News Endorser Influence in Social Media

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Abstract

Social networking sites have become an online realm where users are exposed to news about current affairs. People mainly encounter news incidentally because they are re-distributed by users whom they befriended or follow on social media platforms. In my dissertation project, I draw on shared reality theory in order to examine the question of how the relationship to the news endorser, the person who shares news content, determines social influence on opinion formation about shared news.

The shared reality theory posits that people strive to achieve socially shared beliefs about any object and topic because of the fundamental epistemic need to establish what is real. Social verification of beliefs in interpersonal communication renders uncertain and ambiguous individual perceptions as valid and objectively true. However, reliable social verification may be provided only by others who are regarded as epistemic authority, in other words as someone whose judgment one can trust. People assign epistemic authority particularly to socially close others, such as friends and family, or to members of their in-group.

I inferred from this that people should be influenced by the view of a socially close news endorser when forming an opinion about shared news content but not by the view of a socially distant news endorser.

In Study 1, a laboratory experiment ($N = 226$), I manipulated a female news endorser's social closeness by presenting her as an in-group or out-group member. Participants' opinion and memory of a news article were not affected by the news endorser's opinion in either of the conditions. I concluded that the news article did not elicit motivation to strive for shared reality because participants were confident about their own judgment. Therefore, they did not rely on the news endorser's view when forming an opinion about the news topic. Moreover, the results revealed that participants had stronger trust in the news endorser when she expressed a positive (vs. negative) opinion about the news topic, while social closeness to the news endorser did not predict trust. On the one hand, this is in line with the social norm of sharing positive thoughts and experiences on social networking sites: adherence to the positivity norm results

in more favorable social ratings. On the other hand, my findings indicate that participants generally had a positive opinion about the topic of the stimulus article and thus had more trust in news endorsers who expressed a similar opinion.

In Study 2, an online experiment ($N = 1,116$), I exposed participants to a news post by a relational close vs. relational distant news endorser by having them name a close or distant actual Facebook friend. There was a small influence of the news endorser's opinion on participants' thought and opinion valence irrespective of whether the news endorser was a close or distant friend. The finding was surprising, particularly because participants reported stronger trust in the view of the close friend than in the view of a distant friend. I concluded that in light of an ambiguity eliciting news article, people may even rely on the views of less trustworthy news endorsers in order to establish a socially shared and, therefore, valid opinion about a news topic. Drawing on shared reality theory, I hypothesized that social influence on opinion formation is mediated by news endorser congruent responses to a news post. The results indicated a tendency for the proposed indirect relation however, the effect size was small and the sample in Study 2 was not large enough to provide the necessary statistical power to detect the mediation.

In conclusion, the results of my empirical studies provide first insights regarding the conditions under which a single news endorser influences opinion formation about news shared on social networking sites. I found limited support for shared reality creation as underlying mechanism of such social influence. Thus, my work contributes to the understanding of social influence on news perception happening in social networking sites and proposes theoretical refinements to shared reality theory. I suggest that future research should focus on the role of social and affiliative motivation for social influences on opinion formation about news shared on social networking sites.

Zusammenfassung

Soziale Netzwerkseiten haben sich zu Orten entwickelt, an denen Nutzer:innen Nachrichten über aktuelle Ereignisse begegnen. Menschen treffen vor allem deswegen auf Nachrichten, weil diese von Personen geteilt werden, mit denen sie befreundet sind oder denen sie folgen. In meiner Dissertation untersuche ich aufbauend auf der Shared Reality Theorie ob die Beziehung zu Nachrichten-Endorser:innen, also denjenigen, die Nachrichten teilen, bestimmt ob deren Ansichten einen Einfluss auf die Meinungsbildung haben.

Die Shared Reality Theorie geht davon aus, dass Menschen ein fundamentales epistemisches Bedürfnis danach haben richtige und wahrhaftige Ansichten zu entwickeln. Deshalb streben sie nach Ansichten, die von anderen geteilt werden. Durch interpersonale Kommunikation verifizieren sie ihre Ansichten, wobei aus einer unsicheren und ambigen Wahrnehmung ein valides und objektives Urteil werden kann. Allerdings erfährt eine Wahrnehmung nur dann eine zuverlässige soziale Verifikation, wenn Menschen ihr Gegenüber als epistemische Autorität ansehen, also als jemanden, dessen Urteil sie vertrauen. Epistemische Autorität wird gewöhnlich Personen zugeschrieben, die einem nahestehen, beispielsweise Freunden und Familienmitgliedern oder Mitgliedern der eigenen In-Group.

Daraus leite ich ab, dass die Meinungsbildung über Nachrichten, die auf sozialen Netzwerkseiten von einer sozial nahestehenden Person geteilt werden, von deren Ansicht beeinflusst sein sollte. Die Ansicht sozial entfernter Nutzer:innen sollte hingegen keinen Einfluss auf die Meinungsbildung haben.

In Studie 1, einem Laborexperiment ($N = 226$), manipulierte ich die soziale Nähe einer weiblichen Nachrichten-Endorserin, indem ich sie als In-Group oder Out-Group Mitglied vorstellte. In keiner der Bedingungen hatte die Meinung der Nachrichten-Endorserin einen Einfluss auf die Meinungen der Teilnehmenden über einen Nachrichtenartikel und auf ihre Erinnerung an dessen Inhalt. Daraus schließe ich, dass der Artikel keine Motivation für das Streben nach geteilter Realität ausgelöst hat, sondern die Teilnehmenden sich ihres eigenen Urteils sicher waren. Daher zogen sie die Ansicht der Nachrichten-Endorserin nicht in Betracht, um sich eine Meinung über das Nachrichtenthema zu bilden. Darüber hinaus zeigen meine Ergebnisse, dass die Teilnehmenden

dem Urteil der Nachrichten-Endorserin mehr vertrauten, wenn sie eine positive (vs. negative) Meinung über das Nachrichtenthema äußerte. Die soziale Nähe hingegen hatte keinen Effekt auf das Vertrauen in das Urteil der Nachrichten-Endorserin. Dies entspricht einerseits der auf sozialen Netzwerkseiten geltenden Norm, positive Gedanken und Erfahrungen zu teilen. Das Befolgen der Norm führt folglich zu einer positiveren sozialen Bewertung. Andererseits legen meine Ergebnisse nahe, dass die Teilnehmenden generell eine eher positive Meinung über das Thema des Artikels und folglich größeres Vertrauen in die Nachrichten-Endorserin hatten, wenn diese eine ähnliche Meinung äußerte.

In Studie 2, einem Onlineexperiment ($N = 1.116$), forderte ich die Teilnehmenden auf, einen nahestehenden oder entfernten Facebook-Freund zu nennen. Anschließend präsentierte ich ihnen einen fiktiven Nachrichten-Post mit einer Meinungsäußerung (positiv vs. negativ) des genannten Freundes/der genannten Freundin. Unabhängig von der sozialen Nähe der Nachrichten-Endorser:innen zeigte sich ein kleiner Einfluss ihrer Meinung auf die Valenz der Gedanken und Meinungen der Teilnehmenden über das Nachrichtenthema. Dieses Ergebnis war überraschend, insbesondere da die Teilnehmenden angaben, größeres Vertrauen in die Ansicht eines nahestehenden Freundes/einer nahestehende Freundin zu haben. Daraus schließe ich, dass sich Menschen angesichts eines ambigen Artikels sogar auf die Ansicht weniger vertrauenswürdiger Nachrichten-Endorser:innen verlassen, um sich eine sozial geteilte und damit valide Meinung über das Thema zu bilden. Auf die Shared Reality Theorie aufbauend nahm ich an, dass soziale Einflüsse auf die Meinungsbildung von der Valenz individueller Reaktionen auf einen Nachrichten-Post mediiert werden. Die Ergebnisse deuteten zwar eine Tendenz für die angenommene indirekte Beziehung an, die Effektgröße war jedoch klein und die Stichprobe der Studie nicht groß genug, um die Mediation mit ausreichend statistischer Power zu identifizieren.

Zusammenfassend liefern die Ergebnisse meiner Studien erste Erkenntnisse über die Bedingungen, unter denen einzelne Nachrichten-Endorser:innen auf sozialen Netzwerkseiten die Meinungsbildung über Nachrichten beeinflussen. Die Ergebnisse sprechen nur teilweise dafür, dass das Streben nach geteilter Realität der zugrundeliegende Mechanismus dieses sozialen Einflusses ist.

Meine Arbeit trägt somit einerseits zum Verständnis sozialer Einflüsse auf die Wahrnehmung von Nachrichten auf sozialen Netzwerkseiten bei. Anderseits zeigt sie Weiterentwicklungsbedarf der Shared Reality Theorie auf. Ich schlage vor, dass zukünftige Forschung insbesondere untersuchen sollte, welche Rolle soziale und affiliative Motive für soziale Einflüsse auf die Meinungsbildung über Nachrichten spielen, die auf sozialen Netzwerkseiten geteilt werden.

1 Introduction

Social media platforms, in many ways, allow people to discover the world through the eyes of their friends. They get impressions of foreign countries from pictures that their friends share online. They get to know a new band, because they see a friend listening to their songs on a music streaming platform. People also learn about public affairs because their friends share or discuss news articles on a social networking site (SNS). Accordingly, social media platforms such as Facebook and Twitter gained importance as sources of news about public affairs in recent years (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2019, p. 12).

What distinguishes news consumption on SNSs from other news media is that exposure is usually incidental, a by-product of keeping in touch with friends and passing time (Boczkowski, Mitchelstein, & Matassi, 2018). Here on SNSs, the news content is inextricably linked with interpersonal communication (Kaiser, Keller, & Kleinen-von Königslöw, 2018). Such serendipitous consumption of news embedded in interpersonal communication might enable subtle forms of social influence (Diehl, Weeks, & de Zúñiga, 2016). In light of the extended social networks that people tend to establish on SNSs which include close friends, distant acquaintances, family members, and colleagues from work (Donath, 2007; Vitak, 2012), I ask whether social influence of interpersonal communication on opinion formation about shared news is determined by the relationship to the news endorser, the person who re-distributes news content. It seems plausible that the view of one friend inferred from a news post on a SNS affects a user's own opinion about the news topic, while another friend's

view shared on the SNS about the same news topic may garner reactance (Walther, 2017).

Understanding news endorser influence on opinion formation, particularly with regard to political issues, is important for our society. Notably, Facebook is an online realm where political parties, politicians, and interest groups seek to shape public opinion. Recent democratic votes (such as the 2016 presidential elections in the USA or the Brexit referendum in 2016) were overshadowed with reports of fake news, spin, and echo chambers on the SNS (Del Vicario, Zollo, Caldarelli, Scala, & Quattrociocchi, 2017; Guess, Nyhan, & Reifler, 2018). The understanding of how the relationship to a Facebook friend determines whether people trust in the validity of the shared information would extend our knowledge of the conditions under which users are likely to believe fake news and might re-distribute it. Moreover, it is worthwhile to understand whether the relationship to a news endorser who re-distributes information that is inconsistent with a user's existing beliefs affects the likelihood of opinion change.

Recent research revealed that people preferably select news that are endorsed by close friends on SNSs (Anspach, 2017; Kaiser et al., 2018). In addition, there is ample evidence that majority views in user comments affect readers' opinion about an online news article (e.g., T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Winter, 2019). How the relationship to a single news endorser affects opinion formation has not yet been investigated empirically and seminal theories on social influence on mass media perception provide limited explanations for the psychological mechanisms underlying such social influence on information processing.

I propose the social psychological shared reality theory as a framework for the investigation of news endorser influence on news perception. The theory postulates that the fundamental human needs to establish valid perceptions and to experience belonging motivate people to strive for a socially shared understanding of any aspect of the world: a *shared reality* (Echterhoff & Higgins, 2017; Echterhoff, Higgins, & Levine, 2009a; Hardin & Higgins, 1996). Interpersonal communication is an important means for achieving shared reality and once individuals perceive a belief to be shared by trustworthy others, it

becomes their own individual belief. This has been termed as the sharing-is-believing effect (Echterhoff & Higgins, 2017). What is important is that the theory posits that sharing-is-believing effects on individual beliefs occur to the degree that other people are considered to be trustworthy sources of information and judgment (Echterhoff et al., 2009a).

Building on shared reality theory, I argue that SNS users strive to achieve a shared understanding of a news topic with news endorsers whose judgment they regard as valid and reliable. As a consequence, such news endorsers' views should affect opinion formation about the news content. The literature indicates that people prefer to establish shared realities with others who they like and who are similar to them. Extending this to the context of SNSs, I suggest that users strive to achieve a shared understanding with news endorsers who are socially close, but not with distant acquaintances, or people who are considered as out-group members. I tested my assumption in two experimental studies in which I manipulated a news endorser's social closeness and the valence of the opinion that the news endorser expresses in a news post.

Thus, the first major contribution of my work is the conceptualization and investigation of social influence of a single news endorser on opinion formation about news shared on SNSs as sharing-is-believing effects. I tested whether the effect is explained by trust in the news endorser's judgment and by aligning the evaluative valence of people's responses to a news post to the news endorsers view. I also examined whether the strength of sharing-is-believing effects depends on individual differences in need to belong, tolerance of ambiguous information and the degree to which a view is experienced to be shared with the news endorser.

The second contribution of my thesis is that I investigated the shared reality theory and sharing-is-believing effects in the context of news consumption on SNSs. I thereby extended the scope of the theory to a new field of application as prior studies focused on sharing-is-believing effects on impression formation about target persons. I also tested the validity of the theoretical assumptions under more externally valid conditions because the majority of prior empirical research was conducted under a peculiar and artificial experimental paradigm. My results challenge some of the basic claims of shared reality theory. They

suggest that theoretical refinements are needed in order to reliably predict under which conditions people strive or refrain from shared reality creation with others.

The overarching goals of my research are to explain boundary conditions of a single news endorser's influence on opinion formation and transferring the social psychological shared reality theory to the media psychological context of news consumption on SNSs.

My thesis begins with a review of literature about SNSs usage, with particular focus on the conditions and consequences for news consumption on these social media platforms (Chapter 2). In Chapter 3, I will present seminal theories that conceptualized the interaction of interpersonal and mass media communication as well as assess their explanatory value for my research question. I will outline the basic premises of shared reality theory in Chapter 4 and deduce how the theory explains social influence of news endorsers on opinion formation about news shared on SNSs. Furthermore, I review the methods and results of empirical shared reality research and infer implications for investigating shared reality creation in the context of news consumption on SNSs. In Chapter 4.5, I will also synthesize research on news consumption on SNSs, theories of interpersonal and mass media communication, and shared reality theory to derive a shared reality model for news internalizing on Facebook. Based on the model, I will infer hypotheses on the conditions under which a news endorser's opinion expressed in a news post is likely to affect the receiver's opinion formation (Chapter 5). I conducted two experimental studies in order to test my hypotheses. I will describe method and results of Study 1, a laboratory experiment in Chapter 6 and of Study 2, an online experiment in Chapter 7, respectively. Finally, I will discuss the results and contribution of my research (Chapter 8) in order to draw a conclusion (Chapter 9).

2 Social News Use on Facebook

New communication technologies have always altered news production and news consumption. In the past century, radio and television increased not only media richness and the speed of information transmission from news rooms to the media users but they also shaped the social situation of news consumption, allowing co-listening or co-watching.

Around the turn of the millennium, the Internet brought the last big change in the news landscape. On the Internet, the previously separated news channels of print, radio, and television have converged. Users can find news from any place on Earth in many languages at any time they need or want and often free of charge. Moreover, the present online news landscape is marked by a close entanglement of journalistic and user-generated content. We can observe this on news media websites, where mass media content is enriched with social information. Social metrics tell us which news story has been read or commented on most and user discussions are displayed in a comments section at the bottom of an article. We also find journalistic content embedded in interpersonal communication on social media platforms such as Twitter or Facebook, where users share and comment on news items. Thus, the web creates unique and often novel social conditions for news perception. Though others may not be physically present when we are reading a news story online, we digest it accompanied by various social cues.

I am particularly interested in the social conditions for news perception on SNSs, where people encounter news predominantly embedded in interpersonal communication with other people they know (as opposed to pseudonymous strangers in the comment sections on news websites). As I will show in the

following sections, social interaction and interpersonal communication among users are at the heart of SNSs, while news exposure usually is rather a by-product. Facebook is not only the current most-widely used SNS but also the most important social media source of news in Germany and many other countries (Hölig & Hasebrink, 2018; Koch & Frees, 2017; Newman et al., 2019). Therefore, I will investigate news perception on Facebook in my empirical studies as well as focus on this SNS in my literature review.

In this chapter, I will first describe characteristics and affordances of SNSs in general. Following this, I will expound on Facebook, its features and use by news organizations and ordinary people. I will then continue with research on news sharing and news exposure on Facebook. Finally, I will review prior empirical studies which detail the effects of interpersonal communication on news perception in social media and will derive propositions for my research.

2.1 Social Network Sites as Online Communities and Networked Publics

SNSs on the Internet are a success story. Internet users spend a considerable share of their online time on websites that qualify as SNSs. Instagram, Facebook, Twitter, and YouTube are the names of the best-known services, but there are many more for special interests, age groups, or regions. Online communities, where people with common interests got together to swap ideas, have existed since the early days of the Internet. Participation on these websites was interest-driven and a rather 'geeky' niche activity.

In the early 2000s, SNSs emerged as a phenomenon of the Web 2.0 and introduced an alternative direction for socializing on the Internet. They were more structured around friendships and people, rather than around common interests. Instead of enabling communication about special topics with like-minded strangers, SNSs encourage online interactions with friends and already existing social networks. This orientation was more appealing to the ordinary Internet user and SNSs quickly became a mainstream phenomenon (boyd & Ellison, 2007).

2.1.1 Characteristic Features of SNSs

Since their emergence, SNSs evolved rapidly. Service providers introduced novel functions, tapped new target groups, and users' social practices changed (Ellison & Vitak, 2015). It is important to note that the continuous development makes it challenging to define precisely what constitutes a SNS. Aside from idiosyncratic structures and functions, Ellison and boyd (2013) suggested three features all SNSs have in common: 1) *uniquely identifiable profiles* that include information provided by the profile owner and by other users as well as generated by the system based on user activity, 2) *publicly articulated connections* which are visible to others and can be traversed, and 3) *streams of user-generated content* which users can consume or contribute to by sharing content and interacting with others.

Setting up a profile is mandatory in order to create one's presence within the bounded system of a SNS. In the meantime, profiles are of lesser importance as destinations for self-presentation. On the one hand, users have lost control over self-presentation on the profile as cautiously curated information is complemented by others who, for example, tag them in pictures or by system-generated information about interactions with others on the site. On the other hand, any user activity that generates profile content also enters the stream of user-generated content. Today, users receive notifications on others' activities without actively going to their profiles. Their connections with other users determine from whom they receive updates. Originally, the publicly articulated list of connections had an important function for exploring a SNS. Users could traverse their own connections, visit their profiles, see with whom others were connected to, as well as discover shared contacts. At present, the public accessibility of connections is less relevant for user practices, but the system heavily draws on relational information between users for functions such as the recommendation of new contacts, display of content in the activity stream of user-generated content, or personalized advertisements. User interactions usually start now from the stream of user-generated content, which is mostly the default view when logging in to a SNS via web browser or app. They not only see others' activities by browsing the feed but as its content is clickable,

they can directly interact with it by liking, commenting, and sharing items or they can contribute own content to the stream (Ellison & boyd, 2013).

2.1.2 Public and Private Modes of Communication

The interplay of these three key features on SNSs creates both a space and an audience for public communication. The stream of user-generated content allows one-to-many communication. Ordinary people can broadcast a message simultaneously to hundreds and thousands of others that they are connected with. Apart from that, most SNSs also include features for one-to-one communication, for example, email-like private messages or instant messengers and one-to-few communication, for example, private messages with several addressees or features that allow the formation of exclusive groups.

From a media psychological perspective, the one-to-many communication mode is particularly interesting, as it provides individuals with a wider reach that used to be reserved for mass media communicators. This gave rise to a novel type of publics that is structured by the underlying networked technologies and has been referred to as *networked publics* (boyd, 2010; Ito, 2012). danah boyd (2010) argued that these networked publics provided many of the functions that are characteristic for publics, that is, access to and exchange of information and opinions, production and consumption of cultural goods, and enactment of social identities. Nevertheless, the intersection of technology, social networks, and social practices yields unique conditions that distinguish participation in networked publics from other types of publics.

2.1.3 SNS Affordances: Complementarity of Technology and Practices

boyd (2010) emphasized that the nature of networked publics was not only determined by technological features but also shaped by the interaction between technology and social practices. She suggested that "the ways in which technology structures them introduces distinct affordances that shape how people engage with these environments" (boyd, 2010, p. 39).

The affordance concept was developed by perceptual psychologist James Gibson, who defined the affordance of any object as a specific combination of its properties, regarded through the lens of an animal's or human's necessities (Gibson, 1977). The affordances of an environment are what it provides, offers, and furnishes its inhabitants (Gibson, 1979, p. 127). Communication scholars seized the concept to investigate how social practices evolve on social media (boyd, 2010; Ellison & Vitak, 2015; Evans, Pearce, Vitak, & Treem, 2017; Treem & Leonardi, 2013; Trepte, 2015). Just as a hard object with an edge affords cutting (Gibson, 1979, p. 133), a message that gets broadcasted to our entire list of contacts on a SNS affords visibility of our communication.

The strength of the affordance concept for SNS research lies in acknowledging the complementarity of technology and users. It presents a theoretical perspective on SNS use that is neither technologically deterministic nor constructivist (Evans et al., 2017). Furthermore, technological, legal, and social circumstances for SNS use change continually. But even though novel technological features or sites will come along with altered user practices, the affordances of SNSs largely remains the same. Hence, the concept grants insights regarding SNS use that are valid beyond particular sites and their features at a specific moment in time (Ellison & Vitak, 2015).

There is an ongoing debate about the theoretical conception of affordances and how to distinguish them from features or outcomes of social media (Evans et al., 2017). boyd (2010) and Treem and Leonardi (2013) each proposed four affordances of social media that describe neither technological properties, nor outcomes of media use, which equally apply to SNSs.

1. *Persistence.* All the information that users make available on a SNS is recorded, copied, and reviewable by others for a long time, if not actively deleted. This comprises of user-generated texts, pictures, and multi-media content as well as system-generated information about user interactions on a site (boyd, 2010; Treem & Leonardi, 2013). The persistence of communicative acts enables asynchronous interactions even with posts that happened some time ago (boyd, 2010). On the one hand, persistence enhances the dissemination and availability of information on SNSs,

which in turn facilitates the initiation of communication (Ellison & Vitak, 2015; Treem & Leonardi, 2013). On the other hand, past expressions may be taken out of context and lead to misunderstandings or discrediting of their authors (boyd, 2010).

2. *Replicability.* Communication in the networked public of a SNS entails the replication and dissemination of digital data. Whenever users interact with a post, for example, by writing a comment, a replicate of the content is linked to their profiles. As a consequence, even when the originator deletes content from his profile, its replicates may persist elsewhere on a SNS. Furthermore, it is easy to modify digital data and disseminate replications that might diverge from what was originally intended (boyd, 2010).
3. *Visibility.* A central affordance of SNSs is the ability to make a user's social network, preferences, and interactions visible to others. By filling out their personal profile, posting comments, and reacting to others' postings, users themselves make information visible. Other users who respond to their posts or tag them in pictures further contribute to the visibility of interpersonal connections and personal information. The system contributes to visibility by notifying users about new interactions and contents and by recommending new contacts with similar preferences, which makes similarities between users visible that would have remained unnoticed otherwise (Treem & Leonardi, 2013). This affordance ascribed to SNSs by Treem and Leonardi (2013) is closely entangled with what boyd (2010) referred to as *scalability.*
4. *Scalability.* SNSs make it easy for individuals to reach large audiences. Facebook posts or *tweets* on Twitter get broadcasted to all of their friends and followers. When the audience reacts to a post, it becomes visible even beyond the social network of the initial communicator. Individuals benefit from the scalability afforded by SNSs when they seek social support, for example, when searching for a new roommate or job. It is also valuable for organizations to promote products and services. However, SNSs have their own dynamics and the audience decides whether a post gets amplified and reaches a large number of users or not (boyd, 2010).

5. *Searchability.* The persistent information on SNSs is rendered visible especially through its searchability. Integrated search functions enable users to detect persons or information. Some profiles and contents are even traceable for external search engines (boyd, 2010). Therefore, SNSs are versatile sources for information on the Internet.
6. *Association.* Participation on SNSs affords associations of two kinds. First, the social ties among users that are either reciprocal such as *friends* on Facebook or unidirectional like *followers* on Twitter. By connecting with others, users gain access to information posted and forwarded by them. The second kind of associations are connections between individual users and content they created or interacted with. Several activities on SNSs create links between a user profile and a piece of digital information, such as following a news media channel or celebrity fan page, becoming a member of a public group or expressing interest in an event announced on a SNS. Associations of both kinds are the basis on which algorithms recommend and display content in the activity stream and thus determine a user's access to information on a SNS (Treem & Leonardi, 2013).
7. *Editability.* Although some SNSs offer immediate video transferred communication, for example, the *Facebook live* feature, the dominant communication mode is asynchronous. Users write texts, select links to online content, upload pictures and videos that get distributed to their audience. They can create these contents free from the evaluations and reactions of others before they upload them and may even modify or delete them, if they are not satisfied after all. Thus, SNSs afford users with the opportunity to edit and rehearse content they share even after the initial display (Treem & Leonardi, 2013).

2.1.3.1 The Interplay of SNS Features and Affordances Determines Networked Publics

Affordances and architectural features create idiosyncratic conditions for communication in networked publics on SNSs. According to boyd (2010), networked publics are marked by three dynamics that shape social interaction; the blurred

line between public and private, collapsed contexts, and invisible audiences. She pointed out that Joshua Meyrowitz (1987) had observed these dynamics in publics created by broadcast media before and had described how professional communicators handled their challenges. As one-to-many communication on SNSs, in the meantime, enables ordinary people to distribute information to wide audiences across space and time without the publicity of journalistic mass media, every single user is subjected to the challenging dynamics coming along with this opportunity (boyd, 2010).

First of all, networked publics on SNSs *blur the line between public and private*. The stream of user-generated content displays photos of your cousin's newborn right above a news article about a recent food scandal, couples leave love oaths on each others' walls, and political candidates seize networked publics to directly address voters (boyd, 2010). Personal, previously rather private topics are now shared within the networked public and actors who used to articulate their messages in mass media publics engage in direct communication with citizens and consumers. This elicits the formation of novel social norms and expectations concerning behavior in these publics (Schmidt, 2018, p. 27). Most SNSs make privacy settings available that allow users to limit visibility of profiles and messages distributed in one-to-many communication. Thereby, they can maintain a distinction between private information and information they want to share publicly with large audiences.

Furthermore, networked publics are spaces that unite people from different social contexts and are characterized by *context collapse* (boyd, 2010). While conversations with one's family, friends, and work colleagues are segmented in real life by social, temporal, and spatial boundaries, one-to-many communication addresses one single audience in which these social contexts are collapsed (boyd, 2010; Davis & Jurgenson, 2014; Marwick & boyd, 2011; Vitak, 2012). As social actors, we hold several identities and perform multiple roles, for example, a man can play the roles of a father, lover, trumpet player, and nurse. We enact each role in a separate social context with certain groups of people, who have distinct expectations regarding our behavior (Mead, 1934, p. 142). In order to maintain our many identities, we tailor our self-presentation to each social context and its respective audience (Goffman, 1959, p. 31). In networked

publics, various and sometimes contradicting expectations represented through contacts from different social contexts are present at the same time, causing context collapse. Users may benefit from this idiosyncrasy of SNSs. They can make intentional use of context collapse to serve goals such as accessing information, enhancing one's social network, and presenting the self to vast audiences. Davis and Jurgenson (2014) suggested to refer to intended context collapse as *context collusion*. Unintended or unbeknownst context collapse, has been termed *context collision* by Davis and Jurgenson. Context collision may challenge individuals' adequate self-presentation and cause privacy violations.

Finally, the audience is not only characterized by context collapse but it is also mostly *invisible for the user*. Ordinary people are used to communicate with manageable, co-present, and known audiences. The audience of one-to-many communication on SNSs, rather resembles the dispersed audiences of mass media. Due to the persistence, visibility, association, replicability, and most importantly, the scalability of communication, messages can reach SNS users beyond an individual's friends list. Others can access them years after a user shared them, replicate and distribute them outside the SNS. Unless a posting elicits feedback such as comments or private messages, a user does not know whom he reached with his message and how they received it (boyd, 2010).

The notion of networked publics focuses on how the technological architecture of SNSs structures the emerging publics. In a more content-related approach, Jan-Hinrik Schmidt (2018) described the nature of publics on SNSs as "personal publics" (p. 27). Unlike boyd, who emphasized commonalities of publics resulting from broadcast media and networked publics, Schmidt points out how one-to-many communication of ordinary users differs from the operating principles of professional communicators. The first difference refers to selection criteria. While journalists evaluate the newsworthiness of an event based on factors such as topicality or negativity, ordinary people share information that is of personal relevance to themselves and their imagined audience. The audience makes another difference. The target audience of the ordinary SNS user is his or her personal social network, whereas journalists publish information and content for a dispersed mass audience. Finally, the aim of one-to-many

communication on SNSs is mostly to initiate reciprocal communication. Unless someone uses a SNS for professional purposes, creating publicity for topics is not the main driver of ordinary people's one-to-many communication. According to Schmidt, people embrace SNSs because they want to find information about topics that are personally relevant and share them with their personal social network instead of an anonymous crowd (Schmidt, 2018, pp. 27–30). Thus although SNSs lower the technological and financial barriers for individuals to distribute socially and politically relevant information or to initiate deliberative discourses networked publics are rarely alternative public spheres, but rather personal publics (Batorski & Grzywińska, 2018).

2.1.4 Interim Conclusion

In the previous section, I described how the features and affordances of SNSs shape idiosyncratic communication environments that are referred to as networked publics. The key features of every SNS – unique identifiable profiles, publicly articulated lists of permanent connections, and the stream of user-generated content – enable one-to-many communication. A single user can easily broadcast a message to her entire social network and beyond. Hence, individuals can distribute personal news via this channel, but they can also use it to amplify news media content. According to the affordances of SNSs, shared news content is replicated and associated with a user's profile. It becomes visible to others and can reach large audiences due to scalability. The dissemination of news can be considered as example for the blurring of public and private in networked publics. While news content itself is publicly available, the act of sharing it may reveal private information about a user, such as her interests, beliefs, or attitudes. Moreover, users may not always be aware of the collapsing social contexts in their audience and potential invisible audiences. From the audience's perspective, the affordances association, replicability, and visibility cause exposure to news content that is inextricably linked to the user who distributed it. This conclusion drawn from the conditions for communication in networked publics, in general, holds true for the SNS Facebook in particular.

2.2 Facebook

Despite stagnating growth in user numbers, Facebook is still the most popular SNS with around 2.4 billion monthly active users worldwide (Facebook, 2019). The website was founded as *Thefacebook* in 2004 by Mark Zuckerberg, who still is the company's chief in executive office, and fellow students at Harvard University. Thefacebook began of as a SNS for students and staff at Harvard University but quickly allowed registrations from members of other colleges in the USA. In September 2005, the name was changed to Facebook and the service opened to non-academic user groups as well (Kirkpatrick, 2011, p. 163).

A German version of the website launched in 2008. Although several SNSs have since been launched, Facebook still is the most-widely used SNS in Germany.The representative ARD-ZDF Online Study reported that 33% of the population used the site at least once per week in 2017. According to the Reuters Institute Digital News Report, 52% of German Internet users used Facebook in 2018. Only the messenger service WhatsApp (53%) and the video-sharing site YouTube (60%) are more popular social media platforms among German Web users[1]. Other SNSs are far behind Facebook. Only 15.6% of German online users use Instagram, a site with focus on sharing pictures, and 13.1% use Twitter, a microblogging service that allows users to broadcast short messages, so-called *tweets*, of up to 280 characters.

Decisive for my choice to focus on Facebook is that 23.5% of German Internet users name it as a source of news, while YouTube is used for news by 15.2%, Twitter by 5.0%, and Instagram by 2.8% (Hölig & Hasebrink, 2018, p. 43). Based on multinational data from 37 states in Europe, South- and North America, Asia, and Australia, the Reuters Institute Digital News Report found Facebook to be the most-widely used SNS 71%, ahead of YouTube (66%),

[1]Although YouTube can be considered a SNS according to the definition by Ellison and boyd (2013), it is possible to watch videos without registration and user profile. In the survey for the Reuters Institute Digital News Report, researchers asked whether respondents had used the site in the past week. The data does not allow to distinguish between passive consumption of content and active social networking on the site. Hence, it seems reasonable that the percentage of those who actively use the social networking function of the site is lower than the share of Facebook users.

Instagram (30%), and Twitter (20%). Facebook is also the most important social media source of news, as indicated by 46% of Internet users in the multinational sample (again ahead of YouTube (24%), Twitter (10%), and Instagram (7%); Newman et al. 2019, p. 55).

2.2.1 Facebook Functions and Features

Facebook is the blueprint for Ellison and boyd's (2013) SNS definition. When users register on the site, they first have to set up a unique profile, their Facebook identity. The system asks users to use their real name, encourages them to upload a profile picture, and add biographical information such as their hometown, college, or workplace so that friends and co-workers will be able to recognize them. Users can upload pictures and videos to complement their profiles and manage them in photo albums.

Next, they can strike up reciprocal connections with other users by becoming *friends*. In the default setting, the friends list is displayed on the user profile and others can browse it in order to find further people they know and want to connect with. However, privacy settings allow for hiding the friends list from others. Besides the reciprocal friend connection, users can *subscribe* to others' public postings without adding them to their friends list. Organizations, brands, musicians, and restaurants are also present on *Facebook pages*. Users can establish non-reciprocal connections with pages by clicking the *like button*. The connection with a page they liked is persistent unless they *unlike* it. The page also becomes visible as an *interest* on their user profiles.

