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Beyond the Label: Perceptions, Effects, and the Effectiveness
of Interventions regarding Retouched Images on Instagram

SUMMARY

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1. Introduction

Social media has profoundly reshaped how people communicate, access information, and relate to their own identities. The constant flow of visual content on these platforms has created a digital ecosystem where the boundary between reality and representation is increasingly difficult to discern. As of October 2024, 5.52 billion people worldwide, 67.5% of the global population used the internet, and 5.22 billion of them were active social media users (DataReportal et al., 2024). Social platforms are no longer a peripheral dimension of digital life; they have become the primary infrastructure of contemporary communication, seamlessly woven into the social, professional, and cultural fabric of billions of people.

Given this scale, social media has become a dominant space for advertising (De Keyzer et al., 2021; Stewart & Cunningham, 2017). In 2022, 90% of companies globally reported using Facebook for advertising purposes, followed by Instagram at 79% (Statista, 2023c). That same year, Instagram was by far the leading platform for influencer marketing campaigns, used in 94% of them (Baron, 2023). Instagram in particular stands out in this landscape: with approximately 3 billion monthly active users and over 500 million daily users spending an average of more than 33 minutes on the platform per day, it has evolved from a photo-sharing app into a complex ecosystem of marketing, visual identity, and social influence (DemandSage, 2025). Young adults aged 18–34 make up 62.3% of Instagram's global user base, placing them at the center of this visual ecosystem.

Much of the content that influencers publish involves some degree of digital manipulation, body retouching, facial enhancement, skin color adjustment, or blemish removal. While these practices are well-documented, they largely remain invisible to audiences: they go unlabeled and carry no warnings. This lack of transparency is particularly concerning given the well-established consequences of exposure to idealized imagery. Research has consistently linked it to body dissatisfaction (Fardouly & Rapee, 2019; Saiphoo & Vahedi, 2019), disordered eating (Holland & Tiggemann, 2016), heightened appearance-related preoccupation (de Vries et al., 2014), and increased interest in cosmetic procedures (Guizzo et al., 2021). A large-scale global report conducted in collaboration with Dove (2024) found that 2 in 5 girls report feeling pressured to change their appearance after viewing influencer content on social media, a figure that underscores the social urgency of the problem.

Social comparison theory (Festinger, 1954) offers a key explanatory lens: people naturally evaluate themselves against others, a mechanism that becomes especially active when consuming idealized content. Platforms amplify this effect through algorithms that

systematically prioritize high-engagement, appearance-centered imagery, creating environments of repeated and normalized exposure to unattainable beauty standards. The consequences are especially concerning for adolescents and young adults, whose self-image is still forming and who are more susceptible to digital social influences (Vogel et al., 2014; Kleemans et al., 2018).

Transparency labels, visual disclosures applied to retouched images to signal digital manipulation, have emerged as one policy response to these concerns. To date, however, legislative action remains fragmented. France was the first country to require labeling of retouched commercial photographs, but only in traditional media, not social media (Berkeley Journal of International Law, 2021). Norway stands alone as the only country to have extended this obligation to online content: under an amendment to its Marketing Control Act, passed by an overwhelming parliamentary majority of 72 to 15, any promotional post in which the body's shape, size, or skin has been digitally altered must carry a standardized disclosure, a requirement that applies explicitly to influencers and celebrities monetizing their content across Instagram, TikTok, Facebook, and Snapchat (Vice, 2021). At the European level, while the Digital Services Act (DSA, 2022/2065/EU) imposes general advertising transparency obligations on platforms, no specific rules exist for retouched image disclosures. A potential step forward is the forthcoming Digital Fairness Act, expected to be proposed in mid-2026, which is anticipated to address influencer marketing and the promotion of unrealistic beauty standards directly (Digital Fairness Act, 2025).

Yet the effectiveness of transparency labels, whether users notice them, interpret them correctly, and whether they mitigate the negative effects of idealized content, remains an empirically underexplored question, particularly across different cultural contexts. Existing research yields contradictory findings: some studies suggest that labels can reduce the negative effects of idealized exposure (Kleemans et al., 2018; Paxton et al., 2022), while others indicate that labels may go unnoticed or even produce paradoxical effects, drawing greater attention to the image and thereby intensifying social comparison processes (Perez et al., 2021).

