

Contextual Factors in Digital Persuasive Communication

The Roles of Information Source, Message Modality, and Self-Presentation

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Abstract

The digital transformation has fundamentally altered how individuals search for, perceive, and share information across social, political, and commercial areas. The democratisation of content production, the emergence of new information sources, such as influencers, and the broader access to information have raised concerns regarding information overload, diminished gatekeeping, and a greater reliance on heuristic message evaluation. These developments may compromise critical content assessment and heighten susceptibility to fake news. Therefore, the question of how digital communication, particularly persuasive communication, impacts users has become a focal point of research.

This cumulative dissertation, comprising five peer-reviewed empirical studies, examines the role of contextual factors in persuasive communication across different digital media environments. Employing a multi-method approach that includes quantitative and qualitative surveys, controlled experiments, and mixed-methods designs, the dissertation investigates three key contextual factors: the characteristics of the information source (i.e., expertise, type) – especially in the case of influencers – the message modality (i.e., Virtual Reality, audio, video, text), and self-presentation strategies of influencers and ordinary users.

The cumulative findings demonstrate that source characteristics, such as perceived expertise and message modality cues, have a significant influence on persuasive outcomes. Importantly, psychological mechanisms such as personal involvement are vital for these effects. The strategic idealisation of self-presentation underscores the potential harmful effects of social media use. Thus, results also suggest a complex interplay between contextual factors. This dissertation broadens classical communication theories by emphasising the need for integrative models and proposing a conceptual framework that considers digital-specific contextual dynamics. Practical implications include recommendations for media literacy interventions and content design strategies.

1. Introduction

The ongoing digital transformation has profoundly reshaped how people perceive, exchange, and share information. Communication increasingly occurs via digital media, making digital communication a central component in social (Boczkowski & Mitchelstein, 2021), political (Elishar-Malka et al., 2020; Oparaugo, 2021), and marketing interactions (Stephen, 2016). Digital users create and share content for various intrinsic and extrinsic motivations, such as sharing information and knowledge, entertaining others (Gross & von Wangenheim, 2018), and monetary goals, which influence the content they produce (Poch & Martin, 2014). For instance, political actors now actively utilise digital platforms to mobilise, inform, and engage their audiences (Enli, 2017; Koc-Michalska & Lilleker, 2017), while individuals participate in public discourse across diverse digital and social media channels (Gasser et al., 2014). One primary motivation for users to engage with social media is to inquire information and gain knowledge about others (Whiting & Williams, 2013), underscoring the vital role of communication in digital environments. Interestingly, unlike traditional media, where the roles of sender and receiver in communication are mostly separated, digital environments – particularly social networking sites (SNS) like Facebook, Instagram, TikTok, and X which are characterized by giving the users opportunities for creating personal profiles, and forming, viewing, and navigating through connections with other users (Boyd & Ellison, 2008) – enable users to simultaneously assume the roles of content creators and recipients, thereby fostering a new form of democratised communication (Kaplan & Haenlein, 2010).

These transformations and distinctions present both opportunities and challenges. On the one hand, they facilitate broad access to information (Hilbert, 2017), enabling continuous and interactive engagement among users. Furthermore, they have led to new roles, such as social media influencers, “digital content creators who capture the attention of viewers through their own content” (Ruiz-Gómez, 2019, p. 14). Influencers are social media users who create their own content and digital persona, increasing their follower count and social capital through their content and self-presentation. They differ from ordinary users by attracting attention to themselves and products, enabling them to influence their audience, which makes them valuable for marketing purposes (Ruiz-Gómez, 2019). Influencers often provide information about themselves or other topics as well (Gross & von Wangenheim, 2018). This information sharing is also a primary reason users engage with influencers (Kolo & Haumer, 2018; Morton, 2020), making influencers key communicators in the digital realm.

On the other hand, the overwhelming volume of information can lead to information overload, reducing the ability to evaluate content critically and increasing susceptibility to misinformation and exposure to fake news (Apuke & Omar, 2021; Laato et al., 2020; Talwar et al., 2019). The absence of gatekeeping structures and traditional control mechanisms further aggravates these risks (Johnson & Kaye, 2014; Metzger, 2007). Understanding how users perceive and evaluate messages in these complex digital environments is, therefore, a key task for communication research.

As a result, the effects of *persuasive communication* – the strategic use of messages to influence attitudes or behaviour (Petty & Cacioppo, 1986) – have gained renewed importance in digital environments. Contextual factors have long played a central role in shaping communication outcomes in this context. Classical communication models, such as Shannon and Weaver's (1949) mathematical theory of communication and the Axioms of Communication (Watzlawick et al., 1967), highlight how factors like nonverbal cues, physical proximity, and sender-receiver roles shape the perception and processing of information. Persuasive communication models, such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (Chaiken, 1980), additionally emphasise the importance of contextual factors and involvement in influencing message processing.

However, traditional models possess limited explanatory power in digital environments. The spreading of user-generated content, the collapse of the distinction between professional and amateur communicators, and the erosion of physical and temporal boundaries in digital communication necessitate new frameworks. These must account for digital-specific elements such as source credibility, media modalities, and online identity-building strategies.

This dissertation addresses these gaps by investigating how key contextual factors influence message perception and evaluation in digital persuasive communication. It specifically investigates:

- a) The role of the information's *source*, particularly influencers.
- b) The *modality* and media format used to convey messages.
- c) The *self-presentation* strategies of both influencers and ordinary users.

Through five peer-reviewed empirical studies, each exploring different dimensions of persuasive communication in digital contexts, this dissertation offers both individual and cumulative insights. Collectively, the studies contribute to a more comprehensive theoretical understanding of the contextual influences on digital message perception, providing a basis for

developing a contextual communication framework that aligns with the affordances of digital media.

1.1 Classical information and communication theories

Classical information and communication theories offer foundational insights into how individuals exchange and interpret information, laying the theoretical groundwork for understanding persuasive processes in both offline and digital contexts. Communication is traditionally defined as the exchange of a message between a sender and a receiver (Schramm, 1954). Information is understood as data that conveys meaning and leads to knowledge (Shannon & Weaver, 1949). Shannon and Weaver (1949) conceptualise information as the reduction of uncertainty, highlighting its transmission through various media. Several common key properties characterise information quality, namely accessibility, objectivity, relevance to the recipient, accuracy, consistency between the format and content of the information, and completeness (Eppler & Wittig, 2000). Shannon and Weaver's (1949) mathematical model of communication describes the communication process as a fundamentally linear and technical sequence, where a message is encoded by a sender, transmitted through a channel, potentially disrupted by noise, and decoded by a receiver. This model emphasises critical structural features such as the sender (source), the channel (medium), and potential interferences (noise). However, it does not incorporate crucial elements of interpersonal and persuasive communication, such as feedback or the broader social context, which significantly shape message interpretation.

In contrast, Watzlawick et al.'s (1967) Axioms of Communication integrate non-verbal and relational dimensions of communication. The model distinguishes between digital (content-based) and analogue (non-verbal) modalities, recognising that body language, facial expressions, and gestures influence how messages are received and interpreted. Additionally, it emphasises the role of relational dynamics, positing that communication can occur symmetrically (between equals) or asymmetrically (across hierarchical relationships). This model views communication as a multi-layered and context-dependent process.

In the field of persuasive communication, dual-process models, particularly the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (Chaiken, 1980), are relevant to consider. These models differentiate between systematic, argument-based processing and heuristic, cue-based processing routes. They suggest that the type of persuasion process relies on how likely individuals are to analyse the information and content of the persuasive message thoroughly. The systematic central route explains the

persuasion process when there is a high likelihood of elaboration, meaning individuals analyse the message's information carefully before being persuaded. When elaboration is low, people follow the non-analytical peripheral route when forming an opinion, relying on simple decision rules, called *heuristics*, and peripheral cues such as the characteristics of the message's source, like their credibility or likability. The route chosen depends on the individual's motivation, their cognitive ability, and the relevance of the message to the recipient, known as involvement. Higher levels of motivation, involvement, and cognitive ability increase the likelihood of adopting the analytical central route (Chaiken, 1980; O'Keefe, 2013; Petty & Cacioppo, 1986; Todorov et al., 2002). Thus, dual-process models emphasise the importance of heuristic cues, particularly when utilising the peripheral route.

To summarise, classical communication and persuasion models provide a foundational understanding of how contextual features, such as message source, modality, and relational dynamics, influence message interpretation. However, they offer limited explanatory power in the context of digital communication, where these factors become increasingly multidimensional and complex.

1.2 Contextual factors in digital communication environments

The digital transformation has fundamentally reshaped how information is created, distributed, and consumed. Digital communication, particularly via SNS, is characterised by its multimodality, interactivity, and algorithmic curation, necessitating new methods to enhance digital literacy (Bateman, 2021). Especially SNS and content-sharing platforms, such as YouTube, play a crucial role in shaping how individuals access news, form opinions, and engage in public discourse. For example, as users are motivated by a variety of goals, including social connections, information seeking, opinion sharing, and communication (Whiting & Williams, 2013), they seek affirmation of their views, receive personalised recommendations, and navigate their experiences through feedback systems (Metzger et al., 2010). Consequently, SNS influence not only political beliefs (Johnson & Kaye, 2014) but also news engagement (Johnson & Kaye, 2014; Ma et al., 2014) and political participation (Park & Kaye, 2018). Due to the ease of connecting with others, SNSs have thus become a vital platform for communication (Fox & Moreland, 2015).

As a result, traditional unidirectional and linear models of communication have been increasingly replaced by network-like, multidimensional structures that foster more interactive and participatory forms of engagement (Banerjee et al., 2016). This networked dynamic creates a hybrid communication environment where professional actors and private users interact and

co-create content, often blurring the boundaries between public and private discourse (Kietzmann et al., 2011). In such environments, contextual and heuristic cues become particularly significant in shaping how information is perceived, evaluated, and processed (Grewal et al., 2022; Sundar, 2008). This may be partly due to cognitive constraints, including attentional overload, which is exacerbated by factors such as information overload, design features, and multitasking (for a review, see Shanmugasundaram & Tamilarasu, 2023).

