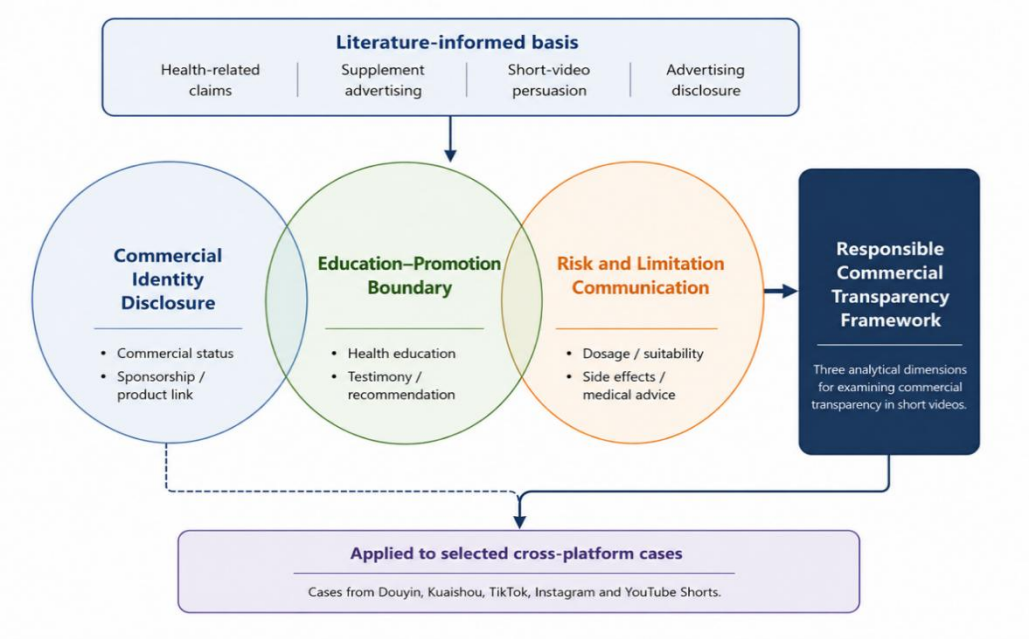
(3) Risk and Limitation Communication

This dimension examines whether benefit claims are accompanied by caution, uncertainty or qualifying information, such as dosage, suitability, side effects, contraindications, testing needs or professional medical advice. This is important because supplement-related videos may present product use as simple and beneficial while making risks or limitations less visible than positive claims (Iye et al.,

2021; Park, Lee and Lazenby, 2026).From a visual communication perspective, responsible communication requires risk and limitation information to be presented with sufficient visual prominence, allowing viewers to recognise cautions, conditions and uncertainties alongside benefit claims.

Together, these three dimensions guide the analysis of the selected cases by asking how commercial identity, promotional framing and product-related limitations are designed, disclosed or obscured. The three dimensions are analytically distinct but interdependent. Commercial identity disclosure may remain difficult to recognise when professional authority or educational framing dominates, while weak risk information may further reinforce an overly positive interpretation of the product.

Figure 2: Responsible Commercial Transparency Framework for Supplement-Related Short Videos



Source: Author's own creation

Note: The framework is developed from literature on health-related claims, supplement advertising, short-video persuasion and advertising disclosure. It consists of three analytical dimensions—commercial identity disclosure, the education–promotion boundary, and risk and limitation communication—which guide the analysis of selected cross-platform cases.

2.5 Research Aim and Research Questions

The literature reviewed above shows that health-related claims, supplement advertising, advertising disclosure, short-video persuasion and influencer marketing have been widely examined (Wojdynski and Evans, 2016; Lou and Yuan, 2019; Boerman, 2020; Iye et al., 2021; Tripathi, de Vries and Lemke, 2022). However, less attention has been paid to how Responsible Commercial Transparency is communicated through visual communication design in supplement-related short videos across different platforms. This gap provides the rationale for the present study.

The aim of this article is to examine how Responsible Commercial Transparency is visually and narratively communicated in supplement-related short videos through visual communication design. Its objectives are to develop a literature-informed Responsible Commercial Transparency Framework, apply the framework to selected cases across six platforms, and use questionnaire findings from older Chinese adults to contextualise the case analysis and identify responsible design implications.

The article addresses the following research questions:

- **RQ1: How is commercial identity disclosed or obscured in supplement-related health short videos across platforms?**

- **RQ2: How is the boundary between health education and product promotion visually and narratively constructed or blurred?**
- **RQ3: How is risk and limitation information presented, minimised or omitted in these videos?**

These research questions correspond directly to the three dimensions of the Responsible Commercial Transparency Framework presented above and guide the subsequent cross-platform case analysis.

The article contributes by positioning Responsible Commercial Transparency as a visual communication design concern rather than solely as a marketing or regulatory issue.