This dissertation aims to contribute to this debate by examining both the cognitive, affective, and behavioral effects of exposure to labeled and unlabeled retouched influencer images on Instagram, and the qualitative perceptions of young users in Romania and Germany toward this phenomenon. The study employs a mixed-methods design, an online survey experiment conducted in Germany and four focus groups conducted in both countries, to offer an integrated perspective on a phenomenon with significant implications for young people's psychological well-being, digital advertising, and online content regulation. The choice of

Romania and Germany is deliberate: the two countries represent European societies with distinct cultural traditions, levels of media literacy, and regulatory frameworks, enabling a comparative analysis that is both academically rigorous and practically relevant.

The dissertation's overarching aim is to analyze the effects of retouched influencer images on Instagram, both labeled and unlabeled, on young users' perceptions, self-perceptions, and behaviors, with attention to cultural differences between Romanian and German users.

2. Research Questions and Hypotheses

Six research questions guide the study. The first three are addressed through focus groups:

RQ1. How do young users perceive influencer authenticity when retouched, idealized images are posted — with and without a disclosure label?

RQ2. What measures do participants consider effective for informing, preventing, and protecting Instagram users from the effects of retouched images?

RQ3. Are there cultural differences between Romanian and German users in how they perceive the use of retouched photographs on social media?

The remaining three are addressed through the online experiment:

RQ4. How does exposure to labeled and unlabeled retouched influencer images affect users' perceptions of their own physical appearance?

RQ5. To what extent do users compare themselves with influencers posting idealized retouched images, labeled and unlabeled, and how does this comparison affect their body image?

RQ6. How is an influencer perceived in terms of credibility, likeability, and similarity when posting retouched images, and what are the downstream advertising outcomes: brand attitude, purchase intention, eWOM, and future engagement intentions?

Seven hypotheses, grounded in the theoretical literature, are tested through the experimental component:

H1. Participants exposed to labeled retouched influencer images will engage in more social comparison with the influencer than those exposed to the same images without a label.

H2. Greater social comparison with the influencer will be associated with greater body dissatisfaction.

H3. Disclosure labels placed above digitally manipulated photographs will positively affect perceived influencer credibility (H3a), likeability (H3b), and similarity (H3c).

H4. Influencer credibility will positively predict users' intention to interact with the influencer (H4a), brand attitude (H4b), purchase intention (H4c), and eWOM (H4d).

H5. Influencer likeability will positively predict users' intention to interact with the influencer (H5a), brand attitude (H5b), purchase intention (H5c), and eWOM (H5d).

H6. Perceived similarity to the influencer will positively predict users' intention to interact with the influencer (H6a), brand attitude (H6b), purchase intention (H6c), and eWOM (H6d).

H7. After exposure to idealized influencer images, participants in the labeled condition will report more negative body perceptions than before exposure (H7a) and compared to participants exposed to the same images without a label (H7b).

3. Structure

The dissertation is organized into seven chapters, moving progressively from theoretical foundations and literature review to methodology, results, and conclusions.

Chapter 1 focuses on online content creators — influencers — and their role in the contemporary digital communication landscape. It examines how influencer marketing operates, how it differs from traditional advertising, and what drives perceived credibility and authenticity in influencer–follower relationships.

Chapter 2 situates digital photo manipulation within the broader context of advertising persuasion. It reviews the documented effects of exposure to retouched imagery on body satisfaction, examines current transparency labeling practices, and maps the existing legislative landscape at both European and national levels.

Chapter 3 presents the theoretical frameworks underpinning the empirical work: the Persuasion Knowledge Model, Visual Literacy Theory, Social Comparison Theory (with its assimilative and contrastive dimensions), and Sociocultural Theory.

Chapter 4 offers a systematic review of interventions designed to mitigate the negative effects of exposure to idealized imagery, comparing studies conducted in traditional and social media contexts, and concluding with a critical synthesis of existing gaps and methodological limitations.

Chapter 5 details the research design. The qualitative component — four focus groups with young Romanian and German Instagram users — is described alongside the quantitative component: an online experiment including stimuli, experimental conditions, participant profiles, and variable operationalization.