Especially, information overload may foster a rather non-analytical, heuristic information processing in digital environments. Toffler's (1970) Information Overload Theory posits that human cognitive resources are limited and can be overwhelmed by excessive information input, resulting in poorer understanding and decision-making. Notably, users of digital news portals and SNS are exposed to a large amount of information and news, which can lead to experiencing information overload (Gomez Rodriguez et al., 2014; Holton & Chyi, 2012). The sometimes incidental and unintended nature of news exposure when using digital platforms may potentially contribute to information overload (Schäfer, 2023). Previous research has shown that information overload in digital media environments indeed may diminish users' ability to engage in systematic processing and promote a more heuristic approach (Hong & Kim, 2020), which may, for example, be associated with an increased susceptibility to sharing fake news (Alvi & Saraswat, 2020). Notably, information overload is also linked to users relying on heuristic cues, such as the expertise of influencers, which in turn may be associated with persuasive outcomes (i.e., Zhang et al., 2023). In their literature review, Schreiner et al. (2021) demonstrated that content characteristics indeed have a significant impact on user behaviour on SNS. They found that content appeal, along with the use of images and videos, enhances user engagement. Nevertheless, the authors highlight that the characteristics of the sender and the medium are crucial in realising these effects, supporting the importance of examining the role of contextual factors in digital communication.

Therefore, they recommend additional research in these domains and the creation of improved communication models for SNS. This section now introduces three contextual factors in digital communication that may serve as heuristics for information processing: (1) the information's *source*, (2) the *modality* in which the information is conveyed, and (3) the source's *self-presentation*.

1.2.1 The role of the information's source and its characteristics

In digital communication environments, the traditional distinction between the sender and receiver of information has become increasingly blurred. Users frequently engage in both

content production and consumption, illustrating the participatory nature of online media and the democratisation of content creation.

However, this convergence of roles and the democratisation of content creation harbours new risks. The rise of social media influencers as non-traditional opinion leaders (Backaler, 2019) raises concerns about the reliability of sources. Influencers aim to share knowledge for educational purposes or combine information with entertainment, among other objectives (Gross & von Wangenheim, 2018). Through perceived authenticity and social reach, influencers affect their followers' attitudes, behaviours, and decision-making (Hudders et al., 2021; Morton, 2020). They impact consumer behaviour (Nandagiri & Philip, 2018), self-presentation (Limkangvanmongkol & Abidin, 2018), and lifestyle practices (Morton, 2020). Followers also form parasocial relationships, defined as one-sided relationships where a user is aware of a media persona's activities but not vice versa (Baek et al., 2013), with influencers. These relationships potentially lead to the adoption of the influencers' opinions and behaviours, which further amplifies their influence as role models (De Veirman et al., 2019). In contrast to traditional media institutions, however, influencers often lack formal editorial standards (González-Díaz et al., 2024) and topic-related expertise, which heightens the risk of misinformation dissemination (e.g., Trepte & Scherer, 2010). This issue raises serious concerns regarding information quality, particularly when recipients rely on source heuristics to shape their attitudes and behaviours (Rieh & Danielson, 2007; Wathen & Burkell, 2002).

Indeed, Metzger (2007) proposes that verifying the source and qualifications of the information is vital for evaluating online information. The Source Credibility Model (Lowry et al., 2014; Ohanian, 1990) suggests that factors of source credibility, including perceived expertise, trustworthiness, and attractiveness, impact the persuasiveness and perceived utility of the message (Djafarova & Rushworth, 2017; Lou & Yuan, 2019). This source credibility also links to evaluations of message credibility (Balaban & Mustăţea, 2019; Kang et al., 2011) and engagement with messages (Keib & Wojdyski, 2019), which reinforce the relevance of the information source as a heuristic cue in evaluating credibility in digital communication contexts (Flanagin & Metzger, 2020).

Consequently, this dissertation aims to empirically investigate how influencers serve as information sources and how their perceived credibility influences users' attitudes, judgements, and behaviours in digital communication contexts, more specifically on SNS and YouTube, as these platforms allow the creation and dissemination of personal content and the building and managing of a community of followers.

1.2.2 The role of content modality

In digital persuasion, both the source of information and its content characteristics can play persuasive roles that interact with each other (Dockter et al., 2021). According to the Media Richness Theory (Daft & Lengel, 1986), communication media differ in their ability to convey complex and persuasive messages based on dimensions such as feedback immediacy, nonverbal cues, and personalisation. This indicates that modality – the format in which content is delivered – is a crucial contextual factor influencing persuasive effectiveness. Indeed, Wissmath et al. (2010) demonstrated that the perceived credibility of an information source varies significantly across different modalities through which the source delivers its message (TV, radio, and print), with sources in the TV condition being perceived as the most credible compared to the other two conditions. The effect of message modality on information source credibility even interacts with the source's characteristics, as the modality effect was more substantial for a politician and a chief correspondent than for an academy director and an editor in chief, possibly because they benefit more from conveying non-verbal behaviour (Wissmath et al., 2010). Since source credibility is linked to the persuasiveness of messages (Djafarova & Rushworth, 2017; Lou & Yuan, 2019), the modalities of messages should also be considered when discussing the persuasive impact of the source and message.

However, Wissmath et al. (2010) had not yet included digital and online modalities. Digital platforms offer a wide array of modalities, enabling multimodal messages that integrate text, audio, video, and interactive features, thus enhancing message richness and user impact (for a review, see Grewal et al., 2022). Modality influences how content is processed and perceived. Visual and short-form content, prevalent on platforms like Instagram and TikTok, limits the opportunity for in-depth and analytical information processing, thereby favouring automatic thinking processes (Jiang & Ma, 2024). Previous research has shown that visual YouTube videos can be more persuasive than text or audio (Mohammadi et al., 2013). Similarly, Park et al. (2016) found that combining visual, linguistic, and paralinguistic elements may increase the predictability of persuasive effectiveness compared to unimodal models, underlining the significant role of (multi)modality for persuasion.

Moreover, modality also shapes how users interpret and assess the credibility of information. For example, users may rely on visual and linguistic features when evaluating credibility or detecting fake news on social media (Shu et al., 2017). Visual and stylistic elements such as headlines, layout, and multimedia cues can influence perceived authenticity and shareability (Agosto, 2002; Shenton & Dixon, 2004; Wobbrock et al., 2019). Content delivered via traditional media formats, such as television or newspapers, is often perceived as

more credible than content on SNS (Besalú & Pont-Sorribes, 2021). However, paradoxically, higher production quality can undermine the perceived authenticity of YouTube influencers (Hugger et al., 2019). This highlights the tension between polished and professional productions and the authenticity and trustworthiness of influencers.

In summary, considering the demonstrated influence of content modality on user perception, credibility assessment, and persuasive impact, this dissertation explores how various modality formats relate to users' perceptions and evaluations of persuasive digital messages.

1.2.3 The role of the source's self-presentation

In addition to inherent characteristics and content modalities, the effectiveness of influencers in fostering follower relationships (Leite et al., 2022) and marketing campaigns (Guruge, 2018; Masuda et al., 2022) relies on their self-presentation strategies. Self-presentation is thereby defined as “the behaviour that attempts to convey information about oneself or some image of oneself to other people” (Baumeister & Hutton, 1987, p. 71). Influencers must carefully craft their public personas. Indeed, influencers often disclose personal information to express themselves (Gross & von Wangenheim, 2018). Followers, in turn, evaluate influencers based on factors such as credibility, appearance, content creation (Tsen & Cheng, 2021), and perceived authenticity (Ruiz-Gómez, 2019). Thus, self-presentation is crucial for establishing trust and fostering connections with their followers.

In this context, the Self-Presentation Theory (Baumeister, 1982) posits that individuals generally strive to present themselves in ways that align with both their ideal self-image and their audience's expectations, aiming for self-fulfilment, gaining rewards, and influencing others. Previous research has highlighted that influencers may strategically employ self-presentation to build parasocial relationships (Chen, 2016; Su et al., 2021), which are associated with and increase followers' susceptibility to persuasive messages (Hoffner & Bond, 2022). These relationships are crucial to the compelling efficacy of the so-called online influencer marketing, defined as the “strategy in which a firm selects and incentivizes online influencers to engage their followers on social media in an attempt to leverage these influencers' unique resources to promote the firm's offerings, with the ultimate goal of enhancing firm performance” (Leung et al., 2022, p. 226). Thus, parasocial relationships were found to be positively linked to both purchase intention and brand trust (Azhar et al., 2024; Koay et al., 2023). However, influencers must navigate the tension between presenting an authentic self and pursuing commercial interests (Davenport & Jones, 2021) while also meeting followers'

expectations (Duffy & Hund, 2019; Glatt, 2023). This balancing act may potentially create unrealistic ideals, which have been connected to adverse outcomes among followers, such as body image concerns and self-objectification (e.g., Fardouly et al., 2018; Prichard et al., 2023).

Importantly, strategic self-presentation is not confined to influencers. Ordinary users who do not perceive themselves as influencers also engage in similar practices. According to Whiting and Williams (2013), sharing information about oneself with others is one of the primary motivations for using social media. In digital environments, one central method of transforming self-presentation is through avatars – digital representations of users (Bailenson et al., 2008). The way these avatars are curated is driven by motives such as self-expression (Sibilla & Mancini, 2018) and identity portrayal (Lin & Wang, 2014). A key question in this area concerns whether ordinary users present themselves in an idealistic manner (Manago et al., 2008) or authentically (Lemenager et al., 2020). Like influencers, idealised avatars may also promote unrealistic ideals, contributing to adverse mental health outcomes (e.g., Cacioli & Mussap, 2014; Park, 2018; Robinson et al., 2019). These findings emphasise the importance of investigating not only influencers but also everyday users in terms of self-presentation. Thus, this dissertation explores the self-presentation strategies utilised by both influencers and ordinary users in online contexts.