After friending or subscribing to profiles and liking pages, users get notified about their activities through the *news feed*, Facebook's stream of user-generated content. The news feed is the central feature of the SNS and is displayed prominently on users' homepage. It is the first page they see when they log in or open the app. It is a constantly updating stream of notifications about interactions and new contents from friends and pages they have liked. The system registers any activity on pages and profiles that a user is connected with, an algorithm calculates their relevance, and determines whether they appear in the user's news feed (Bucher, 2012). The introduction of the news feed

in September 2006 was possibly the most momentous change of the structure and functionality of the SNS. Not only did it increase the visibility of any user activity on the site by broadcasting it to the entire network of friends, it also changed how users communicate on SNSs.

Hitherto, users had to visit profile after profile to find out about updates – a time-consuming and often fruitless activity. Due to the news feed they now realize that a former basketball teammate got engaged and that Ben & Jerry's will give away free ice cream in the city center without having to visit their profiles and pages (Hoadley, Xu, Lee, & Rosson, 2010). Looking at it from the other way around, when users want to share information, they no longer have to address receivers individually with private messages or postings on their walls. In other words, the news feed turned the communication process upside down. Every activity on Facebook triggers a notification that appears in others' news feeds. By uploading a few pictures of a recent trip to Iceland, you let your friends know that you have been traveling without addressing a single one of them (Kirkpatrick, 2011, p. 210). With the *status update* feature, users can broadcast postings to their entire social network. Status updates can consist of a written message, photos or videos, a link to any web content, or a combination of these. They enable one-to-many communication for ordinary people – a form of communication that used to be reserved for the mass media and professional communicators (boyd, 2010).

Immediately after the launch, Facebook users protested against the news feed and the increased visibility of their activities (Hoadley et al., 2010). Meanwhile, the push model of receiving updates through the news feed is the usual public communication mode. Posts in the news feed are often the starting point for interactions on Facebook. Users can interact with any content that appears on the news feed by reacting to it with a like or with emoticons expressing positive or negative feelings. They can write a comment that appears right below the post or they can share posts by redistributing them to their friends. All these interactions are persistent inasmuch as the activity is linked to their profiles and the content that they interacted with appears on their friends' news feeds with the information that they either liked it, commented on it, or shared it.

Per default, status updates and notifications on activities (such as photo uploads, adding a new friend, or liking a post) are visible to the entire network of a user's Facebook friends. However, the SNS offers privacy settings to limit the visibility to predefined groups of people. In addition, Facebook integrated a messenger function that allows synchronous and asynchronous private communication with one or several users. Users can set up groups in order to gather people with shared interests and they can use the event feature to announce a party and invite people from their friends list.

Facebook's communication features enable distinct forms of communication. Frison and Eggermont (2016) and Vanden Abeele et al. (2018) distinguished three principle categories of Facebook communication activities: 1) *active public Facebook use*, which is subdivided into *broadcasting*, such as sharing status updates or likes with the entire network, and *directed public communication*, such as commenting or liking a friend's post, 2) *active private Facebook use*, which refers to directed communication via the Facebook messenger or in exclusive Facebook groups, and 3) *passive Facebook use*, which describes browsing the news feed, content on user profiles, or pages.

Besides the characterizing features for social network sites (the user profile, the friends list, the news feed, and the means for public and private communication) Facebook offers numerous apps and games that users can enjoy for free on the site, and often together with their friends. They are developed and maintained by external providers of oftentimes popular web services such as music and movie streaming platforms or online game publishers. Thereby, they merge the social network users established on Facebook with their services and render their experience more social, while boundaries of potentially or formerly distinct applications are blurred (Ellison & boyd, 2013).

Moreover, *Facebook Inc.*, the corporation behind the SNS, purchased other social media, for example, the messenger app WhatsApp, and Instagram, which is currently another highly popular SNS with focus on sharing pictures (Doyle, 2015). Although the services coexist, functions of Facebook and Instagram especially blend into each other. People can create Instagram profiles using their Facebook account and they can share Instagram pictures on their Facebook profile as well.

2.2.2 Facebook Platform and Social Graph

Up to this point, I have described central functions and features of Facebook from the user perspective. The *social graph*, as Mark Zuckerberg termed the network of friendships that becomes visible and accessible on Facebook, is not only a virtual meeting place for individuals, but it is also of value for corporate users (Hernandez, 2017). The billions of identities comprising information about preferences, cultural background, and especially relations among each other entail new strategies for advertising, marketing, and distribution (Kirkpatrick, 2011, p. 237).

Thus, the free of charge social network site for end users is only one side of the coin. Facebook's business model is to furnish a platform for innovative marketing activities. As such, it not only provides advertising space on a site visited by 1.52 billion users every day (Facebook, 2019), but also has more detailed information about its users' preferences than any other advertising medium, and even more than Google (Hernandez, 2017). On the one hand, advertisers can target their advertisements to very specific groups, for example, Russian-speaking single women between the age of 35 and 45, living in Berlin (Curran, Graham, & Temple, 2011). On the other hand, Mark Zuckerberg recognized the potential of the social graph for novel marketing activities that take advantage of its connectivity and sociability (Hernandez, 2017; van Dijck, 2012). He introduced the *Facebook Platform*, an application programming interface (API) that allows developers to create apps that merge external services with the social graph.

The most prevalent example for the use of the API are Facebook social buttons, which are integrated into countless websites. Visitors who are logged in to Facebook can click these buttons to instantly show their friends what online content they see and like. As a result, websites get the attention of entire social networks. Another example is the integration with services like the music streaming platform Spotify. Users can use their Facebook user information to create an account for the music streaming service. In this way, they are instantly connected to all of their Facebook friends who use Spotify and can see what songs they are listening to, or create shared playlists. They can also easily share music on Facebook. External providers like Spotify benefit manifold

from the social graph: It renders their services more social and therefore more attractive for users and they receive amplified attention. Meanwhile, Facebook gets to track more user interactions and adds more connection information to the social graph (Hernandez, 2017).

Moreover, organizations and brands have also invaded the social network side of Facebook. Businesses, for example, maintain rapports with clients. Political parties enter a dialog with the electorate, and celebrities create closeness to their fans. The SNS offers corporate users to create a page instead of a profile, which has a slightly different structure. Pages are equipped with additional functions to suit corporate needs, such as tools for user statistics and a feature that allows users to rate the brand or organization that a page represents. However, the most important difference is the non-reciprocal connection between a page and a user profile. End users can connect with a page by clicking the like button, however pages cannot friend or follow users. Once users have liked a page, they expose themselves to a page's posts in their news feeds. Users who are not connected with a page can still browse its content, as well as like, comment, or share posts on the page. For corporate users, the affordances of the networked publics on Facebook generate digital word-of-mouth. User engagement with their messages in terms of likes, shares, and comments amplifies their reach (Kite, Foley, Grunseit, & Freeman, 2016). Hence, represented organizations or brands expect positive outcomes from their presence on the SNS, such as more positive evaluations (Beukeboom, Kerkhof, & de Vries, 2015) or higher purchase intentions (Hutter, Hautz, Dennhardt, & Füller, 2013; Schivinski & Dabrowski, 2016).

A sector that particularly relies on the social marketing opportunities provided by Facebook, is the news media industry.

2.2.2.1 News Media Presence on Facebook

Since the advent of the World Wide Web, news media publishers, TV, and radio stations have been experimenting with digital editions of their news products. In order to maintain and expand their audiences, online news media not only experimented with new formats and business models, they also integrated

social media into their services (Piechota, 2017, p. 63). Facebook's networked audiences promise increased exposure for journalistic content and news media relies on the SNS to open new audiences (Hille & Bakker, 2013; Kalsnes & Larsson, 2018; Lehtisaari et al., 2018; Phillips, 2012; Piechota, 2017). Thus, many news media organizations benefit from the intermediary function and maintain Facebook pages which are linked to their websites (Neuberger, 2017, p. 106). These serve as additional channels to distribute news stories to online audiences and drive traffic to their websites (Ju, Jeong, & Chyi, 2013; Singer, 2014). News desks employ social media editors, who share hyperlinks to content published on the websites of the news medium, observe and moderate user interactions with the posts on the Facebook page. Social media editors select news stories particularly based on their *shareability*, that is the probability to generate high numbers of likes, shares, and comments (Harcup & O'Neill, 2017; Holton, Coddington, Lewis, & Gil de Zúñiga, 2015).

Furthermore, news media encourages Facebook users to share their content by integrating share and like buttons into their websites right next to the news stories. They make it easy for users to share and endorse news stories on Facebook with a few clicks (Messing & Westwood, 2014). Finally, Facebook has a strong interest in the availability of high-quality content on their platform to keep users engaged (Stroud, Scacco, & Curry, 2016). News media invests in journalists and organizational structures to create original content of very high quality which furnish Facebook for free. With *Instant Articles*, Facebook offers an exclusive tool for news media publishers that grants faster loading of articles clicked by users in their news feeds. Moreover, it involves a revenue-sharing model based on ads sold in the articles and gives publishers the opportunity to monetize sharing articles on Facebook (Caplan & boyd, 2018; Reckhow, 2015).

Do online news media actually succeed in increasing exposure for their content with Facebook activities? The amount of traffic referrals from Facebook to news media websites is unsteady and depends on strategic decisions of the company's executives. According to data of the web analytic service Parse.ly, from October 2015 until June 2017, Facebook accounted for about 40% of referrals to the websites of news media and was the leading traffic driver ahead of Google. However after a first change of the news feed algorithm, Google

surpassed Facebook in July/August 2017 and since Facebook changed the algorithm of the news feed to prioritize interactions between individual users over posts from professional pages in 2018, it sends only between 25% and 30% of the traffic to news media sites (parse.ly, 2018).

With regard to monetization of news distribution via Facebook, the evaluation of news media publishers is disillusioning. A survey of the members of the World Association of Newspapers and News Publishers (WAN-IFRA) revealed that Facebook only contributes an average share of 7% to their digital business revenue (Piechota, 2017, p. 63). Accordingly, news media become increasingly reserved regarding their willingness to provide their costly products to the SNS for free (Piechota, 2017; Vogelstein, 2018).

Several empirical studies arrive at the conclusion that news media organizations' relationships with Facebook are ambivalent and most do not seem to have a conceived strategy for their activities on the SNS beyond the goal of extending their audience (Hille & Bakker, 2013; Lehtisaari et al., 2018).

However, the status quo is a considerable number of hyperlinks to news stories on news websites available on Facebook, either distributed by social media editors or shared by ordinary people. Finding news is not the primary motive to use Facebook, yet 45% of internet users worldwide are incidentally exposed to news while browsing their news feeds (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2017). In the following section, I will return to shedding light on the Facebook use of ordinary individuals. I will give an overview of the state of research regarding their motivations, behaviors, and the nature of their social networks on the SNS. The following sections form the basis for the subsequent examination of Facebook as an environment for news consumption.

2.2.3 Motivation for Facebook Use

The question of why SNSs, and Facebook in particular, appeal so much to people has been the origin of numerous empirical studies. We can ascribe Facebook's immense popularity to its ability to facilitate the fulfillment of a fundamental human need – the *need to belong* (Baumeister & Leary, 1995). Accordingly, previous studies revealed that people mainly register at Facebook

and use the SNS to relate and socialize with others. They want to keep in touch with existing peers, reactivate old relationships, and develop new ones (Brandtzæg, Lüders, & Skjetne, 2010; Ellison, Steinfield, & Lampe, 2007; Ferris & Hollenbaugh, 2018; Joinson, 2008; Park & Lee, 2014; Raacke & Bonds-Raacke, 2008; Reich, Subrahmanyam, & Espinoza, 2012; Sheldon, 2008; Subrahmanyam, Reich, Waechter, & Espinoza, 2008). Apart from that, users reported to use Facebook for entertainment or passing time (Ferris & Hollenbaugh, 2018; Papacharissi & Mendelson, 2011; Park & Lee, 2014), self-expression and information sharing (Papacharissi & Mendelson, 2011; Park & Lee, 2014), and as a source of general information (Yoojung Kim, Sohn, & Choi, 2011; Raacke & Bonds-Raacke, 2008).

The extent to which they obtain the latter gratifications on Facebook depends on connectivity and sociability. By friending other users (and liking pages), users pre-select whose posts they will see in their news feeds, the primary source of information and entertainment. They also determine who will be exposed and react to their self-expressions. Hence, connecting with others is an indispensable activity that provides the basis for every user's individual Facebook environment.

2.2.3.1 Friending and Social Networks on Facebook

With regard to friending behavior, surveys showed that users predominantly reconnect with friends and acquaintances from real life (Ellison et al., 2007; Reich et al., 2012; Subrahmanyam et al., 2008). However, the number of Facebook friends often exceeds the size of the conventional active social network, which typically consists of no more than 150 persons (Dunbar, 1993; Roberts, Dunbar, Pollet, & Kuppens, 2009). Studies investigating convenience samples of college students reported mean numbers of Facebook friends between 200 and 900 (e.g., Chou & Edge, 2012; Ellison et al., 2007; Greitemeyer, 2016; Greitemeyer, Mügge, & Bollermann, 2014; Jang, Lee, & Park, 2014; Johnston, Tanner, Lalla, & Kawalski, 2013; Yonghwan Kim, 2011; Manago, Taylor, & Greenfield, 2012; Steinfield, Ellison, & Lampe, 2008; Su & Chan, 2017).

Except for the larger size, the structure of the egocentric networks of Facebook friends mirrors offline social networks (Dunbar, Arnaboldi, Conti, & Passarella,

2015). There is only a small number of contacts that users interact with frequently, which can thus be defined as the *strong ties* in their social networks on Facebook. The majority of their relations on the SNS are *weak ties*, with whom they only interact occasionally (Manago et al., 2012). Besides higher interaction frequency and, by implication, a larger amount of time invested into the relationship, strong ties differ from weak ties in terms of a higher emotional intensity and intimacy, while tending to relate similar people whose social networks overlap to a great extent. Weak ties are defined as less close relationships to people who tend to be more diverse and share less ties with the individual and may thus play a bridging role within the social network in terms of information diffusion (Granovetter, 1973).

What is exceptional for network-based communication media, for which Facebook is an example par excellence, is the support of additional networks of *latent ties*. These connections are defined as "ties that are *technically possible but not yet activated socially*" (Haythornthwaite, 2005, p. 137). By liking Facebook pages and content, joining groups, or through their friends, users are connected with countless others that they never met before. By initiating a social interaction, for example, by adding a friend of a friend to their friends list, liking her status update, or sending a private message, they can convert latent ties to weak ties. Donath (2007) described such extended egocentric social networks enabled by the technological support of SNSs as "social supernets" (p. 237).

Additionally corresponding with offline social networks, the Facebook friends list consists of people from different social spheres. Users connect with good friends, relationship partners, family members, room-, class-, and teammates, or coworkers. They also add rather distant acquaintances from temporary jobs, travels, friends of friends, people they met only once or who simply looked familiar (Child & Westermann, 2013; Frampton & Child, 2013; Jiang & de Bruijn, 2014; Lewis & West, 2009; Manago et al., 2012; Marder, Joinson, & Shankar, 2012; C.-C. Yang, 2018). The majority of relations on Facebook roots in offline relationships or encounters, but individuals occasionally add users they did not meet before as friends (Manago et al., 2012). Although social ties in egocentric social networks commonly have diverse origins, the difference

on Facebook is that usually segregated social spheres conflate to one single list of friends (boyd, 2010; boyd & Ellison, 2007; Hogan, 2010; Vitak, 2012). As we will see in the following section, this context collapse involves context collusion, beneficial outcomes of Facebook use and also context collision, risks related to context collapse.

Why do people accumulate large numbers of friends from diverse social spheres on Facebook? On the one hand, collecting friends may serve a desired self-presentation. The visibility of attractive individuals in a friends list (Hall, Pennington, & Lueders, 2014; Walther, Van Der Heide, Kim, Westerman, & Tong, 2008) and the mere number of friends displayed by the system on the profile page are social cues that impact impression formation (Hall et al., 2014; Kleck, Reese, Ziegerer Behnken, & Sundar, 2007; Tong, Van Der Heide, Langwell, & Walther, 2008; Utz, 2010). Kleck et al. (2007) observed that users with many friends (261) are perceived more popular, pleasant, and physically attractive than those with few friends (15 and 82). However, a subsequent experiment revealed that the association between number of Facebook friends and popularity ratings is curvilinear and follows the shape of an inverted U. In this study, Tong et al. (2008) showed that a user profile with a moderate number of 302 friends received the highest social attractiveness ratings while profiles with less (102) and more friends (502, 702 and 902) were rated less popular. Accordingly, the display of a too high number of Facebook friends may shift to less favorable impressions, as observers question the quality and authenticity of those friendships (Greitemeyer, 2016).

On the other hand, and whether beneficial for popularity ratings or not, the maintenance of social supernets on Facebook facilitates the accessibility and mobilization of resources contained in all these relationships – an individual's social capital.

2.2.3.2 Social Capital on Facebook

Social capital is a sociological concept that refers to "resources embedded in one's social networks" (Lin, 2008, p. 51). From the individual's perspective, engaging in social relations grants access to personal and social resources

possessed by others that allow them to reach various outcomes, such as finding a new job or starting a citizens' initiative (Lin, 2001, p. 21). Putnam (2000) distinguishes two forms of social capital that are associated with either of the tie strengths in a social network. People gain *bonding social capital* from interaction with strong ties, which provides them with resources such as solidarity and emotional support. *Bridging social capital* arises from the function of weak ties to connect several dense and bonding social networks. It enables access to information and goods disposable in different social groups than those of the individual. Therefore, bridging social capital is beneficial for prosperity and to expand one's horizon (p. 22-23).

Scholars established that intense general Facebook use is associated with high levels of both forms of social capital (Burke, Marlow, & Lento, 2010; Ellison et al., 2007; E. Lee, Kim, & Ahn, 2014; Liu, Li, Carcioppolo, & North, 2016; Steinfield et al., 2008; Vanden Abeele et al., 2018). The predictive power of general measures of Facebook use intensity is lower for bonding social capital than for bridging social capital (Ellison et al., 2007; Vanden Abeele et al., 2018). This is hardly surprising, as the SNS is unlikely to increase engagement in strong tie relationships such as close friends or romantic partners (Ellison, Vitak, Steinfield, Gray, & Lampe, 2011). Studies with a more nuanced conceptualization of Facebook activities revealed that frequent engagement in public and private directed communication (Abbas & Mesch, 2018; Burke et al., 2010; Ellison, Gray, Lampe, & Fiore, 2014; J. Lee, 2014; Vanden Abeele et al., 2018) as well as social information seeking (Ellison et al., 2011) are associated with an increased perception of bonding social capital.

However, the true benefit of Facebook resides in its affordance of communication practices that facilitate the maintenance of weak ties and the conversion of latent ties into weak ties (Ellison et al., 2007; Ellison et al., 2011).

Accordingly, longitudinal surveys revealed a positive effect of high general intensity of Facebook use on perceived levels of bridging social capital (Burke, Kraut, & Marlow, 2011; Steinfield et al., 2008). In their study with 419 Facebook users, Burke et al. (2011) established a small positive effect of directed communication, such as writing comments, giving likes, and sending private messages, on bridging social capital. In cross-sectional studies, scholars

also found a relationship between intensity of Facebook use and bridging social capital (Ahn, 2012; Burke et al., 2010; Ellison et al., 2007; Vanden Abeele et al., 2018) and associated Facebook activities, such as social information seeking (Abbas & Mesch, 2018; Ellison et al., 2011), active communication (Abbas & Mesch, 2018; Ellison et al., 2014), and posting on others' walls (J. Lee, 2014), with higher levels of bridging social capital.

Hence, simply accumulating large numbers of Facebook friends is not sufficient to increase one's social capital. Instead, users need to manage their social capital by using Facebook's communication features. This involves sharing personal information. Based on the finding that social information seeking is related to increased social capital, Ellison et al. (2011) proposed that the information which individuals provide about themselves on Facebook functions as "*social lubricant*" (p.15). It provides others with novel information about them which stimulates communication. They learn about shared interests, mutual friends, and other commonalities which may intensify relationships or facilitate the conversion of latent ties into weak ties. Consequently, Facebook's technical ability to increase users' social capital depends on the users' willingness to share personal information on the site (Ellison et al., 2011). Personal information becomes available as users present themselves on their profiles by uploading photos and videos, adding biographical data, liking Facebook pages, or joining groups. Every form of public communication – such as status updates, wall posts, comments, or likes on posts shared by others – creates information about an individual that is relevant for the maintenance and enhancement of social relationships. Accordingly, active public Facebook use not only directly predicts bridging and bonding social capital (Abbas & Mesch, 2018; Burke et al., 2011; Ellison et al., 2014; J. Lee, 2014), but also provides the basis for social capital through social information seeking.

Therefore, what follows is that disclosure of personal information on Facebook is conducive if not indispensable for social capital on Facebook. Several survey-based studies found positive relationships between self-disclosure and relational outcomes, such as the development of new and maintenance of existing relationships (e.g., Bazarova and Choi 2014; Cheung, Lee, and K. H. Chan 2015; Park, Jin, and Annie Jin 2011; Steijn and Schouten 2013; Vitak 2012;

for an overview cf. Abramova, Wagner, Krasnova, and Buxmann 2017). A meta-analysis by Liu et al. (2016) found positive associations between self-disclosure on SNSs and both bonding ($r = .20$) and bridging social capital ($r = .19$). However, the benefits of self-disclosure for the maintenance of large and diverse social networks on Facebook can cause tensions with respect to self-presentation due to context collision in this very audiences.

2.2.4 Self-Disclosure Tensions and Strategies

Self-presentation (synonymously referred to as *impression management*) is understood as the process by which individuals try to create desired impressions of themselves in others' minds (Goffman, 1959; Jones & Pittman, 1982; Leary & Kowalski, 1990; Schlenker, 1980). Leary and Kowalski (1990) proposed that people generally use means such as verbal communication, nonverbal behavior, look, status symbols, diets, as well as relationships with others and affiliation with social groups to construct desired self-presentations.

On Facebook, every interaction and every link between a user profile and other digital items on the site becomes part of their self-presentation. Users deliberately choose which photos they share (Sibak, 2009; Zhao, Grasmuck, & Martin, 2008) and what to disclose in status updates, whether they like a Facebook page (Marder, Slade, Houghton, & Archer-Brown, 2016) or a third-party post (Schwarz & Shani, 2016). They are eager to show their popularity by accumulating friends (Hall et al., 2014; Zhao et al., 2008). Facebook friends' contributions to an individual's self-presentation are prevalent because users can tag each other on pictures and leave comments beneath each other's posts. Third party contributions are welcome when favorable for the desired self-presentation, but users tend to suppress undesirable third-party contributions by requesting the deletion or untagging themselves (Lang & Barton, 2015; Oeldorf-Hirsch, Birnholtz, & Hancock, 2017).

Leary and Kowalski (1990) suggested that humans present themselves in idealized ways and control how others perceive them as this increases their subjective well-being. They are particularly motivated by social and material outcomes such as friendship, social validation, or promotions. Further motives

are the maintenance and enhancement of self-esteem in terms of positive self-evaluation, or positive responses from others and by the development of identity through engagement in identity-relevant activities (Leary & Kowalski, 1990). I assume that these motives are salient for self-presentation on Facebook. The affordances of the site particularly facilitate obtaining social outcomes and enhancing self-esteem through positive reactions from other users.

As I described above however, self-presentations are usually idealized presentations of our selves, tailored to the expectations of segregated social groups and spheres of our lives. We present our self selectively for different audiences, by disclosing some facets of our identity and concealing others. Context collapse in audiences on Facebook complicates the maintenance of selective self-presentations for different social groups, causing context collision (Davis & Jurgenson, 2014). Our performance on the Facebook stage, to seize on Erving Goffman's dramaturgical metaphors from his seminal work *The Presentation of Self in Everyday Life*, has to cater to the expectations of the diverse audiences that users tend to create by friending everyone they know.

Communication scholars investigated users' disclosure decisions in the face of context collision from two theoretical angles. Privacy scholars take an interest in how privacy concerns due to context collision relate to willingness to self-disclose private information on Facebook (e.g., Masur & Scharkow, 2016; Vitak, 2012; Vitak, Blasiola, Patil, & Litt, 2015). Scholars who focus on impression management on Facebook study the extent to which individuals are able to present their ideal identity under the condition of context collision (e.g., Dennen & Burner, 2017; Marder, 2018). In my argument, I will build on the latter, as I want to point out how collision complicates relationship maintenance through self-presentation.

Previous research, mostly based on qualitative interviews and focus groups, indicated that self-presentation on Facebook is guided by implicit communicative norms that tell users what they should not do at all. Interviewees in studies by McLaughlin and Vitak (2012) and Hooper and Kalidas (2012) deemed incivility such as coarse language, harassment, and name calling an unacceptable behavior on Facebook. Furthermore, users evaluated contents such as emotions, political attitudes, religious and sexual matters, as well as intimate information about one's health, children, or private contact information

unacceptable in public posts (Hooper & Kalidas, 2012; McLaughlin & Vitak, 2012; Vitak et al., 2015). Gross violations of these unspoken rules, which users learn by observing how others behave on the site (Buehler, 2017), may result in detrimental social outcomes, culminating in sanctions such as being blocked or unfriended (Hooper & Kalidas, 2012; McLaughlin & Vitak, 2012).

Scholars previously investigated communicative norms regarding the acceptability of sharing intimate information in public or private communication on Facebook. Based on an online survey with 151 German university students, Utz (2015) observed a positive link between sharing intimate information in private messages and feeling connected, while there was no positive correlation between the intimacy of status updates and the feeling of connectedness. Similarly, Castillo (2017) found no association between intimate status updates and bridging social capital in a survey with 580 students at a US university. Bazarova (2012) revealed that highly intimate contents publicly shared on Facebook may even be detrimental for relationship maintenance. In an experiment with 220 students at a US university, she manipulated intimacy of a message and communication mode. She found that participants perceived sharing intimate information in wall posts as inappropriate which lead to less favorable social attractiveness ratings (Bazarova, 2012, Study 2).

Taken together, previous findings tell us what contents users should refrain from, yet there is less evidence for the kind of information that is beneficial for relational maintenance through public communication on Facebook. Solely Utz's (2010) findings indicate that entertaining status updates elicit feelings of connectedness for both senders and receivers. Self-presentation on Facebook aimed at social outcomes resembles a tightrope walk, as the acceptability of shared information strongly depends on the individual audience composition (Hooper & Kalidas, 2012).

As a result, users tend to self-censor their public communication on Facebook. Several studies indicate that users follow a *lowest common denominator* approach (Dennen & Burner, 2017; Hooper & Kalidas, 2012; Kwon, Stefanone, & Barnett, 2014; Marder, 2018; Masur & Scharkow, 2016; Vitak, 2012; Vitak et al., 2015). The term has been coined by Hogan (2010), who described self-presentation on SNSs as an exhibition (as opposed to Goffman's dramaturgical

performance analogy). Hogan argued that SNS users have to be aware of the decontextualization of identity information that they share. Due to the affordances association, persistence, and visibility, any of their interactions will be tied to their profile and visible to all of their friends across time. Given that people are unable to consider every single member of their social supernets before sharing content on a SNS, Hogan supposed that users have to be aware of two groups: "those for whom we seek to present an idealized front and those who may find this front problematic" (p. 383). In other words, when we want to share photos of a recent adventure trip with our friends, our intended audience, we should consider whether there is someone in our friends list who might be upset, for example our overanxious parents. These persons determine our lowest common denominator.

There are certainly more strategies that users could adopt in order to facilitate self-presentation on Facebook. For one thing, they could restrict the diversity of their audiences from the start by not friending people who impede idealized self-presentation on Facebook (Christofides, Muise, & Desmarais, 2009; Vitak et al., 2015). They could also reduce diversity by blocking or unfriending problematic individuals (Dennen & Burner, 2017; Vitak et al., 2015). Marder et al. (2012) suggested that context collapse through friending people from various social spheres is key to heterophily and thus bridging social capital in Facebook users' networks. Consequently, keeping social networks on Facebook homogeneous to deal with context collision excludes positive social outcomes of SNS usage.

Moreover, Facebook offers fine grained privacy settings that allow users to deliberately decide who can see which contents. Although several surveys showed that users do restrict the visibility of wall posts, status updates, or photo albums (Debatin, Lovejoy, Horn, & Hughes, 2009; Dennen & Burner, 2017; Dienlin, 2014; Mor, Kligler-Vilenchik, & Maoz, 2015), the majority does not restrict the visibility of their contents and interactions beyond *friends only* (Madden et al., 2013; Marder et al., 2012; Sleeper et al., 2013; Utz, 2015; Vitak et al., 2015). Albeit the friends only setting protects users' personal information from strangers, it is no solution for self-presentation under the condition of context collapse. Furthermore, several studies found that users

differentiate their audience into friends lists in order to restore social contexts (Debatin et al., 2009; Litt, 2013; Vitak, 2012). However, findings expose the inconsistency of this approach as only those with very large and diverse social networks on Facebook actually tailor communication to separate groups of friends (Sleeper et al., 2013; Vitak, 2012; Vitak et al., 2015). Accordingly, the use of technological tools is also not effective in tackling the challenges of context collision. Self-censorship in terms of a lowest common denominator approach is the most common strategy to deal with context collision (Vitak et al., 2015).

2.2.5 Interim Conclusion

Facebook, the currently most popular SNS, is a site where users reconnect with friends, family, and acquaintances to socialize. Entertainment and information seeking are subordinated motivations for Facebook use. Accordingly, the gratifications that users obtain are also mainly social, increasing one's social attractiveness and maintaining and extending social capital. As entertaining and informative contents become visible for Facebook users because they are shared by their friends, non-social gratifications such as entertainment and information also depend on the social network which they establish on the SNS. The consideration of the predominance of social motives and outcomes is essential for investigating news consumption on Facebook. It seems likely that both distribution and exposure to news are intertwined with socializing as any other activity on the SNS.

With regard to news distribution, I propose that the trade-off between context collision and collusion might explain why users share news content on the site. The desire to broadcast information about one's self to one's entire network in order to maintain relationships faces the difficulty to share information that is equally approved across different social contexts conflated in the friends list. Sharing news might thus be a variant of the lowest common denominator approach: A shared news article should be appreciated by one's brother as well as by a distant acquaintance or one's boss. Moreover, it allows to subtly exhibit one's interest, knowledgability, preferred news brand, and even

one's opinion without the necessity of a more incriminating verbal statement. News perception on Facebook should be equally guided by social objectives. Users might be motivated to read a news article posted by a Facebook friend because they wish to strengthen the tie. They might consider news posts as an invitation to start a discussion. Nevertheless, the predominance of socializing and social capital accumulation as gratifications of Facebook use implies that news use on the site should be a profoundly social activity. As I will show in the following sections, research on news consumption on Facebook and other social media supports my assumption.

2.3 News Consumption on Facebook

Although most users may not log in to Facebook in order to learn about current affairs, many of them are exposed to news content on the SNS. According to recent representative surveys, 43% of US adults (Shearer & Matsa, 2018, p. 3), 36% of Internet users across 37 countries in Europe, Asia, and North and South America (Newman et al., 2019, p. 12), and 24% of German Internet users (Hölig & Hasebrink, 2018, p. 43) use Facebook for news. Furthermore, analyses of behavioral data such as traffic referrals from social media to news websites and numbers of likes and shares for individual news stories show that news content is available on the SNS (cf. parse.ly, 2018; Schiller, Heimbach, Strufe, & Hinz, 2016). News about various topics is an integral part of the content users disseminate and receive on Facebook (Kümpel, Karnowski, & Keyling, 2015; Müller, Schneiders, & Schäfer, 2016; Nielsen & Schrøder, 2014). As described in Chapter 2.2.2.1, it is partly the news media who publishes links to news stories on their Facebook pages, but only when users interact with their posts do they achieve extended visibility (Kalsnes & Larsson, 2018; Phillips, 2012). The conditions for news consumption on Facebook are different compared to traditional mass media and online news sites in several ways.

First of all, news consumption is shaped by the sociality and networked structure of the site, involves individuals' participation, and is thus a socially shared experience (J. Choi, 2016b; Ma, Sian Lee, & Hoe-Lian Goh, 2014).

Accordingly, the selection of news a user encounters in her news feed is in a large part determined by her friends. How many and which kind of news that users are exposed to on Facebook depends on their friends' interests, media repertoires, and attitudes (Bakshy, Messing, & Adamic, 2015).

Moreover on Facebook, where behavior is aimed at social outcomes such as social capital accumulation and positive social ratings, news consumption is a "socially-engaging and socially-driven activity" (Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010, p. 4). Thus, activities such as news selection, news engagement, or the redistribution of news content are driven by social motives and intertwined with social interactions on Facebook (e.g., Anspach, 2017; Baek, Holton, Harp, & Yaschur, 2011; Bergström & Jervelycke Belfrage, 2018; J. Choi, 2016a; Kaiser et al., 2018; Karnowski, Leonhard, & Kümpel, 2018).

According to J. Choi (2016b), the socially shared experience of news on social media is enabled by two distinct yet associated components of news use: *news externalizing*, the dissemination of news content (which the majority of authors refers to as *news sharing*; e.g., Kalsnes and Larsson, 2018; Kümpel et al., 2015; Shin, Van Der Heide, Beyea, Dai, and Prchal, 2017) and *news internalizing*, the exposure to news redistributed by others on a social media site. With regard to news externalizing, Choi distinguished two kinds of news distribution: *re-contextualizing* and *endorsing* news content. The first is a participatory form of news use, involving a re-evaluation or even re-framing of news content as contribution to discussions on a SNS. Users re-contextualize news by posting links to coverage from sources they deem valuable and reliable, by adding own thoughts to the links, by expressing their opinion on a current event in a status update, or by commenting on a news story that has been posted by someone else. News endorsing, on the contrary, is a more subtle manner of expressing one's thoughts and interests. According to Choi, liking a news post on Facebook is an endorsing behavior, as it makes users' interest in the topic visible, but does not reveal much about their views. Schwartz, Yahav, and Silverman (2017) understand liking on Facebook as the digital counterpart to nodding in face-to-face communication. Likes are no explicit statements, but others interpret them as approval of the respective content.