The overall structure and progression of the study are summarised in Figure 3.

Figure 3: Overview of the Article Structure and Research Process



Source: Author's own creation.

3. Methodology

This section explains the qualitative cross-platform case study, including case selection, analytical procedure and the supporting questionnaire involving older Chinese adults. The case study is the primary method, while the questionnaire provides audience-related contextual evidence for interpreting how Responsible Commercial Transparency is communicated through visual design.

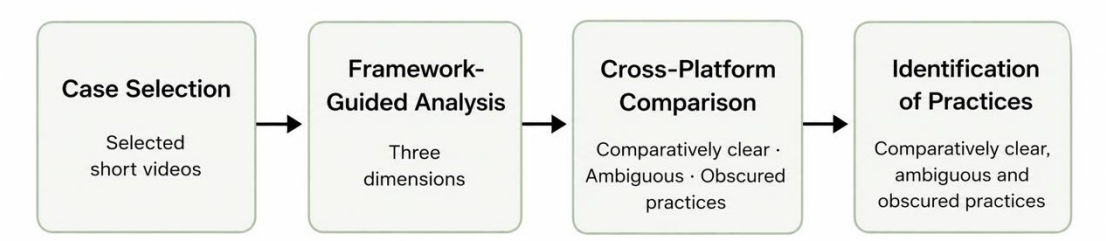
3.1 Research design

This article adopts a qualitative cross-platform case study design. The purpose is not to produce a statistically representative account of all health-related short videos, but to examine information-rich cases that reveal contrasting ways in which health claims, persuasive presentation and commercial cues are visually and narratively organised. Comparing doctor-led explanation, personal testimony, product-focused promotion and paid-partnership content enables the study to identify comparatively clear, ambiguous and obscured practices of Responsible Commercial Transparency without classifying the platforms themselves.

The case study analysis examined publicly available short-video content only and did not involve interaction with content creators, platform users, or access to private data. Therefore, no additional participant recruitment or separate ethical approval was required for the case analysis. Ethical approval was obtained for the questionnaire research involving older adults (BREO Approval Reference: 51246-LR-Apr/2026-55172-2).

The study applies the Responsible Commercial Transparency Framework developed in Section 2. As shown in Figure 4, the process moves from case selection to framework-guided analysis and cross-case comparison, leading to the identification of contrasting communication practices. The three dimensions—commercial identity disclosure, the education–promotion boundary, and risk and limitation communication—guide the examination of how commercial purpose is made visible, ambiguous or obscured.

Figure 4: Application of the Case Study Approach



Source:Author's own creation

3.2 Case Selection

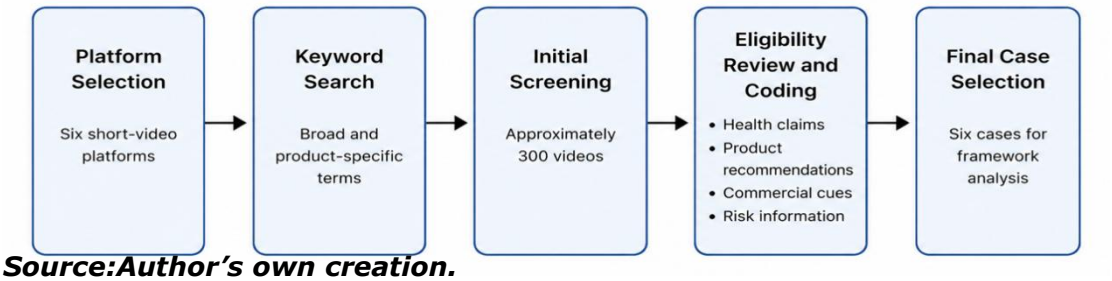
The case selection followed a two-level purposive strategy comprising platform selection and video-case selection. At the platform level, Douyin, Kuaishou, Xiaohongshu, TikTok, Instagram and YouTube Shorts were selected because of their substantial user reach and relevance to health-related and commercially embedded short-video communication (TikTok, 2021; YouTube, 2023; Vogue Business, 2024; Statista, 2025; Reuters, 2025; Kuaishou Technology, 2026). Platform scale was used to justify inclusion rather than to claim that the selected videos were statistically representative.

As shown in Figure 5, an iterative keyword search was conducted across the six platforms between April and July 2026. English and Chinese search terms were used where relevant, and approximately 300 supplement-related short videos were screened by the author

through platform search results and related-content recommendations. Duplicate or repeatedly recommended videos were counted only once.