1.3 Research questions and objectives

In summary, digital communication is profoundly influenced by several contextual factors that shape how individuals perceive, process, and engage with persuasive messages. While classical communication theories have long emphasised elements such as nonverbal cues and interpersonal dynamics, the digital transformation has introduced new factors that are not fully addressed in these traditional theories. In particular, the role of the information source, the message modality, and self-presentation strategies have proven crucial in shaping users' perceptions and behaviour in digital environments.

These factors not only act as cognitive heuristics in digital contexts but may also interact in complex ways to influence perceptions of credibility and behavioural intentions. Given the increasing importance of such dynamics, there is a need for an updated conceptual framework that can systematically account for these contextual factors in persuasive digital communication. This cumulative dissertation seeks to enhance such a framework by empirically examining the influence and interaction of source characteristics, message modalities, and self-presentation strategies in digital persuasive communication.

Despite the growing body of research on digital communication, three critical gaps persist: (1) most studies examine contextual factors such as source credibility or modality in isolation, overlooking the potential interplay and underlying psychological mechanisms in digital communication; (2) influencers occupy a dual role as both content producers and consumers, and their self-presentation strategies require more nuanced analysis, particularly from the influencers' perspective; (3) the self-presentation strategies of ordinary users in various digital contexts, primarily through avatars, remain underexplored despite the potential impact on mental health.

Considering these gaps, this dissertation addresses the central research question:

How are contextual factors in digital communication – particularly information source, message modality, and self-presentation – connected to the perception, evaluation and effectiveness of persuasive messages?

This research question is examined through five interrelated peer-reviewed empirical studies, each of which addresses a distinct perspective:

Source credibility: How do followers utilise and perceive influencers and their content on YouTube for (political) education and opinion formation?

Source expertise and source type: How does perceived source expertise impact credibility and engagement intentions with (political) news, and how do these perceptions vary between different source types?

Modality: What effects do different content modalities have on users' message processing and behavioural intentions?

Self-presentation of influencers: How do influencers understand and plan their self-presentation and role model function?

Avatar-based self-presentation of ordinary users: How do ordinary users plan their self-presentation through avatar curation across different digital contexts (SNS, dating, job platforms, gaming), and how does the strategy vary between these digital environments?

2. Publications

This cumulative dissertation comprises five peer-reviewed empirical studies that collectively examine the role of contextual factors in digital persuasive communication. The overarching research addresses three interrelated contextual factors: (1) the credibility and type of the information source, (2) the modality of information presentation, and (3) the communicators' self-presentation strategies. To examine these issues, this dissertation integrates a multi-method approach, comprising quantitative and qualitative surveys, controlled experiments, and mixed-methods designs.

The five articles are thematically grouped as follows:

1. Influencers and their content as information sources in digital environments (Articles 1–3)
2. The role of modality and message presentation (Articles 1 & 3)
3. Self-presentation in digital environments (Articles 4 & 5)

Article 1:

Zimmermann, D., Noll, C., Gräßer, L., Hugger, K. U., Braun, L. M., Nowak, T., & Kaspar, K. (2022). Influencers on YouTube: a quantitative study on young people's use and perception of videos about political and societal topics. *Current Psychology*, 41(10), 6808–6824. <https://doi.org/10.1007/s12144-020-01164-7>

Article 2:

Zimmermann, D., Klee, A., & Kaspar, K. (2023). Political news on Instagram: influencer versus traditional magazine and the role of their expertise in consumers' credibility perceptions and news engagement. *Frontiers in Psychology*, 14, 1257994. <https://doi.org/10.3389/fpsyg.2023.1257994>

Article 3:

Zimmermann, D., Wolf, P., & Kaspar, K. (2025). Virtual reality versus classic presentations of mass media campaigns: Effectiveness and psychological mechanisms using the example of environmental protection. *Computers in Human Behavior*, 168, 108643. <https://doi.org/10.1016/j.chb.2025.108643>

Article 4:

Zimmermann, D., Schneider, C., & Kaspar, K. (2025). A mixed methods exploration of self-presentation, authenticity, and role model function on Instagram: perspectives from female influencers in Germany. *Frontiers in Psychology*, 15, 1472514. <https://doi.org/10.3389/fpsyg.2024.1472514>

Article 5:

Zimmermann, D., Wehler, A., & Kaspar, K. (2023). Self-representation through avatars in digital environments. *Current Psychology*, 42(25), 21775–21789.
<https://doi.org/10.1007/s12144-022-03232-6>

2.1 Article 1: Influencers on YouTube: a quantitative study on young people's use and perception of videos about political and societal topics

The first study examined how adolescents and young adults use and evaluate YouTube videos created by influencers on political and societal topics (referred to as YTPS videos in the following discussion). This quantitative study explored the topic primarily in an exploratory manner to gain an initial understanding of the roles of influencers and their content as sources of information and role models from the perspective of their followers. The study forms part of the larger research project, "YouTuber videos, peers, and political orientation of young people", funded by the Grimme Forschungskolleg.

Original abstract:

The roles of YouTube videos and YouTubers for getting information about political and societal topics are becoming gradually more important to young people. Quantitative research about young people's use and perception of YouTube-videos and their potential effects on opinion formation is sparse though. This cross-sectional quantitative study addresses this empirical gap. We examined young people's analytic-critical evaluations of YouTubers and their videos about political and societal topics (YTPS videos), and how these are affected by the young people's age and gender. We analysed questionnaire data of 562 participants and divided them into three different age groups. Overall, the participants reported a moderate watching frequency of YTPS-videos. They also rated YTPS-videos as moderately credible and considered specific characteristics of YTPS-videos and their producers as being moderately indicative for fake news. When comparing to traditional TV news, YTPS-videos were perceived as more entertaining, emotional, funny, exciting, modern, and motivating but also as more subjective and manipulating. Regarding YouTubers, the participants ascribed them an important role model function, but criticised them for handling it rather irresponsibly. Concerning opinion formation processes, the participants reported of a rather unimportant role of YTPS-videos for their learning about political and societal topics. They also perceived themselves as less influenceable than other peers and younger people. Still, they prefer talking with friends instead of teachers about YTPS-videos. Age and gender also had effects on various scales. These results deliver essential data for future research and educational measures and opened up unexplored areas in this research field.

2.2 Article 2: Political news on Instagram: influencer versus traditional magazine and the role of their expertise in consumers' credibility perceptions and news engagement

Article 1 suggests that users tend to view news from more traditional media as more credible than content from YTPS videos, indicating that source characteristics may influence credibility perceptions. Article 2 now expands these findings and experimentally investigates this issue to shed further light on it by systematically analysing how users evaluate political news on social media depending on source type (influencer vs. SNS representation of a more traditional news magazine) and its perceived expertise (with vs. without thematic expertise).

Original abstract:

Introduction: Social networking sites (SNS) are increasingly used by consumers to read and share political news. In this context, Instagram plays an important role due to its prevalence and visual characteristics. However, previous research has highlighted that consumers fail to identify the source of online news, though source characteristics were shown to be vital for news credibility perceptions. Nevertheless, research on whether and which source characteristics have an influence on Instagram consumers' credibility perceptions and news engagement intentions are lacking. The present study addresses this empirical gap by investigating potential effects of source expertise and source type on source credibility, message credibility, news engagement intentions, and personal involvement regarding political news on Instagram.

Method: We randomly presented participants with political news posts from one of four sources, either the Instagram representation of a fictional news magazine or influencer with or without political expertise. Participants assessed the perceived credibility of the source and the news, their news engagement intentions, and personal involvement.

Results: We analyzed data from 416 participants. Results showed significant main effects of source expertise on each of the dependent variables. Those were shown to be indirect effects through personal involvement. There were hardly any effects of source type.

Discussion: These results provide new insights into the role of source expertise on credibility perceptions and news engagement intentions, and provide insights into the comparison between influencers and Instagram representations of traditional news magazines. Theoretical implications for future research and practical implications for content creators, users, and SNS platforms are discussed.

2.3 Article 3: Virtual reality versus classic presentations of mass media campaigns: Effectiveness and psychological mechanisms using the example of environmental protection

Building on the findings of Article 1, which showed that young people partly assess the credibility of online information based on modality and media characteristics, Article 3 explores how different media modalities affect persuasive outcomes. Modality and media features may be essential in digital communication, where source blindness may occur (Pearson, 2021), as indicated by the lack of source type effects in Article 2. In response, the third study compared traditional and digital presentation formats, examining their persuasive effects and underlying psychological mechanisms. Due to the increased availability and affordability of devices delivering Virtual Reality (VR), the “three-dimensional, computer-generated, lifelike environment” (Vallance & Towndrow, 2022, p.1), we compared modern 360° videos presented via head-mounted displays (hereafter referred to as 360° VR videos) with three more traditional formats: text, audio, and 2D videos. Similar to Articles 1 and 2, the present study focuses on socially relevant topics. We chose specifically environmental protection, as VR has already been employed in this area to foster user engagement and pro-environmental behaviours (Kandaurova & Lee, 2019).

Original abstract:

Virtual reality (VR) and 360° VR videos are increasingly important for media advertising campaigns due to their immersive potential. This particularly applies to topics many recipients find difficult to grasp, including environmental protection issues. However, previous research on the effects of 360° VR videos on users’ environmental attitudes and behavioural intentions, compared to more traditional media, came to mixed results and lacked a consistent approach regarding the considered presentation modes and mediating mechanisms. To address this circumstance, we compare the effects of 360° VR videos with 2D video, audio, and printed text, and examine the potential roles of spatial presence, narrative transportation, and affect. We presented three environmental protection documentaries in one of the four presentation modes to the participants, who then rated their experiences as well as their environmental protection and donation intentions. We analysed data from 128 participants and examined the main effects of presentation mode (360° VR video vs. 2D video vs. audio vs. text) on spatial presence, narrative transportation, and positive and negative affect as well as indirect effects of presentation mode on participants’ environmental and donation intentions via these four psychological mechanisms. Results revealed that the 360° VR video condition evoked

significantly stronger feelings of spatial presence, narrative transportation, and positive affect than the other conditions. We also found significant indirect effects of presentation mode on environmental protection and donation intentions via narrative transportation. These results emphasise the relevance of the narrative for virtual marketing campaigns and the need to consider mediators in VR research.