Regarding the second component of social media news consumption, news internalizing, Choi suggested to distinguish between *news browsing* and *news personalizing*. News browsing describes the behavior of reading any headline in one's news feed or visiting the linked news websites. News browsers expose themselves to whatever their friends re-contextualize or endorse on Facebook. A more methodical and self-determined form of news internalizing is personalizing the sources of news content that appears in one's news feed. By subscribing to the Facebook pages of news organizations or journalists, news personalizers at least partially tailor the news content in their news feeds to their interests.

The second specialty of Facebook is the rather incidental exposure to news, as people use the site primarily for purposes other than news consumption (Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018). It is a site where users socialize and initiate interactions by letting each other know their internal thoughts and external activities. "News" in the term Facebook news feed does not rather refer to news about public affairs, but to any of our friends' activities on the site. However, next to pictures of a music festival weekend and the notification that a former roommate moved to Berlin, you may come across an article about animal rights liked by your cousin. Although you were not seeking news in general or information about advances in animal rights protection in particular, you learned about it as a by-product of your interest in your cousin. "Incidental news consumption is not necessarily—and not primarily—about the news, but about exercising sociability and passing time" (Boczkowski et al., 2018, p. 3533). As a consequence, Facebook is a unique platform for news exposure where the serendipity of news consumption embedded in interpersonal communication might enable subtle forms of persuasion and social influence (Diehl et al., 2016).

Finally, one could argue that socially sharing the experience of news is a phenomenon that precedes the social media age and occurs in other communication channels as well. Conversations about news serve cognitive and emotional information processing. They help people to comprehend facts, form a valid and reliable opinion, and cope with negative emotions (Ibrahim, Ye, & Hoffner, 2008). Moreover, empirical findings suggest that news consumption in general has been at least partly driven by social motives for a long time. In

a representative survey of US adults by the Pew Research Center, 72% of the respondents indicated they followed the news because they enjoy conversations about current events and 69% feel obligated to keep up with the news as a citizen (Purcell et al., 2010, p. 4). I). In a study of 199 undergraduate students predating the social media era, Gantz and Trenholm (1979) found the establishment of social status and the initiation of social contact to be meaningful drivers for talking to others about news. Several surveys investigating news diffusion after agitating historical events – such as terrorist attacks or assassinations – found that the majority of people first learned about them through interpersonal communication (e.g., Bantz, Petronio, & Rarick, 1983; Greenberg, 1964; Hill & Bonjean, 1964; Kanihan & Gale, 2003). This complies with the expectation of half of the US adults who rely at least to some extent on their social networks to keep them up-to-date (Purcell et al., 2010, p. 4).

Nevertheless, Facebook tremendously facilitates individual participation in the news distribution process compared to previous means, such as face-to-face communication or diffusion via email. It considerably lowers our costs of redistributing news and sharing our opinion on current affairs with potentially unlimited audiences. Moreover, the circle of people through which we learn about events on a regular basis is extended to the heterogeneous supernets we tend to create on the SNS (Ma et al., 2014; Trilling, Tolochko, & Burscher, 2017; Weeks & Holbert, 2013).

The goal of my research is to understand how the relationships to our Facebook friends impact the opinion we form about news content they share. I derive the assumptions that guide my research from the insights of previous studies on news sharing and news exposure on social media, which I review in the following sections of this chapter.

2.3.1 News Sharing – Users Distribute News on Facebook

Firstly, I will give an overview over research that explored the externalizing component of news consumption on Facebook. In terms of prevalence, news sharing on social media is not a common activity among German social media

users. According to the Reuters Institute Digital News Report, 44% of them do not interact with news on SNSs at all. They are most likely to endorse news by liking it (15%), followed by posting links to news articles (11%) and commenting news posts (10%) (Hölig & Hasebrink, 2018, p. 49). Users who consider themselves as politically left are more active in redistributing news on social media. Among them, 27% report to like news stories, 22% indicate they share links to news content, and 20% take part in discussions by commenting news posts (Hölig & Hasebrink, 2018, p. 51). International comparisons based on data of the Reuters Institute Digital News Report revealed that Germans are more reluctant to news sharing than most other nations (except for Japan; Newman et al., 2017, p. 45).

In 2015, Kümpel, Karnowski, and Keyling presented a systematic literature review of empirical research that had been published between 2004 and 2014 and addressed antecedents, nature, and effects of news sharing on social media. Although they included studies on other SNSs than Facebook, especially Twitter, most of their generalized conclusions apply to news sharing on Facebook. In the following section, I repeatedly draw on the review by Kümpel et al. and add insights from more recent research on news externalizing on social media.

2.3.1.1 Motivation and Antecedents of News Sharing

Regarding the question of why people participate in news distribution on Facebook, Kümpel et al. (2015) distinguished self-serving, social, and altruistic motives. By reviewing previous literature, they found strong evidence for self-serving motives for news distribution, such as gaining reputation and followers as well as perceiving oneself as an opinion leader (e.g., Ma et al., 2014). Scholars also investigated but did not find associations between self-serving motives such as entertainment, escapism, and news sharing (e.g., Karnowski et al., 2018; C. S. Lee & Ma, 2012).

Recent studies further emphasize the importance of social motives identified by Kümpel et al. (2015) such as socializing, initiating interactions, and maintaining social ties (e.g., Goh, Ling, Huang, & Liew, 2019; Karnowski et al., 2018). Sharing relevant information with others is a socially desired action

and may contribute to the extension of social capital (Puschmann & Peters, 2017, p. 217). Karnowski et al. (2018) did not find evidence for status seeking in their study based on surveys with 333 German social media users. Instead, the motives socializing and information seeking predicted news sharing.

Finally, there is also an altruistic motivation to distribute news on Facebook: the desire to pass on relevant information that is of instrumental value to others (e.g., Baek et al., 2011).

Another antecedent of news externalizing is individual news consumption. Kümpel et al. (2015) reviewed research that supports the interrelatedness of news internalizing and externalizing as conceptualized by J. Choi (2016b): Those who read more news on social media and follow news media on Facebook are also more likely to redistribute news (e.g., Weeks & Holbert, 2013). More recently, J. Choi (2016b) showed that news internalizing mediates the effect of SNS use on news externalizing. Based on a survey with 1,052 adult US Americans she found that the more often users are exposed to news on SNSs, the more frequently they endorse and re-contextualize news on these sites. Beam, Child, Hutchens, and Hmielowski (2017) investigated the role of context collapse on news sharing on Facebook and confirmed the mediating role of news internalizing on the SNS. Increased participation in news distribution by users with diverse social networks on Facebook is partly explained by the increased exposure to news due to context collapse. A further predictor of news externalizing is political interest (Karnowski et al., 2018).

2.3.1.2 Factors Determining the Shareability of News

A comparatively large body of empirical research explores what renders a news story worth sharing. The investigated theoretical concepts are diverse and include news value and news factors, news frames, valence and emotionality of news contents, source properties, and topics. In their review, Kümpel et al. (2015) identified positive valence, arousing content, the trustworthiness of news sources, and the news factors controversy, relevance, and unexpectedness of information as determinants of a news story's shareabilty. I additionally reviewed more recent research that investigated shareability on the basis of

Table 2.1: Studies Investigating Shareability of News on Facebook

Study	Sample	Theoretical concept
Heimbach and Hinz (2016)	21,676 *Spiegel Online* articles	Positivity and emotionality
Bright (2016)	2,400 *BBC News* articles	Topics
Valenzuela, Piña, and Ramírez (2017)	3,409 articles from six Chilean online media	News frames, news factors, and topics
Trilling, Tolochko, and Burscher (2017)	132,682 articles from six Dutch online media	News frames, news factors, topics, and article valence
García-Perdomo, Salaverría, Kilgo, and Harlow (2018)	600 articles from two US, Brazilian, and Argentinian online media each	News frames, news factors, and topics
Kalsnes and Larsson (2018)	158,043 articles from four Norwegian online media	Topics and genres

automated analyses of news content and social media metrics (see Table 2.1 for an overview on the reviewed studies).

With regard to emotionality Kalsnes and Larsson (2018) showed that highly emotional stories are preferably shared on Facebook and the results of Heimbach and Hinz (2016) indicate that especially anger and awe arousing contents are redistributed on the SNS. Trilling et al. (2017) revealed that strong positivity and negativity of articles both are related to increased sharing, but positivity is a stronger predictor of shareability. Heimbach and Hinz (2016) demonstrated an inverted u-shaped relationship between positivity and redistribution of news on Facebook: Only slightly positive articles increased sharing. Extremely positive content did not influence probability of redistribution.

Several studies examined the effects of generic news frames in news coverage, that is, whether the journalistic portrayal of a news event emphasizes a *conflict*, *human interest*, *economic consequences*, or *morality* (Valenzuela, Piña, & Ramírez, 2017). While Trilling et al. (2017) and García-Perdomo, Salaverría, Kilgo, and Harlow (2018) reported positive effects of the human interest and conflict frame on sharing an article on Facebook, Valenzuela et al. (2017) found no influence of the human interest frame. Moreover, they observed that the conflict as well as the economic loss frame reduced probability of sharing. According to their results, only the morality frame predicted a higher number of shares on Facebook.

Another investigated theoretical concept is the news value resulting from news factors. News factors originally were defined as immanent factors of news events that determine whether news are selected for publication by journalists (Galtung & Ruge, 1965; Harcup & O'Neill, 2017). Scholars analogously explored which news factors predict redistribution of published news articles on Facebook. Valenzuela et al. (2017) and Trilling et al. (2017) found that cultural and geographical proximity of news events increase sharing. The news factors relevance and deviance of information also emerged as predictors of higher sharing probability in two studies (García-Perdomo et al., 2018; Valenzuela et al., 2017). Moreover, García-Perdomo et al. (2018) found that high prominence and impact of a news event induced higher numbers of shares on Facebook.

With regard to topics, there is obviously a preference for sharing soft news about, for example, health, parenting, animals, entertainment topics, or life and society (García-Perdomo et al., 2018; Kalsnes & Larsson, 2018; Valenzuela et al., 2017), as well as reports on oddities (García-Perdomo et al., 2018; Valenzuela et al., 2017). Sports and politics, on the other hand, have been found to be related to reduced probability of sharing on Facebook (Trilling et al., 2017; Valenzuela et al., 2017).

Bright (2016) focused in his content analysis on topics as predictors of reading BBC news articles and sharing them on social media. His results indicate on the one hand that topics receiving highest readership scores (in terms of making the most read section on the BBC website), such as law and

crime, transportation, accident and disaster, are not among the most shared on Facebook. On the other hand, topics that are most often shared on social media, such as social welfare and science and technology, are not among the most read articles. Bright took this as indication for the importance of status driven news sharing on social media: Users seek to disseminate news that is relevant and thus may enhance their social status.

2.3.1.3 News as Icons of Desired Self-Presentation

In Chapter 2.2.5 I proposed that news sharing is a strategy to interact with audiences that are characterized by context collapse that prevents context collision. Accordingly, we can regard news sharing from an impression management perspective. Every interaction with a news story on Facebook creates a persistent link between a user profile and the news post. It is thus a form of self-disclosure and part of users' desired self-presentation on the platform (Kalsnes & Larsson, 2018; Shin et al., 2017). Kalsnes and Larsson (2018) observed a preference for emotional stories and well-conceived commentaries, concluding that Facebook users tend to share articles that make them look like concerned and engaged citizens. Moreover, as aforementioned, redistribution of important news may enhance an individual's social status (Bright, 2016).

Findings regarding the political attitude conveyed in news stories disseminated on Facebook can also be regarded from this perspective. According to studies by Arendt, Steindl, and Kümpel (2016), An, Quercia, and Crowcroft (2013), and Pogorelskiy and Shum (2019), users seem to express their opinion and political position by linking like-minded news articles on Facebook and avoiding conflicting ones. However, other scholars found Facebook users to redistribute content from ideologically diverse news outlets (Barberá, Jost, Nagler, Tucker, & Bonneau, 2015; Morgan, Lampe, & Shafiq, 2013), too. I suggest to interpret the latter as an impression management strategy to come across as open-minded and broadly informed.

Shin et al. (2017) pointed out the importance of the imagined audience for news sharing decisions. Which topics and political orientations seem beneficial for impression management depends on its composition (Vraga, Thorson,

Kligler-Vilenchik, & Gee, 2015). Several studies indicated that persistence and wide visibility of interactions with news on Facebook are reasons why users hesitate to like, post, or comment online news. Users are concerned that this might jeopardize their carefully curated self-presentation and cause conflicts in the audience (Costera Meijer & Groot Kormelink, 2014; Hille & Bakker, 2014; Larsson, 2018; Sleeper et al., 2013; Trilling et al., 2017).

2.3.1.4 Effects of News Sharing

Empirical findings on the outcomes and effects of news sharing are rare. According to Kümpel et al. (2015), news dissemination by social media users can be regarded as participatory behavior that enables the democratization of news distribution and initiates discussions about topics of public interest. The first evidence in this context was provided by Oeldorf-Hirsch and Sundar (2015), who reported positive effects of posting a news story and asking a related question to one's Facebook friends (vs. writing a related comment or vs. no comment/question) on involvement with the news story.

J. Choi (2016a) found that news posting (but not news endorsing) positively predicted political participation in a sample of 1,052 US Americans. An experimental study with 185 US students by Lane and Dal Cin (2018) indicated that posting prosocial news content on Facebook can increase cause-related prosocial behavior. In their study, participants who posted a promotional video of a non-profit organization on their timeline (vs. anonymously posting it to a third party's wall) reported more willingness to volunteer for the organization. A moderation analysis revealed that the effect was absent for individuals who already used social media for purposes of social engagement, but was present for those of whom posting prosocial media content was a novel form of social media use. The findings partly challenge the slacktivism hypothesis, according to which low-cost display of support for a social cause on social media hampers more effortful activities to enact meaningful change (Kristofferson, White, & Peloza, 2013).

2.3.1.5 Distribution of Fake News

An especially interesting and recent highly relevant question linked with the topic of news sharing on social media is the users' role in the dissemination of fake news. In a recent Science article Lazer et al. (2018) defined fake news as "fabricated information that mimics news media content in form but not in organizational process or intent" (p. 1094). Although the actual impact of fake news on opinion formation and election outcomes is hard to determine, their prevalence on the Internet – especially on social media – is supposed to be dysfunctional for democratic societies, as it leads to mis- and disinformed citizens (e.g., Allcott & Gentzkow, 2017; Bennett & Livingston, 2018; Chadwick, Vaccari, & O'Loughlin, 2018).

Chadwick et al. (2018) presented insights in motivation for redistributing fake news obtained from a survey with Twitter users ($N = 1,313$). The sample consisted of participants who had tweeted at least one political news article published by one of the five most popular national tabloid newspapers during the general election campaign 2017 in the UK. The authors were alarmed by the fact that two-thirds indicated they had distributed fake news during the election campaign. About 9% admitted to having willfully tweeted fictitious information. Moreover, 17% intentionally and 32% unknowingly distributed exaggerated news and another 30% reported having tweeted news stories they later found out to be not true. Chadwick and their colleagues showed that the motives to entertain and troll others or to initiate debates have small positive associations with distribution of misinforming or disinforming news. The motivation to persuade and inform others, by contrast, is negatively related to tweeting fake news. The study revealed no association between network homogeneity and the probability of redistributing dysfunctional news.

2.3.1.6 Interim Conclusion

In the previous sections, I provided support for my assumption according to which news sharing is a strategy to tap the social benefits of one-to-many communication on Facebook without taking the risk of context collision. The presented research shows that news sharing indeed is an activity aimed at

impression management, status enhancement, and maintenance of social ties. Spreading news and informing one's social network are not the prevailing motives for news sharing. Accordingly, the selection of news items for sharing is less based on journalistic selection criteria but rather on their potential to convey a desirable image or initiate discussions. As a consequence, users prefer positive, emotional, and surprising news stories or even redistribute fake news in order to entertain others. Hence, news sharing on Facebook should be regarded foremost as an interpersonal behavior (Ihm & Kim, 2018).

The focus of my research lies on the internalizing component of news use on Facebook, so why is it important to understand news externalizing? I argue that news externalizing and internalizing are essentially two sides of the same coin: When news sharing is a foremost interpersonal behavior, news internalizing concurrently is too. Thus, reading news shared by other users on Facebook is about social interaction, rather than information. This seems reasonable on a website that people mainly use to maintain relationships. But a question arises as to how the embeddedness in interpersonal communication affects news processing and opinion formation about the topics of shared news items. In the subsequent sections, I present previous research on news exposure, selection, and social influence on news processing in social media.

2.3.2 News Internalizing – Facebook as a Source of News

Exposure to news on SNSs is more common than actively redistributing and re-contextualizing journalistic content. A representative survey by the Pew Research Institute reported that 69% of adult US Americans get news on social media and 43% of those are exposed to news on Facebook (Shearer & Matsa, 2018, pp. 3–4). According to the Reuters Institute Digital News Report for Germany, about 24% of adult Internet users come across news on Facebook. The percentage is highest for users between the age of 25 and 44 (28%). Facebook is less relevant as a news source for older and younger age groups (21%; Hölig and Hasebrink, 2018, p. 44). The study also shed light on the quality of news exposure on the SNS. According to the results, 28%

of Facebook news users only read the titles and teasers, 32% interact with news posts by liking them, and 36% follow links to read full articles on news websites (Hölig & Hasebrink, 2018, p. 46).

Using a triangulation of survey data and content analysis of posts from participants' Facebook news feeds ($N = 745$ Facebook users and $N = 2,070$ posts), Jungnickel and Maireder (2015) found participants to be rarely exposed to news posts shared on the SNS by news organizations (36%), although about half of them encountered news that had been shared by friends (46%).

Shearer and Matsa (2018) found in a representative survey that US Americans particularly value the convenience of getting news on social media, a benefit agreed to by 21% of social media news users. Of lesser importance are the possibilities to interact with others (8%) and the speed of information (7%). Neither do they value variety of news sources and topics they come across (3%) nor the possibilities to personalize news content to their interests (2%). Moreover, about one third of those who get news on social media say it helps them to better understand current news events (Shearer & Matsa, 2018).

These survey results show that news internalizing on Facebook is quite common. However, interaction with news posts is less prevalent, although encountered news are rather shared by friends than by news media. Nevertheless, building on Purcell et al. (2010), I understand exposure to news shared by a Facebook friend as socially-engaging activity. A user received information from a friend and learns something about the friend, which is likely to affect their social relationship. As I will show in the following section, social information about the news endorser but also about other users' reaction are featured prominently in news posts.

2.3.2.1 Characteristics of Facebook News Posts

When we speak of news use *on* Facebook and other SNSs, we speak of the perception of strongly condensed and reduced news content. News posts on Facebook are literally illustrated links, a preview of news stories that are available in full length elsewhere on the Web. In the following section, I will describe the elements of a news post.

Information about the news content. The main part of the news post displays news cues: a picture, the headline, and the original source, for example, a weblog or a news brand. The preview of the news content further contains a short teaser of few sentences, which users can access by clicking on an info button in the news post. All news cues are clickable and by clicking on them, users are redirected to the source website.

Interaction bar. Below the news cues is a bar with Facebook interaction buttons: the like, comment, and share buttons. When a user clicks any of them, the news article will be linked persistently to his profile, appear as activity on his timeline and in his friends' news feeds. Furthermore, the interaction will be added to the engagement metrics which are displayed above the interaction bar.

Information about other users' reactions. The system generates social cues by aggregating all previous interactions with a news post and displaying the number of users, who liked it, reacted with an emoticon, shared it, and commented on it (Social cue 2 in Figure 2.1). Furthermore, the content of up to three user comments is visible at the bottom of the post and users can click on *see further comments* to read more (Social cue 3 in Figure 2.1). Unless a user's friend has commented on the post, the comment section provides statements of strangers. However, it is easy to find out more about them by clicking on their names and visiting their profile pages.

Information about the endorser. When one of our friends posts a link to news content in a status update, likes or shares a news post on Facebook, the post that appears in our news feed additionally contains information about the endorser (Social cue 1 in Figure 2.1). In this case, the header of the news post consists of our friend's profile picture and name. If the friend redistributes a news post shared on a news medium's Facebook page or by another user, a system-generated notification states the type of interaction – whether she liked, shared, or commented on the news post (e.g., *Julia* liked the *Huffington Post's* post). If she wrote some thoughts about the news story besides pasting the link, her message is displayed below profile picture and name and above the news cues.

Albeit the news cues are at the heart of a news post in the Facebook news feed, there are various social cues providing additional information. How these

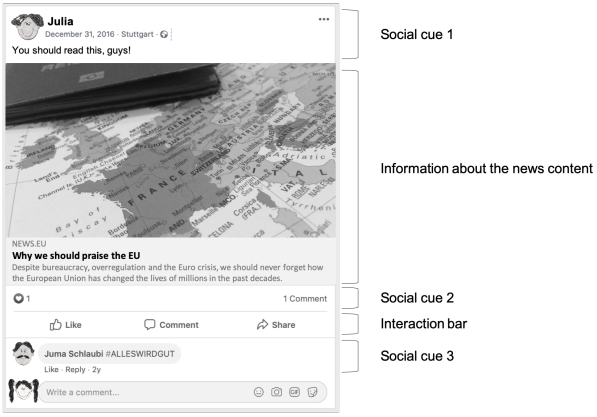

Figure 2.1: Example For a News Post on Facebook

cues are perceived and how they affect the news processing is the leading question of my work. Before I present the current state of research on the effects of social cues on news selection, processing, and opinion formation on social media, I review research on the nature of news exposure on Facebook and other SNSs.

2.3.2.2 Incidental and Intentional News Use

Facebook as a media environment for news consumption has properties of both low-choice and high-choice media. High-choice media are characterized by the opportunity to selectively avoid news exposure or to deliberately increase involvement with news – dependent on individual preferences. Low-choice media provide incidental news exposure even for those who use the medium for other purposes such as entertainment (Prior, 2007, p. 14).

On Facebook, every user has endless choices in curating a personalized media environment: They choose with whom they connect and which news media organizations they follow. On the other hand, users have no control over news their Facebook friends will disseminate (Lu & Lee, 2019). Moreover, an algorithm filters the content that is displayed in the news feed based on the calculated relevance for the individual. The algorithm draws on data collected about individual preferences and previous behavior. However, the precise functionality of the Facebook news feed algorithm is a well-kept secret and frequently modified according to the objectives of the company (Beam et al., 2017; Caplan & boyd, 2018). Thus, users' control over what they actually see in their news feeds is rather low. They find themselves at the center of "personal information networks embedded in multiple, intersecting content flows curated by various actors in varying proportions" (Thorson & Wells, 2016, p. 310).

Several previous studies emphasized the prevalence of incidental news exposure on Facebook. Though the SNS is not a destination for news but rather to pass time and for socializing, most users come across news shared by their friends (Bergström & Jervelycke Belfrage, 2018; Fletcher & Nielsen, 2017; Newman et al., 2017; Wladarsch, 2014). Users with heterogeneous social networks that link them to a large number of weak ties are especially likely to be incidentally exposed to news (J. K. Lee & Kim, 2017). However, there is also an intentional and deliberate form of news exposure, as users can choose to be served with news of preferred outlets by liking and following their Facebook pages (Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018; Emde & Saß, 2016; Hölig & Hasebrink, 2018).

According to the Reuters Institute Digital News Report, around 22% of German social media users are subscribed to the posts of news media organizations. Among younger users between the age of 18 and 34, about one third follows a news brand on social media. Other news providers such as politicians, political parties, campaign groups, and individual journalists are less common as deliberately chosen sources (Hölig & Hasebrink, 2018, p. 47). The main motivation for subscribing to a news media organization's Facebook page seems to be a need for information, followed by entertainment, as revealed by Emde

and Saß (2016) in a survey of German Facebook users. Social motives and self-presentation were of little account.

While Fletcher and Nielsen (2017) distinguished between incidental and non-incidental news consumers on social media, Boczkowski et al. (2018) suggested that most users engage in both incidental and intentional news use. Although empirical evidence suggests the prevalence of incidental news use, the co-action of both forms accounts for dynamics in ideological diversity, especially with respect to political news.

News use on Facebook has especially raised three questions addressed in previous research. First, whether the co-action of personal, social, and algorithmic curating leads to exposure to diverse and ideologically cross-cutting news content or whether egocentric information networks resemble filter bubbles or echo chambers, where existing views are reinforced. Second, how social curating – the redistribution of mass media content through users – affects the news reception process. Third, scholars investigated implications for individual information, such as replacement of exposure to other news media and the potential of learning about current affairs from news exposure on the SNS. As the third strand of research is less concerned with outcomes of social sharing, I will keep my review of its results quite brief and focus on the state of research regarding question one and two.

2.3.2.3 Echo Chambers or Exposure to Cross-Cutting Views

The scientific examination of the two modes of news use on Facebook – incidental vs. intentional – focuses on the question of whether they facilitate exposure to new and diverse topics and cross-cutting political views or whether users selectively expose themselves to content that resonates with preexisting believes (e.g., Bakshy et al., 2015; Dubois & Blank, 2018; Gillani, Yuan, Saveski, Vosoughi, & Roy, 2018; Pariser, 2011).

The latter proposition builds on the high-choice properties of social media. As selective exposure research has shown that people prefer attitude-consistent news content (for an overview see Stroud, 2017), Facebook users seem likely to follow sources of news that correspond to their views (Dubois & Blank,

2018). Algorithms reinforce exposure to attitude-consistent information by tailoring displayed content to the users' preferences (Pariser, 2011, p. 7). Furthermore, the human tendency for homophily implies that users preferably associate with others who have similar interests and views, so that even incidental news exposure is also broadly attitude-consistent (Gillani et al., 2018). These dynamics raised scientific and public concerns that news use on Facebook creates "filter bubbles" (Pariser, 2011, p. 7), in which content is personalized by algorithms, and that users are trapped in "echo chambers" (Hall Jamieson & Cappella, 2008, p. 232) where they receive news only through like-minded others (see also Bakshy et al., 2015; Beam, Hutchens, & Hmielowski, 2018; Flaxman, Goel, & Rao, 2016). Scholars related such segregated news environments to dis- and misinformation (Garrett, Weeks, & Neo, 2016; Guess et al., 2018), the fragmentation of news audiences based on interests and ideology (Fletcher & Nielsen, 2017; Stroud, 2011), and consequently the polarization of particularly political beliefs, that is, the growing divergence of political positions to ideological extremes (Gillani et al., 2018; Prior, 2007).

On the other hand, users tend to maintain large social networks on Facebook and are unlikely to connect with others based on political agreement (Yonghwan Kim & Chen, 2016; Lu & Lee, 2019). Apart from extreme situations[2], only few disconnect because of ideological disagreement (Duggan & Smith, 2016; Dutton, Reisdorf, Dubois, & Blank, 2017; Verswijvel, Heirman, Hardies, & Walrave, 2018). Content collapse and the large number of weak and latent ties rather create heterogeneity and, by implication, make exposure to diverse and counter-attitudinal perspectives on current affairs likely too (Beam et al., 2018; boyd, 2008; Lu & Lee, 2019). The low-choice property of not being able to control what one's Facebook friends post facilitates incidental exposure to topics that one did not seek out and to perspectives that are counter-attitudinal.

The majority of empirical evidence suggests that social media news users are indeed no inhabitants of echo chambers and filter bubbles. Surveys and studies

[2]While unfriending a Facebook friend because of counter-attitudinal political posts is a rare and quite extreme reaction among European and US users even during political campaigns, research from Israel found that during war time, young Israeli Facebook users tend to clean out their Facebook friends list (Schwarz & Shani, 2016).

relying on behavioral data found that most of the users consult additional sources of information such as broadcast media, newspapers, and the websites of news media (Dubois & Blank, 2018; Flaxman et al., 2016; Hölig & Hasebrink, 2018; Newman et al., 2017). Additionally even on Facebook, the majority of users are exposed to counter-attitudinal news (Bakshy et al., 2015; Beam et al., 2018; Flaxman et al., 2016; J. K. Lee & Kim, 2017; Lu & Lee, 2019).

Most cited in this context is a large-scale behavioral data analysis by Bakshy et al. (2015). Their study relies on a comprehensive data set provided by Facebook that includes the political affiliation of over 10 Million users and the URLs of 226,000 distinct political news articles that had each been shared by at least 20 of the users in the sample. They measured the alignment of news articles with political affiliation by averaging the political affiliation of the users who shared the article on Facebook. Although the authors found evidence for homophily regarding political positions in social networks on Facebook, about one fifth of a user's friends who disclosed their political affiliation were partisans of the opposing party. Both liberals and conservatives are exposed to cross-cutting political news shared by their friends, with conservatives being slightly more likely to encounter liberal views (35%) than liberals being likely to come across conservative content (24%). This finding is consistent with results of a two-wave panel survey representative for US adults that found conservatives to be more likely to stumble upon dissonant news in their news feeds than liberals (Lu & Lee, 2019). Furthermore, the study revealed that the frequency of Facebook use positively predicts incidental news exposure to counter-attitudinal information.

One may argue that although users stumble upon attitude-inconsistent news on Facebook, they might pay less attention to them compared to consonant information. An eye-tracking study by Sülflow, Schäfer, and Winter (2019) gives some indication that this seems not to be the case. By measuring how long 93 participants fixated on news posts in a mock-up news feed, they found no differences between pro- and counter-attitudinal posts.

On the basis of a three-wave longitudinal survey of a representative sample of US adults, Beam et al. (2018) investigated whether there was a reinforcing spiral over time in the mutual effects of Facebook news use and polarized

partisan views during the 2016 election campaign in the USA. The reinforcing spiral model (Slater, 2007) assumes mutually reinforcing effects of attitudinal or behavioral outcomes of media use and selection of and attention to media content over time, rather than unidirectional causal effects. The results of Beam et al. (2018) indicate a slight depolarization spiral. Those who had less polarized views at the first measurement time point were likely to come across counter-attitudinal news on Facebook which predicted further depolarization.

Nonetheless, there is also evidence that small segments of social media users, are isolated from cross-cutting views. Dubois and Blank (2018) state that about 8% of their sample representative for UK Internet users were likely to find themselves in echo chambers, which was related to low political interest and homogeneous media diets. Furthermore, online news consumption and discussions concerning contested topics such as climate change (Walter, Brüggemann, & Engesser, 2018), Brexit (Del Vicario et al., 2017), or vaccination (Schmidt, 2018) have been found to be dominated by echo chambers. User comments on the Facebook pages of news media tend to echo and reinforce the political slant of the medium and lend evidence for a polarization and segregation of political discussions on the SNS (Jacobson, Myung, & Johnson, 2016).

Whether scholars find evidence for echo chambers or not depends to a large part on the conceptualization and measurement of exposure to cross-cutting information. The mere availability and coming across counter-attitudinal news says little about how users engage with and process the information. In the following section, I will present insights from studies that investigated news selection on Facebook.

2.3.2.4 Attention to and Selection of News

Due to the reduced form of news content, news posts on Facebook are referred to as "snack news" (Schäfer, Sülflow, & Müller, 2017), convenient bites to quickly appease one's hunger for information while browsing the news feed, whereas the more nourishing main meal is served one click away on the websites of news media organizations. What are decisive factors that prompt Facebook

users to pay attention and follow the link to the news story? As shown in Chapter 2.3.2.1, news posts contain various cues such as a picture, a headline, or the news source, but also social cues like the name of the Facebook friend who distributed the content or the number of likes. Previous research provided insights how these cues impact attention allocation and selection.

According to results of the Reuters Institute Digital News Report for Germany, social media users select news stories based on cues such as the news brand (54%) and titles and illustrations (48%). The person who recommended a news story is on third place (38%) and social cues such as number of likes, shares, and comments are relevant for 21% of social media users (Hölig & Hasebrink, 2018, p. 48). Looking at multinational data from the Reuters Institute Digital News Report, Newman et al. (2019) found that the reliance on such credibility cues is moderated by news literacy. Users with high levels of literacy are more likely to select news based on the news brand, the headline, and the person who endorsed it compared to users with low levels of news literacy. Although the number of likes, shares, and comments a post received is generally the least relevant cue for selection decisions, popularity among the Facebook crowd is more relevant for those with the lowest level of news literacy (p. 36).

The previously cited eye-tracking study by Sülflow et al. (2019) confirmed that people are more likely to select articles from credible news brands such as the German legacy newspapers *Sueddeutsche Zeitung* and *Die Zeit* compared to less credible sources ($\eta_p^2 = .28$). Interestingly, albeit they found that consistency of news-slant and own attitude did not lead to more attention in terms of fixation time, participants were more likely to select and read consonant news stories ($\eta_p^2 = .12$). This is a finding that reduces Facebook's potential to be a gateway for profound involvement with cross-cutting news content. This is in line with Bakshy et al. (2015), who found that only 17% of the news a conservative user clicks on in his news feed are liberal and liberals select only 6% of conservative news stories relative to attitude-consistent content.

Insights from experimental research investigating the role of social cues in news posts suggest that they are critical for attention allocation and selection of news stories too. One example is an eye-tracking study ($N = 86$) conducted

by Dvir-Gvirsman (2019). She focused on selection of and attention to news posts with varying strengths of social endorsements. She manipulated the number of comments and likes and the type of reactions (positive or negative emoticons) to news posts in a Facebook news feed while the news content was the same for all participants. According to her results, social cues increase the interest in news posts as participants payed more attention in terms of fixation time to posts with many comments and likes. Participants were also more likely to select news posts that had received many comments from other users.