Chapter 6 presents the findings from both components. Focus group results are analyzed thematically, followed by a cross-cultural comparison between Romanian and German participants. Experimental results include manipulation checks, descriptive statistics, hypothesis testing, and a discussion of theoretical and practical implications.

Chapter 7 synthesizes the main conclusions, integrating findings from both empirical components into a unified perspective and discussing contributions to the fields of digital communication, influencer marketing, and media effects research.

The focus groups revealed that young users in both Romania and Germany are well aware that influencer images are frequently retouched, and that this awareness does not protect them from its effects. Participants could identify signs of retouching and recognized that online beauty standards are unrealistic, yet they continued to compare themselves against them. This confirms that awareness alone is not a sufficient protective mechanism.

4. Conclusions and Discussions

Excessive retouching erodes trust in influencers, especially in sponsored posts, precisely the context in which disclosure regulations currently apply. Both Romanian and German participants agreed that influencers should be more transparent about their editing practices, though German participants were more willing to accept minor adjustments when openly acknowledged, while Romanian participants were more critical of any form of commercial manipulation. Both groups identified media literacy education in schools as the most important long-term solution, more effective, in their view, than formal regulation. A notable pattern in both groups was the "third-person effect": participants consistently believed that social media affected others more than themselves, a form of psychological self-protection that may paradoxically increase vulnerability.

The experiment yielded a clear and sobering finding: transparency labels do not protect users from the negative effects of retouched images. Participants continued to compare themselves with influencers regardless of whether they knew the image had been digitally altered, and this comparison negatively affected their body image. At least four mechanisms

may explain this result. First, visual elements command attention far more powerfully than textual information, so the label may be present in the visual field without being cognitively processed with the same intensity as the image itself (Cook, 1992; Messaris, 1997). Second, digital retouching has become so normalized on social media that users may no longer perceive it as artificial or deceptive (Naderer, Peter & Karsay, 2021). Third, a single exposure to an unfamiliar label may simply be insufficient to produce protective effects, repeated exposure over time may be required (Bury, Tiggemann & Slater, 2014; Ata et al., 2013). Fourth, and perhaps most profoundly, beauty ideals operate not merely as aesthetic standards but as moral and motivational ones that structure everyday self-evaluation in ways that rational awareness cannot neutralize (MacCallum & Widdows, 2018).

Regarding advertising outcomes, the study identified a clear and hierarchical pattern. Influencer credibility was the only dimension that generated concrete commercial effects, translating into favorable brand attitudes and purchase intentions. Likeability benefited the influencer more than the brand, fostering interaction and follower loyalty without automatically converting into commercial outcomes. Perceived similarity stimulated future interaction and eWOM, but had no direct effect on purchasing. In short, credibility is the only influencer quality that truly matters for brand outcomes, while likeability and perceived similarity build the follower–influencer relationship rather than driving sales.

Taken together, the findings from the focus groups and the online experiment converge on a coherent and sobering picture: transparency labeling of retouched influencer images, while necessary and broadly supported by young users, is insufficient as a standalone protective intervention. The two methodological components of this dissertation, qualitative and quantitative, illuminate different dimensions of the same problem and, crucially, reinforce rather than contradict each other.

The qualitative findings established that young users in both Romania and Germany enter Instagram with considerable awareness. They know that influencer images are routinely retouched, they can identify the visual signs of digital manipulation, and they understand that the beauty standards promoted online are often unattainable or entirely artificial. And yet, awareness does not translate into immunity. Participants described continuing to compare themselves to idealized images even when they consciously recognized those images as manipulated. This disconnect between cognitive knowledge and emotional response is arguably the most important qualitative finding of the dissertation, and it is directly corroborated by the experimental results: knowing that an image is retouched, including being

explicitly informed via a standardized label, does not prevent users from comparing themselves to the influencer, and does not protect their body image from the effects of that comparison.