2.4 Article 4: A mixed methods exploration of self-presentation, authenticity, and role model function on Instagram: perspectives from female influencers in Germany

Article 2 demonstrated that conveying expertise enhances influencers' credibility and follower engagement. This underscores the strategic necessity for influencers to deliberately curate their online personas to present a suitable image, ultimately building trust, relatability, and effective persuasive outcomes. Building on this, Article 4 deepens the focus on influencer self-presentation strategies by exploring how influencers perceive their image construction, especially within the highly visual realms of beauty, fashion, and fitness influencers (collectively referred to as BFFIs). These BFFIs heavily rely on influencers' ability to visually market both products and themselves, making their self-presentation strategies particularly salient. While most existing literature focuses on audience reception (e.g., Ardley et al., 2022; Ruiz-Gómez, 2019; Tsen & Cheng, 2021), Article 4 shifts perspectives to explore the influencers' point of view. This complements earlier contributions in Article 1, which investigated users' perceptions of influencers, highlighting the significant role model function that influencers hold.

Original abstract:

Introduction: Social media influencers focussing on beauty, fashion, and fitness topics (BFFI) are important opinion leaders on Instagram. Nevertheless, they are criticized for their potential negative influence on their followers' physical and mental health due to their potentially biased self-presentation. Previous research has mainly focused on followers' perceptions of influencers' self-presentation, leaving a gap regarding the influencers' views.

Method: The present survey included 26 female BFFIs from Germany (18–35 years old), with 16 self-reported micro-influencers (10,000–100,000 followers) and ten macro-influencers (>100,000 followers), representing (semi-)professionals in this domain. 17 influencers saw their main focus in the field of fitness, 16 in fashion, and 13 in beauty. The survey included demographic information, open-ended questions, established and self-developed rating scales, and a social desirability assessment to examine the BFFIs' perceptions of their goals, self-presentation, and role model function. Quantitative data was examined via inter-correlation matrix and ANOVA, and qualitative data was analyzed via an established approach for qualitative content analysis.

Results: Influencers pursue mostly self-realization (50% of participants gave at least one related answer) and commercial goals (50%). While they generally perceive their self-presentation as authentic (84.6%) and positive (76.9%), they still see room for improvement in

content creation (61.5%) and self-presentation (30.8%). Fear of negative feedback, absence of positivity and motivation, wrong cooperation partners (30.8% each) and insecurity (23.1%), among others, may lead to a less authentic self-presentation and use of picture editing. The tendency toward socially desirable responses (impression management) is negatively connected to the reported frequency of image editing tools used and attempts to appear authentic. Influencers reported several examples of responsible and irresponsible behaviours and strategies to avoid negative effects on their followers. The type of influencer (micro or macro level) showed a significant effect on the importance attributed to one's own role as an influencer.

Discussion: The complex findings suggest potential conflicts between the influencers' goals and the expectations of followers and cooperation partners. Influencers find themselves in a dual role as users and producers. This results in concrete behavioural challenges for them, but also in implications for established theories of media use.

2.5 Article 5: Self-representation through avatars in digital environments

While Article 4 highlights the reasons why influencers often engage in idealised and strategically curated self-presentation despite the critical role of authenticity, it is vital to recognise that this phenomenon may not be limited to influencers; ordinary users may adopt similar self-presentation strategies on SNS. Based on this, Article 5 examines self-presentation by ordinary users through the design of avatars – digital representations of users in digital environments (Bailenson et al., 2008). This topic gains further relevance considering the emerging metaverse, which relies on avatar-based communication and interaction (Lee et al., 2024). The theory of transformed social interaction (Bailenson et al., 2008) suggests that the transformation of self-presentation is a primary aspect of avatar-mediated communication, allowing users to strategically modify their avatar's appearance and behaviour, regardless of their actual features (Bente et al., 2008). Consequently, Article 5 empirically investigates how users construct avatars across different online environments, focusing on the alignment between avatars, users' actual selves, and their ideal selves.

Original abstract:

Due to its prominent role in online social networks, avatar creation has become an important research topic in the field of computer-mediated communication. One main motive for creating avatars is the representation of one's own identity. Previous research indicates that avatar creation depends on the activity context for which the avatar is created. Though, studies comparing avatar creation for a wide variety of activity contexts are still missing. The present study addresses this empirical gap by examining (1) the self-representation of physical, demographical, and personality characteristics through avatars, (2) differences in self-representation between various online activity contexts, and (3) between-participant variance in ascribed personality traits. Participants attributed physical, demographical, and personality characteristics to their avatar for one of six online activity contexts and indicated the same characteristics for their actual and ideal selves. We analysed the data of 568 participants and found a high level of congruence between demographical/physical characteristics of the avatar, the actual self, and the ideal self. Furthermore, we found an idealised representation of the avatar's personality traits, which was affected by the specific activity context. Last, the between-participant variance in the avatar's personality traits was mainly larger than the variance in the ideal self but smaller than the variance in the actual self, indicating a link between avatar creation and social norms. These results deliver new insights into the strategies

behind avatar creation in different contexts and build a basis for future research and practical implications for developers and designers of virtual worlds.

3. General discussion

Set against the backdrop of traditional information and communication theories, this dissertation examines how contextual factors influence the perception, evaluation, and processing of digital persuasive messages. These aspects seem especially important in digital environments due to conditions such as information overload (Hong & Kim, 2020) or limited cognitive resources, i.e., due to multitasking (for a review, see Shanmugasundaram & Tamilarasu, 2023). Based on five empirical studies, this cumulative work emphasises three dimensions of digital contextual factors that are particularly influential: the *source of the information*, the *modality* through which the message is conveyed, and *self-presentation* strategies. This dissertation thus contributes to a deeper understanding of the effects of digital media, providing new insights and implications for media psychology, communication theories, and persuasion research.

3.1 Summary of main findings and synopsis of the articles

Since the results and implications of the individual articles have already been discussed in their respective articles, the following sections provide a broader summary and synthesis of the findings and their implications. Supporting this aim, Table 1 presents a comprehensive overview of the research topics, methodological approaches, main findings, and primary implications of the individual articles, along with their contextualisation (synopsis) in this dissertation.

As initial insights into the topic of influencers as a source of information, Article 1 examined how young people use and perceive influencers and YTPS videos as information sources. In summary, this study illustrated the nuanced and ambivalent perceptions that young people hold towards political influencers on YouTube and their content. Young people demonstrate moderate usage of YTPS videos and exhibit scepticism towards those videos, particularly when comparing them to more traditional news media. They identify potential indicators of fake news to a certain extent and recognise the roles of influencers as both role models and commercial figures. These findings underscore the importance of source and modality characteristics in shaping message evaluation and highlight the vital role of influencers as role models for their followers, emphasising the need for further empirical investigation into the impact of influencers in political communication contexts.

Table 1. Summary of the overarching research topics, methods, main results, synopsis, and synergies between the five articles.

Research topic	Method	Main Findings	Main indications	Contextualization of the study (synopsis)
(Article 1) Influencers on YouTube: a quantitative study on young people's use and perception of videos about political and societal topics				
Young people's analytic-critical evaluation of YouTubers and their videos about political and societal topics	Exploratory quantitative survey ($n = 562$)	a) Young people use political and societal YouTube videos (YTPS videos) but are sceptical about their credibility, especially when compared to more traditional TV news; they use video characteristics to identify fake news to a certain extent. b) Young people perceive themselves as less susceptible to YTPS videos than peers younger and the same age. c) Young people recognized YouTubers as important role models, but also criticize them for their irresponsible handling of this role. d) Communication about video content hardly takes place, but when it does, young people prefer talking to peers rather than parents or teachers.	a) Influencers hold a role as content creators for political and societal communication. b) Critical but limited reflection of young people; modality and media characteristics seem to be associated with message evaluations. c) Discrepancy between the perceived influenceability of others and self-perception may hint at an underestimation of own susceptibility. d) Preference for talking to peers instead of teachers hints at a lack of formal media education.	a) Introduces main topics (role of source, modality, perception of influencers). b) Basis for Article 2 (source/expertise), Article 3 (modality), and Article 4 (role model function of influencers).
(Article 2) Political news on Instagram: influencer versus traditional magazine and the role of their expertise in consumers' credibility perceptions and news engagement				
Potential effects of source type and source expertise on source credibility, message credibility, news engagement intentions, and personal involvement regarding political news on Instagram	Experimental 2×2 between-participants design: manipulated source expertise (with vs. without) × source type (influencer vs. SNS representation of traditional news magazine) ($n = 416$)	a) Expertise positively impacted source and message credibility, news engagement intentions, and personal involvement in the news, independently of source type. b) Expertise impacts news engagement intentions indirectly via personal involvement.	a) Expertise is an important prerequisite for both credibility perceptions and behavioural intentions. b) Personal involvement is identified as a key factor for expertise effects. c) Lack of source type effects hint at traditional news sources not automatically being perceived as more credible; supports the existence of a source blindness on SNS (Pearson, 2021), which may occur due to the homogeneity of visual and contextual platform characteristics.	a) Builds upon Article 1 (detailed analysis of comparison between influencers and SNS representations of more traditional news magazines). b) Connects to Article 3 (psychological mechanisms such as involvement). c) Introduces Article 4 (importance of self-presentation to convey certain characteristics).
(Article 3) Virtual reality versus classic presentations of mass media campaigns: Effectiveness and psychological mechanisms using the example of environmental protection				
Effects of the presentation mode (VR vs. more traditional media) on psychological mechanisms and behavioural intentions	Experimental one factorial between-participants design: presentation mode (360° VR video, 2D video, audio, text) ($n = 128$)	a) 360° VR videos enhance spatial presence, narrative transportation, and positive affect compared to the more traditional presentation modes; no direct behavioural effects, but indirect effect via narrative transportation.	a) Presentation modes and immersion are not enough – psychological mechanisms such as narrative transportation are vital to the persuasive impact of 360° VR videos. b) Illustrates the importance of the appropriate narrative; 360° VR videos may facilitate the narrative transportation.	Connects with Article 1 (modality differences) and Article 2 (importance of involvement).
(Article 4) A mixed methods exploration of self-presentation, authenticity, and role model function on Instagram: perspectives from female influencers in Germany				
The perception of female beauty, fashion, and fitness influencers on their self-presentation	Exploratory mixed-methods survey ($n = 26$)	a) Influencers hold a dual role of being users and content creators at the same time; pressure to balance their own goals like self-realization and monetary success with expectations of followers, cooperation partners and other influencers. b) Authenticity is the goal and the key value for influencers, but economic and social pressure lead to an inauthentic and idealized self-presentation.	a) Tension between own and external expectations; idealized presentation may lead to the establishment of unrealistic beauty ideals and ultimately to negative effects on the mental health of followers.	a) Supplements Article 2 (credibility through self-presentation) and Article 1 (role of influencers in opinion formation). b) Introduces Article 5 (normal users also present themselves strategically).