Messing and Westwood (2014) investigated the potential of social cues to overcome selective exposure. They conducted two experiments to assess main and interaction effects of source cues (ideological slant of news medium) and social cues (display of aggregated recommendations) on news story selection on social media. They found that users are more likely to select cross-cutting news sources when a story seemed increasingly relevant through high numbers of user recommendations. This indicates that news selection on social media relies on the social *bandwagon heuristic* – the assumption that "if everyone thinks these stories are interesting and newsworthy, they must be" (Sundar & Nass, 2001, p. 68) – rather than on source related heuristics such as ideological slant and credibility (for a detailed definition of the bandwagon heuristic, see chapter 3.1.4.2). Messing and Westwood (2014) found the social cue to be a stronger predictor of story selection for Republicans (Cohen's $d = .72$) than for Democrats (Cohen's $d = .36$), which offers an explanation for why conservatives are more likely to select cross-cutting news on social media rather than liberals (Bakshy et al., 2015).

Moreover, several authors deduced from in-depth interviews that strong ties, particularly those who are well-read and regarded as opinion leaders in a certain field, act as secondary gatekeepers for engagement with news articles (Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018; Kümpel, 2018). Contrary to the findings of Sülflow et al. (2019) and the Reuters Institute Digital News Report (Hölig & Hasebrink, 2018; Newman et al., 2019), the news brand was of no concern for interviewees in studies by Kümpel (2018) and Bergström and Jervelycke Belfrage (2018). Instead, they appreciated that by sharing and even more by commenting on articles, their Facebook friends

re-contextualize the news content (Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018). A woman interviewed by Boczkowski et al. (2018) aptly named how background knowledge of her friends shapes her anticipation of the linked news story: "on Facebook you're aware of who is posting, what that person thinks, what her political affiliation is, so then you're conscious that that story comes with all of that" (p. 11). This knowledge facilitates the selection of consonant news content by following the recommendations of like-minded friends.

The study by Jungnickel and Maireder (2015) also indicated that the quality of the relationship to the news endorser is crucial for interest in the content she shares. Respondents found news stories shared by close friends or relatives more appealing compared to content provided by news organizations, other professional communicators, or shared by good acquaintances. They were even less interested in articles endorsed by Facebook friends who qualify as distant acquaintances.

The preference for engagement with news articles shared by close friends was supported by an experimental study. Kaiser et al. (2018) found that Facebook users are more likely to read articles recommended by strong ties than articles shared by weak ties or articles without social endorsements ($\eta_p^2 = .02$). Even when a weak tie had a high level of political knowledge, a similar political affiliation, or recommended an article of a reputable news source, users were more likely to select a news article shared by a strong tie. Only when a weak tie was proficient in political topics *and* had a similar political attitude, individuals were also likely to select news they post. Thus, tie strength seems to loom larger than expertise, which additionally requires congruent ideologies. This indicates that though the tendency for homophily does not prevent users from maintaining heterogeneous social networks on Facebook, it does prevent them from engaging with the diverse and potentially cross-cutting news content their weak ties post on the SNS.

However when close friends distribute counter-attitudinal news content on Facebook, their endorsement increases the probability that users engage with dissonant information. Anspach (2017) reached this conclusion based on an experiment where he exposed participants to mock-up Facebook news feeds

that contained news posts with comments of family and friends which expressed their real attitudes. Participants were more likely to select articles on political topics when their family or friends commented on them, regardless of whether the ideological slant of the source was consonant or dissonant with their own political view .

Taking this one step further, I ask whether tie strength not only affects whether or not users read a news article endorsed by a Facebook friend, but also whether awareness of their friends' attitude impacts how they process the news content and form an opinion. In the following section, I will review previous research that investigated social influence on news perception and opinion formation on Facebook and in comparable online communication settings.

2.3.2.5 Learning from News on Facebook

Scholars have focused on associations between the rather superficial exposure to news content on Facebook and outcomes such as political learning (Beam, Hutchens, & Hmielowski, 2016; Bode, 2016; J. K. Lee & Kim, 2017), political engagement (Valeriani & Vaccari, 2015), and the sense of being well-informed (Müller et al., 2016). However, they did not conceptualize or model social influences in their studies. Nevertheless, insights regarding learning from news on the SNS are helpful for interpreting effects of social cues. Bode (2016) found that although participants who are exposed to a political news post (vs. no political post) in a mock-up Facebook news feed recalled to have seen the story, less than half of them could recall any details. J. K. Lee and Kim (2017) showed that learning from incidental news exposure on Facebook is fully mediated by reading the linked full article, while recognition of incidentally encountered news stories is not. These findings suggest that incidental news exposure on Facebook alone may give users an overview on current events but in order to gain knowledge, they have to proceed to the original sources. Building on this, I assume that the superficial engagement with news content and the prevalence of social cues in news posts on Facebook might facilitate social influence on news processing and subsequent knowledge.

2.3.2.6 Social Influence on Perception of Source and Media Content

How tie strength and social relationships affect processing of news on Facebook is not nearly as well studied as their role for news selection. Most evidence regarding social influence on news processing on the Internet stems from research investigating effects of user comments on online news websites. This context of online news perception is different from Facebook in chiefly two ways.

Firstly on news websites, user comments are usually displayed at the bottom of an article. Users read or at least scan the news content before they reach the comments. On Facebook, user comments are displayed right below the picture, title, and teaser of the news article. Thus, it is likely that users read and process them before (or even without) reading the linked article. Due to the increased prominence of social cues in news posts, it seems likely that the content and valence of comments on Facebook affects news perception even stronger than on news websites.

Secondly, on news websites, contributors usually are not identifiable as they use pseudonyms and readers have scarce information about them beyond the content of their comments. On Facebook, users often are exposed to news posts recommended or commented by their friends. Building on the findings with regard to tie strength's role for news selection, strong ties might increase the social influence. Despite of these differences, I will build on studies investigating social influence of comments on news websites to derive assumptions regarding effects of social cues on Facebook as well.

Youngju Kim (2015) investigated social influence of user comments on online news evaluation in a laboratory experiment with 244 US students. While she found no effects of source credibility of the online news medium (high: *New York Times* vs. low: *National Enquirer*), she found that user comments (supporting vs. opposing vs. no comments) indirectly predicted individual news evaluation through the perceived acceptance of the news article by the public. Compared to the control condition with no comments, supporting (vs. opposing) comments lead to a higher (vs. lower) perceived news acceptance by

others. Those who believed more strongly that the news was accepted by the public also evaluated the news more positively.

Waddell (2018) yielded similar findings from an online experiment with 289 participants. He manipulated the comment valence (praising vs. criticizing the coverage), the number of retweets and likes (low vs. high) and frequency of the issue of heroin addiction which was mentioned in Twitter posts of the *New York Times*. He found that negative comments (compared to positive comments) decreased participants' perceptions of bandwagon support, a construct that captures perceived acceptance and relevance of the tweet by other readers ($\beta = -.39$). Although he did not find direct effects of his independent variables on article credibility and evaluation of the topic as important, perceptions of bandwagon support mediated the effect of negative comments on article credibility. Through an indirect pathway via attention and construct accessibility, perceptions of bandwagon support also predicted a higher issue importance ($\beta = -.005$).

The results of Youngju Kim (2015) and Waddell (2018) indicate that readers seem to interpret the opinions expressed in comments as the majority view and adapt their evaluations to the perceived opinion climate. Thinking further, I suggest that the perceived majority view may yield validity and users accept the view in order to adopt a valid understanding of the news topics.

Other studies address social influences on the perception of journalistic quality. An online experiment by Prochazka, Weber, and Schweiger (2018) with 942 participants suggests that uncivil and unreasoned user comments have negative effects on readers' perceptions of the informational quality of an online article, regardless of whether the article had been published by a known news brand (*Spiegel Online* or *Focus Online*) or by an unknown source. Unexpectedly, they also revealed that reasoned and polite comments did not increase the perceived quality of the news article in the unknown source condition and even decreased it in the known news brand conditions. In a similar experimental design ($N = 115$), von Sikorski and Hänelt (2016) varied the valence of user comments, exposing participants to only positive, only negative, mixed, or no comments. They found partial support for a contrast effect of comment extremity on perceived journalistic quality, as only negative

comments resulted in a more positive perception of journalistic quality than mixed comments. Mixed comments, on the other hand, predicted a lower level of perceived journalistic quality than all other conditions. Given that social cues and social endorsements tend to be more important than news brands on Facebook, it seems likely that incivility and extremity of comments displayed in a Facebook news post will impact a user's perception of journalistic quality.

E.-J. Lee (2012) investigated how user comments impact the hostile media perception – partisans' tendency to perceive news coverage as biased against their own side (see, for example, Feldman, Hart, Leiserowitz, Maibach, & Roser-Renouf, 2017; Vallone, Ross, & de Lepper, 1985). Their experiment ($N = 240$) revealed that people who read user comments dissonant (vs. consonant) with their own beliefs also perceive the news to be more partial and hostile. They seem to attribute the opinions contributors express in their comments to the news article (E.-J. Lee, 2012). This finding may also be transferred to news processing on Facebook, where a news post appears in a user's news feed when one of his friends commented on it. Users might understand this as a social recommendation to read the article but if they do not agree with the beliefs expressed in the comments, they might also perceive the linked article as hostile to their view.

While these studies investigated effects of comment properties such as valence, reasoning, and the social status of the contributor, they did not account for the relationship between a reader and a comment contributor. On Facebook, the relationship to the person who shares or comments on a news article is a relevant factor for news processing. Accordingly, Turcotte, York, Irving, Scholl, and Pingree (2015) investigated effects of social recommendations on Facebook on the perceived trust in the source of a news article. They asked 364 participants of an experiment to log in to Facebook and used the SNS's API to select a friend with whom participants previously interacted frequently. In a social recommendation condition, the authors exposed participants to a news post allegedly shared by the selected friend (vs. a news post by a mainstream media outlet without social recommendation). When participants considered the selected friend to be an opinion leader, the recommendation increased trust in the news outlet. In contrast, when the friend was a poor opinion leader,

the endorsement prompted a decrease of trust. These findings suggest that unobtrusive social cues provided by sharing an article on Facebook impact the evaluation of the shared content. Users draw on their previously gained impressions of Facebook friends when they evaluate their news posts.

Hence, anonymous comments as well as social recommendations by friends seem to impact whether users deem sources as trustworthy, credible, or of high quality. In the following section, I will show that social cues impact opinion formation about news topics as well.

2.3.2.7 Social Influence on Opinion Formation

On the basis of a two-wave longitudinal survey ($N = 1,024$), Diehl et al. (2016) investigated how the uses of social media for news and for social interaction affect political views. They found that both motives, social media use for news and for social interaction at time point one, predicted changes of respondents' political views at time point two due to the information they received through social media at time point one. The relationship was mediated by social network heterogeneity and disagreement in discussions that respondents encountered on social media. Both social media motives – news use and social interaction – positively predicted network heterogeneity, which lead to more disagreement in encountered political discussions, which was related to changes of political views.

J. Lee and Myers (2016) detected a similar relationship between SNS use, motivation for information seeking, exposure to cross-cutting discussions on SNSs, and change of political view. They used a sub-sample of a representative survey by the Pew Research Center which included 648 respondents who had been exposed to counter-attitudinal political opinions on SNSs. A mediation analysis revealed that SNS use indirectly predicts the change of political views via the motivation to seek information and exposure to cross-cutting discussions on SNSs. However if SNS use was not motivated by information-seeking and users did not engage in cross-cutting discussions, the mere exposure to cross-cutting views did not lead to rethinking political attitudes.

Both survey studies were unable to disentangle whether the opinion change was induced by traditional media effects of news content encountered on social

media or whether it was the result of social interactions with other users. J. Lee and Myers (2016) measured political view change by a single item with dichotomous answer options: "Thinking about how using social networks might affect your political views overall, have you, personally, ever changed your views about a political issue AFTER discussing it or reading posts about it on a social networking site?" (Answer options yes or no). This item is problematic for several reasons. First of all, it is multidimensional as it asks for two kinds of interaction with political information on SNSs: reading and discussing. It is though not evident whether view change resulted from arguing with other users or from reading news content. Furthermore, answering the question is a quite difficult task for the respondents as they have to self-assess a causal effect of information exposure on a cognitive outcome. For the sake of the validity and objectivity of the assessment of a causal relationship, the variables involved in such an association should be measured separately, ideally in an experimental design.

The same critique applies to the items by which Diehl et al. (2016) measured political persuasion on social media. Respondents had to indicate how much they agree with the statement 1) "I have changed an opinion based upon what someone influential to me posted on social media," how often they 2) "take part in changing your mind about political issues because of information or interactions on social media", and how often they 3) "take part in reconsidering your political views because of information or interactions on social media" (Diehl et al., 2016, p. 1883). Moreover, the authors lumped together the three items. In this way, they forego the possibility to discern social influence (captured by item 1) from more general media effects on political persuasion.

The deficiencies of surveys with respect to modeling social influence on SNSs have been addressed by experimental studies investigating the effects of social cues on opinion formation. In the following section, I present empirical research that explicitly investigated social influence on opinion formation about news not only on Facebook but also on other social media and on news websites. Several studies showed that user comments influence opinion formation. Contradicting comments mitigate, whereas consenting comments enforce media effects.

Winter, Brückner, and Krämer (2015) exposed 197 participants to a Facebook news post about benefits of the legalization of marijuana including five

user comments and likes. They manipulated the type and valence of the comments (subjective/pro vs. subjective/contra vs. argumentative/pro vs. argumentative/contra vs. control: no comments) and the aggregated number of likes (high: about 500 likes vs. low: about 40 likes). They found that participants who had read the post with argumentative contra comments expressed a more negative opinion on the topic in the following questionnaire than the control group and those who read a post with positive arguments. The effect of subjective contra comments was not significant and participants who were exposed to subjective or argumentative pro comments did not have a more positive opinion than the control group. The number of likes neither affected how participants rated the article quality and perceived the public opinion about legalizing marijuana nor did it influence their attitude towards the topic. Thus, only reasoned contra comments that provided additional information in terms of a perspective diverging from the article and additional arguments affected opinion formation. The findings are in line with similar experiments, where the valence of user comments affected opinion formation on the topic of the article, while likes or aggregated ratings of the article did not (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010). An explanation of this might be that ratings rather indicate liking or disliking of the article and only comments express alternative opinions on the topic. However in a study with a similar experimental design, neither the dominant opinion nor likes for comments or for the entire post affected participants' opinion about flu vaccination (Peter, Rossmann, & Keyling, 2014).

Two experiments by Winter and Krämer (2016) revealed the role of personal involvement with the topic of news coverage for social influence on opinion formation. They tested whether comments and aggregated user ratings contradicting the message of a news article – according to which video games are harmful to children – influences readers' opinion about the topic in two groups: strongly involved parents (Study 1, $N = 76$) and less involved students (Study 2, $N = 102$). The authors systematically varied type of social cues (argumentative vs. subjective vs. aggregated rating vs. no social cues) inasmuch as the majority user opinion diverged from the slant of the news article. In Study 1 with the parent sample, there were no effects of any social cues on participants' personal opinion measured with a questionnaire.

However, in Study 2, those who had been exposed to contradicting social cues indicated a more moderate attitude towards video games than the control group. The effect of the comments was stronger than the effect of the aggregated rating. The results indicate that low-involved individuals take user comments as a heuristic cue to form a valid opinion without effortful weighing of conflicting information given by the article and the contradicting social cues. High-involved individuals, on the other hand, seem to be less prone to social influence from a small number of anonymous comments.

In the aforementioned experiment by von Sikorski and Hänelt (2016), there was evidence for comment valence effects on opinions about a manager who was criticized for his role in a financial scandal in an online news article. Participants held the manager for less responsible and their attitudes toward him were more positive after exposure to positive comments compared to the negative, mixed, or no comments condition. The effect of negative comments on opinion only approached significance and no other effects were detected.

von Sikorski (2016) assessed the influence of comment contributors' social status on users' evaluation of a news article about a food scandal. He manipulated the valence of user comments (supporting vs. opposing the journalist's rationale) and the social status of the contributors (high vs. low). He observed that participants who had been exposed to opposing comments by high-status comment contributors evaluated the case as less serious and scandalous than those who where exposed to supporting comments of high-status contributors. There was no such difference between opposing and supporting comments on participants' evaluations in the low-status comment contributors conditions.

Although the setting of this study was designed to simulate news perception on a news website, the finding has implications for Facebook. As Facebook offers rich cues to assess the social status of comment contributors (e.g., the profile picture and biographical information disclosed by a user), it seems likely that social status impacts opinion formation in line with comment valence as well.

Winter (2019) examined whether the high salience of interpersonal connections on Facebook predicts stronger social influence of user comments on individual thoughts and attitudes compared to an online news site. He manipulated the media context by exposing participants of a laboratory experiment

($N = 210$) to a news article on an online news site vs. on Facebook vs. on Facebook with anticipation to write a comment on the article as well as the valence of the user comments (positive vs. negative). Winter expected that participants would most strongly adapt their attitudes and thoughts about the news topic in the Facebook condition with anticipated comment writing. He found support for this assumption for negative user comments but not for positive user comments. However, there was a main effect of comment valence. In all three media context conditions, participants adapted the valence of their attitudes ($r = .44$) and thoughts ($r = .26$) to the comment valence.

As participants in all three conditions were exposed to comments from strangers, the author suggested that in order to increase the experience of interpersonal connection in the SNS conditions, it may be necessary to include comments from actual friends.

Additional relevant insights stem from a further experiment by Winter and their colleagues on social influence in a social TV setting. In this study Winter, Krämer, Benninghoff, and Gallus (2018) not only measured opinions about video clips from a German casting TV show with standardized items, but also asked their 177 participants to express their evaluation of the featured scene in user comments. In a 2 x 3 between subjects design, the authors varied type of the video clip (conventional, where audience and judge were touched by the performance vs. antisocial, where one judge and audience made fun of the candidate) and the valence of displayed co-viewer comments (positive vs. negative vs. no comments). They analyzed participants' comments for opinions about the casting show, the candidate, and the judge and additionally measured the same variables in a follow-up questionnaire. The results showed that participants' evaluations of the judges expressed in their comments were in line with the valance of the co-viewer comments ($\eta_p^2 = .09$), but there were no effects on the evaluation of the candidate and the show. In the conventional clip, the valence of the co-viewer comments did not only affect the public expressions, but also the private opinion about the judge and the opinion about the candidate in the conventional clip. Furthermore, Winter et al. showed that those who identified themselves more strongly with the co-viewers tended to evaluate the candidate and the show in line with the valence of others' comments.

The literature reviewed here provides evidence for social influence on opinion formation on Facebook and contributes to the understanding of boundary conditions for these effects. However, prior work did not address the role of social relationships among Facebook users. Whether opinions expressed by strong ties influence opinion formation about media coverage more strongly than the views of weak ties or strangers is still an open question.

2.3.2.8 Interim Conclusion

Although Facebook is neither a primary source of news in current media diets nor do people use the platform to seek information about current affairs, a significant share of users encounters news.

Despite concerns regarding echo chambers, Facebook generally seems to facilitate exposure to ideologically cross-cutting news content due to the large and heterogeneous social network users tend to establish. However, users tend to selectively engage deeper with news content that is in line with their political views. An important insight for the present work is that Facebook users not only pay attention to news brands and headlines in news posts. They also consider the news endorser and preferably select news shared by strong ties whose taste for issues they are aware of. Endorsements by strong ties bear the potential to override the tendency for selective exposure. Yet, there are no insights on whether tie strength affects opinion formation about news content too.

With regard to what people remember from news exposure on Facebook, findings indicate they solely recognize topics. I propose that the superficial involvement with news content renders news perception on the SNS susceptible to social influence.

The role of the relationship or tie strength between endorser and receiver for news perception and opinion formation has not been studied yet. However, there is evidence that social cues, particularly the valence and argumentative quality of comments, impact perception of news coverage and opinion formation. Furthermore, when news endorsers or comment contributors are considered to be opinion leaders or have a high social status, they are more likely to impact

news perception and opinion formation. Hence, I argue that the prevalence of social cues in news posts on Facebook requires the conceptualization and test of how interpersonal communication affects the perception of and opinion formation about news shared on the SNS.

2.4 Implications for Opinion Formation About News on Facebook

In this chapter, I gave an overview on research on Facebook as a media environment for news consumption. I shed light on both components of news consumption on the SNS – news internalizing and news sharing. My research question particularly builds on previous work regarding news internalizing, which contributed to the understanding of the conditions for news perception on Facebook. From this literature, I derive four propositions as basis for my theoretical approach to explain the impact of social relationships to news endorsers on opinion formation about news shared on Facebook.

Proposition 1. *The inextricable link between interpersonal and mass media communication in a news post elicits social influence on opinion formation about news content.*

According to the affordances of SNSs, a news post by a Facebook friend creates a persistent association between the news endorser and the news item, that is visible to others (boyd, 2010; Treem & Leonardi, 2013). Interpersonal and mass media communication are thus inextricably linked. When a user encounters a news post by a Facebook friend, she not only learns about the state of the world but also the inner state of her friend. She may infer from the news post that the friend is interested in a particular topic or even his opinion about it. As previous research found that users' opinions are influenced by less blatant social cues (i.e., user comments at the bottom of a news article), I propose that the dominant presence of interpersonal communication in a news post should likewise affect the opinion users form about the news content.

Proposition 2. *News perception is driven by social motives.*

Several studies exploring the uses and gratifications of Facebook found the desire to socialize and interact with peers to be the foremost driver of using the social media application (e.g., Ellison et al., 2007; Ferris & Hollenbaugh, 2018; Raacke & Bonds-Raacke, 2008; Reich et al., 2012). Thus, news encounters are mostly incidental and often byproducts of interpersonal communication with friends, family, and acquaintances from various social contexts (J. K. Lee & Kim, 2017). Unlike social cues on news websites, endorsements, likes, and comments on Facebook are no peripheral cues enhancing the information contained in the news coverage. They are rather the starting point for interest in news content (Anspach, 2017; Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018; Dvir-Gvirsman, 2019; Kaiser et al., 2018). Broadly speaking, while visitors of an online newspaper may turn to the comment section or user metrics to find out what others think of an article, Facebook users click on a news story because a friend liked it and they rely on her recommendation. Hence, I propose that the Facebook environment makes social motives for news consumption especially salient. Users are likely to engage with shared news content in order to participate in conversations about current events or to initiate social interaction with the news endorser. Such social goals determine attention to and interpretation of the news content.

Proposition 3. *Endorsements provide social validation of opinions about news topics.*

Discussing their view on a news story with others helps people to establish valid and reliable opinions about current affairs (Ibrahim et al., 2008). On online news websites, readers tend to rely on the validity of the majority view expressed in user comments (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010). There is also first evidence that users infer individual friends' judgments about news topics from news posts on Facebook (Boczkowski et al., 2018). A source is perceived more credible when its coverage is shared by a friend who is seen as opinion leader (Turcotte et al., 2015). Moreover, social endorsements by strong ties make the selection of counter-attitudinal news stories more likely

(Anspach, 2017). They provide a reliable view on current affairs that users can rely on to form their own opinion. Accordingly, social endorsements function as immediate social validation of opinions about news topics.

Proposition 4. *Strong ties are more likely to influence opinion formation than weak ties.*

The social network users tend to create on Facebook is large and heterogeneous with regard to tie strength (e.g., Child & Westermann, 2013; Marder et al., 2012; C.-C. Yang, 2018). According to the SNS's affordances association, visibility, and scalability, users are not only exposed to news shared by strong ties. They are also likely to encounter news endorsements by weak ties and even latent ties. Particularly, contents shared by weak and latent ties are supposed to confront a user with novel topics and unfamiliar perspectives (Beam et al., 2018; boyd, 2008; Lu & Lee, 2019). Such content is especially likely to elicit uncertainty and a desire for social validation of one's view. Nonetheless, I argue that news endorsements by strong ties should exert stronger social influence. I ground this proposition on insights regarding the preference for selecting news shared by strong ties on social media. By analogy, I presume that a strong tie's attitude expressed in a news post should be more relevant for a user and therefore more influential than the opinion conveyed through a weak or latent tie's news sharing.

3 Social Influence on News Processing and Opinion Formation

A news post on Facebook creates a persistent link between mass media and interpersonal communication. Users are exposed to an editorial message and social cues from a news endorser simultaneously. It is obvious that the intertwinement has implications for perception, processing, and opinion formation about the news content. Correspondingly, there is strong interest in theorizing and investigating effects that emerge from the specific combination of mass media and interpersonal communication on social media (Walther & Valkenburg, 2017). Looking back into the history of communication theory, some of the first and influential works in the discipline discovered and investigated the mediating role of interpersonal communication for mass media effects, for example the *two-step flow* (Lazarsfeld, Berelson, & Gaudet, 1944) and *opinion leadership* (Katz & Lazarsfeld, 1964[1955]).

Although both of the theoretical concepts have been continuously investigated to this day, their fundamental insight according to which the effects of media messages depend on social reinforcement or moderation, has not been incorporated into subsequent media effects theories. Instead, mass media and interpersonal communication evolved as two conceptually segregated sub-disciplines in communication science (Reardon & Rogers, 1988). Despite occasional calls for a merger of mass media and interpersonal communication theory, a rigorous theoretical approach that explains the interrelation of both processes has not yet been presented (Walther & Valkenburg, 2017).

The goal of this chapter is to review theories that address the interplay of mass media and interpersonal communication or model social influence on mass media effects. I will describe their basic assumptions and present essential results of empirical research. Finally, I will assess their explanatory power for my research question of, in particular, how the relationship to news endorsers on Facebook affects opinion formation about shared news. I will begin with reviewing renowned communication theories and continue with insights from social psychology regarding social influence on individual cognition.

3.1 Communication Theories Accounting for the Interrelation of Mass Media and Interpersonal Communication

3.1.1 Two- and Multi-Step Flow of Communication

The two-step flow was introduced in the groundbreaking publication *The People's Choice* in which Lazarsfeld et al. (1944) reported the results of the Erie-County study, a panel survey conducted during the 1940 campaign for the presidential election. The aim of the study was to explore the influence of social status, party propaganda, mass media coverage, family, and friends on the formation of the voting decision.

A major insight from the research was that political information passes a two-step process on its way from press and radio to the voter. According to self-reports of the respondents, they often received information about the electoral campaign in interpersonal conversations while mass media were a lesser source of information (Lazarsfeld et al., 1944, p. 150). With regard to effects on opinion formation, the authors concluded that media coverage does not directly influence people's opinion. Instead, the effects are mediated by individuals, who are particularly interested in politics which stand out due to an increased media consumption, and pass on information to their social group. Lazarsfeld et al. (1944) referred to those individuals as *opinion leaders*:

„Ideas often flow *from* radio and print to the opinion leaders and *from* them to the less active sections of the population“ (Lazarsfeld et al., 1944, p. 151).

In a subsequent study, Katz and Lazarsfeld realized that opinion leaders were not more likely to rely on media information when making decisions than their followers, despite the enhanced media exposure. In addition, they received relevant information frequently through interpersonal communication (Katz & Lazarsfeld, 1964[1955], p. 317). This finding was opposed to the idea of a relay function of opinion leaders, passing down media content to those with less media exposure. Rather, media information seemed to be diffused in a horizontal multi-step flow, that emerges from the interaction of media exposure, personal conversations, and media impact on conversation partners (Bennett & Manheim, 2006; Woelke & Koch, 2016). These findings revised the scholarly understanding of mass media's influence on recipients. Contrary to the previously supposed strong effects, scholars then assumed limited effects of mass media on attitude change compared to personal influence (Klapper, 1960, p. 18).

The concepts of two-step and multi-step flow of communication have been criticized for inconsistent empirical evidence and for inadequacy for high choice media environments and individualized Western societies (e.g., Bennett & Manheim, 2006; Gitlin, 1978). Nonetheless, Druckman, Levendusky, and McLain (2018) recently demonstrated in an experimental design that partisan media may exert substantial indirect effects through discussions on polarization of individuals who have not directly been exposed to media content. Notably, they found the indirect effect on non-users to be stronger than the direct media effect on users who did not discuss information afterwards.

Even more so, the Internet and especially social media provide ideal conditions for social influence. With regard to news sharing on Facebook, we can hardly deny two-step and multi-step flows of information from mass media to users. Though actual discussions about news topics – as observed in the Erie-County study – are rather exceptional, the facilitated redistribution and recontextualization of mass media content once more makes filtering of information and opinion through the social network likely (e.g., Bergström & Jervelycke Belfrage, 2018; Fletcher & Nielsen, 2017; Jungnickel & Maireder,

2015; Kaiser et al., 2018; Newman et al., 2017; Sülflow et al., 2019; Wladarsch, 2014). While the multi-step flow explains how users encounter news stories on Facebook, we have to consider its "companion concept" (Katz, 2015, p. 1023), the opinion leader, in order to derive assumptions about social influence on opinion formation.

3.1.2 Opinion Leaders

After having discovered the role of opinion leaders in *The People's Choice*, Paul Lazarsfeld and his student Elihu Katz presented a more elaborated conceptualization and an empirical validation of the concept with *Personal Influence* (1964[1955]). They theoretically grounded the role of opinion leaders in research on interpersonal relations and intragroup communication, which had demonstrated the convergence of perceptions and attitudes in small groups (e.g., Asch, 1952; Festinger, Schachter, & Back, 1950; Newcomb, 1952; Sherif, 1936). On this basis, they assumed media-induced attitude changes to be likely when an influential member of a social group (the opinion leader), transmits the media information (relay function) and endorses the opinion conveyed in the media coverage in interpersonal communication (reinforcement function) (Katz & Lazarsfeld, 1964[1955], pp. 82–83). Otherwise, a mass media persuasion attempt would remain without success.

On the basis of a survey of female opinion leaders and their followers known as the Decateur-Study, Katz and Lazarsfeld defined opinion leaders as individuals who have high interest in a topic, an increased exposure to media content related to the field of their influence and to mass media in general, and a high quantity of social contacts (pp. 310-326). Subsequent research also linked opinion leadership to high social activity, high numbers of friends, and a central position in the social network (e.g., Weimann, 1991, 1994; Weimann, Tustin, van Vuuren, & Joubert, 2007). Opinion leaders are characterized by high levels of personality strength (Weimann, 1991; Winter & Neubaum, 2016). Yet, they tend to be similar to their followers in terms of education, social status, age, and stage of life (Katz, 1957; Katz & Lazarsfeld, 1964[1955]; Riecken & Yavas, 1986). Interestingly, opinion leaders do not stand out due to high levels of

knowledge in the field of their leadership. Scholars found opinion leadership to be only marginally related to objective measures of knowledge (Trepte & Boecking, 2009; Troldahl & Van Dam, 1965).

Prior research not only explored sources of self- and other-assessed opinion leadership, it also expanded the dichotomous concept of *opinion givers* and *opinion seekers* by *non-discussants*, who do not engage in interpersonal communication about the respective issue (Robinson, 1976) and *opinion sharers*, who receive information from others and influence those who turn to them for advice (O'Keefe, 1981a; Troldahl, 1966). However, a major critique of opinion leadership research is its focus on characteristics of leaders and on distinguishing them from non-leaders, while scholars neglected the discussions in which personal influence occurs (Katz, 2015; O'Keefe, 1981a). It remains unclear what exactly opinion leaders pass on to their followers, whether they share information and knowledge or whether they persuade followers of the validity of their opinions and views (O'Keefe, 1981a; Trepte & Scherer, 2010). Weimann (1994) suggested that opinion leaders influence through convincing others, being imitated by opinion seekers, or through unacknowledged contagion of ideas (pp. 54-55). The empirical investigation of content of interpersonal communication and the relationships among discussants is yet to come.

News sharing and news internalizing on Facebook are novel fields for investigating and understanding how opinion leaders influence opinion formation. There is evidence that social media users who perceive themselves as opinion leaders are more likely to share news than those who do not consider themselves as influential for others (Bobkowski, 2015). Furthermore, opinion leaders indicate to use social media in order to achieve the goal of changing others' minds (Weeks, Ardèvol-Abreu, & Gil de Zúñiga, 2015). The experiment by Turcotte et al. (2015) demonstrated that such influence on followers actually occurs. An endorsement by a friend who is seen as an opinion leader increases trust in the source of a news article shared on Facebook. Scholars have not investigated whether opinion leading news endorsers influence followers' opinion about the news they share so far. The opinion leader approach makes no clear assumptions about mechanisms through which influence on opinion formation occurs. Moreover, the approach traditionally did not consider news endorsements, but

the passing on of mass media information in interpersonal communication. Hence, the approach is limited with regard to investigating how the relationship to news endorsers on Facebook affects opinion formation about shared news. Such interplay of interpersonal and mass media communication is addressed by research on media-stimulated interpersonal communication.

3.1.3 Media-Stimulated Interpersonal Communication

The importance of interpersonal communication for opinion formation about mass media content observed in *The People's Choice* and *Personnel Influence* inspired research on the nature, functions, and effects of such conversations. In German communication theory, scholars refer to interpersonal communication about the contents of mass media as *Anschlusskommunikation* (literally: connecting communication), which relates to conversations about news as well as about entertainment. Ziegele (2016) has come to the conclusion that the concept is not clearly defined and used inconsistently. Some scholars proposed that Anschlusskommunikation should only be used to refer to interpersonal communication about media contents that is induced by media exposure and chronologically follows media consumption (e.g., Eble 2013, p. 31; Schweiger 2007, pp. 291–292). Others emphasized that the concept includes interpersonal communication with reference to media content that co-occurs with media exposure (e.g., Klemm 2000, p. 116; Sommer 2010, p. 26). Ziegele further states that there is no corresponding concept for Anschlusskommunikation in English. Instead, scholars addressed specific forms of media induced interpersonal communication such as conversations about the news (de Boer & Velthuijsen, 2001), interpersonal communication about media (Sommer, 2013), political discussions (Eveland, 2004), and political talk (Scheufele, 2000). Ziegele and Quiring (2013) suggested to subsume the different concepts under the term *media-stimulated interpersonal communication*. The term emphasizes both; the interpersonal character as opposed to mass media communication and the fact that the conversation is triggered by media coverage. The authors further suggest to consider user comments as communicative reactions to online media content as media-stimulated interpersonal communication, too.