Search terms were selected based on a preliminary exploration of the six platforms and were retained because they consistently returned a substantial volume of supplement-related videos. Both generic search terms, including dietary supplements, health supplements, health products and healthy ageing, and ingredient-specific terms, including iron supplements, vitamin D, collagen and calcium supplements, were used to capture a broad range of health claims, product recommendations and commercial communication. Videos were included when they contained health-related claims, product recommendations, expert explanation, personal testimony, product display or identifiable commercial cues. Duplicate videos, unrelated health content, long-form videos and videos without identifiable supplement-related information were excluded. During screening, videos were coded according to presenter identity, product visibility, commercial identity disclosure and risk and limitation communication. This process enabled the identification of information-rich and contrasting cases suitable for qualitative cross-case analysis (Schreier, 2012; Yin, 2018).

Figure 5: Case Selection Process

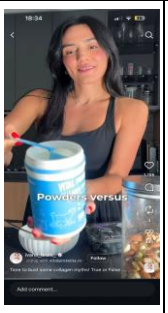


Source:Author's own creation.

The final six cases, presented in Table 1, were purposively selected because they represented contrasting combinations of presenter

identity, product visibility, commercial identity disclosure and risk and limitation communication. They included doctor-led explanation, supplement-focused promotion, structured product information, personal testimony, paid-partnership content and risk-aware health communication. Together, these cases provided sufficient variation for applying the Responsible Commercial Transparency Framework across its three analytical dimensions: commercial identity disclosure, the education–promotion boundary, and risk and limitation communication.

Table 1: Case Profile Matrix of the Selected Cases

Evaluation Criteria	C1	C2	C3	C4	C5	C6
Screenshot						
Platform	Douyin	Kuaishou	Xiaohongshu	TikTok	Instagram	YouTube Shorts
Presenter identity	Doctor	Influencer	Nutrition expert	Consumer	Influencer	Doctor
Primary communication style	Health education	Product promotion	Product explanation	Personal testimony	Paid partnership	Risk-aware education
Product visibility	Low	High	High	Medium	High	Low
Commercial Identity Disclosure	None	None	Partial	None	Clear	Clear
Risk and Limitation Communication	Present	Absent	Limited	Absent	Limited	Present
Contribution to cross-case comparison	Professional educational communication	Highly promotional commercial content	Structured product information	Testimonial-based persuasion	Sponsored influencer marketing	Responsible Commercial Transparency

Evaluation Criteria	C1	C2	C3	C4	C5	C6
Video link	View video	View video	View video	View video	View video	View video

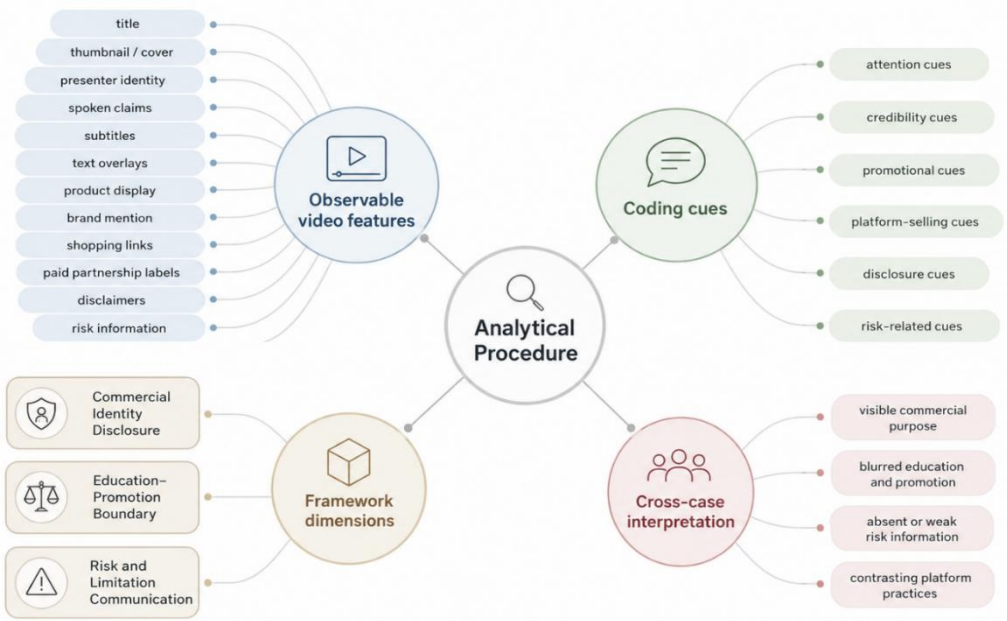
Source: Author's own creation using screenshots from the selected videos. Video links are provided beneath each case.

Note: This table provides an overview of the six selected cases used for close analysis. The cases are presented to support case organisation rather than to rank, evaluate or medically assess the videos.