This pattern cannot be dismissed as irrational. As the theoretical literature makes clear, beauty ideals are not merely aesthetic standards, they function as moral and motivational benchmarks that structure self-evaluation in deeply habitual ways. A label communicates information, but it cannot, by itself, alter the affective and automatic processes through which idealized imagery is processed. Visual content commands attention and produces emotional responses faster and more powerfully than textual overlays (Cook, 1992; Messaris, 1997), and the normalization of digital retouching on social media platforms has likely reduced the felt distance between "real" and "edited" to the point where users absorb idealized images as aspirational rather than as distortions (Naderer, Peter & Karsay, 2021). Furthermore, a single exposure to an unfamiliar disclosure label, in an environment saturated with competing visual stimuli, may simply not be sufficient to produce any meaningful change in processing. Repeated, contextualized, and meaningful exposure over time may be required before a label becomes genuinely informative rather than decorative (Bury, Tiggemann & Slater, 2014; Ata et al., 2013).

5. Implications

These findings have direct and urgent implications for policy. Legislators and regulatory bodies across Europe must understand that disclosure requirements for retouched images are a necessary first step, but not a sufficient one. The regulatory logic of "label it and protect" rests on assumptions about information processing that the empirical evidence does not support, at least not for adolescents and young adults whose engagement with visual content is highly automated and emotionally driven. This does not mean that labeling should be abandoned, quite the contrary. Standardized transparency labels are a legitimate tool for improving accountability in influencer marketing, and the Norwegian model of mandatory, visible, and platform-agnostic labeling represents the most comprehensive legislative approach to date. But policymakers must be honest about what labels can and cannot do, and they must invest in complementary mechanisms that build users' actual capacity to engage critically with the content they consume.

Chief among these mechanisms is formal media literacy education. Across both focus group samples, Romanian and German, participants consistently identified education as the

most effective long-term solution to the harms associated with idealized imagery, more effective in their estimation than regulatory mandates or platform-level interventions. This finding aligns with a substantial body of media literacy research and points toward a clear policy recommendation: critical media literacy curricula, specifically addressing visual manipulation, advertising conventions, and the commercial logic of influencer culture, should be integrated into compulsory schooling at an age-appropriate level. These programs should not be limited to abstract digital citizenship content; they should engage students directly with the types of content they encounter daily on Instagram and similar platforms, and they should develop not only cognitive awareness but also the emotional resilience to handle social comparison in an algorithmically curated visual environment. Platform-led awareness campaigns can play a complementary role, but they are not a substitute for institutionalized education, particularly given the commercial incentives that platforms have to sustain high levels of engagement with idealized content.

Beyond education and regulation, effective interventions must also engage the promotion of body diversity as a structural counterweight to the idealized imagery that currently dominates influencer culture. This is not merely an aesthetic preference, it is a question of representational equity and psychological safety. Research consistently shows that exposure to diverse, realistic body imagery can attenuate the social comparison effects of idealized content, particularly when that diversity is presented as normative rather than exceptional. Brands, agencies, and platforms all have a role to play here, and the findings of this dissertation suggest that doing so is not only ethically sound but strategically rational.

For brands and advertising agencies working with influencers, the experimental findings carry a particularly clear and actionable message: influencer credibility is the only robust predictor of commercial outcomes. Among the three dimensions of influencer attractiveness examined, credibility, likeability, and perceived similarity, only credibility generated meaningful downstream effects on brand attitude and purchase intention. Likeability fostered follower engagement and interaction, but did not translate reliably into commercial outcomes. Perceived similarity stimulated future interaction with the influencer and electronic word-of-mouth, but had no direct purchasing effect. This hierarchy has important strategic implications. It suggests that the influencer qualities most commonly prioritized in campaign briefs, likability, relatability, aesthetic appeal, are not the most commercially consequential ones. Credibility, built on expertise, trustworthiness, and authenticity, is what ultimately moves audiences toward brands and products. And credibility, critically, is precisely what transparency practices support. An influencer who discloses retouching is not undermining

their commercial value; they are protecting and potentially enhancing their most commercially relevant attribute. Voluntary adoption of ethical visual communication practices is therefore not only a moral responsibility but a rational long-term investment. Brands that structure their influencer partnerships around credibility rather than superficial attractiveness are likely to see more durable and commercially significant results.