Table 1 (continued).

Research topic	Method	Main Findings	Main indications	Contextualization of the study (synopsis)
(Article 5) Self-representation through avatars in digital environments				
How does avatar creation and self-representation vary between different online contexts?	Experimental 6 × 3 design: context (between-participants: online activity context: dating, competitive gaming, non-competitive gaming, social network with friends, social network with strangers, social network with job contacts) × evaluation subject (within-participants: avatar, actual self, ideal self (<i>n</i> = 568))	a) Avatars demonstrate realistic physical but idealized personality traits – mostly across all digital contexts. b) Personality traits were more idealized in anonymous contexts compared to dating or some SNS contexts, where a face-to-face meeting would be more likely. c) Personality traits of the avatar varied more than the ones of the ideal self, but varied less compared to the ones of the ideal self; users do not seem to exhaust the possibilities of avatar creation, but have a general idea of how their avatars must look.	a) Self-presentation is strategic, context-sensitive, and influenced by social norms and objectives. b) Idealization of avatars adds to the potential negative effects of social media use on mental health.	Continuation and extension of Article 4 (similar mechanisms for ordinary users as for influencers; supplements theoretical discussion on authenticity and ideal image).
Cumulative results (synergies)				
a) Article 1 & 2: Source characteristics like expertise or source type (SNS vs. TV news) are crucial for source credibility assessments. Though on SNS, influencers can match the perceived credibility of traditional media when they exhibit topic-related expertise and are accepted as a legitimate information source. b) Article 1, 2, & 3: Successive investigation of the factors source and modality: from young people's consuming behaviour to their perceptions of influencers to psychological mechanisms and modality characteristics crucial for behavioural intentions. c) Article 1 & 4: Influencers as important role models for their followers. d) Article 2 & 3: Involvement (personal involvement in news and mental involvement in the narrative) as key psychological mechanism for the effect of contextual factors on digital persuasive communication e) Article 4, & 5: Self-presentation as strategic behaviour, for professionals (influencers) and ordinary users alike. Necessary trade-off between idealized self-presentation and authenticity. f) Overall: Credibility, expertise, authenticity, involvement, context, and heuristic use of source and modality as theoretical and empirical contextual factors determining the persuasive effects of digital communication.				

Article 2 further elaborated on the findings of Article 1 regarding the higher perceived credibility of more traditional TV news compared to YTPS, and experimentally compared the perceived credibility, especially expertise, of influencers and more traditional news media as information sources on the SNS Instagram. Article 2 thereby emphasises that the expertise of the information source impacts the evaluation of and behavioural intentions towards the news, even independent of whether the source is an influencer or an SNS representation of more traditional news magazines. Thus, influencers can appear just as credible and effective as more traditional media on SNS if their expertise is effectively communicated. Additionally, personal involvement in the news is a key factor through which expertise affects news engagement intentions. In conclusion, Article 2 enhanced the understanding of digital news consumption by confirming the role of expertise in shaping credibility assessments and engagement intentions, while also challenging the assumption that traditional media has higher default credibility, a notion also suggested by Article 1. These findings reinforce the significance of heuristics and personal involvement in users' political information behaviours and their persuasive impact on SNS.

Article 3 focused on the potential effects of media modality and its influence on message perception and behavioural intentions, as also previously hinted at by the young people's evaluations of different media news in Article 1. Therefore, Article 3 compared the persuasive effects of various media, namely text, audio, 2D videos, and immersive 360° VR videos, in the context of environmental protection campaigns. Immersive media motivates behavioural intentions, in this case towards environmental protection and donations, through narrative transportation as mental involvement in the narrative (Van Laer et al., 2014). In conclusion, although immersive media do not directly enhance environmental and donation intentions, they enrich the experience of narrative transportation, which is positively associated with behavioural intentions. These findings contribute to the evidence supporting the vital role of modality (as also suggested by Article 1) and psychological mechanisms (as also supported by Article 2) in digital persuasion, emphasising the strategic value of narrative design in immersive communication campaigns.

While Article 1 highlighted the importance of influencers as role models for their followers. Article 2 emphasised that influencers need to convey certain aspects of themselves, namely topic-related expertise, to be effective and influential, underlining the importance of appropriate self-presentation. Article 4 built on these results and examined influencers' self-presentation strategies and understanding of their role model function, this time from the influencers' perspective. The results shed light on how influencers must navigate the tensions

between authenticity, their role as role models, professionalism, and commercial goals. They must strategically and carefully build an online persona that meets the expectations of themselves, their followers, and their marketing cooperation partners, forcing them to employ an inauthentic and idealised self-presentation that may negatively impact their followers in turn. These results add to a more nuanced understanding of the psychological and ethical dynamics that influencers navigate within the social media landscape, supplementing the previous findings of Articles 1 and 2.

However, influencers are not the only ones engaging in strategic and possibly idealised self-presentation. Article 5 extended the findings of Article 4 by examining the self-presentation strategies of ordinary users, instead of professional influencers, via avatars in various digital contexts. Article 5 indicated that users engage in context-dependent strategic adaptation of their avatars based on the online environment and their characteristics, implying that results from avatar studies in one context should not be generalised to others due to the variation in self-presentation strategies. Thus, like influencers (Article 4), ordinary users also engage in strategic self-presentation, depending on the requirements of the specific online context and the associated expectations.

In summary, the five articles provide a comprehensive and nuanced understanding of how the characteristics of the information source, message modality, and self-presentation may function as heuristics for evaluating online information. The following sections further connect these cumulative results (synergies) and derive theoretical and practical implications from them.

3.2 Synergies of the articles and their theoretical and practical implications

The findings across the five empirical articles in this dissertation provide evidence that contextual factors play a crucial role in shaping digital communication and persuasion. These findings align with classical communication and persuasion theories, such as the Five Axioms of Communication (Watzlawick et al., 1967) and dual-process models, including the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (Chaiken, 1980), which also emphasise the importance of non-content-related cues. This dissertation now extends these theoretical frameworks by demonstrating how technological, social, and psychological factors and mechanisms interact in digital environments, and by identifying specific mechanisms through which contextual factors operate. The empirical studies suggest that contextual cues do not act independently but rather interact with user motivations, expectations, platform characteristics, and online identities. In the following sections, the theoretical and practical implications of the dissertation's results concerning the

significance of the three key contextual factors – *source*, *modality*, and *self-presentation* – are discussed individually and in terms of their potential interaction, and a framework proposal is developed based on the results of this dissertation. Table 1 thereby provides an overview of the main cumulative results (synergies), specifically highlighting the connections between the articles' findings.

3.2.1 The role of the information's source and modality in digital environments

The findings regarding information sources reveal a significant tension between traditional credibility heuristics and more contemporary forms of media consumption. In general, Articles 1 and 2 undermine the crucial role of source characteristics, such as expertise and source type (i.e., SNS vs. TV news), in assessing source credibility. Article 1 demonstrates that young people differentiate between YouTuber videos and traditional TV news, viewing the latter as more credible, reputable, and trustworthy. This supports previous findings that traditional news media are more trusted than news on SNS (Elvestad et al., 2017; Johnson & Kaye, 2014; Li & Zhang, 2018). However, Article 2 complicates this finding by illustrating that influencers can match the perceived credibility of traditional media on SNS when they exhibit topic-related expertise. This suggests that in SNS, source credibility may depend less on source type (e.g., influencer vs. traditional news magazines) and more on perceived expertise, authenticity, platform characteristics, and the message's modality. Article 3 corroborates this by showing that presentation mode and media modality impact persuasion outcomes, such as behavioural intentions. As digital environments standardise visual presentation across various source types, traditional distinctions between sources may become obsolete. Furthermore, prior research has linked specific design and content features to a heightened perception of credibility (Agosto, 2002; Shenton & Dixon, 2004; Wobbrock et al., 2019). In homogeneous digital platform environments, these features may be equally accessible to both influencers and traditional media, thereby blurring the boundaries between them. Consequently, the type of source becomes secondary to the interaction of source attributes and modality characteristics, as also confirmed in Article 2.

However, this dynamic indicates that when influencers convey topic-related expertise and share similar visual and structural features with traditional media, they are accepted as legitimate sources of information (Xiao et al., 2018). Articles 1 and 2 have already indicated that influencers may function as new journalists in digital environments, particularly in political contexts. This dual role of influencer and journalist harbours both opportunities and risks. While influencers may foster political engagement among their followers, they also risk disseminating

radical ideologies and conspiracy theories (Riedl et al., 2021), as they often express radical political viewpoints (Lewis, 2020). This risk may be even more severe if young people underestimate their susceptibility to persuasive attempts, as suggested in Article 1, thereby enhancing the likelihood of uncritical content adoption.