3.3 Analytical Procedure

The selected cases were analysed through repeated viewing and close reading of their visual, verbal and platform-based features. Observable elements, including titles and thumbnails, presenter identity, spoken health claims, subtitles, text overlays, product display, brand references, shopping links, paid-partnership labels, disclaimers and risk-related information, were systematically recorded and coded according to their communicative functions. The overall analytical procedure is illustrated in Figure 6.

Figure 6: Analytical Procedure: From Observable Video Features to Responsible Commercial Transparency Dimensions



Source:Author's own creation

To operationalise the Responsible Commercial Transparency Framework, a framework-based checklist was developed to establish explicit links between the three analytical dimensions and the observable visual and communicative elements examined in each case. As shown in Table 2, the checklist was applied consistently across all six cases to ensure a systematic and comparable analysis.

Table 2. Framework-Based Checklist for Case Analysis

Framework Dimension	Observable Elements
Commercial Identity Disclosure	**Product display; brand references; shopping links; paid-partnership labels**
Education–Promotion Boundary	**Presenter identity; health claims; expert explanation; personal testimony; recommendation language**
Risk and Limitation Communication	**Dosage; side effects; contraindications; disclaimers; professional advice**

Note: The checklist was applied consistently across all six selected cases.

The purpose of this procedure was not to assess the clinical accuracy of individual health claims, but to examine how commercial transparency was designed and communicated within the short-video format. Using the checklist, the six cases were compared across platforms to identify recurring patterns and contrasting practices in how commercial purpose, health information and product-related risks or limitations were made visible, rendered ambiguous or obscured.

3.4 Questionnaire design and contextual grounding

The supporting questionnaire was used to provide audience-related contextual evidence for the qualitative case study. It explored older Chinese adults' experiences of viewing health-related short videos and supported the interpretation of the Responsible Commercial Transparency Framework. A summary of the questionnaire design is

presented in Table 3.The questionnaire was completed by 40 older Chinese participants during the fieldwork. The findings are used as audience-related contextual evidence to support the interpretation of the case analysis rather than as an independent evaluation of the framework.

Table 3: Summary of the Supporting Questionnaire

Component	Description
Purpose	**To provide audience-related contextual evidence for the qualitative case study and support the interpretation of the Responsible Commercial Transparency Framework.**
Instrument Design	**A structured questionnaire comprising multiple-choice, rating and preference-based questions on viewing habits, source credibility, commercial promotion and risk information. Responses were summarised descriptively using frequencies and percentages.**
Sample Selection	**Chinese adults aged 60 years or above. Individuals under 60, responses without informed consent and substantially incomplete questionnaires were excluded.**
Participant Recruitment & Ethics	**Participants were recruited with the assistance of the Jiuxian Town Community, Yanqing District, Beijing, where the questionnaire activities were conducted at the local cultural centre. Participation was voluntary, informed consent was obtained before participation, and ethical approval was granted by Brunel University London (BREO Approval Reference: 51246-LR-Apr/2026-55172-2).**

Source:Author's own creation.

The questionnaire findings were used to contextualise, rather than validate, the case study analysis. They helped interpret how observable video features, such as presenter identity, product visibility and commercial identity disclosure, might be understood by older viewers. This use of audience-related contextual evidence is

consistent with qualitative case study and mixed-methods research (Bryman, 2016; Creswell and Plano Clark, 2018; Yin, 2018).

4. Cross-Platform Case Analysis

This section applies the Responsible Commercial Transparency Framework to the six selected cases to address the three research questions. Rather than describing each case individually, the analysis identifies recurring cross-case patterns concerning commercial identity, the boundary between education and promotion, and the communication of risks and limitations. It examines how these patterns are shaped by presenter identity, disclosure practices, educational framing and the visibility of risk-related information (Hsieh and Shannon, 2005; Schreier, 2012; Yin, 2018).

The findings are presented in four sections. Sections 4.1–4.3 report the case study results across the three framework dimensions, while Section 4.4 draws on the questionnaire findings to provide audience-related context for the case analysis rather than serving as an independent evaluation of the framework.

4.1 Commercial Identity Disclosure

To address RQ1, the cases were compared according to disclosure labels, presenter identity, product visibility and purchasing cues. Three disclosure patterns emerged. First, C5 used Instagram's paid-partnership label, making the creator–brand relationship explicit and immediately visible. This supports previous findings that standardised and prominent disclosure can improve recognition of sponsored content (Boerman, 2020; Wojdynski and Evans, 2016).

Second, C2–C4 communicated commercial intent mainly through product display, recommendation language and product-centred presentation. These cues suggested promotion but did not clearly explain whether the presenter was sponsored, affiliated with the brand, acting as a seller or recommending independently. Viewers therefore had to infer the commercial relationship from the surrounding visual and narrative context (Lou and Yuan, 2019). Third, C1 foregrounded professional authority: the white coat and doctor-led explanation were more visible than any possible commercial role. Here, expert identity could strengthen credibility while making persuasive intent less noticeable (Muela-Molina, Perelló-Oliver and García-Arranz, 2021). C6 provided a non-commercial contrast, with no central product, brand or purchasing pathway.