This argument is reinforced by the qualitative finding that excessive retouching, particularly in sponsored posts, was identified by participants in both countries as a primary driver of distrust in influencers. The credibility cost of retouching is not hypothetical; it is perceived and articulated by the very audiences that influencer campaigns are designed to reach. Brands and agencies that ignore this signal risk not only ethical exposure but genuine commercial harm.

The findings also carry implications for influencers themselves, who are rarely addressed as a distinct stakeholder group in the literature on retouching effects. The dissertation suggests that influencers occupy a structurally ambiguous position: they are simultaneously agents of idealized imagery and potential victims of the same industry pressures that produce it. Many influencers retouch their images not purely out of vanity or commercial calculation, but in response to platform algorithmic incentives, brand expectations, and audience-shaped aesthetic norms that reward a particular visual register. Regulatory frameworks and industry self-governance initiatives that seek to change retouching practices must take this structural context seriously. Obligations placed on influencers without corresponding obligations on brands, agencies, and platforms risk displacing the problem without addressing its causes.

From a theoretical standpoint, this dissertation makes several original contributions to the literature. The integrative experimental model is its most significant: by examining simultaneously the psychological effects of retouched imagery on users and the advertising consequences of influencer perception, the study captured the full downstream chain from image exposure to body image effects to commercial outcomes, a combination rare in the existing literature. The findings on the hierarchy of influencer attractiveness dimensions advance the theoretical understanding of how different aspects of source credibility and likeability operate differently across psychological and commercial outcomes, offering a more differentiated account than most studies that treat these constructs as interchangeable. The cross-cultural comparative dimension, integrating focus groups from Romania and Germany, extends the evidence base beyond the Anglo-Saxon and Western European contexts that dominate the field, documenting meaningful differences in how young users from two distinct European societies relate to idealized imagery, assign responsibility, and conceptualize

intervention. Romanian participants responded more emotionally and personally to retouching, expressed greater skepticism toward commercial manipulation in any form, and placed greater confidence in institutional and platform-level intervention. German participants were more analytically oriented, more willing to accept minor adjustments if transparently acknowledged, and more inclined toward structural solutions such as education and self-regulation. These differences are not merely descriptive curiosities, they have direct implications for the design of regulatory frameworks and educational interventions that must operate across diverse European cultural contexts.

6. Future Research Directions

This dissertation opens several research directions that warrant further exploration. First, longitudinal studies tracking users' responses to transparency labels over time would help clarify whether progressive familiarity with standardized disclosures leads to more active and effective cognitive processing. A single laboratory or survey exposure, as in the present experiment, cannot capture the habituation and learning effects that may develop through repeated real-world encounters with disclosure labels. If familiarity increases label salience and changes how users process the associated imagery, this would have important implications for the timeline and scope of expected regulatory effects.

Second, future research should extend the analysis to adolescents, identified by focus group participants in both countries as the most vulnerable group, and one that is conspicuously underrepresented in experimental studies due to ethical constraints on recruiting minors. The mechanisms through which retouched imagery and disclosure labels affect younger users, whose self-image is still forming and whose social media use is often more intensive than that of young adults, may differ substantially from the patterns documented in the present study. Cross-national studies spanning a wider range of European cultural contexts would also help test the robustness of the Romania–Germany differences identified here and build toward a more comprehensive European evidence base.

Third, the growing prevalence of AI-generated virtual influencers represents an urgent and underexplored frontier for this line of research. Virtual influencers raise more complex questions about authenticity, transparency, and the boundaries of digital manipulation than their human counterparts, and current regulatory frameworks are largely unprepared to address them. As this category of content becomes increasingly mainstream, its effects on body image,

social comparison, and advertising outcomes, and the potential role of new forms of disclosure in mitigating those effects, deserve dedicated empirical attention.

Fourth and finally, future studies should test the effectiveness of transparency labels in combination with other types of intervention, including visual media literacy programs, body-positive content exposure, and audience empowerment curricula, to identify the optimal package of protective measures. The present dissertation has demonstrated that labels alone are insufficient. What remains to be determined is which combinations of tools, delivered in which sequences and contexts, can produce lasting and meaningful improvements in the psychological well-being of young users navigating an increasingly idealized and commercially saturated digital environment.