Empirical research revealed that news about public affairs are a common topic of interpersonal communication, particularly in conversations with family and friends (de Boer & Velthuijsen, 2001; Jacobs, Cook, & Delli Carpini, 2009; Wyatt, Katz, & Kim, 2000). Discussing what they have read, seen, or heard on the media helps people to grasp the often complex information and validate their perceptions (e.g., de Boer & Velthuijsen, 2001; Hardy & Scheufele, 2009; Robinson & Levy, 1986; Sommer, 2013). Accordingly, scholars found political discussions to be positively related with political learning (Eveland, 2004; Scheufele, 2000; Schmitt-Beck & Lup, 2013).

Eveland (2004) suggested three theoretical explanations for the relationship between political discussions and political learning. 1) The *exposure explanation* suggests that discussions are an opportunity for first or repeated exposure to news information. Discussants receive information from conversation partners in the sense of the two-step flow, which contributes to their knowledge. The same information, however, could have been gained directly from news media. 2) Eveland's *anticipatory elaboration explanation* assumes that individuals who anticipate the discussion of a news topic elaborate news content more thoroughly. The explanation is based on Zajonc's (1960) insight on cognitive tuning which states that individuals process information differently depending on whether they expect to transmit or receive information at a later time. 3) The *discussion-generated elaboration explanation* suggests that participation in a political discussion requires increased elaboration of information and arguments. Hence, political learning occurs during the discussion. While Eveland (2004) found support for the anticipatory and the discussion-generated elaboration explanation in a survey with correlational design, he contested the validity of the exposure explanation.

Further research demonstrated that media-stimulated interpersonal communication contributes to opinion formation and can both mitigate and reinforce mass media effects on attitudes (e.g., Druckman et al., 2018; Druckman & Nelson, 2003; J. Kim, Wyatt, & Katz, 1999). Druckman et al. (2018) found in a large experiment with 575 participants that, in particular, discussing partisan media content in a homogeneous group (all Democrats or all Republicans) increases polarization of attitudes towards the party's position. In heterogeneous

discussion groups (half Democrats, half Republicans), polarization effects were weaker, but still stronger compared to a control group without partisan media exposure. The authors suggest that their insights are relevant for social media, where news consumption is usually enriched by user comments and discussions.

Thus, media-stimulated interpersonal communication, particularly discussions about public affairs, are considered essential for political decision-making processes (Eveland, 2004). Political communication scholars developed a strong interest in the deliberative quality of media-stimulated interpersonal communication and its outcomes (e.g., Druckman & Nelson, 2003; J. Kim et al., 1999; Mutz, 2002; Rowe, 2015). The potential for deliberative discourses is also a major concern regarding media-stimulated interpersonal communication on the Internet (e.g., Eveland, Morey, & Hutchens, 2011; Oz, Zheng, & Chen, 2018; Papacharissi, 2004).

User discussions on news websites and social media have been investigated as an equivalent to offline conversations about news coverage (Ziegele & Quiring, 2013). Scholars reached the conclusion that the deliberative quality tends to be low, as exchange of opinion is often emotional, unreasoned, or even uncivil (Coe, Kenski, & Rains, 2014; Rowe, 2015). Nonetheless, there is evidence that user comments impact the perception of journalistic quality (Youngju Kim, 2015; Prochazka et al., 2018; Waddell, 2017) as well as the opinion about the content (Hong & Cameron, 2018; T.-T. Lee, 2010; Winter et al., 2015). Online user discussions certainly differ from offline conversations. While users have the latter predominantly with spouses, family, and friends, discussants in comment sections on news websites are usually strangers. Discussions on Facebook merge the participants of private offline conversations with anonymous online discussions. They are likely to include romantic partners, coworkers, and acquaintances as well as strangers. As users are linked to discussants by varying tie strength and relational closeness, it can be assumed that this has implications for the effects of media-stimulated interpersonal communication on opinion formation.

Yet, Eveland et al. (2011) criticized that the interest in deliberative quality in media-stimulated interpersonal communication online and offline has narrowed the focus of related scholarship. According to them, the implications

of relationship variables do not receive the scholarly attention they deserve. They further argued that motivation for media-stimulated interpersonal communication varies based on relationship closeness. While communication with neighbors and coworkers is motivated rather by passing time or initiating an interesting conversation, people predominantly discuss media coverage with family and romantic partners in order to form an opinion. The effects of media-stimulated interpersonal communication might also depend on relationships, as persuasion attempts tend to be more successful when the communication partner is perceived as credible, similar, and attractive.

Since the implications of relationship variables have not been integrated into the concept of media-stimulated interpersonal communication in recent scholarship, it provides a poor basis for deriving assumptions regarding the role of the relationship to a news endorser for opinion formation about shared news. Dual-process models, on the other hand, may explain how relationship variables and social cues may impact information processing and opinion formation in media-stimulated interpersonal communication on social media.

3.1.4 Dual-Process Models and Social Influence

The two most prevalent dual-process theories in communication science are the elaboration-likelihood model (ELM) (Petty & Cacioppo, 1986) and the heuristic-systematic model (HSM) (Chaiken, 1980; Chaiken, Liberman, & Eagly, 1989). Both assume similar modes of information processing by which persuasion may occur. If an individual puts a lot of effort into elaborating and considering all relevant information, she is in the mode of *systematic processing* according to the HSM terminology and attitude change will occur due to persuasive arguments on the *central route*, as defined in the ELM. On the *peripheral route* of the ELM, persuasion is the result of attendance to rather irrelevant message cues. The HSM speaks of *heuristic processing*, which considers only a small portion of the available information. In this mode, individuals rely on *heuristics*, mental shortcuts that are based on past experiences and quickly allow to form judgments. In the further discourse, I will use the HSM terminology and describe the concept in more detail.

Environmental (e.g., time constraints, comprehensiveness of message) and cognitive (e.g., personal relevance, need for cognition, accountability) factors determine whether individuals process information systematically or heuristically (Todorov, Chaiken, & Henderson, 2002). The mode selection follows the *least effort principle*, according to which humans are "economy-minded processors" (Bohner, Moskowitz, & Chaiken, 1995, p. 38) and do not use more cognitive capacity than necessary in order to achieve a sufficient level of confidence. When heuristic cues are available, they tend to derive the viability of information from expertise, likability, and attractiveness of the communicator or from a broad consensus among others (Chaiken, 1980; Chaiken & Maheswaran, 1994). Thus, heuristic processing is prone to social influences on opinion formation.

I further derive from the HSM that the extent of social influence depends on underlying motivation. The most prevalent goal of information processing is the establishment of an accurate understanding (*accuracy motivation*), but it also serves the defense of valued views (*defense motivation*), or the desire "to produce certain desired consequences in one's interpersonal relationships through expressing beliefs that will be socially acceptable" (Bohner et al., 1995, p. 41) (*impression motivation*). Systematic and heuristic processing serve any of these motives and may occur at the same time, while they can either interact or reinforce each other (Todorov et al., 2002).

Although accuracy-motivated individuals best achieve a valid view of reality through systematic processing, there are circumstances under which they rely on heuristics, for example, when the information is ambiguous (Chaiken & Maheswaran, 1994). When individuals are motivated to defend existing beliefs, they are likely to selectively use heuristics such as consensus among discussants or the attitude of an attractive conversation partner in order to support their view. The impression motivation particularly implies heuristic information processing in terms of anticipating and taking into account the attitude of others (Todorov et al., 2002).

The abundance of information on the Internet makes it a realm for heuristic processing (e.g., Hong & Cameron, 2018; Metzger, Flanagin, & Medders, 2010; Wirth, Böcking, Karnowski, & Von Pape, 2007). Users have to select interesting

and relevant contents from a vast range of outlets and evaluate their credibility. Thus, they make use of several heuristics for selection decisions (for an overview see Metzger et al., 2010; Sundar, 2008). While they can apply heuristics to online information that equally apply to print and broadcast media, such as reputation – "the *New York Times* always publishes well researched reports" – users seem to rely increasingly on social information to select and assess media content online (see, for example, Messing & Westwood, 2014; Metzger & Flanagin, 2013; Metzger et al., 2010; Sundar & Nass, 2001; Winter & Krämer, 2016). On the websites of news media and especially on social media, social cues such as aggregated user metrics, ratings, reviews, and comments are available. For the question of how interpersonal communication on social media impacts opinion formation about news content, the *endorsement* and the *bandwagon heuristic* are of particular interest.

3.1.4.1 Endorsement Heuristic

The endorsement heuristic indicates that users' assessment of media content and sources is guided by the known judgment of others (Hilligoss & Rieh, 2008; Metzger et al., 2010). They tend to trust in content that is recommended by known others. Metzger et al. (2010) proposed that this heuristic might be based on the more general liking/agreement heuristic as defined by Chaiken (1987), according to which humans assume that persons they like have a valid grasp of reality and thus, they tend to agree with them.

This is reflected in findings according to which Facebook users are more likely to select news shared by strong ties (Jungnickel & Maireder, 2015; Kaiser et al., 2018). The endorsement heuristic became even more obvious in the experiment by Turcotte et al. (2015), where participants evaluated news media more favorably if their content had been shared by a trustworthy Facebook friend. Prior research also indicated that the endorsement heuristic is capable to mitigate the effects of potentially biasing heuristics such as the *self-confirmation heuristic* (Metzger et al., 2010): news endorsements by strong ties on Facebook trump users' tendency for selective exposure to attitude-consistent news (Anspach, 2017).

Another possible reasoning underlying the endorsement heuristic is that people generally assume statements from experts to be veridical (*expert heuristic* Chaiken, 1980, p. 753). There is evidence that expert statements in newspapers and on television are significantly related to changes of public opinion (Jordan, 1993; Page, Shapiro, & Dempsey, 1987). On Facebook, users trust news recommendations by friends whom they consider as opinion leaders and thus savvy in a certain field, which affects their perception of the news medium (Turcotte et al., 2015).

3.1.4.2 Bandwagon Heuristic

The bandwagon heuristic can be seen as another version of the endorsement heuristic, because it describes reliance on the judgment of many unknown others (Metzger & Flanagin, 2013; Metzger et al., 2010). This heuristic is based on the reasoning that if many others think that a news story is valuable and relevant, it has to be (Metzger et al., 2010; Sundar, 2008; Sundar & Nass, 2001). It relates to what Chaiken (1980) referred to as *consensus heuristic*, according to which recipients accept a message to the extent that it is accepted by the majority of other recipients.

On Facebook, majority support can be derived from the aggregated number of likes, shares, and comments. While studies showed that these cues predict the selection of news (Messing & Westwood, 2014), they seem not to influence perception and evaluation of the coverage (Hong & Cameron, 2018; T.-T. Lee, 2010; Peter et al., 2014; Winter et al., 2015). The majority opinion expressed in user comments, however, can affect users' perceptions and attitudes (T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Waddell, 2018; Winter & Krämer, 2016). Winter and Krämer (2016) have shown that the extent to which social cues about majority opinion influence user attitudes depends on their involvement with the news topic. Highly involved individuals are less prone to social influences.

Bringing together the findings regarding the bandwagon and endorsement heuristic on social media, there is evidence that these mental shortcuts impact news perception and opinion formation. As I aim at investigating the role of

single Facebook friends who share news for opinion formation, the endorsement heuristic offers an adequate explanation. Yet, the theoretical underpinnings of the HSM do not allow the deriving of assumptions about how tie strength or social closeness between news endorser and receiver affect heuristic information processing. While the theory predicts that environmental and cognitive factors affect systematic and heuristic information processing, it does not account for differences in relationships to endorsers.

Several scholars who investigated the influence of heuristic social cues on news processing on the Internet argued that trust in the validity of user comments stem from perceiving them as the prevailing public opinion (e.g., H. S. Kim, 2015; E.-J. Lee & Jang, 2010; von Sikorski & Hänelt, 2016; Waddell, 2018; Winter & Krämer, 2016). Although this reasoning is not fruitful for investigating influence of single news endorsers, I will briefly outline the concept in the following section.

3.1.5 Perceived Public Opinion

The public opinion concept as defined by Elisabeth Noelle-Neumann has been used to explain social influences on news perception. Noelle-Neumann (1993) understood public opinion as "opinions on controversial issues that one can express in public without isolating oneself" (p. 62). In her *spiral of silence theory*, she assumed an integrative power of public opinion as the social nature of humans, their need to belong, and fear of isolation prompt them to constantly assess and align with the prevailing opinion. Importantly, humans are not only afraid of separation from their social group, they are also uncertain about the validity of their own judgments (Noelle-Neumann, 1974). That is why they tend to change their own opinions to align with the perceived majority opinion (Gunther, 1998; Noelle-Neumann, 1974).

As a result, people constantly gauge the distribution of majority and minority opinions on the basis of interpersonal communication and mass media, which deliver public opinion cues such as poll results, reports on social movements, or the slant of their coverage (Gunther, 1998).

Social information on news websites and in news posts on Facebook, particularly user comments, offer novel cues for the perception of current majority

opinions. Although comments are contributed by a minority and rarely representative, users indeed seem to take them as a proxy for the public opinion (H. S. Kim, 2015; E.-J. Lee & Jang, 2010; von Sikorski & Hänelt, 2016; Waddell, 2018). Furthermore, scholars found the perceived public opinion to mediate the effects of valenced user comments on personal judgments about media content (H. S. Kim, 2015; Waddell, 2018).

The indirect influence of the perceived public opinion explains why it is worthwhile following the bandwagon heuristic when exposed to user comments: people know from experience that relying on the majority perspective provides both a valid view and social integration. However, the concept of public opinion is less powerful to explain reliance on endorsements and opinions of single Facebook friends, as one single remark is a poor cue for gauging the opinion climate.

3.1.6 Interim Conclusion

Theorizing and empirical investigation of the interplay of mass media and interpersonal communication have a long-standing tradition in communication science. The two-step flow modeled the flow of mass media information through interpersonal communication and the related opinion leader concept explored which news transmitters influence the attitudes of their followers. Research on the effects of discussions of political news revealed that they contribute to learning from mass media and that conversations about news topics can both mitigate and reinforce media effects on opinion. Dual-process models of information processing define conditions under which news users rely on social cues as heuristics for opinion formation.

Each of the approaches outlined above contributes to the understanding of how the intertwinement of mass media and interpersonal communication on social media affects opinion formation. However, they are not equally suited in order to derive assumptions for the investigation of my research question of how the relationship to a single news endorser impacts opinion formation about the shared news content.

The opinion leader approach and the endorsement heuristic are most promising. They model influence of single communicators and suggest communicator

qualities that explain social influence. The opinion leader concept suggests that similarity of the transmitter of news information and the receiver is a crucial factor for influence (Katz, 1957; Katz & Lazarsfeld, 1964[1955]; Riecken & Yavas, 1986). The HSM assumes that, for example, likability of endorsers determines whether receivers rely on their judgment (Chaiken, 1987).

This is of high relevance for my research question as strong ties tend to link more similar individuals than weak ties (Granovetter, 1973). Thus, on the basis of the opinion leader concept and the endorsement heuristic, I presume that Facebook users are more susceptible to influence on opinion formation of social close and similar news endorsers than of socially distant and less similar news endorsers.

Moreover, both approaches suggest that expertise predicts social influence. The opinion leaders' expertise results rather from increased interest in a topic and related media content than from higher knowledge in the field of influence (Katz & Lazarsfeld, 1964[1955]; Trepte & Boecking, 2009; Troldahl & Van Dam, 1965). Chaiken (1980) proposed that the expertise of a communicator is based on knowledge, intelligence, and competence. However, related research did not test how different levels of knowledge or competence affect reliance on the expert heuristic.

What both approaches lack is a thorough theoretical explanation of the mechanism of social influence. Endorsement and expert heuristic are defined as mental shortcuts that are used when systematic processing of information seems too effortful in order to achieve a confident understanding. However, it remains unclear, how the shortcut works and how the opinion of an endorser interacts with the message she endorses. With regard to the opinion leader approach, there are two difficulties:

First, previous research has not shown whether followers are convinced by leaders, whether they imitate them, or whether they unconsciously take over their opinions (see O'Keefe, 1981a; Trepte & Scherer, 2010; Weimann, 1994).

Second and more important, the approach models the passing on of information from mass media in interpersonal communication, but not the co-occurrence of mass media and interpersonal communication in a Facebook news post. Therefore, it is difficult to derive hypotheses regarding how a news endorser affects opinion formation about shared news articles on Facebook.

I draw the conclusion that the explanatory power of established theoretical approaches to the interaction of mass media and interpersonal communication is limited with regard to my research question. The presented communication theories share a focus on mass media effects and model interpersonal communication rather as mediating, reinforcing, or mitigating factor. Only the dual-process models consider individual motivations as determinants of information processing. But they also lack to incorporate psychological insights on the social nature of individual cognition, by defining reliance of endorsements and ratings as mental shortcuts.

In particular on Facebook, where news items are encountered as part of social interaction, it is important to understand how thoughts, judgments, and attitudes are shaped through communication with others. Thus, in order to derive theoretical assumptions about how social closeness to a news endorser affects opinion formation about a news article, I also examined social psychological literature.

3.2 Social Psychological Theories on Social Influence on Attitudes

Social psychological research yields abundant evidence for the claim that "social relations create and are created by attitudes" (Prislin & Wood, 2005, p. 672). As a result, individual attitudes are considered social, because they are formed, maintained, and changed in social interaction. In the following section, I will first give an overview over pioneering theoretical and empirical work since the early 20th century that has established the social origin of individual cognition and contributed to the overarching concept of *social influence*. I will present in more detail research that addressed social influence processes on the Internet. Finally, I will introduce the *shared reality theory* (Hardin & Higgins, 1996), a theory that incorporates prior research on social influence and elaborates clear assumptions concerning the emergence of cognition through social interaction.

Among the early scholars of social influence processes was Omar Sherif (1936), whose autokinetic-experiments contributed to the understanding of

the formation and maintenance of group norms. Theodore Newcomb (1946) observed how the conservative views of college freshmen evolved into more liberal attitudes during the course of their liberal-minded studies at Bennington College. In his renowned line-judgment conformity experiments, Solomon Asch (1952) found that participants tend to rely on (false) consensus rather than trusting their own perception. The *social comparison theory* by Leon Festinger proposes that others' judgments – which he termed *social reality* – provide reliable information when the physical reality is hard to perceive for the individual. Moscovici and Lage (1976) discovered that social influence does not exclusively originate from majorities, but minorities can achieve conversion of attitudes, too, when they communicate their position consistently. *Social impact theory* (Latané, 1981) suggests that even single individuals exert influential power. According to Latané, the extent of influence is a function of strength characteristics such as status, expertise, and attractiveness, proximity between influential and influencee, and the number of influentials. The concept of social influence is a synthesis of this prior research and explains under which circumstances individuals adopt the views of small groups or single others (Cialdini, 2009; Deutsch & Gerard, 1955).

3.2.1 The Social Influence Concept

Similar to the three motives underlying systematic and heuristic processing as defined by Chaiken and Maheswaran (1994), scholars proposed three goals underlying social influence. Originally, Deutsch and Gerard (1955) distinguished two forms of social influence on individual judgment – normative and informational – that are determined by two underlying goals: 1) Normative social influence is based on the desire for *social approval*. Individuals conform with others' views because they want to be liked and accepted. 2) Informational social influence occurs particularly when a target is ambiguous, because it elicits uncertainty about the correctness of individuals' own perception and they rely on others' views in order to *establish accuracy*. Deutsch and Gerard (1955) noted that normative and informational social influence usually occur simultaneously. 3) Cialdini and Goldstein (2004) added the goal of *maintaining a positive self-concept* as a third motive that underlies social influence.

Building on *self-categorization theory* (David & Turner, 2001; Turner, 1985), they proposed that the extent to which an individual identifies with a communicator determines social influence. Humans tend to align their attitude with a member of a valued group they consider as *in-group* but purposely disagree with members of *out-groups*. The literature put forward evidence for social influence when one or several of the three goals are salient (for an overview see Cialdini & Goldstein, 2004; Cialdini & Trost, 1998).

With the emergence of the Internet, social psychologists explored under which conditions social cues in online communication influence user behavior and attitude. Guadagno, Blascovich, Bailenson, and Mccall (2007) observed that a salient similarity in terms of the same gender induced communicator to conform with their communication partner in an online interaction. This can be considered as support for social influence due to the goal of maintaining a positive self-concept. In another study Guadagno, Muscanell, Rice, and Roberts (2013) found that social media users were more likely to comply with a volunteering request when the communicator is likable and other users signaled willingness to comply as well (Guadagno et al., 2013). This indicates that social influence on social media occurs due to users' desire for social approval by likable others, but also by the motivation to behave accurately as suggested by the (perceived) majority of volunteering others.

Other studies revealed interesting gender differences in responses to persuasion attempts in interpersonal online communication. In an early study on anonymous computer-mediated communication, women's agreement with a message was weaker after online communication than after face-to-face communication, while there was no such difference for male participants. The authors explained their findings with stereotypical behavior: While male information processing is generally expected to serve the accuracy goal, the female role is related to relationship goals such as being liked by others. As the anonymous online communication provides poor possibilities for relationship development, the attempted social influence was less successful for women (Guadagno & Cialdini, 2002). Okdie, Guadagno, Petrova, and Shreves (2013) manipulated the authority of the communication partner who attempted to influence (graduate student vs. peer) and the communication mode. They found that men were

more susceptible to the social influence of the high-authority communicator in online communication, while there was no difference for women. The authors suggested, women might have ignored the authority cue.

To date, the social psychological concept of social influence has not been investigated in the context of interpersonal influence on opinion formation about mass media content. Yet, Guadagno et al. (2013) argued that the availability of social cues in social media is relevant for processing shared information. They assume that individuals are motivated by social validation goals to rely on social cues in order to establish an accurate understanding of the media content they encounter.

Although the concept of social influence and recent empirical findings provide a basis for deriving assumptions concerning my research question, the theoretical underpinnings are rather weak. The concept incorporates decades of social psychological research on social influence phenomena and suggests motivations that make individuals susceptible for influence from others. However, the social influence concept does not offer elaborated propositions regarding the conditions under which social influence is likely to occur and for the psychological mechanisms through which social influence is exerted.

The shared reality theory also emerged from an exhaustive synthesis of social psychological research on social influence. Curtis Hardin and E. Tory Higgins, the fathers of the theory, proposed that individual attitudes develop, survive, and change to the extent that they are experienced in commonality with relevant others (Hardin & Higgins, 1996). The authors do not speak of social influence on individual cognition, but assume that human perception of reality is generally a perception shared with others. Furthermore, they suggested the mechanism of *social tuning* through which individuals establish shared reality about an aspect of the surrounding world with others and they elaborated clear assumptions under which conditions shared reality is established or denied. In the following chapter, I will outline the theory in detail, give an overview over the current state of research, and derive assumptions regarding the creation of shared reality about news shared on Facebook and resulting social tuning effects.

4 The Shared Reality Theory

Shared reality theory is concerned with the emergence of an individual's understanding of the world through communication with others. According to the theory's basic claim, our attitudes, beliefs, and judgments – *inner states* that we usually conceptualize as peculiar – are created, maintained, and changed through social interaction. Hardin and Higgins derived this claim from two observations. Firstly, humans are motivated to share their inner states and experience commonality with others' inner states, especially because they strive for social verification of subjective perceptions. We actively collaborate to achieve this by conveying our own and inferring others' inner states in interpersonal communication. Secondly, experiencing a commonality of inner states in communication has considerable consequences for our individual cognition to the effect that we, from now on, consider the socially shared inner state, for example, an opinion on a political actor, as our individual opinion (Hardin & Higgins, 1996). In a recent theoretical approach, Echterhoff and Higgins (2017) defined shared reality as "the product of the motivated process of experiencing with others a personal connection and commonality of inner states [...] about some target" (p. 176).

4.1 Basic Premises and Evolution of the Theory

Hardin and Higgins (1996) developed the shared reality theory based on a comprehensive review of earlier research that emphasized the importance of

social processes for individual experiences, such as Sherif's (1936) psychology of social norms, symbolic interactionism (Mead, 1934), balance theories (Heider, 1946; Newcomb, 1953), Festinger's (1954) theory of social comparison and Asch's (1952) conformity experiments (for a review see Echterhoff et al., 2009a; Hardin & Higgins, 1996). All these approaches suggest that humans rely on others as sources of information to verify their perceptions and beliefs, particularly about ambiguous aspects of the world.

Thinking further, shared reality theory challenges the premise that "psychological integrity is to be found in the individual" (Hardin & Higgins, 1996, p. 68) and that individual cognition is merely suspect to social influences. Hardin and Higgins (1996) proposed that every human experience, ranging from the perception of a flower color to the understanding of historical contexts is determined by the social activities from which it emerges. Thus, the core assumption of shared reality theory is that "experience is established as valid and reliable to the extent that it is shared with others" (Hardin & Higgins, 1996, p. 28). By sharing inner states through social interaction, subjective experiences are transformed into objectively true representations of reality. The sense of truth provided by shared reality does not necessarily correspond with the objective truth from a scientific point of view. Nevertheless, Hardin and Higgins (1996) argued that shared reality is the way by which individuals experience reality.

In this regard, shared reality theory extends the social comparison theory, which postulates a dualism of a physical and a social reality. Festinger (1954) proposed that humans have an inherent drive to evaluate their opinions, as holding correct beliefs about the world is essential and rewarding in many situations. Individuals can either test the validity of their beliefs by comparing them to the physical reality or by comparing them to others' evaluations. Although the physical reality has advantage over social reality with regard to opinions about the qualities of stocks and stones, our social environment involves many situations in which physical reality is rather vague. We can hardly rely on physical reality when forming opinions about a literary work, the competence of a minister or the failure of a political party. In such cases, humans believe that their opinions are valid when there are others who

think likewise. Festinger (1950) suggested, "Thus where the dependence upon physical reality is low the dependence upon social reality is correspondingly high. An opinion, a belief, an attitude is 'correct,' 'valid', and 'proper' to the extent that it is anchored in a group of people with similar beliefs, opinions, and attitudes" (p. 272). The greater a person's need for social validation of a belief, the greater her desire will be to communicate about it with a social referent. According to Festinger, humans have a tendency to choose social referents, who already agree with them. Their social reality is made of social groups they identify with, their in-groups. Social groups often strive for unitary opinions and group consensus. Communication with their members is an instrument to achieve this goal. Thus, groups can exert social influence over individuals seeking for social validation.

Like social comparison theory, shared reality theory postulates that humans have a strong need for social verification of their experiences but different than Festinger, Hardin and Higgins (1996) proposed that every belief about the world emerges from social interaction.

Another important foundation is Sherif's (1936) autokinetic experiments. Hardin and Higgins (1996) interpreted his findings as an ostensible demonstration for the achievement and effects of shared reality. In these studies, participants watched a fixed point of light in a completely dark room, which appeared to move – an illusion caused by saccadic eye movements and the lack of reference points. In a first study, an experimenter registered the extents of movement reported by individual participants in repeated trials. Sherif observed that for each participant, the perceived movements clustered around a peculiar norm, but the norm varied across different participants of the study.

In a follow-up study, participants reported the perceived movements in a group setting together with a confederate, who repeatedly reported movements in a range prescribed by the experimenter. Interestingly, the naive participants' norm now converged with the prescribed norm of the confederate. As predicted by shared reality theory, participants took the perceptions of the other into account when reporting their perception of the movement. They created a socially shared norm or, in other words, a shared reality about the extent of movement. In the second part of the experiment, individuals repeated the task

alone with the experimenter. Sherif found that their reports clustered around the same value as in the previous group session. Thus, the establishment of a shared reality about the movement was reflected by the individual cognition and determined subsequent perceptions. What is most important for our understanding of shared reality is that individuals themselves did not perceive the reported norm as compliance with the group norm but as their true perception of the movements of the point of light (Sherif, 1936, pp. 93–94). Finally, the example of the autokinetic experiments demonstrates that the socially shared norm, which was prescribed differently for every participant by the experimenter, did not correspond with the objective truth – that would have been non-movement. Nonetheless, the established shared reality became meaningful for subsequent experiences (Hardin & Higgins, 1996).

I have already addressed the motivation that drives the creation of shared reality. As this is a crucial prerequisite for the experience of shared reality, I will elaborate further on the motives in the following section.

4.1.1 Why We Want to Think What Others Think – Motivation for Shared Reality

The creation of shared reality is motivated by fundamental human needs, the *epistemic need* to "establish what's real" (Higgins, 2012, p. 108) and the *affiliative need* to feel connected to others (Echterhoff et al., 2009a).

The most important function of shared reality creation is to render subjective experiences valid and reliable. Through social verification, they achieve the status of objective truth and are perceived as veridical of reality (Hardin & Higgins, 1996). Thus, shared reality satisfies the epistemic need to gain a confident understanding of what is happening around us. This motive for shared reality creation is especially strong when individuals experience an object as ambiguous or uncertain (Echterhoff et al., 2009a). By sharing their impression with trustworthy and relevant others, individuals strive to reduce uncertainty and gain confidence in their understanding of the object (Kopietz, Hellmann, Higgins, & Echterhoff, 2010).

Another driver for experiencing the world in commonality with others is the human need to belong that lets us "form and maintain at least a minimum quantity of interpersonal relationships" (Baumeister & Leary, 1995, p. 499). Belongingness is beneficial for human beings as it is crucial for physical and psychological well-being, success, and survival. Socially isolated people suffer from negative consequences such as stress, unhappiness, mental and physical illness (Baumeister & Leary, 1995; Fiske, 2008; Leary & Baumeister, 2000; Williams, Cheung, & Choi, 2000). Experiencing a shared reality strengthens the affiliation among involved individuals, which serves the creation, maintenance, or intensification of relationships.

It is important to note that epistemic and affiliative motives are "closely intertwined in the operation of shared reality" (Echterhoff & Higgins, 2017, p. 177). Shared-reality creation always serves the establishment of a valid and reliable understanding of some aspect of the world and at the same time impacts the bonds among the involved persons.

I will clarify this interrelatedness with an example: In the morning, green-minded Mia learns from the radio news that a representative of The Green Party demanded a veggie day per week in public and corporate cafeterias. Although she likes the idea that the reduced meat consumption would decrease CO_2 emissions, she is uncertain whether forcing vegetarianism by law would contribute to the urgently needed change in attitude. In the evening, she discusses the issue with some of her best friends and they come to the conclusion that the veggie day would cause reactance rather than a sustainable attitude change. Not only does Mia feel more certain about her opinion on the veggie day now, the establishment of the shared reality also fosters the bond between her and her friends. The consensus serves her epistemic and affiliative needs.

The interrelatedness of epistemic and affiliative motives in the process of shared reality creation is crucial for the effects on individual cognition and social relationships. With regard to cognition, thoughts, beliefs, and attitudes are established and maintained to the extent that they are shared with others and abandoned when they lack a socially shared basis. Likewise, individuals establish and maintain social relationships to the degree that they achieve and maintain a shared reality with others and they deny or terminate relationships

to the degree that they fail to achieve or maintain a shared reality (Hardin & Conley, 2001).

From this, what follows is that humans can regulate social relationships by deciding when and with whom they want to share inner states (Hardin & Conley, 2001; Hardin & Higgins, 1996). Hardin and Conley (2001) suggested that individuals are likely to strive for achieving shared reality with close others such as friends, spouses, and family members in order to maintain relationships. They are also likely to establish shared reality with socially attractive others with whom they would like to start a relationship (see also Echterhoff et al., 2009a). Strangers or people they do not like, however, do not elicit a desire for achieving shared reality. Hence, motivation for shared reality is relationship specific.

Nonetheless, Hardin and Conley argued that social identification with abstract group identities may also explain establishment or denial of shared reality. In particular when communicating with strangers, people strive to experience a shared reality with those belonging to the same social category, that is, to their *in-group* (Echterhoff et al., 2009a). In-groups are defined as "bounded communities of mutual trust and obligation that delimit mutual interdependence and cooperation" (Brewer, 1999, p. 433). In order to collaborate successfully to achieve group goals, members must develop a shared understanding and rely on each other. Thus, in-group favoritism – the tendency to identify with in-group members – fulfills epistemic and affiliative motives (Echterhoff, Higgins, Kopietz, & Groll, 2008). In-groups fulfill epistemic motives as group norms and group consensus reduce uncertainty and provide epistemic authority for an individual's understanding of the world (Shah, Kruglanski, & Thompson, 1998).

Moreover, the human need to belong further elicits the desire to identify with one's in-group (Echterhoff et al., 2009a). Individuals' social identification (Tajfel, 1981) with their in-group is strengthened to the extent that they achieve shared reality with the group norms and goals (Higgins & Pittman, 2008). Consequently, the achievement of shared reality among members of the same social group is driven by both epistemic and affiliative motives.

The assumption that individuals are willing to establish shared reality with in-group members but not with out-group members has been supported by

several empirical studies (e.g., Echterhoff, Higgins, & Groll, 2005; Echterhoff et al., 2008; Echterhoff & Kopietz, 2013). In these studies, in-group membership was conceptualized as similarity and likability of communication partners. This conceptualization of in-group membership builds on the phenomenon of self-stereotyping. According to Turner (1984), humans perceive their own identity and the identities of other members of their in-group interchangeably. That is why in-group members are perceived more similar and favorable than out group members (Deaux, 1996; Echterhoff et al., 2005).

However, more recent studies revealed that individuals only favor in-group members as partners for shared reality creation to the extent that they are considered an epistemic authority with regard to the target referent (Echterhoff, Kopietz, & Higgins, 2017). When an out-group member has high epistemic authority regarding the target referent, for example, when the target referent is a member of the same social group as the communication partner, individuals are also willing to establish a shared reality in order to achieve a valid judgment.