This also underlines the significance of influencers as role models. Both influencers themselves (Article 4) and their followers (Article 1) acknowledge this role and the associated influences. However, Article 4 also demonstrates that external pressures, such as commercial aspirations and public expectations, can compromise influencers' ability to fulfil their role model function, resulting in a disconnect between this role and their actual behaviour and content. Despite recognising influencers' irresponsible management of their role model function, followers continue to be affected by influencers across various life domains (De Veirman et al., 2019) and regard them as trusted peers and advisors (Chopra et al., 2021). This suggests a potential contradiction between critical evaluation and persuasion, emphasising the need for research on how to enhance media literacy and self-awareness in online environments.

Therefore, from a practical perspective, the current findings highlight the significance of recognising the identified pressure from influencers and its implications for their content. This could be part of media literacy initiatives, particularly among young audiences and social media users in general. Such initiatives may aim to encourage critical engagement with influencer content and promote scepticism towards persuasive communication by understanding the motivations behind influencers acting against their followers' interests. Furthermore, social networking service platforms could play a role in alleviating these effects by enhancing source transparency, for instance, by showcasing qualifications through mechanisms like community notes for political claims or product-expertise fit in marketing contexts. Another implication concerns the professional self-positioning of journalists on SNS platforms. As prior research emphasises the importance of professionalisation in shaping journalistic role perceptions (Nah & Chung, 2012), more transparent communication of journalistic roles may help distinguish them from influencers and strengthen their credibility.

Across several studies in this dissertation, involvement emerged as a central psychological mechanism. Indirect effects of perceived expertise via personal involvement (Article 2) and of presentation mode through narrative transportation – the mental involvement in the narrative (Van Laer et al., 2014) – were observed, influencing behavioural intentions related to news engagement, environmental protection, and donation intentions (Article 3). These findings are theoretically grounded in the Elaboration Likelihood Model (Petty & Cacioppo, 1986), which posits that higher involvement leads to deeper cognitive processing

and more stable attitude change. This dissertation now emphasises involvement not merely as a predictor but as a potentially mediating mechanism linking contextual factors (e.g., source, modality) and media effects. Importantly, different types of involvement – cognitive (Article 2), narrative (Article 3), and potentially emotional (Article 3) – may function distinctly and warrant further differentiation in future research. Notably, the mediating role of emotion on behavioural engagement in SNS has been researched scarcely (Schreiner et al., 2021). Although we were unable to find any indirect effects of the modality on persuasive outcomes via affect in Article 3, negative affect was positively associated with environmental protection and donation intentions. However, the absence of indirect affect could be due to the specific conditions of the study (documentary content, VR modality); the novelty of VR experiences may instead elicit positive emotions (Amrhein & Balaban, 2024), and the documentaries may not have been sufficiently shocking, as other research has found effects of VR on negative affect did (Nelson et al., 2020). This again highlights an emotional and contextual interplay, presenting an opportunity for theory development: future media effect models should incorporate a more nuanced conceptualisation of involvement and systematically examine its interaction with digital communication and persuasion contexts.

Practically, these insights inform content design and strategic communication, as the persuasive effectiveness of socially relevant messages (e.g., in politics, climate change, or health) may benefit from techniques that actively engage recipients. Strategies may include providing examples (Oschatz et al., 2021), goal-framing (Bai et al., 2019), gamification (Lee et al., 2022; Sinha, 2024), and compelling storytelling (Amrhein & Balaban, 2024; Kaspar et al., 2016), among others. However, while increasing involvement may enhance persuasive outcomes, it also presents critical challenges for media education. Thus, narrative can obscure critical examination, especially when cognitive defences may be weak. As such, media literacy should include the cultivation of some ‘narrative literacy’ as an ability to engage with compelling stories while maintaining critical distance and awareness of one’s involvement and emotional reactions. Without this, heightened involvement may increase susceptibility to misinformation and pseudoscientific content.

3.2.2 The role of self-presentation in digital environments

The dual role of influencers as both users and producers is reflected not only in their behaviour as role models but also in their self-presentation in digital environments (Article 4). A tension has emerged between authenticity and idealisation: influencers highlight the importance of an authentic and transparent self-presentation, yet simultaneously engage in the

curation and editing of their content to achieve economic goals while satisfying their followers' and cooperating partners' expectations to remain competitive with other influencers. This ambivalence demonstrates a strategic balancing between personal motives and commercial performance.

Importantly, this tendency towards strategic idealisation is not unique to influencers. As shown in Article 5, even ordinary users engage in idealised self-presentation, particularly in the design of digital avatars, suggesting that idealisation is a broader communicative strategy in digital environments. The degree of idealisation depends on contextual variables such as platform requirements and characteristics, audience expectations, the self-presentation's goals, and the traits being communicated (e.g., physical vs. personality traits). These findings support a more nuanced view of online self-presentation as a strategic, goal-directed, and context-sensitive process.

This strategic duality offers a possible explanation for the apparent contradiction between the ideal virtual identity hypotheses (Manago et al., 2008) and the extended real-life hypothesis (Back et al., 2010). Rather than fully aligning with one model, digital self-presentation fluctuates between idealisation and authenticity, depending on situational demands and affordances. As such, theoretical models like impression management theory (Mummendey, 1995) and self-discrepancy theory (Higgins, 1987) may require extension to better account for the digital context, integrating dynamic and contextual elements into models of online self-presentation.

From an empirical perspective, our findings also suggest potentially harmful consequences of idealised self-presentation. For content creators, internalising ideals is associated with adverse mental health effects (Hoffmann & Warschburger, 2019; Kleemans et al., 2018; Lee-Won et al., 2020). Similarly, excessive identification with an overly idealised avatar correlates with low self-esteem, a negative self-concept (Lemenager et al., 2020), and depressive symptoms (Bessière et al., 2007; You et al., 2017). For consumers, continuous exposure to curated and idealised representations, regardless of whether they originate from influencers or peers, can lead to upward social comparisons, resulting in damage to self-image, mental health (Fardouly et al., 2015; Robinson et al., 2019), well-being (Claeys et al., 2024), self-consciousness, and body dissatisfaction (Tiggemann & Slater, 2013). However, the current empirical evidence is primarily based on research into specific influencer niches (e.g., beauty, fashion, and fitness) and the use of avatars within gaming environments. Future research should investigate whether these effects generalise to other types of influencers, such as those in

educational or political domains, where appearance may play a lesser role and avatar idealisation is less feasible.

These findings also provide practical implications. SNS could alleviate adverse effects by promoting authenticity, namely through more transparent labelling of edited content, enhanced transparency tools, and Artificial-Intelligence-based detection of edited or manipulated media content. Concurrently, media literacy programmes aimed at youth could cultivate critical reflection on idealised digital images and their emotional impact. Emphasising socio-emotional media literacy for SNS could empower users to comprehend and manage their reactions to such content (for a review, see Polanco-Levicán & Salvo-Garrido, 2022; Setia et al., 2024). Furthermore, influencer education programmes could assist creators in navigating the psychological pressures of performance and encourage ethical and health-conscious self-presentation practices.

With the rise of Artificial Intelligence (AI) tools such as generative filters, synthetic voice creation, and text-to-image models, the need for educational programmes becomes even more evident. AI tools increase the ease of creating idealised or entirely fabricated identities (Lee et al., 2023). While this facilitates self-expression and content production (Fox, 2018), it may also threaten authenticity (Lee & Kim, 2024), complicating trust and relationship-building among influencers, as followers perceive human sources as more trustworthy than AI sources (Bui et al., 2024), and for human relationships in general (Battisti, 2025). In fields such as political communication and online dating, AI-generated personas pose new risks, including the spread of misinformation (Sharma et al., 2025) and identity fraud and deepfakes (Zhang et al., 2025). Consequently, regulatory frameworks and user education must evolve alongside technological developments, for example, through mandatory labelling of AI-generated content and training in recognising AI-altered media.

An interesting development that combines the research topics of Articles 4 (influencers' self-presentation) and 5 (digital representations of network users) is the emergence of AI-generated virtual influencers (e.g., Lu do Magalu, Lil Miquela, Imma) – a humanlike (or nonhuman), interactive, and real-time rendered entity controlled by AI in a digital environment (Sands et al., 2022a) which mimics realistic features of human influencers (Thomas & Fowler, 2021). Indeed, virtual influencers also perpetuate unrealistic beauty standards, which may worsen the negative impacts of influencers and social media platforms (Sands et al., 2022a). However, this transformation redefines the work of human influencers and intensifies the competition among them, as they now must compete against AI-generated influencers alongside other human influencers. These virtual influencers have the advantage of being

adaptable for maximum brand reflection, allowing a deeper emotional connection between influencer and brand (Guthrie, 2020), while minimising the risk of human flaws and missteps (Allal-Chérif et al., 2024) that could damage the influencer-follower relationship (Reinikainen et al., 2021). Virtual influencers, as a source, demonstrate similar impacts on followers to their human counterparts regarding advertising and parasocial interaction (Sands et al., 2022b; Stein et al., 2024), making them a serious alternative. However, while the opportunities and risks of virtual influencers for marketing and followers have been thoroughly explored (for a review, see Sands et al., 2022a), the consequences for human influencers and their competition, mental health, and self-presentation, as well as the resulting implications for followers, have yet to be investigated and could present an interesting topic for future research. This also emphasises the important role of authenticity: as virtual influencers may lack authenticity due to their fictional identity and content (Evangelos et al., 2020; Sands et al., 2022a), authenticity may become the selling point for human influencers and their relationships with their followers (Dondapati & Dehury, 2024; Sands et al., 2022b). Consequently, influencers may be compelled to focus strategically on their authenticity rather than on idealisation even more.

The emergence of virtual influencers also presents challenges for regulation and media literacy: Who is responsible for AI influencers? What content is real or AI-generated? How are these avatars trained and controlled? How do algorithms manipulate these avatars? These developments necessitate theoretical expansions. Classic communication models depict a human sender with subjective intentions. However, virtual influencers challenge the traditional view of agency in digital communication (Kim & Wang, 2023) and introduce new machine heuristics that influence perceptions of message sources (Lee et al., 2025), highlighting the ongoing need to adjust communication and persuasion models to current developments.