Overall, the cases show that commercial identity is not communicated by disclosure labels alone. It is produced through the relationship between disclosure, presenter identity, product prominence and platform-selling features. When these cues are incomplete or visually unbalanced, commercial purpose becomes more difficult to recognise.

4.2 Education–Promotion Boundary

To address RQ2, the analysis examined how health explanation, personal experience and product recommendation were organised within each video. Three recurring patterns were identified. In C1 and C5, educational formats were combined with product-related content: C1 used doctor-led explanation, while C5 used a myth-busting format within a disclosed partnership. Although their commercial status differed, both integrated educational authority and promotional direction within the same short-video sequence.

A second pattern appeared in C2 and C3, where product-centred information was presented as health explanation. C2 relied on direct promotion and benefit-related claims, whereas C3 used a more structured informational format. In both cases, the product remained visually central, and the movement from explanation to recommendation was not clearly separated. A third pattern appeared in C4, where personal testimony connected individual experience with product recommendation. The experiential narrative made the recommendation appear informal and relatable, but did not clearly distinguish personal experience from persuasive communication. C6 again provided a contrast by discussing vitamin D risk without directing viewers towards a particular product or purchase.

Across the cases, the education–promotion boundary was shaped mainly through sequencing, presenter role and product visibility. Where educational explanation and recommendation were visually continuous, promotion could appear to be a natural extension of health information rather than a distinct commercial message.

4.3 Risk and Limitation Communication

To address RQ3, the cases were compared according to the visibility of dosage, suitability, side effects, contraindications, uncertainty and professional advice. Two main patterns emerged. Across C1–C5, benefit-related explanation and product recommendation generally received greater visual and narrative emphasis than risk or limitation information. The iron-related cases, for example, discussed potential benefits without giving equivalent prominence to individual suitability, dosage or the need for assessment. Similarly, C2–C5 emphasised product benefits, structured information, personal

experience or myth-busting, while cautions remained limited or secondary.

Where qualifying information appeared, it was usually shorter, less prominent or positioned after the main benefit message. This imbalance is consistent with previous research showing that supplement promotion often presents products as accessible responses to health concerns while giving less attention to possible limitations or adverse effects (Iye et al., 2021; Wierzejska et al., 2022). C6 represented the contrasting pattern. Rather than centring product benefits, it placed excessive vitamin D intake and possible toxicity at the centre of the message, making risk communication the primary content rather than a minor qualification.

Overall, responsible risk and limitation communication depends not only on whether cautionary information is technically present, but also on whether it is visible and proportionate to the benefit claims. In these cases, the strongest promotional framing was generally associated with the weakest presentation of risks and limitations.

4.4 Questionnaire-Supported Contextualisation

As shown in Figure 7, the questionnaire was administered face-to-face with older participants during the fieldwork. This approach allowed the researcher to explain unfamiliar questions and visual materials where necessary, particularly because regular mobile-phone use did not always indicate confidence in interpreting digital or platform-based commercial cues. Accordingly, the questionnaire findings are organised around the same three analytical dimensions to provide audience-related context for the case analysis, rather than serving as an independent evaluation of the framework.

Figure 7: Face-to-Face Questionnaire with Older Participants



Source: Photograph taken by the author during fieldwork.

The questionnaire findings provide contextual support for the cross-case analysis, particularly in relation to commercial identity disclosure. Although 92.5% of participants usually watched videos on mobile phones and 60% had encountered health-related content, only 25% considered mobile-phone use very convenient. This suggests that frequent access to short-video platforms did not necessarily mean that disclosure labels, shopping functions or purchasing pathways were easy to recognise, reinforcing the need for clear commercial identity disclosure for older viewers (Friemel, 2016).

The findings also help contextualise the education–promotion boundary. Health concerns such as blood pressure, sleep and joint pain attracted 60% of participants, while 42.5% identified doctors, experts or white-coat presenters as reasons for continuing to watch. In addition, 87.5% had encountered health talks offering eggs or small gifts, and 70% knew someone who had purchased health products after such activities. These results show how educational settings and professional appearance may strengthen credibility while making commercial promotion less immediately apparent.

Finally, the questionnaire findings reinforce the importance of risk and limitation communication. Participants' familiarity with promotional activities suggests that product messages may be persuasive when presented through apparently educational or authoritative formats. This supports the need to present risk, suitability and limitation information alongside product benefits. Taken together, the questionnaire findings provide an audience-related basis for the responsible design implications discussed in the following section.