As I will show in Chapter 4.3.3, previous research investigated differences in shared reality creation and resulting effects on cognition between communication with in- and out-group members. The proposed relationship specific motivation for shared reality (i.e., differences between weak and strong ties) has not been tested in empirical studies yet. In order to subsume theoretical conditions that are favorable for shared reality creation, I use the term *social closeness*, which encompasses the social categorization of a communication partner as member of one's in-group as well as strong ties such as close friends and family members. Individuals strive to achieve shared reality with socially close others but not with socially distant others.

Notwithstanding the assumption that the achievement of shared reality is always motivated at least to some extent by both epistemic and affiliative motives, the theoretical framework and empirical research have a strong focus on the role of shared reality for the satisfaction of epistemic motives. In my dissertation, I will also investigate Facebook users' epistemic motives for considering news endorsers' views when forming their own opinion about shared news content. The theory is especially well-suited for modeling the effect of interpersonal communication on opinion formation about mass media content,

because it ascribes much importance to interpersonal communication to the establishment of shared reality.

4.1.2 Achieving Shared Reality in Communication

When we are motivated to establish a shared reality with one or several others about a topic, we achieve this by communicating about it. Interpersonal communication allows us to connect to each other's inner state and collaboratively create a shared understanding of a topic (Higgins, Echterhoff, Crespillo, & Kopietz, 2007). There are many ways in which people infer what others think about a target from interpersonal communication. Apart from verbal utterances, we interpret each other's gestures and facial expressions, rely on background knowledge we gained in previous interactions or draw on mechanisms such as theory of mind or projection of our own inner states (Echterhoff et al., 2009a).

The theoretical and empirical focus of previous research was on investigating the role of shared reality for immediate social verification of subjective experiences through interpersonal communication (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Higgins et al., 2007; Higgins & Rholes, 1978). However, humans also establish shared realities about events or persons that they do not witness first-hand. Hardin and Higgins (1996) emphasized that, in many cases, shared reality is the result of social transmission within societies. Although there are only few contemporary witnesses left, literally every German adult knows about the Nazi regime. Knowledge is that which is conserved and passed on through books, mass media, or social networks.

However, the prevalent means to achieve a commonality of inner states in everyday life is interpersonal communication. The shared reality theory understands communication not only as an act of information transmission between a communicator and a receiver but as a purposeful, profoundly social activity. Context, communicator goals, and social roles determine the course and outcome of communication. When individuals start communicating, they simultaneously initiate a relationship and the course of their conversation defines it. Furthermore, the relationship is interrelated with the communication

content, which is often the collaborative establishment of meaning: a social reality (Higgins, 1981).

Hardin and Higgins (1996) emphasized the importance of the ability to experience a situation as one's communication partner does in order to reach a common meaning ground and communicate successfully. People achieve this by taking into account each other's perspectives and also by taking into account what others intend, think, or feel about the communication topic. The process of exchanging perceptions and views in communication enables a mutually consistent understanding and creates meaning.

Individuals signify perspective taking by tailoring their messages to the presumed knowledge (Fussell & Krauss, 1989; Higgins, McCann, & Fondacaro, 1982; Isaacs & Clark, 1987) or attitude of their audience (Echterhoff et al., 2005; Echterhoff et al., 2008; Higgins & Rholes, 1978). This behavior is referred to as "audience tuning" (Higgins, 1992, p. 124) or "social tuning" (Hardin & Higgins, 1996, p. 38). Accordingly, experimental studies by Fussell and Krauss (1989) and Krauss, Vivekananthan, and Weinheimer (1968) found that people describe objects such as color chips or abstract line drawings in more detail and with more common terms when their descriptions are intended for someone else than when they produce them for their own use. Social tuning in communication can be understood as effort for facilitating the achievement of a shared reality about the communication topic (Hardin & Higgins, 1996). The success of this effort became evident in the experimental studies by Fussell and Krauss (1989) and Krauss et al. (1968) as participants tended to identify color chips and abstract line drawings more accurately, when they received a description that was drafted for the use of another person compared to a description that was meant for the use of the author only.

These studies provide evidence that people aim at and succeed in achieving shared reality about a stimulus in communication. However, not every individual modifies messages to suit recipient characteristics to the same extent or at all. Higgins (1992) distinguished between four kinds of social tuning in communication: *basic tuning*, *super-tuning*, *non-tuning*, or *anti-tuning*. Basic tuning refers to the general behavior of tailoring messages accounting for the traits of a recipient that allows the experience of a shared reality. Communicators classified as high-authoritarian are particularly likely to produce audience

congruent messages, especially for high status recipients, which Higgins referred to as super-tuning.

Individuals not necessarily tailor their messages to recipients' characteristics in interpersonal communication. When they are not motivated to create a shared reality or achieve any other communication goal that requires social tuning, they construct messages that reflect their individual beliefs without inferring knowledge, opinion, or beliefs of their audience. In this case, their communicative behavior is best described as non-tuning and they do not achieve a new shared reality about a target of which they already developed a representation.

Particularly when communicators are motivated to maintain a shared reality that they established previously, for example because it is a belief they share with their in-group, they will resist social tuning to the beliefs of an immediate audience who has an opposing attitude about a topic. In this case, communicators indeed take the audience's characteristics into account, but they prompt them to resist the production of an audience congruent message. Instead, they express the opposing belief they share with their in-group in messages to the immediate recipient, which has been defined as anti-tuning. Taking into account the audience's characteristics might also elicit anti-tuning when communicators want to distance themselves from an audience they despise or whose beliefs they disapprove.

Higgins (1992) assumed that basic tuning and super-tuning should entail audience congruent individual representations, whereas anti-tuning should reinforce beliefs opposing the audience's view. Non-tuning should not have any effects on the individual's previous representation of a target referent. Higgins and their colleagues investigated the effects of the different kinds of social tuning on shared reality creation in communication and on individual cognition with an experimental paradigm introduced by Higgins and Rholes (1978), the *saying-is-believing paradigm*. The paradigm focuses on epistemic motivation for shared reality and thus, tests the *epistemic-social-tuning hypothesis* (Lun, Sinclair, Whitchurch, & Glenn, 2007). Research under this paradigm has revealed crucial boundary conditions for shared reality creation and social tuning effects.

Curtis Hardin and colleagues explored the affiliative motivation for shared reality – the *affiliative-social-tuning hypothesis* – mostly by investigating social tuning effects on implicit racial prejudice (see Table 4.1 for the definition of the hypotheses). Hence, I will use the term *implicit-prejudice paradigm* to refer to this strand of research. My empirical approach to investigate social tuning effects on news perception on Facebook is mainly based on the saying-is-believing paradigm, but I build on insights from the implicit-prejudice paradigm as well.

Table 4.1: Social Tuning Hypotheses Derived From Shared Reality Theory

Designation	**Hypothesis**
Epistemic-social-tuning hypothesis	Social tuning of individual inner states to ostensible inner states of others is motivated by the epistemic need to achieve a valid and reliable understanding of a target referent.
Affiliative-social-tuning hypothesis	Social tuning of individual inner states to ostensible inner states of others is motivated by the affiliative need to establish or maintain relationships.

4.2 Shared Reality as Underlying Mechanism of Social Influence on News Perception on Facebook

In their original formulation of the shared reality theory, Hardin and Higgins (1996) raise the universal claim that every human perception, thought, and opinion is the result of a shared reality experienced with others. Although the following sections will show that social tuning effects have been investigated mainly with respect to social perception and racial prejudice, scholars proposed

that appraisal of a movie, voting decisions, and religious beliefs are equally subject to shared reality (Echterhoff et al., 2009a). News articles should be no exceptions: how readers perceive them and what opinion they form about their topics is the result of shared reality experienced with others. I assume that news articles often elicit ambiguity. News media occasionally cover new, complex, or ambivalent issues. Shedding light on topics from different perspectives and presenting various interpretations is core principal of quality journalism. Hence, news stories are likely to elicit epistemic needs to strive for a valid understanding rooted in shared reality with others. Moreover, news articles often cover issues that are relevant to people's social identity, such as vegetarianism in my example. Thereby, they evoke the affiliative need to achieve an understanding of news topics that maintains belonging to their in-group.

Furthermore, I argue that shared reality is also likely to be the underlying mechanism of social influences on opinion formation about news shared on Facebook. As news perception is embedded in interpersonal communication on the SNS, I suggest that users establish shared reality about shared news items through interacting with other users or simply relying on social cues. In Chapter 2, I presented comprehensive evidence for influence of interpersonal communication on news perception on social media. Shared reality theory provides a theoretical framework to explain why and under which conditions these influences on individual cognition occur.

I assume that epistemic and affiliative needs drive Facebook users to infer their friends' attitudes about the news they share. Furthermore, I propose that they are only willing to tune their individual opinion to the perceived attitudes of users whom they consider as epistemic authority. They should not be motivated to establish shared reality about news articles with untrustworthy users and should not tune – or anti-tune – to their views. As a result, social tuning effects will only occur when trustworthy Facebook friends share or comment a news item.

My argumentation is in consent with Sparrow and Chatman (2013), who suggested that shared reality theory may explain biases in memory of news encountered on social media. Albeit Echterhoff (2013) considered the reduced

social cues environment on the Internet as inferior for shared reality creation compared to face-to-face communication, he submitted that the accessibility and persistence of self-disclosures, a rather explicit form of expressing inner states, "is likely to promote or spread awareness of others' inner states in Internet communication" (p. 299).

Compared to more anonymous online communication settings, Facebook users have available – sometimes more, sometimes less – background knowledge about friends who share news items. They know their interests, literacy, and attitudes beyond what a news endorser discloses in a single news post. Thus, they are able to infer inner states even from subtle forms of news sharing, such as liking a news item (J. Choi, 2016b; Schwartz et al., 2017).

I postulate that users are likely to experience shared reality about news content with the friend who endorsed a news article to the extent that they perceive the friend's judgment as veridical. The experience of shared reality finds expression in social tuning effects: users' memory of the article or their subsequent opinion about the covered issue is likely to be congruent with the perceived attitude of the news endorser.

Empirical research under the saying-is-believing and the implicit-prejudice paradigm generated insights on the conditions under which shared reality is experienced and determines subsequent inner states such as individual memory, attitude, or prejudice. In the following section, I will give an overview of the current state of shared reality research and derive assumptions for the investigation of social tuning effects on opinion formation about news shared on Facebook.

4.3 The Saying-Is-Believing Paradigm

Interpersonal communication is not only a relevant means for achieving a shared reality, it has also been found to be an important mechanism for the construction of individual cognition. Tuning a message to the presumed inner state of another person leads to an individual inner state that is congruent with the tuned message. For instance, when Mia presumes her friends are critical of

the proposed veggie day, she might say: 'Although I think that people should eat less meat, I don't think that regulating cafeteria menus would sustainably change their meat consumption'. When her friends agree with her, the previous uncertainty is replaced by the confident belief that the veggie day is ineffective for the aim to reduce meat consumption. This social tuning effect has been termed the *saying-is-believing effect*, first observed in a study by Higgins and Rholes (1978) and replicated in several studies that were patterned after the research design of the study by Higgins and Rholes (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Hausmann, Levine, & Tory Higgins, 2008; McCann, Higgins, & Fondacaro, 1991; Pierucci, Echterhoff, Marchal, & Klein, 2014).

In order to investigate the effects of social tuning in communication on memory and judgments, Higgins and Rholes (1978) designed an experimental setting in which communicators were motivated to align messages to their audience's attitude. The study was ostensibly concerned with interpersonal perception and attraction among a group of students who had been participating in studies for some time. Participants received a written description of one group member, the *target person* Donald, and were asked to describe him to another group member, the message receiver or *audience*. The experimenter told the participants that it was the audience's task to correctly identify which member of the group they had described. When handing out the description of the target person, the experimenter either informed participants that the research team gained the impression that the audience liked or disliked Donald.

With the aim of providing a description that allows the audience to correctly identify the target person, communicators should be motivated to take their audience's attitude into account when producing their message. Additionally, the description of the target person was evaluatively ambiguous, consisting of four positive, four negative, and four ambiguous characteristics, for example, "'Other than socially prescribed engagements, Donald's contacts with others are rather limited. He feels he does not need to rely on anyone'" (Higgins & Rholes, 1978, p. 366) which one could either interpret positively as independent or negatively as aloof. The evaluative ambiguity of the original stimulus information enables communicators to describe the target person congruently with the audience's attitude. In order to capture effects of the social tuning

in messages on subsequent individual cognition, Higgins and Rholes (1978) measured the participants' memory of the original information of Donald with a free recall task, in which they asked them to reproduce the original information. They additionally measured how much participants liked the target person on an 11-point scale.

In their original study, Higgins and Rholes (1978) conducted an experiment with a 2 x 2 x 2 between-subjects design with 78 undergraduates at Princeton University. They manipulated not only the audience attitude towards the target person (like vs. dislike) but also whether participants produced a message (message vs. no message) and the time delay between message production and measurement of dependent variables (brief vs. long). Thus after reading the evaluatively ambiguous description of Donald, half of the participants produced a message for the audience and the other half was told that there was a mistake and they would not have to write a message after all. After a 20-minute distraction task related to the cover story, half of the participants were asked to reproduce the information of the original description of Donald and to indicate how much they liked him. The other half completed the recall and liking measures approximately two weeks later. One coder blind to the conditions rated the evaluative tone of the messages to the audience and the reproduction of the original information.

The authors found that those who directed a message to an audience who liked the target person described him in their message more evaluatively positive whereas those who produced a message for an audience who did not like the target person described him more negatively. Ergo, participants in either condition tuned the evaluative tone of their descriptions to their audience's attitude. Furthermore, participants who actually produced a message also distorted the reproduction of the original information in congruence with the audience attitude, an effect that was even more pronounced after the long delay. The evaluative bias in the reproductions was correlated with the evaluative distortions in the messages. However, participants' reproductions in the no-message condition showed no bias in the direction of the audience's attitude.

The study showed that communicators take others' characteristics (the audience's attitude) into account by modifying their message in order to achieve

a common communication goal (distinguish a target person from other group members). Audience tuning with the objective of effective communication significantly affects the communicators subsequent cognition in the form of audience congruent impression and attitude formation. As Higgins and Rholes (1978) did not find the same influence of audience attitude for those who did not produce a message, the verbal encoding of audience tuned representations seemed to be the decisive mechanism through which the effect occurs. Thus, it has often been referred to as saying-is-believing effect in subsequent literature and studies patterned after the design of the experiment are assigned to the saying-is-believing paradigm.

4.3.1 Shared Reality as Underlying Mechanism

Higgins and Rholes (1978) initially assumed that tuning messages to the characteristics of one's audience is simply a rule for effective communication. By following this rule, communicators create an additional, distinct representation of the original information that is evaluatively biased. They further argued that the relative influence of verbally encoded representations on reproduction increases over time, as the original information becomes less accessible. Thus, they adopted an information processing perspective and assumed audience congruent memory biases occur due to the increased accessibility of audience congruent aspects of the original information (Echterhoff et al., 2009a). Their explanation follows a dual code approach suggesting that representations constructed through message production have a retrieval advantage compared to the representation created when reading the original information (Echterhoff et al., 2008). The advantaged retrieval might result from the more recent activation (Baddeley & Hitch, 1993), verbal representations overshadowing the original reception of the stimulus (Schooler & Engstler-Schooler, 1990), deeper processing information elements that are verbalized (Craik & Lockhart, 1972) or selective-rehearsal of the original information (Pasupathi, Stallworth, & Murdoch, 1998).

Later, Hardin and Higgins (1996) suggested that memory biases after social tuning in communication indicate the successful creation of a shared reality and

its persistent impact on individual cognition. Shared reality theory predicts that especially ambiguous stimuli (such as the evaluatively ambiguous description of the target person Donald) elicit epistemic motivation for social verification. Thus, expressing an audience congruent impression of a target in communication and experiencing commonality about it strengthens trust and confidence in the shared representation and renders the representation objective.

Empirical research under the saying-is-believing paradigm repeatedly tested this assumption and indeed found evidence that the goal of achieving a shared reality with an audience (Echterhoff et al., 2008) and the experience of a successful connection to the audience's inner state (Echterhoff et al., 2005; Echterhoff & Kopietz, 2013) account for the audience-congruent memory effects (for an overview e.g., Echterhoff & Higgins, 2017; Echterhoff et al., 2009a). Furthermore on the basis of empirical findings shared reality scholars ruled out alternative theoretical explanations for the saying-is-believing effects, such as the above-mentioned information processing accounts, as I will point out in Chapter 4.3.3.

4.3.2 From Saying-is-Believing to Sharing-is-Believing Effects

More recent research studied the conditions under which social tuning effects occur. These findings indicate, on the one hand, that communication is not always mandatory for the effect to occur and people's judgments may be influenced by others' attitudes when they do not formulate messages, for example, when the audience is a group instead of a single person (Higgins et al., 2007).

On the other hand, there are conditions under which communicators do tune to the inner state of their audience in communication, but their subsequent cognition remains unaffected. This is the case when socially tuned communication is not driven by epistemic or affiliative motivation but by the intention to be polite or entertaining (Echterhoff et al., 2005), or when people interact with a higher status audience (Echterhoff et al., 2009a). Thus, saying something to an audience is neither mandatory nor sufficient for the effect to occur. Based

Table 4.2: Definition of Effects Predicted by Shared Reality Theory

Effect	Definition
Social tuning effect or audience tuning effect	Refers to biases in individual inner states (i.e., judgments, opinions, memory) due to tuning to the ostensible characteristics of others.
Saying-is-believing effect	Effect assessed and observed in the saying-is-believing paradigm. After tailoring verbal messages to the inner states (i.e., judgments, opinions, memory) of an audience, individuals' own inner states tend to be congruent with the audience's inner states and their tailored message.
Sharing-is-believing effect	Theoretical refinement of the saying-is-believing effect. Emphasizes that not tuning to others' inner states (i.e., judgments, opinions, memory) in communication predicts subsequent audience-congruent individual inner states, but experiencing the socially tuned belief as being shared with others.

on empirical evidence for the role of shared reality creation for the effect to occur Echterhoff and Higgins (2017) proposed that we should conceptualize it as "sharing-is-believing" (p. 181) instead of saying-is-believing effect.

Moreover, there is also evidence for direct social tuning of attitudes without producing socially tuned messages (Lun et al., 2007; Sinclair, Huntsinger, Skorinko, & Hardin, 2005a). Although shared reality theory emphasizes the importance of interpersonal communication, verbal expressions are not mandatory for the establishment of shared reality (Echterhoff & Higgins, 2017; Hardin & Higgins, 1996). Affiliative and epistemic needs are assumed to elicit direct social tuning effects on opinions and attitudes too. Table 4.2 summarizes the three effects that have been derived from shared reality theory.

4.3.3 State of Research on Shared Reality Theory Under the Saying-Is-Believing Paradigm

In particular, two scholars investigated the role of shared reality for social tuning effects in the saying-is-believing paradigm: E. Tory Higgins and Gerald Echterhoff. Together with their colleagues and sometimes in collaboration, they replicated the paradigm in several experimental studies. All studies under the saying-is-believing paradigm are concerned with interpersonal perception and investigate social tuning effects on memory (e.g., Echterhoff & Higgins, 2017; Echterhoff et al., 2005; Echterhoff et al., 2008; Higgins et al., 1982; Kopietz et al., 2010; McCann et al., 1991; Pierucci et al., 2014), attitudes, or judgments (Kopietz, Echterhoff, Niemeier, Hellmann, & Memon, 2009).

With one exception (Pierucci et al., 2014), all participants received ambiguous information about a target person and were randomly assigned to one of two audience attitude conditions (positive vs. negative). Echterhoff et al. (2005) created an ambiguous essay about a target person based on existing studies in German and translated the procedure developed by Higgins and Rholes (1978) from English to German. The material was used in most of the studies conducted in Germany. In Table 4.3, I summarized the characteristic elements of the saying-is-believing paradigm. With some exceptions that I will point out, all these elements have been adopted in the studies I will outline in the following sections.

Recent work studied the role of several factors for the occurrence of the sharing-is-believing effect, such as communication goals (Echterhoff et al., 2005), audience status (Echterhoff et al., 2017; Echterhoff, Lang, Krämer, & Higgins, 2009b), audience size (Hausmann et al., 2008; Higgins et al., 2007) and group membership (Echterhoff et al., 2008), ambiguity of the target referent (Pierucci et al., 2014), and feedback on success or failure of target person identification by the audience (Echterhoff et al., 2005; Echterhoff & Kopietz, 2013). The studies identified conditions under which shared reality is sought and achieved through social tuning in communication and leads to audience-congruent individual memories and attitudes.

In the following sections, I will outline findings on boundary conditions of the sharing-is-believing effect. Studies under the saying-is-believing paradigm

investigated the epistemic function of shared reality to render ambiguous experiences valid, reliable, and objective. Although the findings suggest conclusions for the social regulatory function of shared reality, it has not been tested explicitly. I structured the chapter according to the investigated independent or mediator variables. Therefore, I will refer to some studies several times, reporting their results regarding different research questions.

4.3.3.1 Shared Reality as Communication Goal

Modifying messages according to audience characteristics is common and often necessary in interpersonal communication. However, it is not always motivated by shared reality creation but may also serve different goals such as complying with social rules of loyalty, politeness, or political correctness (Echterhoff et al., 2005). For instance if we agree with a stranger sitting next to us on a train about the bad service of the railway company in polite small talk, we do not necessarily consider this as an objective and veridical assessment. Consequently, we would not expect an audience tuned message with the goal of being polite to affect our subjective understanding of a topic.

The hypothesis is that audience tuning leads to audience-congruent cognition to the degree that it is motivated by achieving a shared reality. Echterhoff and colleagues tested this hypothesis in several studies patterned after the saying-is-believing paradigm by either explicitly prescribing the communication goal or varying the audience's attractiveness for shared reality creation.

In three experiments with students of Columbia University (Exp. 2a, $N = 57$) and University of Bielefeld, (Exp. 2b, $N = 97$, Exp. 3, $N = 67$)[1] Echterhoff

[1]The sample sizes of studies under the saying-is-believing paradigm are rather small. However, Echterhoff et al. (2005) a priori computed the optimal sample size based on an expected effect size of $d = 1.2$ and $p < .05$ for the Type I and Type II error for the mean difference of memory valence in the shared reality goal condition vs. the non shared reality goal condition. They derived this value from prior studies that investigated social tuning effects after communication (e.g., Sedikides, 1990; Todorov, 2002). In subsequent studies authors determined optimal sample sizes based on the effect sizes observed by Echterhoff et al. (2005) and other previous saying-is-believing experiments. As the observed effect sizes are usually strong, small samples have the required power to reliably detect the effects.

Table 4.3: Characteristic Elements of the Experimental Procedure Under the Saying-is-Believing Paradigm

Element of the Procedure	**Description**
Original target information	Participants receive an essay with an evaluatively ambiguous description of the behavior and personality of the target person.
Communication task	Participants are supposed to describe a target person without using his name to an audience in a way that allows the audience to identify the target person among a group of study subjects.
Audience	The audience is usually one male person.
Manipulation of audience attitude	The audience attitude about the target person is manipulated in every study under the saying-is-believing paradigm. Participants learn in a non-blatant way that the audience gained a *positive vs. negative* impression of the target person.
Message production	Participants are asked to produce a message for the audience in which they describe the target person based on the original target information.
Dependent variables	Open recall measure for which participants are asked to memorize the original target information.

et al. (2008) compared the shared reality-goal condition (describe target person Michael for audience who has to identify Michael among a group of 30 others) to conditions in which they explicitly asked participants to align the description of the target person to the audience's impression in order to 1) receive a monetary incentive (Exp. 1 and 2a), 2) entertain the audience by exaggerating message alignment to his attitude (Exp. 2b) or 3) simply to comply with the experimental instruction (Exp. 3). Although participants tuned their messages even stronger to the audience attitude in the non-shared reality conditions, across all three studies the authors found audience-congruent memory biases only in the shared reality condition ($d = 0.80 - 1.33$).

Higgins (1999) argued that individuals are rather motivated to share reality with in-group members than with members of an out-group. Thus while tuning a message to an in-group member's attitude serves shared reality creation in order to gain a valid understanding of a topic, modifying a message according to the attitude of an out-group member rather serves non-shared reality goals such as pleasing the other or being polite. Consequently, audience-tuned messages in communication with an in-group member should affect communicators' subsequent cognition to a greater extent than audience-congruent messages produced for an out-group member.

To test this hypothesis, scholars manipulated non-shared reality goals of communication more indirectly by varying the social status or group membership of the audience. In a study by Echterhoff et al. (2009b), 64 undergraduate students of the university of Cologne either communicated with a student intern (equal status) or a company board member (higher status) about another employee of their company. Participants tuned their messages to the audience's attitude regardless of his status. However, only in the equal status condition the audience tuning affected their memory of the target person ($d = 1.50$). The authors rather assumed that tuning to a higher-status audience in communication fulfills the goal of complying with the authority or pleasing him than creating shared reality. Other experiments demonstrated that tuning to a stigmatized minority or different social-economic group rather follows the rule of being polite than serving the establishment of shared reality.

Although the student participants' messages to the Turkish addressee Mehmet were evaluatively biased into the direction of his attitude, only tuning

to the German audience Armin resulted in audience congruent memory biases ($d = 1.50$; Echterhoff et al., 2008, Exp. 1). The same result was found in a study with 66 students of the University of Cologne, where the authors either presented the audience with Armin as a fellow student of the University of Cologne (in-group condition) or as a hairdresser trainee (out-group condition). Though there was a main effect of audience attitude on the evaluative tone of the messages to both the fellow student and the hairdresser trainee, the audience congruent memory-bias was only found for participants who communicated with a fellow student ($d = 1.50$; Echterhoff et al., 2005, Exp. 2).

Two insights from these experiments are remarkable: firstly, although the ambiguous target information provided in the saying-is-believing paradigm should elicit epistemic motives for shared reality creation, this was only achieved when the audience belonged to the communicator's in-group (i.e., a student term, a German student, or a fellow student), which is in line with Higgins (1999) assumption that only shared experiences with in-group members affect subsequent cognition.

With respect to shared reality about news shared on Facebook, I conclude that even if a news item elicits ambiguity, users only develop subsequent cognition congruent with the news endorsers' attitude when they consider them to be an epistemic authority, for example, a member of their in-group. There is already evidence that the relationship between news endorser and receiver matters for news perception on Facebook: Tie strength predicts selection of news shared by Facebook friends, even if the shared news content is counter-attitudinal (Anspach, 2017; Kaiser et al., 2018). Moreover, opinion leaders, who usually belong to the same social group as their followers, affect the trustworthiness of sources when they share a news story on Facebook (Turcotte et al., 2015).

Secondly, across the three experiments, the authors did not observe social tuning effects on memory after communication with an out-group member regardless of whether the out-group addressee belonged to a higher status group (company board member) or to a lower status group (stigmatized minority of Turkish in Germany or inferior socio-economic group of hairdresser

trainees). I assume social status to be irrelevant for the motivation to establish a shared reality with a news endorser who is not considered an in-group member on Facebook too. However, von Sikorski (2016) showed that in case of user comments on online news websites, people are more likely to adopt the judgment of high-status contributors who oppose the article author's view. Yet, I propose that social status is less relevant for perception of news shared by Facebook friends who users actually know. In the context of social networking, social closeness in terms of tie strength or belonging to the same social group should be more salient and thus more decisive for influence on opinion formation.

Echterhoff and their colleagues also investigated in the aforementioned studies the underlying mechanism that determines why humans are motivated to create shared reality with members of their in-group but not with someone who belongs to an out-group. They identified epistemic and relational trust in the audience as crucial mediators of social tuning effects.

4.3.3.2 Epistemic and Relational Trust as Mediators of Social Tuning Effects

In the studies outlined in the previous chapter, the authors measured whether communicators trusted their audiences view to reflect a valid and reliable assessment of the target person. They assumed that the epistemic motives elicited by the ambiguous description of the target person should be insufficient to strive for a shared reality with just any other person. Instead, people have to experience *epistemic trust* in the audience in order to rely on the validity of their audience-congruent message (Echterhoff et al., 2005). Echterhoff and their colleagues demonstrated that epistemic trust in the audience mediates the effect of shared reality manipulations (audience group-membership or communication goal) on audience-congruent message biases (Echterhoff et al., 2005; Echterhoff et al., 2008). Communicators experienced greater epistemic trust when the audience belonged to their in-group (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b) and when the goal of communication was to achieve a shared reality instead of, for example, to entertain the audience (Echterhoff et al., 2008, Exp. 2b). Epistemic trust in a communication partner

is thus an antecedent for the achievement of shared reality in interpersonal communication.

It is important to note that epistemic trust does not merely feed on expertise or domain specific competence but on the *epistemic authority* of a communication partner. In lay epistemic theory, the epistemic authority of a source is defined as the degree to which an individual is willing to rely on the information and opinion it provides and considers them as veridical. As such, epistemic authority is related to the concept of source credibility and is assumed to be superior to expertise for deriving valid judgments (Kruglanski, Dechesne, Orehek, & Pierro, 2009; Kruglanski, Pierro, Mannetti, & de Grada, 2006). Group norms and consensus among in-group members are considered to provide epistemic authority for the individual (Shah et al., 1998). Thus, epistemic trust in in-group members is generally stronger than epistemic trust in out-group members.

In line with this proposition, the findings of Echterhoff et al. (2009b) indicate that the epistemic authority of one's in-group is more relevant than the expertise of an out-group, as student communicators experienced greater epistemic trust in a student intern than in a company board member with regard to their assessment of another employee ($d = 0.53$). Furthermore as social tuning effects on memory only occurred in the student intern condition, the results suggest that epistemic trust is critical for shared reality creation while expertise does not account for audience-congruent memory biases (see Chapter 4.3.3.1).

Echterhoff et al. (2005) first measured epistemic trust by asking the communicators "Do you think that Armin [the audience] is a person whose judgment about other people one can trust?" (p. 264). Higgins et al. (2007) complemented the measure with an item to measure epistemic trust in the audience-congruent message. Later, Echterhoff et al. (2008, Exp. 2) developed a more elaborated 8-item measure that captured participants epistemic trust in their audience and in the audience-congruent message. Some subsequent studies used this measure (Echterhoff et al., 2009b), while others applied shorter versions (Echterhoff et al., 2017; Pierucci et al., 2014).

In their study of social tuning effects after communication with an equal vs. higher status audience (see Chapter 4.3.3.1), Echterhoff et al. (2009b)

Table 4.4: Definition of Epistemic and Relational Trust

Type of trust	Definition
Epistemic trust	The extent to which an individual believes that a communication partner provides a reliable and valid views of a target referent. Epistemic trust is rather rooted in the epistemic authority of group norms than in domain specific expertise.
Relational trust	The extent to which individuals feel close to and connected with a communication partner.

additionally measured relational trust in the audience with five items that capture perceived closeness and relatedness, such as "How close do you feel to Mr. Peters (your addressee)?" and ""How much do you feel your view harmonizes with Mr. Peters' view on Mr. Hansen?"(p. 154). Like epistemic trust, relational trust was higher in the equal status audience, a student intern called Mr. Peter, than in the high status audience, a company board member called Mr. Peter. Unfortunately, the authors did not test the mediating role of epistemic and relational trust separately but combined the eight items measuring epistemic trust with the five relational trust items into a single trust score. The decision was neither in line with the theoretical concepts nor did they test the uni-dimensionality with a factor analysis. As relational and epistemic trust, although interrelated, are distinct theoretical concepts, it would be more valid to treat them as such in statistical analyses.

The constructs epistemic and relational trust have not been investigated in the context of social influence on news perception on Facebook. However, the similarity/agreement heuristic captures a similar concept: the human tendency to assume that others we like and who are similar to us have a valid grasp of reality (Chaiken, 1987). As epistemic and relational trust measures in saying-is-believing studies, the similarity heuristic makes individuals agree with similar others they like. This heuristic is reflected in Facebook users'

preference for news shared by strong ties and in more favorable evaluations of news shared by Facebook friends (Jungnickel & Maireder, 2015; Kaiser et al., 2018; Turcotte et al., 2015). Hence, assessing epistemic and relational trust in a news endorser and their mediating role for social tuning effects on opinion formation can contribute to understanding the underlying mechanisms of social influence on news perception and opinion formation on Facebook.

4.3.3.3 Increasing Epistemic Trust in Out-Group Members

As humans tend to favor in-group members as epistemic authorities for social verification of individual experiences, shared reality seems to play a role for biases in intergroup relations. A considerable share of our everyday communication is with persons, who belong to an out-group, as they have different cultural backgrounds, nationalities, or political beliefs. Echterhoff et al. (2017) wondered, whether humans always resist shared reality creation with an out-group audience or whether there are conditions, under which tailoring a message to an out-group audience can actually cause audience congruent memory biases. To address this question, they investigated intergroup communication of people belonging to the German majority and to the minority of Turks in Germany.

Echterhoff et al. (2017, Exp. 1) first replicated the 2 x 2 between-subjects design of Experiment 1 from Echterhoff et al. (2008) and had 64 German students communicate with a German in-group audience, Thomas, or a Turkish out-group audience, Ahmed, about a German target person, Michael (Exp. 1a). In line with the original study, they found that participants tuned the valence of their messages about the target person in both conditions, but the social tuning effect on memory only occurred after they communicated with the German in-group audience ($\eta_p^2 = .37$). Furthermore, the correlation between the valence of the audience tuned message and the recall valence was significantly higher for in-group than for the out-group audience.

They replicated the study again with two crucial changes: the sample consisted of 50 students with a Turkish background living in Germany and the target person was also Turkish (Mehmet instead of Michael). The manipulations were the same as in Experiment 1a, with the difference that the

Turkish addressee Ahmed now was the in-group but minority audience and the German addressee Thomas was the out-group but majority. In line with their assumptions, Echterhoff et al. (2017) found that communicators aligned the valence of their messages to the audience attitude in all conditions but social tuning had a significant effect on subsequent memory only when participants communicated with a Turkish audience belonging to their in-group ($\eta_p^2 = .18$). However, the correlation between message valence and recall valence was small and not significant with $r = .69$ in the in-group and $r = .59$ in the out-group audience condition.