3.2.3 Proposal for a conceptual framework derived from the findings of the articles

This dissertation offers empirical evidence that contextual factors in digital media environments do not function in isolation but interact in complex and dynamic ways. Heuristic evaluations of source credibility, expertise, and authenticity, together with user involvement, digital context, modality, and modality characteristics, may collectively influence the persuasive outcomes of digital communication. Consequently, there is a need for a conceptual framework that accounts for these contextual factors in persuasive digital communication, as classical communication and persuasion models do not adequately address them. Subsequently, this dissertation proposes and describes such a framework based on the findings across the five published articles. Figure 1 illustrates the proposed framework and the relationships between

the various factors indicated by the results of the five articles (visualised through lines; arrows further indicate causality).

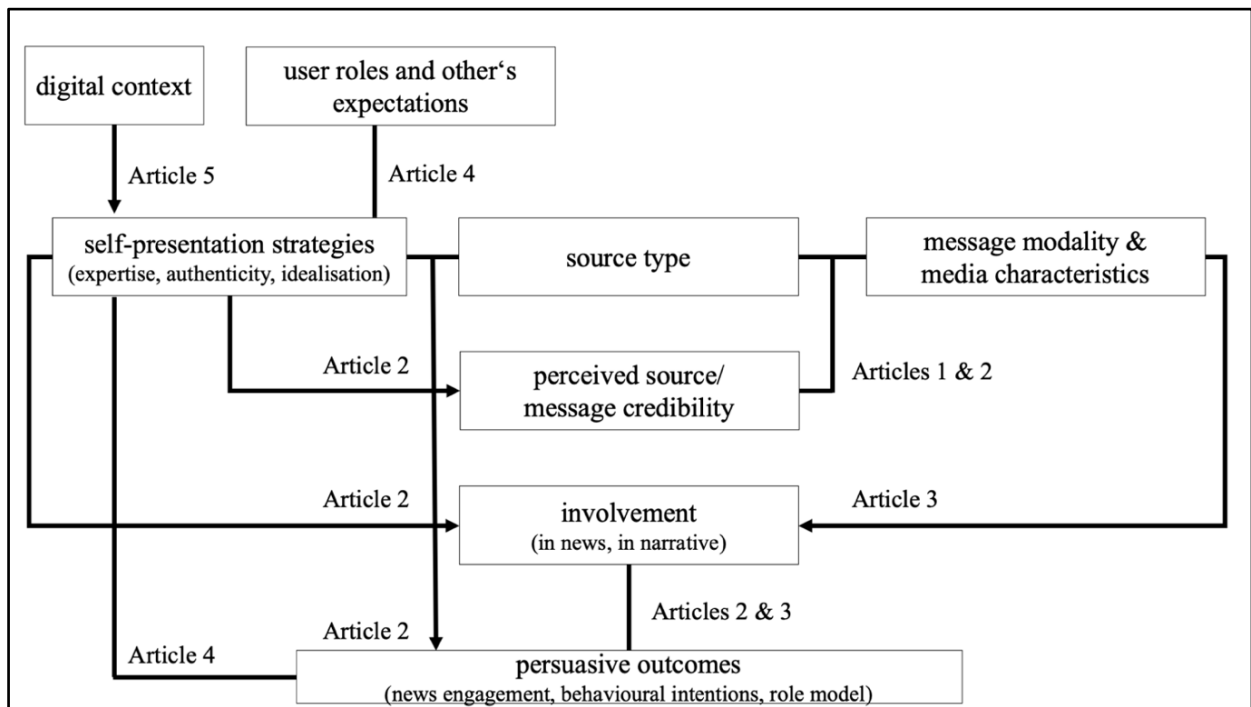


Figure 1. The proposed conceptual framework based on the dissertation's cumulative results. Connected lines represent a (theoretical or empirical) relationship between the results of the respective articles, while arrows additionally indicate causality.

Firstly, the *digital context* and the associated *user roles and other's expectations* lead ordinary users and influencers alike to strategically modify their self-presentation to meet platform-specific and audience-specific expectations and opportunities: Article 5 demonstrated that the *digital context* directly affects users' *self-presentation strategies* (visualised as an arrow connecting 'digital context' to 'self-presentation strategies' in Figure 1), and Article 4 emphasised that influencers reported guiding their *self-presentation strategies* to *others' expectations* (visualised as a line connecting 'user roles and other's expectations' to 'self-presentation strategies'). Both findings support the crucial roles of digital context and expectations in self-presentation strategies.

Secondly, these *self-presentation strategies*, in turn, influence how both the source and messages are evaluated. Therefore, the presence of expertise enhances *perceived source and message credibility* (see Article 2, visualised as an arrow connecting 'self-presentation strategies' to 'perceived source/message credibility'), emphasising the vital role of conveying specific characteristics through self-presentation. Importantly, *message modality and media characteristics* can also serve as heuristic cues for assessing the *source and message credibility*

(Article 1). Notably, media perception can vary depending on the context (Articles 1 and 2), as the same source and its information may be evaluated differently based on the setting (e.g., when traditional media news is presented in its original format versus on SNS). This suggests that audiences judge information not only by the source type but also by its interplay with contextual cues, such as format, design, setting, and reputation (visualised as lines connecting ‘source type’ and ‘message modality & media characteristics’ to ‘perceived source/message credibility’). This underscores the importance of analysing presentation media alongside source type as a key contextual factor. Therefore, in summary, *self-presentation strategies*, particularly conveying specific characteristics such as expertise, and the interaction between *source type* and *message modality and media characteristics*, are connected to evaluations of the source and message, including their credibility.

Thirdly, regarding *persuasive outcomes* like fostering news engagement and behavioural intentions, the role of expertise seems to differ depending on the *source type*; expertise is more crucial for persuasive results in SNS representations of traditional news magazines than it is for influencers in promoting news engagement (Article 2), emphasising an essential interaction between *self-presentation strategies* and *source type* in digital persuasive communication (visualised as an arrow connecting ‘self-presentation strategies’ and ‘source type’ to ‘persuasive outcomes’). Furthermore, influencers recognised that authenticity in their self-presentation is a vital part of their role model function and of preventing negative impacts on their followers. However, the partly idealised self-presentation may also lead to adverse mental health outcomes and internalise unrealistic beauty standards (see Article 4), suggesting *self-presentation strategies* are a central aspect of (anticipated) *persuasion outcomes* (visualised as a line connecting ‘self-presentation strategies’ to ‘persuasion outcomes’).

Furthermore, *involvement* proved to be a central mechanism through which *persuasive outcomes* are achieved. On the one hand, expertise was found to enhance news involvement (see Article 2, visualised as an arrow connecting ‘self-presentation strategies’ to ‘involvement’). The *message modality and media characteristics* through which information is delivered significantly influence narrative transportation, i.e. the involvement in the narrative (Article 3, visualised as an arrow connecting ‘message modality and media characteristics’ to ‘involvement’). Both kinds of *involvement* were, in turn, shown to be positively linked to *persuasive outcomes* (Articles 2 and 3). So, expertise and modality indirectly affected persuasive outcomes through involvement.

In conclusion, these findings suggest that contextual elements – including *self-presentation strategies*, *message modality and media characteristics*, as well as the *source type*

– must be strategically aligned to meet platform- and audience-specific expectations, thereby enhancing user engagement and persuasion. Successful communication thus depends not only on the accuracy of content but also on its aesthetic and narrative adaptation to the digital environment. Traditional communication models are grounded in linear, face-to-face paradigms. In contrast, the cumulative findings of this dissertation support a shift towards dynamic and multidimensional models. In such models, the interplay between source characteristics, modality, platform design, user roles, and psychological engagement mechanisms, such as involvement and narrative transportation, must be considered.

Notably, this proposed model on the influence of digital contextual factors should not be viewed as a replacement for traditional models of communication and persuasion, but rather as a complement that integrates with them. For example, Shannon and Weaver (1949) already emphasised the importance of the channel or medium in their mathematical model of communication. The model on the influence of contextual factors now demonstrates how the medium can affect information transmission and may cause interference. The axioms of Watzlawick et al. (1967) also emphasise the context-dependent nature of communication, with a strong focus on person-related influencing factors, such as body language and facial expressions, as well as relationship factors between communicators. The proposed model offers insights into additional contextual aspects when personal cues are not visible, which is often the case in digital communication and when communication occurs through media rather than face-to-face interactions, introducing new contextual factors beyond those related to the person.

Furthermore, the proposed model is in line with dual-process models of persuasion (Chaiken, 1980; Petty & Cacioppo, 1986), which already emphasise the importance of heuristic information processing paths and the individual's involvement in determining the persuasiveness of the message. On the one hand, the proposed model shows how contextual factors can serve as heuristics to evaluate the credibility of information. On the other hand, it also highlights the importance of involvement. It demonstrates how contextual factors can influence involvement and create persuasive effects via involvement. Therefore, the model complements dual-process models regarding possible heuristics and the role of involvement.

However, it is essential to emphasise that the proposed model is based on the results of individual studies that demonstrate specific aspects and relationships of the model. The model, therefore, still needs to be tested in its entirety, which might be a task for future research. Nonetheless, the proposed model in this dissertation provides a basis for deriving suitable hypotheses and thus guiding future research.

3.3 Limitations and future research

While the current findings offer valuable insights into the understanding of contextual factors in digital communication, several limitations need to be acknowledged when interpreting the results.

First, limitations arise from the sample composition, which is partly based on convenience sampling and predominantly consists of younger individuals with higher educational backgrounds. As a result, the findings may not be directly generalisable to broader populations, particularly older adults (Quan-Haase et al., 2018) or individuals with lower educational levels (Afzal et al., 2023), who may interact differently with digital media due to reduced access or lower digital literacy. Nonetheless, the studies effectively include the primary demographic that actively engages in digital environments (Zote, 2024), thereby making a meaningful contribution to the understanding of this key user group.