5. Discussion

The findings indicate that commercial transparency in supplement-related short videos is not secured by disclosure alone. Instead, it depends on the relative visibility of commercial cues within the wider visual and communicative context. This supports previous research showing that advertising recognition is shaped by disclosure design, source credibility and message context (Wojdynski and Evans, 2016; Lou and Yuan, 2019; Boerman, 2020). The present study extends this work by showing that a disclosure label may be technically present yet remain less noticeable than professional authority, personal testimony or an educational format.

The three dimensions of the Responsible Commercial Transparency Framework are therefore interdependent rather than separate criteria. Explicit sponsorship disclosure can identify a commercial relationship, but it does not necessarily clarify where health explanation ends and product promotion begins. Similarly, professional presentation may increase perceived credibility while dosage, suitability and uncertainty remain visually secondary. The

questionnaire findings provide relevant audience context rather than causal confirmation: older participants reported attending to professional identity and visible health concerns, while many did not find mobile-platform use fully convenient. This suggests that transparency should be designed for practical recognition during viewing, rather than assumed from the technical presence of information.

The proposed conceptual illustration, presented in Figure 8, translates these findings into a short-video interface informed by the three analytical dimensions. Its elements are derived directly from the recurring problems identified in the cases: unclear commercial relationships, visual continuity between education and promotion, and weak prominence of risk information. The illustration is not presented as a tested interface or a universal solution. Instead, it makes the framework's design implications visible and provides a proposition for later evaluation with users, designers and platform stakeholders.

Three implications follow. First, commercial identity should be recognisable at the point of exposure and remain sufficiently visible throughout the message, rather than appearing only in a caption, profile or brief label. Clear and prominent disclosure improves recognition of sponsored content, whereas weak placement may reduce awareness of persuasive intent (Boerman, Willemsen and Van Der Aa, 2017; Federal Trade Commission, 2023).

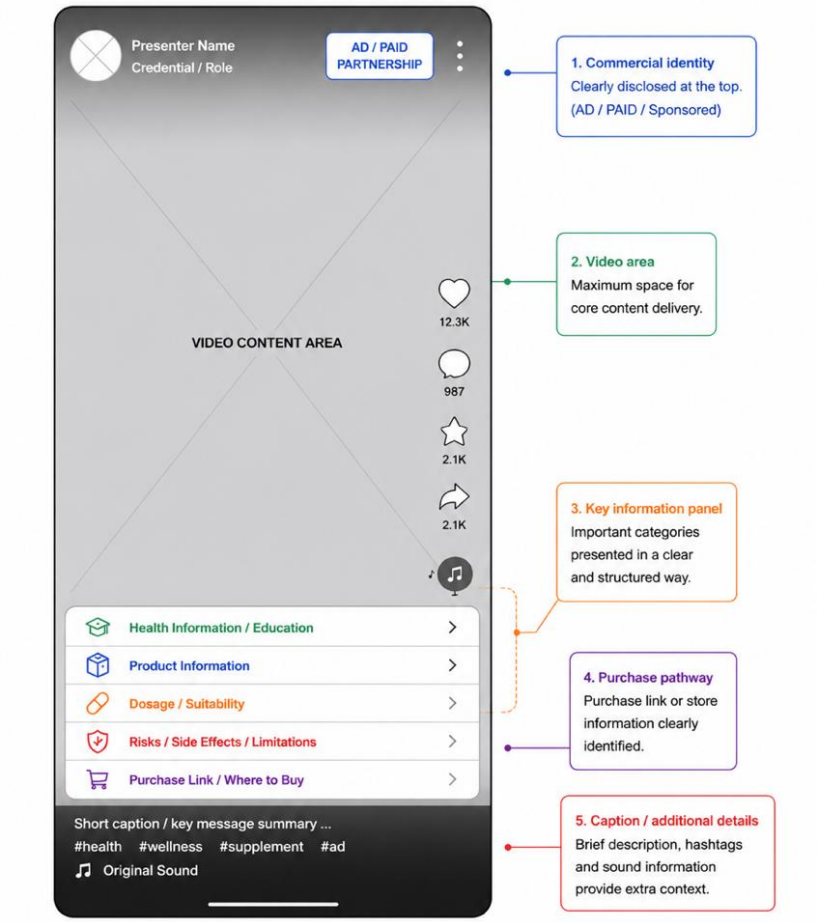
Second, health education and product promotion should be differentiated through sequencing, labelling and visual hierarchy. Expert explanation and personal testimony may support engagement, but a visible transition is needed when communication moves from

information to recommendation (Tripathi, de Vries and Lemke, 2022; Borchers and Enke, 2022).

Third, risk and limitation information should receive prominence proportionate to benefit claims. Dosage, suitability, contraindications and uncertainty should not function as minor qualifications after the main persuasive message (Iye et al., 2021; Wierzejska et al., 2022; Federal Trade Commission, 2022).