Although an earlier study indicated that a higher status is not decisive for shared reality creation (Echterhoff et al., 2009b), Experiment 1a could not eliminate a confounding of group membership and status. Members of disadvantaged, low-status groups often exhibit favoritism for higher status out-groups (Jost, Banaji, & Nosek, 2004). In Germany, the Turks are a devalued and stigmatized minority and it is thus conceivable that a Turkish communicator will trust a German out-group audience just as much or even more, because of the higher competence admitted to the higher status of the majority group (Echterhoff et al., 2017).

In Experiment 2, a study with a 2 x 2 between-subjects design, 100 German students communicated with a Turkish out-group audience either about the Turkish target person Mehmet, a member of the communicator's out-group but audience's in-group or about Michael, a German target person belonging to the communicator's in-group and to the audience's out-group. As expected, participants tuned the valence of their messages about both target persons to the attitude of the Turkish out-group audience. However, there was no social tuning effect on subsequent memory when the target person was German but a significant social tuning effect when the target person was Turkish ($\eta_p^2 = .06$). The correlation between message valance and recall valence was significantly higher when the target was a member of the audiences in-group ($r = .67$) than when he belonged to the audience's out-group ($r = .37$). Furthermore, the authors found that communicators had greater epistemic trust in the Turkish audience, when the target person was a Turk and when the audience attitude was positive.

Contrary to previous studies (e.g., Echterhoff et al. 2008, Exp.1, Echterhoff & Higgins 2017, Exp. 1a & 1b) when the target person was from the same social group as the audience, communicators did not only tune to the out-group audience's attitude by modifying the valence of their messages but also created a shared reality with the out-group member, which was reflected by the audience congruent memory bias. Communicating with an out-group member about someone from his in-group seems to enhance his epistemic authority and renders him an adequate partner for achieving a shared reality. More generally, when we seek to gain a valid and reliable understanding of a topic, where someone of an out-group has high competence, we are motivated to create shared reality across the intergroup divide (Echterhoff et al., 2017).

With regard to news internalizing on Facebook, this finding indicates that users might not only be willing to establish a shared reality with news endorsers who are socially close, but also with those who are experts on the news topic. The motivation to achieve shared reality with an expert is reflected in the expert heuristic, the tendency to trust in the judgment of Facebook friends who are regarded as savvy in a certain field (Chaiken, 1980). Users may trust an expert's judgment even though they do not like him, consider him a strong tie, or a member of their in-group. Yet, epistemic trust in an out-group member is limited to the field of his expertise. For example, a user may be willing to achieve shared reality about the resettlement of wolves in Western European forests with a forest ranger he once met on an excursion, but he would not trust the ranger's judgment about a new tax law. Given the extended and heterogeneous social networks users tend to maintain on Facebook, it is likely that they include out-group experts who tend to share news related to the field of their expertise. Thus, it is likely that encounters with expert-endorsed news content elicit the motivation to establish a shared reality and cause social tuning effects on opinion formation as well.

4.3.3.4 Social Tuning Effects Without Message Tailoring

In their initial study Higgins and Rholes (1978) did not observe effects of audience attitude on memory, when participants did not produce a message.

They deduced from this finding that saying – the verbal encoding of an audience tuned view – is mandatory for social tuning effects to occur. However, their results contradicted evidence from earlier approaches by Schramm and Danielson (1958) and Zimmerman and Bauer (1956) in which the anticipated audience was a group. In these studies, merely knowing the audiences attitude towards a target referent was sufficient to elicit audience-congruent biased representations of the target referent. In studies under the saying-is-believing paradigm, however, the audience usually is an unknown single person whose epistemic authority should be rather weak. Only by echoing the audience view in a message, communicators gain confidence in its validity (Higgins et al., 2007).

Higgins et al. (2007) deduced from these assumptions that social tuning effects should emerge *without producing a message* when epistemic trust in the audience is sufficiently high, which should apply to a group consensus about the target. They tested the hypothesis with an experimental design ($N = 127$) in which they manipulated the audiences size (single vs. group) and message production (with vs. without) besides the manipulation of the audience attitude.

When participants produced a message, it was evaluatively biased in the direction of the audience attitude for both the single person and the group. Regarding the audience attitude effects on memory of the original target information, the authors found a three-way interaction: there were social tuning effects in the single audience condition only when participants produced a message ($d = 2.11$), and in the group audience condition only when they *did not* produce a message ($d = 1.17$). The correlation between evaluative tone of the message and the memory was stronger in the single audience condition than in the group audience condition, indicating that communicators in the single audience condition relied on their message to a greater extent than did those in the group condition. In line with their assumption, the authors observed greater epistemic trust in the group audience than in the single person. Interestingly, they observed a main effect of audience attitude on epistemic trust with greater trust in audiences who held a positive attitude. Another interesting observation, although it did not reach statistical significance, was a

tendency for higher epistemic trust in the view reflected in their own message for participants who communicated with a single person compared to those who communicated with a group audience.

The study provides evidence that there are two ways of experiencing a shared reality. Either through high epistemic trust in an audience's view or through epistemic trust in one's own statement, when epistemic trust in audience is rather low. As individuals tend to evaluatively tune to their audience in communication, both mechanisms result in audience congruent representations of a target referent. These insights are complemented by the results of Hausmann et al. (2008, Exp. 1), who also found that social tuning effects were not mediated by a prior audience-congruent message when the audience was a group who shared an impression of a target referent. In a first experiment with 187 students, the target referent of communication was a group instead of an individual person and participants either communicated with a single person or with a group of three persons. Although they modified the evaluative tone of their message in congruence with the audience attitude for both the single and group audience, the authors observed the sharing-is-believing effect only in the single audience condition. In the group audience condition, however, the audience's attitude directly affected memory and impression of the target group.

In line with Higgins et al. (2007), Hausmann et al. (2008) explained this finding with the greater epistemic authority of a group compared to an individual. An attitude that is consensually shared within a group is accepted as valid and reliable and thus, there is no need to rely on one's own attitude expressed in a message.

This insight is of great value for conceptualizing sharing-is-believing effects on Facebook. On the one hand, the majority of users rarely reacts with a verbal expression of their thoughts on news posts (Hölig & Hasebrink, 2018, p. 49). On the other hand, the social cues in news posts often include comments of several other users. The increased epistemic authority of consensus among many others provides an explanation why scholars found consensus among user comments to impact opinion formation about mass media content (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010; Winter, 2019). However when users

are exposed to a news post shared by one of their Facebook friends without additional comments from other users, sharing-is-believing effects should only occur when they tune to the friend's view in a comment or message.

In order to investigate conditions under which the sharing-is-believing effect would occur with a group audience, Hausmann et al. (2008, Exp. 2) conducted a follow-up study in which all 94 participants produced messages for a three person audience and received feedback that their audience identified the target group based on their description. This time, the effect of audience attitude on recall bias and impression was mediated by the evaluative tone of the messages that participants produced for the group audience. They observed the sharing-is-believing effect also for a group audience. The authors suppose that the fact that communicators were confident that the impression conveyed in their message was deemed valid by the whole group audience increased epistemic trust in their own message and thus their memory and impression of the target group was affected by the evaluative tone of the message.

Altogether, these findings raise the question of why the sharing-is-believing effect did not occur after communicators tuned a message to a group audience. It is conceivable that a group audience elicits pressure for conformity and individuals consider the audience tuned message rather as compliance with the group norm than as expression of a valid view of the target referent. They might experience their message rather to be about the audience than about the target referent. In this case, the goal of audience tuning is not the achievement of a shared reality (Echterhoff et al., 2005; Echterhoff et al., 2008). By providing feedback on the correct identification of the target person, Hausmann et al. (2008) increased the epistemic trust in the audience tuned message and thereby, communicators experienced a shared reality with their audience.

In a study with a 2 x 2 x 2 between-subjects experimental design, Echterhoff et al. (2017, Exp. 3) had 128 German students communicate with an audience group of three male Turks who shared an either positive or negative attitude towards an either Turkish or German target person. Half of the participants drafted a message about the target person for the audience and the other half did not. They found that participants who produced a message tuned its valence to the audience group's attitude regardless of whether the target

person was from the audience's in-group (Mehmet) or from their out-group (Michael). Given that the social tuning effect on memory occurred whether or not participants produced a message, a simple main effects analysis of audience attitude in the two target person group conditions revealed stronger effects of audience attitude on recall when the target person was Turkish ($\eta_p^2 = .28$), than when the target person was German ($\eta_p^2 = .04$). Participants experienced slightly higher epistemic trust in the group audience when the target person was a member of their in-group than when it was from the audience's out-group ($\eta_p^2 = .03$). The difference only approached significance.

The results demonstrate that an audience consisting of multiple members of an out-group not only provides sufficient epistemic authority for shared reality creation about another member of their social group, but also for establishing a valid and reliable impression of a target person from one's own in-group. The epistemic trust in an out-group multi-person audience is strong enough to elicit social tuning effects even when communicators do not produce messages (Echterhoff et al., 2017).

With regard to the context of news internalizing on Facebook, these findings implicate that in presence of consensus among several other users about a news article, social identification is of minor importance. This conclusion is in line with observed effects of user comment valence on opinion formation about news articles on social media and news websites (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010; von Sikorski & Hänelt, 2016). However, I am interested in social tuning effects on opinion formation elicited by single news endorsers. Thus, this insight of shared reality research is of little relevance for my hypotheses.

4.3.3.5 No Social Tuning Effects Without Commonality of Inner States

Humans tend to believe that others think the same as they do. Thus even if they receive no feedback about the correctness of the perceived shared reality, they experience a successful commonality of inner states in the saying-is-believing paradigm (Echterhoff et al., 2005). In several studies, Echterhoff and colleagues investigated the role of feedback on correct or failed identification of the target

person. First of all, Echterhoff et al. (2005, Exp. 1) conducted an experiment with 65 students in which they manipulated identification feedback by telling participants either that the audience successfully identified the target person or failed to guess who they had described in their message. They found that although all participants created messages that were in line with the audience attitude towards the target person, only when they were told the audience correctly identified the target person, participant's recall of the target person was biased in the direction of their audience tuned message and thus, in the direction of the audience attitude ($d = 1.23$). There was no such effect for the identification-failure group. This finding is in line with shared reality theory: when a belief established through social interaction with another person turns out not to be reliable, it should not affect subsequent cognition.

As Echterhoff et al. (2005) found in the previously described Experiment 2 (Chapter 4.3.3.1) that social tuning to an in-group member elicits sharing-is-believing effects while tuning to an out-group audience had no effect on subsequent cognition, they wondered whether success feedback could increase epistemic trust in an out-group audience. In Experiment 3 ($N = 127$), they combined the feedback and the audience group membership manipulation. They replicated the social tuning effect from Experiment 1 for the in-group audience when participants received success-feedback ($d = 1.40$). Failure-feedback eliminated social tuning effects on memory of the original target information. With regard to success-feedback in the out-group audience condition, they found a smaller but still large social tuning effect ($d = 0.62$) which did not reach statistical significance because of the small sample size. Furthermore, success-feedback increased epistemic trust in the out-group audience. The correct identification of the target person by the audience seemed to render the shared view highly valid and reliable, even when the sharing partner's status as an out-group member generally inspired low confidence (see Echterhoff et al., 2005, Exp. 2).

Echterhoff and Kopietz (2013, Exp. 1) further investigated under which conditions success-feedback might render an out-group audience trustworthy enough for the establishment of shared reality. They let 70 German students communicate with an out-group audience, a Turk called Ahmed, and varied

whether the experimenter or the audience himself confirmed the successful identification of the target person. Communicators turned to Ahmed's attitude regardless whether it was positive or negative in their messages. The social tuning effect, however, only occurred in the condition where Ahmed personally gave feedback ($d = 1.16$). Consequently, personal feedback seems to elicit shared reality creation under unfavorable conditions. An additional measure of out-group perception indicated that personnel feedback in this study did not improve attitude towards out-group in general but that the establishment of shared reality depended on the personal communication. This finding is particularly interesting for intergroup interaction in our multicultural society, as it indicates that personal connections between members of different social, ethnic, or political groups can overcome the social categorization of group membership and allow the creation of shared reality (Echterhoff & Kopietz, 2013).

What does this mean for shared reality about news shared on Facebook? First of all, social cues in news posts reveal a news endorser's inner state to different degrees: liking or sharing an article makes it more difficult to guess what someone thinks about it as compared to when the post includes a verbal opinion statement (J. Choi, 2016b). Hence, it is possible that users erroneously perceive an opinion as shared by the news endorser when the experienced commonality is based on ambiguous social cues. For example, when a user encounters a news article about the veggie day liked by one of her friends, she might erroneously believe that her friend supports the idea. She would experience a shared reality with him when she expresses enthusiasm for the veggie day in a comment on the news post. However when the friend responds by clarifying that he is not a supporter at all but rather wanted to let others know about the absurd suggestion, the user may no longer perceive her enthusiasm as valid and reliable. The sense of shared reality and effects on own opinion should diminish.

On the other hand, when an audience tuned response to a news post is ensued by an affirming news endorser reaction, a user might even experience her opinion as valid and reliable, when the news endorser is an out-group member. In this way, interpersonal communication about news on Facebook

may bring weak ties and even users from different social groups closer. In other words, the establishment of shared reality about news topics may increase bonding social capital (Ellison et al., 2007).

4.3.4 Personal Connection Is Mandatory for Shared Reality

While especially personal feedback on the correct identification of a target person may strengthen the connection to an audience and thus the experience of a shared reality, Echterhoff (2013) wondered whether an interruption of the interpersonal connection would diminish a shared reality. Without explicit feedback, participants in saying-is-believing studies seem to believe that their messages reached the intended audience and the target person was correctly identified by their audience. Thus, they experience a shared reality that influences their individual representation of the target person. But would people still experience a shared reality when they learn that someone else than the intended audience received their message?

Building on the earlier findings that humans refrain from creating a shared reality with a member of their out-group, Echterhoff and Kopietz (2013, Exp. 2) hypothesized that there should be no sharing-is-believing effect when communicators learn that their message had been delivered to and read by a member of an out-group before they have to recall the initial target information. They tested this hypothesis with a 2 x 2 between-subjects design with $N = 69$ participants in which they manipulated the valence of the audience attitude and whether or not the audience changed from an in-group member (Thomas) to an out-group member (Ahmed) with the same attitude after message production. There was a main effect of audience attitude on message valence ($\eta_p^2 = .22$). As predicted, the authors found the social tuning effect on recall only when the audience did not change ($d = 0.90$). When the audience changed to an out-group member, the recall bias was not congruent with the valence of the audience attitude. A disconnection from the initial in-group audience to an out-group audience diminished social tuning effects on memory, even though

the out-group audience shared the in-group audience's attitude on the target person.

In this first investigation of the role of disconnection from the audience on shared reality creation, Echterhoff and Kopietz (2013) changed the audience from an in-group to an out-group member in order to "make the disruption as salient as possible" (p. 172). However, this decision prevented them from distinguishing whether the sharing-is-believing effect was diminished by the interruption of the interpersonal connection to the initial audience or by the communicators' refusal to create a shared reality with an out-group member. They aimed at disentangling possible explanations in a replication of their experiment in which they added a third variation to the audience change manipulation: a change from the initial in-group audience Thomas to a different in-group audience named Christian (Echterhoff & Kopietz, 2013, Exp. 3). They further integrated the finding from Experiment 1 that personal feedback on successful identification supports the creation of a shared reality.

They replicated the study with a 2 x 3 between-subjects design with 118 German students. In line with Experiment 2, the authors observed a main effect of audience attitude on message valence. Furthermore, the sharing-is-believing effect again occurred only when the audience remained unchanged ($d = 1.34$). The disconnection from the initial audience caused the absence of an audience-congruent memory bias, regardless of whether the new audience belonged to the in- or the out-group. This implies that the personal identity of a communication partner is crucial for the sharing-is-believing effect to occur, not his group identity.

The findings reflect the interrelation of the personal connection between communicators and the provision of epistemic authority. When communicators do not experience a personal connection to their audience, they will not experience a shared reality and subsequent cognition (such as the memory or impression of a target referent) remains independent from influences of the audience congruent message.

These insights are of minor importance for sharing-is-believing effects on news perception on Facebook. The affordances of association and persistence entail lasting links between communicator and target, that is, a news endorser

and the shared news item (e.g., boyd, 2010; Treem & Leonardi, 2013). When users respond to a news post, their reaction is also persistently associated with both the news item and the news endorser. Thus, the audience tuned response usually reaches the news endorser. However, we could think of a situation where a user, after having tuned her response to the news endorser's ostensible opinion, learns that a third person had used her friend's smartphone and shared the article against his wishes. Such an occurrence is rather unlikely, though.

4.3.5 Unambiguous Stimuli Do Not Elicit Epistemic Needs for Shared Reality

According to the basic claim of the theory, the establishment of shared reality serves the reduction of uncertainty about subjective experiences (Hardin & Higgins, 1996). In the saying-is-believing paradigm, the ambiguous description of the target person is meant to elicit the epistemic need to gain a reliable and valid understanding of the target person. Under conditions favorable for shared reality creation, participants achieve this by tuning their impression of the target person to the audience's view, which influences their subsequent representation of the target person. But do humans also seek social validation provided by shared reality, when a stimulus is unambiguous?

Pierucci et al. (2014) investigated the role of target referent ambiguity in an experiment with a 2 x 2 between-subjects design with 60 female psychology students. Instead of an ambiguous description of a target person's personality, their stimulus was a description of sexual harassment at the workplace by a male supervisor towards a female employee. The authors manipulated ambiguity of sexual harassment by varying whether the outcome of the harassing behavior was unknown or known. In this study, the audience allegedly was a psychology student who knew both the male supervisor and the female employee from an internship at the company and gained either a positive or negative impression of the supervisor.

The female participants tuned their description of the supervisor to the audience only in the unknown outcome condition ($\eta_p^2 = .23$). The audience

attitude also affected their recall of the original information about the supervisor only in the unknown outcome condition ($\eta_p^2 = .08$). The message valence mediated the effect of audience attitude on recall valence. Epistemic trust in the audience, the intern, was positively correlated with message bias ($r = .41$) and recall bias ($r = .36$) in the unknown outcome conditions, but there was a non-significant negative correlation in the known outcome condition. Thus, there was no alignment of messages and recall in the condition where the outcome of sexual harassment was known and thus certain and unambiguous.

The findings support the before untested assumption that the ambiguity of a target referent is decisive for the epistemic motivation to establish a shared reality. Only when people experience an event as ambiguous (like sexual harassment), are they motivated to rely on others' assessments when forming their own judgment, which then shapes their memory in the long term. When a target is unambiguous, people are confident of their individual interpretation and do not even tune to an audience's view in interpersonal communication (Pierucci et al., 2014).

This result implies that Facebook users will experience the epistemic need for shared reality only if a shared news article elicits ambiguity. Given the large and heterogeneous social networks users create on Facebook (e.g., Child & Westermann, 2013; Greitemeyer, 2016; Manago et al., 2012; Steinfield et al., 2008; Su & Chan, 2017) and the exposure to heterogeneous and ideologically diverse topics (e.g., Bakshy et al., 2015; Beam et al., 2018; Flaxman et al., 2016; J. K. Lee & Kim, 2017; Lu & Lee, 2019), I have reason to believe that users are likely to encounter ambiguous news content and experience the epistemic need for shared reality.

Whether or not news is perceived as ambiguous may depend on various factors. Some emanate from the article, such as the mediated state of knowledge about an event and its consequences, plurality of opinions compared in the text, or the complexity of the subject matter. Individual factors such as prior knowledge about the topic or attitude strength also determine the level of perceived ambiguity. Thus, while a consideration of pros and cons of the veggie day may elicit ambiguity in Mia, someone who is strictly pro vegetarianism may not perceive any ambiguity as the pros generally preponderate for him and he already gained strong epistemic trust in his this judgment.

Consequently, for the investigation of sharing-is-believing effects on opinion formation about news shared on Facebook, it is important to use a stimulus article that elicits ambiguity and thereby an epistemic motivation for shared reality creation in all participants. This is a major challenge when adapting the saying-is-believing paradigm for the context of news internalizing on the SNS.

4.3.6 Established Shared Beliefs Resist Social Tuning to New Audiences

Besides from low epistemic trust in a communication partner and high epistemic trust in one's own perception of a stimulus, an already existing shared reality may further explain why people refrain from creating a shared reality in social interaction.

McCann et al. (1991) tested this hypothesis with a 2 x 2 x 2 between-subjects design ($N = 80$) in which the task for participants was to form an impression of the target person in order to help two male students, who ostensibly had to select a new roommate. They then had to communicate their impression face-to-face to two confederates one after the other. The authors manipulated the attitude of both communication partners so that the first ostensibly had a positive and the second a negative attitude towards target person or vice versa. They also varied the time delay between the communication encounters with the two confederates, which was either 15 minutes or seven days.

All participants aligned the evaluative valence of their message to the attitude of the first audience, but only those in the brief delay condition also tuned their message to the opposing attitude of the second communication partner. With regard to social tuning effects, impression and attitude towards the target person were biased towards the attitude of the first communication partner in the long delay condition whereas after a brief delay, participants' memory and attitude were more evaluatively congruent with the attitude of the second audience.

The authors concluded that these results are in line with information processing mechanisms proposed by the communication game approach according

to which the initial verbal encoding of information increasingly influences subsequent communication and memory of the original information over time (McCann et al., 1991).

These findings also indicate the role of competing shared realities for individual experience. Once individuals have established a shared reality about a certain aspect of the world, it remains decisive for their understanding and reduces the motivation for shared reality creation that would lead to an opposing view in subsequent social interactions. Based on construct accessibility research, Hardin and Higgins (1996) argued that a shared reality might even become chronically available for the individual when it has been established and maintained repeatedly across different social interactions. A chronically available shared reality survives even under conditions in which individuals establish conflicting shared realities.

This again is highly relevant for investigating shared reality on Facebook and may explain why users do not develop an opinion that is congruent with the news endorser's attitude. Imagine after Mia established the shared reality with her friends that the veggie day is a rather bad approach, she encounters a news article in support of the idea posted by her vegetarian brother. Although she may trust her brother's judgment and even leaves a comment in which she applauds the advance, it won't change her opinion. Thus, I propose that users who are confident enough to have already achieved a valid view of an issue that is rooted in shared reality are less susceptible for social influences when exposed to news about the very issue on Facebook.

4.3.7 Social Tuning to Others' Knowledge

Most of the studies under the saying-is-believing paradigm manipulated the attitude of the ostensible communication partner, which was then taken into account by communicators who aligned the evaluative tone of their messages accordingly. According to the communication game approach, communicators should also adapt their behavior dependent on their audience's knowledge. When I assume that someone has different knowledge than I, I might extend his knowledge by simply telling him the facts I know. However when we have

the same knowledge level, I would not tell him anything valuable by retelling him what he already knows. Adding my subjective view on the target, however, might provide added value.

In a study with 80 students, Higgins et al. (1982) found that communicators who believed that their audience received different information about a target person produced messages that contained more unchanged information and were less evaluatively distorted than did those who assumed the audience received the same information. In the experiment, participants reproduced the original stimulus information and rated their impression of the stimulus person twice, once before they produced a message for the audience and once after. In the same knowledge condition the number of unchanged descriptions from the original text decreased from the pre-message reproduction to the post-message reproduction and the number of unchanged descriptions in the message and in the post-message reproduction correlated more strongly in the different knowledge condition than in the same knowledge condition (Higgins et al., 1982).

The implication of this study is that speakers emphasize impression over description when they assume that their audience has the same knowledge as they have or they emphasize description over interpretation, when the audience has a different knowledge. The speaker's goal is crucial for biases in verbal encoding and subsequent recall of information (Higgins et al., 1982).

Transferring these insights to the Facebook context indicates that users should be more likely to respond with new information and evaluative statements to a news post. The shared news article can be considered a common knowledge base, as news endorser and receiver are both supposed to know its content. Accordingly, it seems likely that users will emphasize their opinion about the topic in a verbal reaction and that news endorser congruent verbal responses imply sharing-is-believing effects.

4.3.8 Time of Epistemic Input from Others

The saying-is-believing paradigm was developed to reflect the conditions for interpersonal communication modeled in the communication game approach.

However, the fact that the communication goal and the audience attitude are always manipulated before communicators receive and encode the target information renders this scenario applicable to a limited extent to the reality of our everyday communication. In everyday life, it is rather unlikely that we are aware of a communication and the attitude of our communication partner before we experience a target referent (Kopietz et al., 2010).

Remember our example of Mia encoding the suggestion on the veggie day when listening to the news. In that moment, she does not have a clear communication goal in mind. She perceives and processes the information independently. In fact, we can imagine that she will talk about the topic with several other people during the day, such as her boss, who thinks that a veggie day is ridiculous or her sister, who is a vegetarian and partisan of the Green party and finally, her green-minded friends. Although she might be motivated to align her opinion about the topic to her audiences in each of the conversations, only when discussing the suggestion with her friends tuning to the audience's opinion satisfies the epistemic motivation to establish a shared reality. The example further illustrates that even if Mia immediately thought of discussing the veggie day suggestion with her friends when she heard of it, she could not be sure whether her green-minded friends would support or refuse it.

Demonstrating that individuals create shared reality in situations where they encode information about a target referent before they learn the communication goal and the attitude of their audience thus strengthens evidence for the importance of shared reality in everyday communication. It also enhances our understanding of the process underlying the sharing-is-believing effect, whether it occurs due do selective encoding of the original information or by deliberately relying on another person's view when forming a confident judgment.

In a study with 156 students and a 2 x 2 x 2 between-subjects experimental design, Kopietz et al. (2010) investigated the role of timing of the manipulation of audience attitude and communication goal for audience tuning and sharing-is-believing effects. Besides the valence of the audience attitude, they manipulated the communication goal (shared reality creation vs. compliance), and whether participants received both manipulations before or after they read the initial

ambiguous stimulus information. The authors observed a main effect of audience attitude on message valence across all conditions. In line with previous findings (see Chapter 4.3.3.1), they measured an audience-congruent recall bias only in the shared reality conditions, regardless of whether they manipulated audience attitude and communication goal before ($\eta_p^2 = .10$) or after ($\eta_p^2 = .07$) participants read the stimulus text.

The findings demonstrate that the motivation to create a shared reality and its realization through audience tuned communication result in a reorganization of previously acquired cognition. They emphasize the significance of sharing-is-believing effects in everyday communication where it is rather unlikely that humans are aware of a communication goal and their communication partner's attitude when encoding information about a target referent.

While these results are valuable for the external validity of the sharing-is-believing effect in interpersonal communication, they are of minor relevance for news internalizing on Facebook. In this context, due to the affordances association and persistence, target information and news endorser attitude are always presented simultaneously (e.g., boyd, 2010; Treem & Leonardi, 2013). However, it is conceivable that the communication goal of establishing a shared reality may develop during reading and users return to the news post to find out what their friend thinks about the topic. In either case, I assume social tuning effects of ostensible news endorser attitude on opinion formation.

4.3.9 The Role of Individual Differences

Empirical research under the saying-is-believing paradigm aims at identifying the circumstances under which the mere awareness of an audience's attitude or tuning to this attitude in communication lead to sharing-is-believing effects on subsequent memory. I have already considered the role of communication goals, epistemic authority of the audience, successful personal connection, and ambiguity of a target referent.

A further source of motivation may be the individual's personality. It is reasonable to assume that humans differ with regard to epistemic trust in their own judgment. Depending on their expertise in certain topics or on their general

self-confidence, their need to achieve epistemic certainty through shared reality creation varies (Kopietz et al., 2010). A high need for cognitive closure – the effortless achievement and maintenance of the understanding of a situation or target (Kruglanski, 1989) – might foster an individual's motivation to establish shared realities. Furthermore, Higgins (1992) argued that a person's tendency to please others, particularly when they have power or high status, should elicit super-tuning in communication. Hence, a person's authoritarianism should impact her willingness to achieve a shared understanding with others.

Kopietz et al. (2010, Exp. 2) investigated the role of the individual need for epistemic certainty on sharing-is-believing effects. In a 2 x 2 between-subjects design with 74 students, the authors manipulated participants' need for epistemic certainty by providing them with bogus feedback on their ability regarding social judgment and impression formation. While a positive feedback should strengthen their epistemic certainty when assessing other persons, negative feedback should elicit the epistemic need to rely on a third party's judgment. In line with their hypothesis, only participants who had been attested a low ability in social judgments tuned their description of a target person to the audience attitude ($\eta_p^2 = .11$). It also took them longer to produce the message than those who experienced high epistemic certainty. Interestingly, the authors found an audience congruent memory bias in both need for epistemic certainty conditions, but only in the high epistemic need condition was the effect mediated by the valence of the message to the audience.

Kopietz et al. (2010) suggested that while participants in the low need condition were not motivated to create a shared reality with the audience, they still considered his attitude as an additional information source for creating an impression of the target person. The underlying mechanism of the combined effect of communicators' own impression and the audience attitude remains unclear.

In the experiment depicted above on shared reality creation in an organizational context, Echterhoff et al. (2009b) manipulated the audience status (equal: student intern vs. higher: board member) and investigated how it interacts with measures of need for cognitive closure and authoritarianism.

They found a stronger audience-congruent memory bias for participants with a high need for cognitive closure ($r = .22$), but no association between

the strength of audience tuning in the messages and need for cognitive closure. With regard to differences in authoritarianism, the authors found the strongest audience tuning of messages for high-authoritarians who communicated with a higher status audience. Remember that participants did not show social tuning effects on memory when communicating with the higher-status audience. This finding was independent from individual levels of authoritarianism. Higher scores on the authoritarianism measures were not associated with an audience congruent memory bias. Hence, high levels of authoritarianism did not increase the motivation to create a shared reality with a higher-status audience.

A similar study was conducted by Higgins and McCann (1984) with 159 psychology students at Ohio State University. They found that high-authoritarians super-tuned their messages to a higher-status audience whereas low authoritarians resisted tuning. Individual authoritarianism was not associated with the strength of audience tuning when the audience was an equal status student. Different than Echterhoff et al. (2009b), the authors observed social tuning effects on memory for both the equal-status and the higher-status audience. In Higgins and McCann's study both audiences were students from the same university, with the higher-status audience being introduced as a senior graduate student and the equal-status audience as a fellow undergraduate student. It is likely that participants considered both as adequate partners for shared reality creation (Echterhoff et al., 2009b).

In summary, the investigated personality traits are associated quite differently with audience tuning and social tuning effects. High-authoritarians respond to true higher-status audiences by super-tuning communication to their characteristics, but yet they are not motivated to create a shared reality and the extreme tuning does not affect their representation of the target referent. As opposed to this, the level of need for cognitive closure is not related to the strength of audience tuning in communication. Instead, the individual representation of the target referent is more strongly determined by the audience attitude when someone has a strong need for cognitive closure. A low need for epistemic certainty prevents individuals from tailoring messages to an audience's view, but they still take it into account and form an audience-congruent representation of a target referent.

The latter insight is especially important for social tuning effects on opinion formation about news shared on Facebook. It indicates that even though a user would not tune his reaction to a news post to the ostensible news endorser opinion because he trusts in his own judgment, he will still consider the news endorser's view when forming an opinion. As people are supposed to form opinions about news topics for themselves, they are likely to have rather strong epistemic trust in their own judgments and not to express news endorser congruent messages in response of a news post. Yet, building on the results of Kopietz et al. (2010), I presume that their subsequent opinion on the topic should be influenced by the news endorser's view.

In Chapter 4.3.3.1, I argued that social status is not a salient category on Facebook, where roles from different social contexts conflate into one list of friends (boyd, 2010; Hogan, 2010; Vitak, 2012). Accordingly, I presume that authoritarianism does not explain individual differences in sharing-is-believing effects. What is more important is the motivation to maintain and develop relationships on the SNS, driven by the fundamental human need to belong (e.g., Baumeister & Leary, 1995; Ellison et al., 2007; Ferris & Hollenbaugh, 2018; Park & Lee, 2014; Reich et al., 2012; Sheldon, 2008). I assert that individual differences of need to belong predict news endorser congruent opinions about shared news articles.

4.3.10 The Role of Shared Reality for Eyewitness Memory and Judgment

The standard procedure of the saying-is-believing paradigm creates a rather unusual and artificial situation for interpersonal communication. Communicators write a message to an unknown audience and describe another unknown person with the aim of making him recognizable for the audience, who has to guess his identity. Afterwards, participants surprisingly have to recall the original information. Although this paradigm has been useful to demonstrate that shared reality creation is the process underlying the saying-is-believing effect and to investigate under which conditions individuals establish or deny a shared reality, it suffers from external validity.

However, a real-life situation that is rather similar to the communication setting in the saying-is-believing paradigm is when eyewitnesses report an incident. The circumstances of an accident or the sequence of events leading to an act of violence often elicit uncertainty. Thus, we may assume that the wish to reduce uncertainty motivates eyewitnesses to verify their version of an incident by comparing it with the experiences of other eyewitnesses. Kopietz et al. (2009) investigated whether eyewitnesses are motivated to create a shared reality with another bystander and how this affects their memory of the incident and their judgment of a person's responsibility.

In their study, they showed 80 undergraduates a video of a physical conflict of two men in a bar. After the video, they manipulated the opinion of an alleged bystander who either liked or disliked the target person (one of the two men involved in the conflict) and the group membership of the bystander, as he was introduced either as generic fellow student or a law student. When retelling the incident in a message to the audience, participants tuned the valence of their report to the audience's opinion in all experimental conditions. When they later recalled the circumstances of the incident, there was an audience-congruent recall bias only when the bystander was a generic student. Participants remembered more likable traits of the target person when the bystander liked him compared to when he disliked him ($\eta_p^2 = .13$). They also held the target person more responsible for the fight ($\eta_p^2 = .05$) and thought he deserved a higher penalty than the other man when the bystander disliked the target person ($\eta_p^2 = .07$).