Second, several methodological constraints limit the ecological validity and long-term interpretability of the findings. Most studies relied on self-reports, questionnaires, or controlled experiments, which may not fully reflect everyday media usage patterns, such as multitasking (Ettinger & Cohen, 2020). Furthermore, the immediate post-exposure measurement of media effects precludes conclusions about long-term changes in attitudes or behaviours. Although the dissertation explored the effects of various contextual factors, these were primarily examined with a specific focus, which restricted the development of a comprehensive empirical model of their interaction. An integrative framework was proposed. However, no causal sequence between all three variables could be conclusively established. Nevertheless, the cumulative results of this dissertation allow for an indication and discussion of the potential interplay between the examined contextual factors. In addition, several potentially relevant contextual factors for persuasion, such as algorithmic filtering (Zarouali et al., 2022), interactivity (Oh & Sundar, 2015), and social norms (Hong et al., 2023), were not empirically addressed, which limits the theoretical saturation of the proposed framework.

Third, the dynamic and rapidly evolving nature of digital communication necessitates continual empirical adaptation. Technological and cultural developments may introduce new contextual variables that were not foreseeable at the time of this dissertation, highlighting the need for an adaptive research agenda.

Based on these limitations and the findings presented, several directions for future research emerge. Longitudinal and process-oriented research designs are becoming effective methods for examining the stability and progression of digital communication and persuasion effects over time. For instance, future studies could investigate how trust and media engagement

evolve under both stable and variable contextual conditions, as well as across different SNS platforms. Advanced experimental designs may also incorporate mediator and moderator analyses (e.g., structural equation modelling) to disentangle the sequential impact of contextual factors and refine theoretical models.

Moreover, broadening the research to encompass emerging phenomena, such as AI-based communication, including AI influencers, deepfakes, and generative avatars, promises to yield valuable insights for empirical and experimental investigations. Comparative studies across various age cohorts and socialisation backgrounds can further improve the generalisability and contextual depth of digital media effect models.

Ultimately, this dissertation's findings lay a foundation for developing diagnostic and educational tools designed to enhance context-sensitive media literacy. These tools should transcend mere content and encompass teaching the ability to assess the persuasive effects of authenticity, source types, and message modalities.

3.4 Conclusion

This dissertation contributes to the growing body of empirical research on digital persuasive communication by demonstrating that message perception and user behaviour intentions are connected not only to the message's content but also to contextual factors such as source characteristics, message modality, and the source's self-presentation. Each of the five studies of this dissertation builds upon and extends the findings of the others, providing cumulative insight into the potential interplays among contextual variables in digital communication. Across the studies, psychological mechanisms – especially involvement and narrative transportation – were shown to play a crucial role in these effects. The findings support and extend previous empirical work on heuristic information evaluation in digital environments, highlighting the need to expand classical communication models. Specifically, they emphasise the necessity of developing integrative communication frameworks that account for the interplay between content and context. Such models can aid in designing interventions and tools that foster critical engagement with digital content, enabling digital media producers to tailor their content strategically.

In summary, this dissertation enhances understanding of the underlying mechanisms and impacts of contextual factors in digital communication, thereby contributing to the development of an empirically grounded framework with both theoretical and practical implications.

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Statements

Statement on author contributions of the included articles:

All studies included in this cumulative dissertation are peer-reviewed articles published in scholarly journals. Below, I detail the contributions of each author to the articles. Author contributions are listed according to their appearance in the published article.

Article 1:

Reference: Zimmermann, D., Noll, C., Gräßer, L., Hugger, K. U., Braun, L. M., Nowak, T., & Kaspar, K. (2022). Influencers on YouTube: a quantitative study on young people's use and perception of videos about political and societal topics. *Current Psychology*, 41(10), 6808-6824. <https://doi.org/10.1007/s12144-020-01164-7>

Authors' Contributions: LG, KUW and KK acquired the funding; LG, KUH and KK administered the project; DZ, CN, LG, KUH and KK designed the study; DZ, CN, LG, LMB, TN and KK collected the data; DZ and KK analysed the data; DZ and KK wrote the manuscript; KK supervised the study; CN, LG, KUH, LMB and TN approved submission.

Further notes: The data was gathered as part of the research project "YouTuber videos, peers, and political orientation of young people," funded by the Grimme Forschungskolleg (for more information about the project, see <https://www.grimme-forschungskolleg.de/portfolio/youtuber-videos-2017/>).

Article 2:

Reference: Zimmermann, D., Klee, A., & Kaspar, K. (2023). Political news on Instagram: influencer versus traditional magazine and the role of their expertise in consumers' credibility perceptions and news engagement. *Frontiers in Psychology*, 14, 1257994. <https://doi.org/10.3389/fpsyg.2023.1257994>

Authors' Contribution: DZ: Conceptualisation, Formal analysis, Methodology, Investigation, Data curation, Visualisation, Writing – original draft, Writing – review & editing. AK: Conceptualisation, Methodology, Investigation, Visualisation, Writing – review & editing. KK: Conceptualisation, Methodology, Formal analysis, Project administration, Supervision, Resources, Writing – review & editing.

Further notes: The data was gathered and partially used as part of their master's thesis by AK.

Article 3:

Reference: Zimmermann, D., Wolf, P., & Kaspar, K. (2025). Virtual reality versus classic presentations of mass media campaigns: Effectiveness and psychological mechanisms using the example of environmental protection. *Computers in Human Behavior*, 168, 108643. <https://doi.org/10.1016/j.chb.2025.108643>

Authors' Contribution: DZ: Writing – review & editing, Writing – original draft, Visualisation, Methodology, Investigation, Formal analysis, Data curation, Conceptualisation. PW: Writing – review & editing, Visualisation, Investigation. KK: Writing – review & editing, Writing – original draft, Visualisation, Supervision, Resources, Project administration, Methodology, Formal analysis, Conceptualisation.

Further notes: The data was gathered and partially used as part of their master's thesis by PW.

Article 4:

Reference: Zimmermann, D., Schneider, C., & Kaspar, K. (2025). A mixed methods exploration of self-presentation, authenticity, and role model function on Instagram: perspectives from female influencers in Germany. *Frontiers in Psychology*, 15, 1472514. <https://doi.org/10.3389/fpsyg.2024.1472514>

Authors' Contribution: DZ: Conceptualisation, Data curation, Formal analysis, Methodology, Visualisation, Writing – original draft, Writing – review & editing. CS: Conceptualisation, Investigation, Methodology, Visualisation, Writing – review & editing. KK: Conceptualisation, Formal analysis, Methodology, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing.

Further notes: The data was gathered and partially used as part of their master's thesis by CS. CS arranged contact with the participating influencers.

Article 5:

Reference: Zimmermann, D., Wehler, A., & Kaspar, K. (2023). Self-representation through avatars in digital environments. *Current Psychology*, 42(25), 21775-21789. <https://doi.org/10.1007/s12144-022-03232-6>

Authors' Contribution: DZ and KK administered the project; DZ, AW and KK designed the study; AW collected the data; DZ and KK analysed the data; DZ and KK wrote the manuscript; KK supervised the study; AW approved submission.

Further notes: The data was gathered and partially used as part of their bachelor's thesis by AW.

Statement on further published work not part of this dissertation:

The following publications were published during the doctoral period but are not part of the present dissertation.

- Hugger, K., Braun, L. M., Noll, C., Nowak, T., Gräßer, L., Zimmermann, D., & Kaspar, K. (2019). Between authenticity and staging: On the media-critical evaluation of information-oriented YouTuber videos by young people [Zwischen Authentizität und Inszenierung: Zur medienkritischen Einschätzung informationsorientierter YouTuber*innen-Videos durch Jugendliche]. In: F. von Gross, & R. Röllecke (eds.), *Instagram and YouTube of (pre-)teens – inspiration, influence, participation* [Instagram und YouTube der (Pre-)Teens – Inspiration, Beeinflussung, Teilhabe] (pp. 29–36). Munich: kopaed.
- Rüth, M., Breuer, J., Zimmermann, D., & Kaspar, K. (2021). The effects of different feedback types on learning with mobile quiz apps. *Frontiers in Psychology*, 12, 665144. <https://doi.org/10.3389/fpsyg.2021.665144>
- Rüth, M., Seiffert, N.-A., Zimmermann, D., & Kaspar, K. (2019). Looking at Learning Spaces: Linking Space Properties and Visual Attention. In S. Martinez-Conde, L. Martinez-Otero, A. Compte, & R. Groner (eds.), Abstracts of the 20th European Conference on Eye Movements, 18–22 August 2019, in Alicante (Spain). *Journal of Eye Movement Research*, 12(7).
- Rüth, M., Zimmermann, D., & Kaspar, K. (2020). Mobile eye tracking in classrooms: Analysing teachers' visual attention to enhance professional teaching perception [Mobiles Eye-Tracking im Unterricht: Analyse der visuellen Aufmerksamkeit von Lehrpersonen zur Förderung professioneller Unterrichtswahrnehmung]. In: K. Kaspar, M. Becker-Mrotzek, S. Hofhues, J. König, & D. Schmeiñck (eds.), *Education, school, digitization* [Bildung, Schule, Digitalisierung] (pp. 222–228). Waxmann.
- Zimmermann, D., Wilbers, A.-K., Rüth, M., & Kaspar, K. (2019). Gender differences in viewing behaviour under natural conditions. In S. Nebel, D. Pietschmann, S. Schneider, K. Koban, M. Beege, A. Skulmowski, P. Ohler, & G.D. Rey (eds.), *Proceedings of the Media Psychology Division: 11th Conference of the Media Psychology Division 2019, German Psychological Society*. University Press.

Statement on the use of Generative AI:

The Generative AI feature of the Grammarly application (version 1.125.0.0) was utilised for language correction, including improvements to wording, phrasing, synonyms, grammar, spelling, and punctuation.