The contribution of the framework is therefore not a new disclosure label or a fixed screen layout. It is an integrated way of examining whether viewers can recognise who is communicating commercially, distinguish advice from promotion, and consider benefits alongside limitations. This shifts commercial transparency from a narrow compliance question towards a responsible visual communication problem involving creators, designers and platforms. However, because each platform is represented by one purposively selected case, the findings should not be interpreted as platform-level comparisons or claims about typical practice. The framework and Figure 8 should instead be treated as analytically grounded propositions that require further testing across additional content, audiences and platform environments.

Figure 8: Conceptual Illustration of Responsible Commercial Transparency in a Supplement-Related Short Video



Source: Author's own creation.

Note: This figure is a conceptual illustration of how the three dimensions of the Responsible Commercial Transparency Framework may be reflected in a short-video interface. It does not prescribe a fixed layout and may require adaptation to different platforms, content types and audience needs.

6. Conclusion

This study examined how Responsible Commercial Transparency is communicated in supplement-related short videos across six social media platforms. Using a literature-informed case study supported by questionnaire findings from older Chinese adults, it showed that commercial transparency depends not only on disclosure labels, but also on how commercial identity, educational framing and risk

information are visually organised within short-video communication. Together, the findings address the three research questions by demonstrating how these three dimensions are disclosed, blended or minimised across different communication contexts.

The principal contribution of this study is not simply the development of the Responsible Commercial Transparency Framework, but its repositioning of commercial transparency as a visual communication design issue. Previous studies have primarily examined disclosure, influencer marketing and persuasive intent from regulatory or marketing perspectives (Wojdynski and Evans, 2016; Lou and Yuan, 2019; Boerman, 2020). By bringing together commercial identity disclosure, the education–promotion boundary and risk and limitation communication within a single analytical framework, this study shows how visual communication design influences audiences' ability to recognise commercial purpose and interpret health-related information. Rather than proposing a universal design solution, the framework offers a design-oriented approach for analysing and supporting responsible commercial transparency in health-related short videos.

This study has several limitations. The analysis was based on six purposively selected cases and therefore aims for analytical rather than statistical generalisation. In addition, the questionnaire provides audience-related contextual evidence rather than validation of the proposed framework, while the conceptual illustration presented in the Discussion has not yet been empirically evaluated. These limitations also indicate directions for future research.

Future studies could evaluate the framework through prototype development, user testing and co-design with older adults, as well as

comparative research across different platforms and cultural contexts. Such work would help examine how visual communication design can further support transparent and responsible health communication for older audiences.

Reference:

Boerman, S.C. (2020) 'The effects of the standardized Instagram disclosure for micro- and meso-influencers', Computers in Human Behavior, 103, pp. 199–207. https://doi.org/10.1016/j.chb.2019.09.015

Boerman, S.C., Willemsen, L.M. and Van Der Aa, E.P. (2017) '"This post is sponsored": Effects of sponsorship disclosure on persuasion knowledge and electronic word of mouth in the context of Facebook', Journal of Interactive Marketing, 38, pp. 82–92. https://doi.org/10.1016/j.intmar.2016.12.002

Borchers, N.S. and Enke, N. (2022) '"I've never seen a client say: Tell the influencer not to label this as sponsored": An exploration into influencer industry ethics', Public Relations Review, 48(5), 102235. https://doi.org/10.1016/j.pubrev.2022.102235

Bryman, A. (2016) Social Research Methods. 5th edn. Oxford: Oxford University Press.

Creswell, J.W. and Plano Clark, V.L. (2018) Designing and Conducting Mixed Methods Research. 3rd edn. Thousand Oaks, CA: SAGE.

European Parliament and Council (2006) 'Regulation (EC) No 1924/2006 of the European Parliament and of the Council on nutrition and health claims made on foods', Official Journal of the European Union, L404, pp. 9–25.

Federal Trade Commission (2022) Health Products Compliance Guidance. Washington, DC: Federal Trade Commission. Available at: https://www.ftc.gov/business-guidance/resources/health-products-compliance-guidance (Accessed: 14 July 2026).

Federal Trade Commission (2023) FTC's Endorsement Guides: What People Are Asking. Washington, DC: Federal Trade Commission. Available at: https://www.ftc.gov/business-guidance/resources/ftcs-endorsement-guides-what-people-are-asking (Accessed: 14 July 2026).

Fortune Business Insights (2026) 'Dietary supplements market size, share and industry analysis', Fortune Business Insights. Available at: https://www.fortunebusinessinsights.com/dietary-supplements-market-102082 (Accessed: 28 July 2026).

Friedman, B. and Hendry, D.G. (2019) Value Sensitive Design: Shaping Technology with Moral Imagination. Cambridge, MA: MIT Press.

Friemel, T.N. (2016) 'The digital divide has grown old: Determinants of a digital divide among seniors', New Media & Society, 18(2), pp. 313–331. https://doi.org/10.1177/1461444814538648

Hsieh, H.F. and Shannon, S.E. (2005) 'Three approaches to qualitative content analysis', Qualitative Health Research, 15(9), pp. 1277–1288. https://doi.org/10.1177/1049732305276687

Iye, R., Okuhara, T., Okada, H., Yokota, R. and Kiuchi, T. (2021) 'A content analysis of video advertisements for dietary supplements in Japan', Healthcare, 9(6), 742. https://doi.org/10.3390/healthcare9060742

Kuaishou Technology (2026) 'Kuaishou Technology announces first quarter 2026 unaudited financial results', 27 May. Available at: https://ir.kuaishou.com/news-releases/news-release-details/kuaishou-technology-announces-first-quarter-2026-unaudited (Accessed: 9 July 2026).

Lou, C. and 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), pp. 58–73. https://doi.org/10.1080/15252019.2018.1533501

Muela-Molina, C., Perelló-Oliver, S. and García-Arranz, A. (2021) 'Health-related claims in food supplements endorsements: A content analysis from the perspective of EU regulation', Public Health, 190, pp. 168–172. https://doi.org/10.1016/j.puhe.2020.10.020

O'Donoghue, A.C., Johnson, M., Sullivan, H.W., Parvanta, S., Ray, S. and Southwell, B.G. (2019) 'Aging and direct-to-consumer prescription drug television ads: The effects of individual differences and risk presentation', Journal of Health Communication, 24(4), pp. 368–376. https://doi.org/10.1080/10810730.2019.1606364

Park, S.Y., Lee, J. and Lazenby, B.S. (2026) 'Gut health goes viral: Analysing influencer advertising for dietary supplements on TikTok', International Journal of Pharmaceutical and Healthcare Marketing, ahead-of-print. https://doi.org/10.1108/IJPHM-08-2025-0179

Reuters (2025) 'Meta CEO Zuckerberg says Instagram has grown to 3 billion monthly active users', 24 September. Available at: https://www.reuters.com/business/meta-ceo-zuckerberg-says-instagram-has-grown-3-billion-monthly-active-users-2025-09-24/ *(Accessed: 14 July 2026).*

Schreier, M. (2012) Qualitative Content Analysis in Practice. London: SAGE.

Statista (2025) 'Number of monthly active users of Douyin in China as of March 2025'. Available at:

https://www.statista.com/statistics/1361354/china-monthly-active-users-of-douyin-chinese-tiktok/ *(Accessed: 9 July 2026).*

Sullivan, H.W., O'Donoghue, A.C., Lynch, M., Johnson, M., Davis, C. and Rupert, D.J. (2019) 'The effect of including quantitative information on multiple endpoints in direct-to-consumer prescription drug television advertisements', Medical Decision Making, 39(8), pp. 975–985. https://doi.org/10.1177/0272989X19875946

TikTok (2021) 'Thanks a billion!', TikTok Newsroom, 27 September. Available at: https://newsroom.tiktok.com/en-us/1-billion-people-on-tiktok *(Accessed: 9 July 2026).*

Tripathi, J., de Vries, R.A.J. and Lemke, M. (2022) 'The three-step persuasion model on YouTube: A grounded theory study on persuasion in the protein supplements industry', Frontiers in Artificial Intelligence, 5, 838377. https://doi.org/10.3389/frai.2022.838377

Vogue Business (2024) 'Xiaohongshu: The new frontier for digital success in China', 12 March. Available at: https://www.voguebusiness.com/story/events/xiaohongshu-the-new-frontier-for-digital-success-in-china *(Accessed: 9 July 2026).*

Wierzejska, R.E., Wiosetek-Reske, A., Siuba-Strzelińska, M. and Wojda, B. (2022) 'Health-related content of TV and radio advertising of dietary supplements—Analysis of legal aspects after introduction of self-regulation for advertising of these products in Poland', International Journal of Environmental Research and Public Health, 19(13), 8037. https://doi.org/10.3390/ijerph19138037

Wojdynski, B.W. and Evans, N.J. (2016) 'Going native: Effects of disclosure position and language on the recognition and evaluation of

online native advertising', Journal of Advertising, 45(2), pp. 157–168. https://doi.org/10.1080/00913367.2015.1115380

Yin, R.K. (2018) Case Study Research and Applications: Design and Methods. 6th edn. Thousand Oaks, CA: SAGE.

YouTube (2023) 'Road to 10 million subscribers with four APAC creators', YouTube Official Blog, 28 December. Available at: https://blog.youtube/creator-and-artist-stories/4-apac-creators-10-million-subscribers/ (Accessed: 9 July 2026).



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