The findings imply that social information, such as a co-witness liking a target person, which is basically irrelevant for the judgment or the recall of an incident causes people to recall the role of the person more favorably, hold him less responsible, and demand a lower penalty. Importantly, this influence depends on the co-witness's characteristics, as the authors found the effects only when the co-witness was introduced as a generic fellow student, who was perceived more psychologically close by the participants and motivated shared reality creation. Remarkably, the fact that the more psychologically distant condition was a law student who should, if anything, be more able in judging a forensic incident supports previous insights that expertise is not a motivator for shared reality.

Using the same procedure and stimulus material, Hellmann, Echterhoff, Kopietz, Niemeier, and Memon (2011, Exp. 2) conducted an experiment with 77 undergraduate students. They manipulated the audience's judgment of the target person's responsibility for the fight (responsible vs. not responsible) after participants watched the video and the alleged completeness of the incident captured in the video. All participants watched the identical video. The completeness manipulation neither affected social tuning of responsibility judgment in the messages to the audience, nor participants recall of the course of events. In line with shared reality theory, participants depicted the target person as more responsible in messages to the audience when he ostensibly believed that the target person started the conflict ($\eta_p^2 = .06$). The authors observed social tuning effects of audience judgment on free recall of the incident, as participants' memory was congruent with the audience's responsibility judgment ($\eta_p^2 = .07$). Hence, the results further support the postulation that time of epistemic input from others is irrelevant and social tuning effects occur even when individuals formed an independent impression before (e.g., Kopietz et al., 2010).

While scholars usually conclude from saying-is-believing effects that people successfully established a shared reality, Hellmann et al. (2011) measured *experienced* shared reality after participants created a message for the audience. The measure consisted of five items, for example "To what extent do you feel connected with your audience through your communication?" (p. 664) and authors assessed the role of experienced shared reality for the effect of message valence on recall valence. There was an interaction effect ($\beta = .22$) as the effect of message valence was stronger when participants' level of experienced shared reality was high as compared to when they achieved low scores on the shared reality measure.

The latter finding emphasizes why the underlying mechanism of social tuning effects is rather sharing-is-believing than saying-is-believing. When individuals tailor a message to a communication partner, it does not necessary mean that they experience a commonality of inner states. I argue that individual differences in the experience of shared reality are conceivable on Facebook as well. Frequent and active users might find it easier to experience a connection

to other users through the platform's communication features than occasional users. Moreover, individual traits, such as low epistemic certainty or high need to belong, should foster the subjective experience of shared reality about news shared on Facebook.

4.3.11 Interim Conclusion

The major conclusion from this body of literature is that communicators in the saying-is-believing paradigm can build on three sources for epistemic input when they strive for a valid and reliable understanding of a target referent: their own judgment, the audiences judgment, and the judgment conveyed in the socially tuned message (Echterhoff & Higgins, 2017; Kopietz et al., 2010). The extent to which they rely on each of these inputs for the creation of individual cognition depends on the epistemic trust in each of it. Echterhoff and Higgins (2017) argued that an epistemic input influences subsequent beliefs only when an individual has sufficient epistemic trust in its source. They suggested that strong epistemic inputs from reliable sources may replace or compensate for untrustworthy or missing epistemic inputs.

On the basis of this assumption, they explained why and when humans are motivated to create shared reality, when the mere awareness of an audience's judgment is sufficient to elicit audience-congruent memory biases, and under which conditions they only occur when communicators previously produced audience-congruent messages. I will summarize the findings on the effects and interplay of the three epistemic inputs with regard to shared reality about news shared on Facebook.

Epistemic trust in own judgment. The first source of epistemic input is an individual's own grasp of the shared news story. When a user has high epistemic trust in her own judgment of the news topic; for example, that a veggie day would be counter-productive, she would maintain this opinion even if her Facebook friend who shared the article about the veggie day thinks that it is a splendid idea. Her epistemic certainty may originate from confidence in her own expertise in the field of sustainable consumption (Kopietz et al., 2010) or from perceiving the suggestion of a veggie day as unambiguously negative (Pierucci et al., 2014).

Epistemic trust in audience judgment. However when the shared news article elicits ambiguity and the user is uncertain about the validity of her judgment, her motivation to verify her view through relying on others increases. Whether the user has epistemic trust in the news endorser's judgment and adopts it as her individual view depends on whether she considers the news endorser to be a member of her in-group (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff & Kopietz, 2013; Echterhoff et al., 2017; Echterhoff et al., 2009b; Kopietz et al., 2009) or whether he has high epistemic expertise regarding the effects of a veggie day on meat consumption, such as a nutritional psychologist (Echterhoff et al., 2017). Epistemic trust in consensus among multiple others is also strong. If several users agree about the benefits of a veggie day in the comments on the news post, the user is even likely to adopt their opinion without tailoring her own communication about the topic to their attitude (Echterhoff et al., 2017; Hausmann et al., 2008; Higgins et al., 2007).

Epistemic trust in judgment conveyed in the socially tuned message. When only the news endorser expressed his opinion in the news post, the user's need for epistemic certainty may not be fulfilled by only becoming aware of his opinion about the veggie day. Only by tuning to the news endorser's opinion in a reaction to the post, for example, by writing a comment or a private message, she should experience a shared reality and develop a representation congruent with the news endorsers view (Echterhoff et al., 2017; Hausmann et al., 2008; Higgins et al., 2007; Higgins & Rholes, 1978). Moreover, she will only have epistemic trust in the validity of her message to the news endorser when the goal of communication is shared reality creation. When instead, she tunes her opinion of the veggie day to an out-group news endorser, for example, in order to be polite or please an old acquaintance, she should not consider her message as trustworthy and valid and should therefore not adopt the conveyed judgment as her individual view (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Echterhoff et al., 2009b).

Failure feedback prevents social tuning effects on subsequent cognition. A user might consider the judgment conveyed in her reaction to the news post as not reliable when she receives feedback revealing that she did not connect to the news endorser's true inner state about the veggie day. This would be the

case, when the news endorser was being sarcastic about 'the brilliant idea' of a veggie day and the user, without understanding the sarcasm in the reduced cue communication on Facebook, expressed her support for the veggie day, allegedly in line with his opinion. When the news endorser makes clear that he thinks the suggestion is pointless, she would no longer trust the evaluation that she expressed in her reaction and it should not impact her individual view of the topic (Echterhoff et al., 2005; Echterhoff & Kopietz, 2013).

4.4 Beyond the Saying-Is-Believing Paradigm: The Social Regulatory Function of Shared Reality

Although the shared reality theory has been tested primarily under the saying-is-believing paradigm, there are a few studies in which scholars took a different approach. While the saying-is-believing paradigm emphasizes the epistemic function of shared reality, the second strand of research focuses on the social regulatory function of shared reality. Hardin and Conley (2001) framed two axioms postulated by shared reality theory regarding the interrelation of beliefs and social relationships. Firstly, shared reality is the basis for the establishment and maintenance of relationships and secondly, that beliefs are established and maintained to the extent that they are socially shared. They propose that:

> "to the degree that particular cognitions are attached to the particular relationships in which they are shared, and to the degree that different shared realities are achieved from relationship to relationship, cognitions should vary lawfully as a function of which relationship and concomitant shared realities are activated" (p. 11).

Moreover, they assume that the stability of beliefs should reflect the stability of relationships: beliefs that are socially shared in close and stable relationships should resist competing shared realities. Scholars found evidence for these

interrelations in research on racial attitudes, religious beliefs, and political ideologies.

4.4.1 Social Tuning of Automatic Attitudes Due to Affiliative Motivation

Hardin and Conley (2001) predicted that humans adapt beliefs dynamically to the immediate social context motivated by the desire to create relationships. Interracial interaction represents a context for which this assumption was tested with regard to social tuning of implicit racial attitudes or prejudice. Lowery, Hardin, and Sinclair (2001) argued that Black people are expected to have less anti-Black attitudes than White people. Social tuning to a Black person should therefore result in reduced anti-Black attitudes while no reduction is expected for social tuning to a White interaction partner. They tested the hypothesis in a series of four experiments, employing a research paradigm that I term the implicit-prejudice paradigm. In these studies, they manipulated the experimenter race (Black vs. White) and measured racial prejudice with an implicit association test (IAT). The assessed reaction times for racial prejudice-congruent (anti-Black/pro-White) and racial prejudice-incongruent (pro-Black/anti-White) associations. In Experiment 1 with a sample of $N = 33$ European American undergraduates, they found experimenter race to moderate the effect of prejudice-congruent vs. prejudice-incongruent associations on reaction times, as in presence of a Black experimenter participants exhibited shorter reaction times for prejudice-incongruent associations ($d = 1.03$).

In Experiment 2, they replicated the interaction effect with a sample of European American students ($N = 133$, $d = 0.51$) but not with a sample of Asian American ($N = 140$) students. Additional explicit measures revealed that Asian Americans were less concerned about exhibiting racial prejudice than European Americans. The authors considered this finding in line with shared reality theory, as racial prejudice is less relevant for the relationship between Asian and African Americans than for the relationship between European and African Americans. Therefore, Asian Americans feel no need for social tuning of racial attitudes when interacting with a Black person.

Thus in Experiment 3, the authors again compared a sample of $N = 86$ European American students with a sample of $N = 71$ Asian American students. They made the need for social tuning of attitudes salient for Asian Americans too, by manipulating the explicit instruction to avoid prejudice (vs. no instruction) in both samples. Indeed, they found the instruction to moderate the effect of congruent- and incongruent-prejudice for European Americans as well as for Asian Americans this time ($d = 0.41$). When participants were told to avoid prejudice, they more quickly indicated pro-Black and anti-White associations. Taken together, Experiment 2 and 3 demonstrated how social tuning of a social attitude depends on the relevance of this attitude for the respective relationship.

Finally in Experiment 4 ($N = 22$, 13 European Americans and nine Asian Americans), the authors used a subliminal priming procedure to assess automatic racial attitude, as it is less prone to conscious task manipulation than the IAT. In the task, participants are primed with pictures of White and Black faces that flashed for a maximum of 17 milliseconds on the screen. Immediately after the prime, the words *good* or *bad* appeared and participants had to press assigned keys on the keyboard as quickly as possible to indicate whether the word appeared on the left or right side of the screen. The prejudice measure was based on the mean reaction time after exposure to Black vs. White faces. Affiliative motivation for social tuning was manipulated by experimenter race as in Experiment 1 and 2.

The results indicated that European Americans tuned to the Black experimenter by exhibiting less racial prejudice compared to the White experimenter condition ($d = 1.70$). Asian Americans did not exhibit racial-prejudice in this task and reaction times after exposure to the primes were not affected by experimenter race. The study demonstrated with a robust measure for implicit attitudes of how relevant social attitudes are automatically tuned to the perceived view of an interaction partner while there is no social tuning when an attitude is not relevant for creating a relationship.

Sinclair, Lowery, Hardin, and Colangelo (2005b) extended this line of research by testing the hypothesis that individuals are motivated to achieve shared reality with someone they like and want to get along with by tuning their attitude to the other's ostensible attitude about a target.

In Experiment 1, 129 White participants completed the IAT used by Lowery et al. (2001, Exp. 1-3). Experimental sessions were led by White or Black experimenters, who either wore a shirt with an anti-racism slogan or a plain shirt of the same color – the manipulation of the experimenter's ostensible attitude. The study had a 2 (ostensibly egalitarian vs. neutral attitude) x 2 (experimenter race: Black vs. White) x 2 (participant gender: male vs. female) between-subjects design.

The results revealed a significant interaction between experimenter's ostensible attitude and participant gender: women exhibited less racial prejudices when the experimenter wore the anti-racism shirt compared to the neutral attitude condition, while there was no significant difference between the two conditions for men ($d = 0.35$). According to the authors, the gender difference is in line with research that found women to be more interpersonally oriented and thus more likely to establish relationships by tuning to others' ostensible attitudes.

To provide empirical evidence for the affiliative motivation for social tuning in Experiment 2 ($N = 91$ White undergraduates), Sinclair et al. (2005b) manipulated not only the ostensible attitude (egalitarian vs. neutral), but also likability of the experimenter (likable vs. rude). Automatic racial attitudes were measured by means of the subliminal priming task from Lowery et al. (2001, Exp. 4). The results revealed that participants tuned their automatic attitudes to the likable experimenter, as they exhibited lower racial prejudice in the egalitarian than in the neutral condition. When the experimenter was rude, there was no significant difference in anti-racial prejudice between the egalitarian and the neutral experimenter condition ($d = 0.46$).

There was a tendency for anti-tuning in the rude condition though, as participants exhibited more racial prejudice when the rude experimenter wore the anti-racism shirt than when she wore a plain shirt. This finding is consistent with the predictions of shared reality theory, according to which individuals who want to keep another person at distance tend to anti-tune own beliefs from the ostensible attitude of the other (Hardin & Higgins, 1996).

Huntsinger, Sinclair, Kenrick, and Ray (2016) tested whether the underlying mechanism for reduced activation of racial prejudice is actually motivated by

affiliative needs as predicted by shared reality theory or whether it is rather consistent with dual-process models of prejudice regulation. According to the latter, interaction with an ostensibly egalitarian partner increases attempts to control automatic racist impulses in order to appear egalitarian as well. The authors replicated the design and IAT measure of the Experiments 1-3 from Lowery et al. (2001) and employed multinomial modeling techniques to disentangle effects of affiliative social tuning from cognitive control effects. In Experiment 1 ($N = 65$ White students), they manipulated the experimenter's ostensible egalitarian beliefs (anti-racism vs. plain shirt). In Experiment 2 ($N = 41$ White students), they induced high affiliative motivations on all participants and added a third experimental condition in which the experimenter wore a neutral shirt and participants were instructed to suppress prejudice. In Experiment 3 ($N = 313$ Whites), they manipulated affiliative motivation by means of an online chat with a friendly vs. rude partner, who used an avatar picture wearing either a shirt with an anti-racism slogan or a non-egalitarian shirt.

Across all three studies, they replicated the finding that participants tuned their automatic racial attitudes to the ostensible attitude of the interaction partner. The multinomial modeling techniques did not support the alternative explanation according to which people cognitively control prejudice in presence of an egalitarian other. Hence, the findings support the assumption that shifts in racial attitudes reflect the establishment of a shared reality motivated by affiliative needs.

Taken together, the studies provide evidence for the fluid, automatic adaptation of attitudes to a given social context in order to get along with another person. Racial attitudes are highly relevant in interracial interactions, even if there is no strong need to establish a relationship and encounters may be rather superficial. An individual's interpersonal orientation and likability of the interaction partner are likely to evoke social tuning to ostensible attitudes.

It is important to note that social tuning of automatic racial attitudes occurred without expressing a socially tuned message. Being aware of the other person's (presumed) attitude and being motivated to get along with her was sufficient enough to shift attitudes. Contrary to social tuning due to

epistemic motives, the effects were independent of the experimenter's social group membership. Hence, even when epistemic trust in an interaction partner is low, there may still be affiliative motives driving shared reality creation, that is, the desire to be liked by another person or to develop a shared view in a close relationship (Echterhoff & Higgins, 2017).

Further studies in this paradigm demonstrated that people from a collectivist culture tune to others' beliefs to a greater degree than people from an individualist culture (Skorinko et al., 2015). The tendency to shift beliefs as a function of the salient social context applies not only to social attitudes about stigmatized social groups, but also to self-evaluations (Sinclair, Hardin, & Lowery, 2006; Sinclair et al., 2005a).

The research has implications for news internalizing on Facebook. The desire to foster the bond with a news endorser should equally evoke social tuning of attitudes. Given that affiliative motives dominate Facebook use (e.g., Ellison et al., 2007; Ferris & Hollenbaugh, 2018; Joinson, 2008; Park & Lee, 2014), it is plausible that affiliative motives drive social tuning and shared reality even in asynchronous and noncommittal social interactions such as news internalizing. Moreover, affiliative motivations may override a lack of epistemic authority. Users may tune to the inferred attitude of a Facebook friend irrespective of social categorizations that render him more or less epistemic trustworthy.

4.4.2 Social Tuning of Automatic Attitudes Due to Epistemic Motivation

While scholars developed and employed the implicit-prejudice paradigm to investigate shared reality of automatic and implicit attitudes to assess social tuning effects of affiliative motivation, Lun et al. (2007) adapted it to test the epistemic function of shared reality. They argued that epistemic motivation for shared reality emerges from less accessible beliefs or attitudes about a target. The limited accessibility of personal attitudes elicits the need to rely on others' attitudes. In three experiments, the authors tested this assumption with respect to racial prejudice, using a similar procedure as previous research (Lowery et al., 2001; Sinclair et al., 2005b). In Experiment 1 ($N = 75$ White

undergraduates), they first measured racial attitudes and general egalitarian attitudes with respective scales. Accessibility of racial and general egalitarian attitudes was measured based on the averaged reaction times for each of the two measures. Long reaction times were considered an indicator of less accessible attitudes. In an allegedly unrelated second experiment, participants were guided by a friendly behaving White experimenter, who wore either a shirt with an anti-racism slogan or a plain shirt. They completed a subliminal priming procedure (Lowery et al., 2001, Exp.4) in order to assess social tuning of implicit prejudice. In line with the authors' prediction, they observed an interaction between racial attitude accessibility and experimenters' ostensible attitude ($\beta = -0.32$). Participants with less accessible racial attitudes exhibited less implicit prejudice after interacting with an experimenter, who was wearing a shirt with an anti-racism slogan.

Yet as the accessibility measure in Experiment 1 was weak, they conducted a second study with a similar design in which they manipulated epistemic motivation. By means of a sentence completion task, they primed participants ($N = 52$ White undergraduates) with uncertainty (vs. neutral primes) before they interacted with the egalitarian or neutral experimenter. According to the epistemic motivation hypothesis, participants in the uncertainty condition exhibited lower prejudice in the subliminal priming task after interacting with an egalitarian experimenter than after interacting with a neutral experimenter, while experimenter attitude had no effect on prejudice in the neutral prime condition ($d = 0.55$). The scholars found no difference in affiliative motivation in terms of liking and wanting to get along with the experimenter between the four groups. The observed difference of implicit racial prejudice could thus not be attributed to varying affiliative motivations in this experiment.

In order to disentangle whether the observed effects actually occurred due to social tuning to the experimenter and participants were not simply primed by reading the anti-racist slogan, the authors conducted a third experiment ($N = 78$ White undergraduates). It was similar to Experiment 2 but they included a third condition, in which the experimenter wore a plain shirt but there was an anti-racist poster in the laboratory. Moreover, they used uncertainty and certainty (instead of neutral) primes in this study to manipulate

epistemic motivation. In line with the epistemic-social-tuning hypothesis, participants primed with uncertainty exhibited lower implicit prejudice only when they interacted with the experimenter wearing the anti-racism shirt[2]. There was no difference between the poster and the neutral shirt condition. Experimenter attitude did not affect prejudice in the certainty condition and affiliative motivations again did not affect implicit prejudice. Interestingly, the authors did not observe any effects of the experimenter attitude condition on additionally measured explicit racial attitudes.

The three studies provide support for the assumption that epistemic needs also elicit social tuning of implicit attitudes. The findings are congruent with those of studies under the saying-is-believing paradigm, where individuals' cognitions are also influenced by the attitudes of interaction partners when a target referent elicits uncertainty and ambiguity. However, while Lun et al. (2007) observed social tuning effects on implicit attitudes, the mere awareness of another person's attitude did not affect explicit attitudes. Scholars consider explicit and implicit attitudes to be distinct, although related constructs (Nosek, 2005). With regard to the insights generated under the two paradigms of shared reality research, I conclude that epistemic authority and epistemic trust in an interaction partner's judgment are apparently necessary for social tuning effects on explicit attitudes. Implicit attitudes are influenced even if epistemic trust in an interaction partner is low.

This is an important implication for shared reality in the context of news internalizing on Facebook. While uncertainty elicited by a news story and a friend's attitude on the issue may affect implicit attitudes about the topic, I postulate that explicit attitudes are only influenced when the news endorser is perceived as an epistemic authority. Nonetheless, it is plausible that – contrary to the findings by Lun et al. (2007) – social tuning of explicit attitudes about news shared on Facebook are simultaneously influenced by affiliative motives. This would explain the occurrence of social tuning of explicit attitudes under conditions in which epistemic trust in the news endorser's view is low.

[2]Unfortunately, the authors did not report the effect size of the observed mean difference.

4.4.3 Social Tuning to Beliefs Shared in Long-Term Social Relationships

The social regulatory function of shared reality also predicts that beliefs are maintained to the extent that they are socially shared in stable relationships (Hardin & Conley, 2001). Accordingly, Jost, Ledgerwood, and Hardin (2008) hypothesized individuals should exhibit more support for beliefs justifying the status-quo of the political system when the relationship with a conservative parent is salient (vs. a salient relationship with a liberal parent). They tested the assumption in a study with undergraduates who indicated to have one Democratic and one Republican parent in a pre-survey. In the subsequent experiment, they asked them to think of either their mother or father and write a description of an either positive or negative interaction with the respective parent. After that, they measured general and economic system justification. Participants who imagined an interaction with their Republican parent scored higher on both measures than those for whom the relationship to their Democratic parent was salient. The main effect of imagination of interaction valence was not significant. The fact that participants' personal political attitude varied as a function of the salient relationship supports the assumption that affiliative needs elicit social tuning of attitudes to beliefs that are shared in the respective relationship. However, these results should be treated with caution, as the authors reported neither sample nor effect size.

Nonetheless, I would like to reflect on possible implications for news internalizing on Facebook. I assume that exposure to a close friend's or family member's news post should make the relationship salient and activate shared beliefs. When a user maintains a shared reality with the news endorser that is relevant to the shared news content, this shared belief should be activated. Even if the news endorser does not explicitly express her opinion about the news topic in the news post, the activated shared reality should affect the user's opinion formation.

Magee and Hardin (2010) pursued the question whether shared reality about religious beliefs may explain why many Americans object evolutionary theory. They assumed that individuals who share their religious commitment with their

parents and have a strong parental relationship are likely to resist thoughts of evolution, as they are a threat to the parental relationship. Individuals who do not share their religious beliefs with their parents or have an unstable parental relationship, on the other hand, are more likely to lose their religious commitment when faced with thoughts of evolution.

Magee and Hardin tested the hypotheses in Experiment 1 with 225 religious undergraduate students at Brooklyn College. They manipulated the cognitive salience of evolution by either subliminally exposing them to words related to evolution or not in a task in which words flashed for less than a second on a computer screen. Participants had to indicated whether they appeared on the left or right side. Afterwards, the authors measured participants' religiosity and shared reality about religious beliefs with each parent. They found religious shared reality with fathers to moderate the effect of cognitive salience of evolution on religiosity. While participants with unshared religious beliefs indicated to be less religious in the evolution-related priming condition than in the unrelated condition, participants who shared their religious beliefs with their fathers adhered to their convictions ($d = 0.46$). However, religious shared reality with mothers did not prevent the unconscious threat posed by evolution-related primes.

To assess the role of quality of father-son relationships on resistance to religiosity threatening ideas, they conducted a second experiment ($N = 130$) using the same manipulation as in Experiment 1. Additional to the religiosity and shared reality measures, participants also indicated attachment style. In line with the assumptions of shared reality theory, participants who were insecurely attached to their father were more susceptible for the threat posed by evolution primes on their personal religious beliefs. Although they reported to share religious commitment with their fathers, they indicated lower levels of religiosity after the subliminal exposure to evolution-related words.

The authors conclude that the objection of evolution is not only a question of literacy but also of religious shared reality in strong and stable relationships. One can further conclude that in general threats to beliefs shared with others are perceived as threats to the respective social relationships. As long as the relationship is strong, individuals will object the threatening ideas.

Accordingly, Facebook users who share moral beliefs or political attitudes in stable relationships, should adhere to their conviction no matter who shares contradicting views on Facebook.

4.4.4 Interim Conclusion

Empirical research investigating the social regulatory function of shared reality provides ample support for social tuning caused by affiliative motivation. I draw two major conclusions from the presented work. Firstly, shared realities are created and activated as a function of the salient social context and secondly, affiliative motivation for social tuning is elicited by transitory interactions as well as long-term relationships.

Shared realities are created and activated as a function of the current social context. The beliefs of the person with whom individuals interact affect their personal attitude towards the target of the interaction. Accordingly, seeing a news post about the veggie day shared by a user's vegetarian sister should evoke a positive attitude regarding the suggestion while a post on the same topic from a liberal friend should shift them to a negative evaluation of paternalism (Huntsinger et al., 2016; Jost et al., 2008; Sinclair et al., 2005b). However, social tuning to attitudes inferred from a friend's Facebook post should only be expected, when a user experiences affiliative motivation. As women tend to be more interpersonally oriented, they are more likely to react with social tuning to attitudes they infer from a news post (Sinclair et al., 2005b). When the news endorser is someone they particularly like or with whom they have a strong relationship, men and women should be motivated to a greater extent to experience shared reality through social tuning of attitudes (Magee & Hardin, 2010; Sinclair et al., 2005b). Moreover, the ostensible attitude has to be relevant for the relationship between user and news endorser (Lowery et al., 2001).

Affiliative motivation is elicited by transitory interactions as well as long-term relationships. On the one hand, encountering a news post on Facebook can be considered a rather transitory interaction. There is no external need to respond to the news endorser's ostensible attitude, as he would not become aware of it

anyway. In this way, the context is comparable to encountering an egalitarian experimenter, with whom participants interact only in the course of the study. Nonetheless, even such transitory interactions are able to elicit affiliative needs which simply root in the likability of the other person (Huntsinger et al., 2016; Lowery et al., 2001; Sinclair et al., 2005b). Thus, I expect that a news post should elicit affiliative motivation for social tuning of attitudes. On the other hand, news endorsers on Facebook are often people with whom users have long-term relationships. Exposure to a news post by a family member, close friend, or even less close acquaintances from work should make chronic shared realities established in these relationships accessible. Social tuning of attitudes to these shared realities is rooted in the affiliative motivation to maintain the relationship, as adherence to shared beliefs is mandatory for stable social relationships (Magee & Hardin, 2010).

4.5 The Shared Reality Model for News Internalizing on Facebook

Since the formulating of shared reality theory by Hardin and Higgins (1996), empirical tests of both the epistemic and the affiliative social tuning hypothesis, advanced the theoretical understanding of the underlying processes. On the basis of these insights, I propose a *shared reality model for news internalizing on Facebook*. The model conceptualizes opinion formation about news content that has been endorsed by another user as a motivated process of establishing a valid and reliable view. I derive five theorems with regard to motivation, underlying processes, and effects of experiencing shared reality with a news endorser about a news topic.

Theorem 1. *The establishment of shared reality about news shared on Facebook is driven by epistemic and affiliative motivation.*

Only when commonality of attitudes, impressions, or judgments is driven by the epistemic motivation to establish what is real or by the affiliative motivation to feel connected will humans experience a shared reality. The strength of

epistemic motivation typically increases with ambiguity of the target referent or the individual's epistemic uncertainty. News articles about complex issues that are considered from multiple perspectives are likely to elicit ambiguity and uncertainty with regard to opinion formation. I affirm that users are likely to infer from the news post what their friend, the news endorser, thinks about the issue. The motivation to establish shared reality with the news endorser depends on whether or not they have epistemic trust the validity and reliability of their friend's judgment. The strength of epistemic trust is determined by the news endorser's epistemic authority (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff & Kopietz, 2013; Echterhoff et al., 2017; Echterhoff et al., 2009b; Kopietz et al., 2009) or by domain specific expertise (Echterhoff et al., 2017, Exp. 2 & Exp. 3).

Affiliative motivation to achieve shared reality depends on interpersonal orientation and likability of the other person (Sinclair et al., 2005b). Interaction on Facebook generally is driven by relational goals (e.g., Brandtzæg et al., 2010; Ellison et al., 2007; Ferris & Hollenbaugh, 2018; Reich et al., 2012). I propose that a news post is likely to evoke the desire to maintain the relationship and feel connected with the news endorser. Such goals should drive the establishment of shared reality about the shared news story. Moreover, individuals are motivated to defend cognitions they share within strong relationships (Magee & Hardin, 2010). Refusing the achievement of shared reality with the news endorser may thus be rooted in an established shared opinion about the topic of the news article within a stable relationship.

Theorem 1 is also in line with the heuristic-systematic model and spiral-of-silence theory. They postulate that social influences on media perception occur due to accuracy motivation (Bohner et al., 1995) or uncertainty about own judgments (Noelle-Neumann, 1974) respectively, which is equivalent to the epistemic motivation for shared reality. Furthermore, both approaches assume that effects of interpersonal communication on media perception are also rooted in social motives such as the impression motivation (Todorov et al., 2002), fear of isolation, and need to belong (Noelle-Neumann, 1974). These motives correspond with the concept of affiliative motivation in shared reality theory.

The opinion leader approach (Katz, 1957; Katz & Lazarsfeld, 1964[1955]; Riecken & Yavas, 1986) and the HSM (Chaiken, 1987) propose that similarity and likability of a communicator impact whether an individual is susceptible to social influences. Likewise, shared reality theory predicts that humans are motivated to establish shared reality with members of their in-group, who are similar to them and usually more likable than out-group members (Deaux, 1996; Echterhoff et al., 2005; Turner, 1984).

Thus, shared reality about news on Facebook is attained in order to experience a more valid and reliable view of the news topic and establish or maintain a sense of connectedness and belonging with the news endorser.

Theorem 2. *Users experience commonality of inner states with the news endorser.*

Users establish a shared reality to the extent that they experience a commonality of inner states; such as beliefs, judgments, feelings, or knowledge about the news topic and not just corresponding overt behaviors. In order to perceive an inner state as consistent with that of another person, individuals need to infer what the other feels or thinks based on observable reactions, such as utterances, gestures, and facial expressions. Although interpersonal communication is an important means for inferring others' inner states, they may as well be derived from non-verbal behavior, clothes, or even through projection of one's own inner state (Echterhoff et al., 2009a; Lun et al., 2007).

In Facebook news posts, news endorsers can disclose inner states explicitly by adding their own thoughts to the shared link of the news article. Solely sharing or liking a news article provides a subtle cue for the inference of inner states that is usually understood as endorsement (J. Choi, 2016b; Schwartz et al., 2017). I propose that users signal commonality of an inner state with a news endorser, for example, by liking the news post, expressing agreement in a comment or in a private message.

It is important to note that merely expressing an evaluative impression matching another person's evaluation of a target without truly sharing it is not sufficient to establish a shared reality (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff & Kopietz, 2013; Echterhoff et al., 2017; Echterhoff et al.,

2009b; Kopietz et al., 2009). Commonality of inner states is achieved through *sharing*, not through *saying* (Echterhoff & Higgins, 2017). On Facebook, the normative pressure to respond to a news post is relatively low, as it is an undirected form of broadcasting information to one's entire network of Facebook friends (Frison & Eggermont, 2016; Vanden Abeele et al., 2018). Thus on the one hand, it is likely that even when users experience their opinion about a news story to be shared with the news endorser, they not necessarily signal commonality by responding to the news post. On the other hand, it is unlikely that users would socially tune their response to a news post if they do not strive for experience of shared reality with the news endorser.

Theorem 3. *Users experience shared reality with news endorsers about the same target referent, the news article.*

Shared reality is always created *about* an aspect of the world, for example, about a person, a moral problem, or a news topic. People try to figure out what others' inner states tell them about relevant aspects of the world. Consequently, the aboutness of shared reality is inextricably linked with Theorem 2: in order to experience a shared reality, individuals not only have to experience corresponding inner states but the inner states have to be about the same target referent, the shared news article (Echterhoff et al., 2009a). Aboutness is a basic principle of social cognition. Humans tend to assume that their own and others' responses are about something and that this target referent is the source of their response – an overt behavior that is related to an inner state (Higgins, 1998). In social interactions, people use mechanisms such as to follow others' eye-gazes, attention, gestures, and utterances or rely on their background knowledge to determine the target referent of others' inner states (Echterhoff et al., 2009a).

With regard to news internalizing on Facebook, the association between a news endorser's inner state, for example, her opinion about the veggie day, and the target referent, the shared news story about the veggie day is quite obvious. Due to the affordances of communication on Facebook, namely association, persistence, and visibility, a news post creates a persistent and visible connection between the news endorser and the news content (boyd,

2010; Treem & Leonardi, 2013). In this way, the target referent of a news endorser's inner state is even more obvious than in face-to-face conversation. Although errors cannot be ruled out, it seems very likely that users perceive the commonality of their inner state with the inner state of the news endorser to be about the same target.

Theorem 4. *Users experience shared reality about inner states of relational relevance.*

The fourth theorem applies to the striving for shared reality about shared news articles elicited by affiliative motives. Individuals establish shared reality to the degree that an inner state is considered to be germane to the relationship. The desire to get along with an interaction partner alone is not sufficient to elicit social tuning of an attitude or belief. A person must perceive the commonality of the respective inner state as beneficial for interacting with him. Accordingly, studies under the implicit-prejudice paradigm have shown that members of ethnic groups who are subjected to prejudice consider their ethnic biases less relevant for interactions with members of another stigmatized ethnic group (Lowery et al., 2001).

On Facebook, users tend to maintain a large number of relationships of varying strength (e.g., Ellison et al., 2007; Manago et al., 2012) and from different social contexts (e.g., Child & Westermann, 2013; Lewis & West, 2009; Marder et al., 2012; C.-C. Yang, 2018). Inner states such as the opinion about a veggie day may thus be relevant for the relationship to one's vegetarian brother or a green-minded friend but not for the relationship to a volleyball teammate. Accordingly, although a user wants to feel connected with her teammate too, exposure to a news article about the veggie day posted by the teammate should not evoke social tuning to her attitude. If the article was shared by her brother instead, she should strive to experience a shared reality of attitudes.

Theorem 5. *The experience of shared reality affects the valence of individual inner states.*

When individuals are motivated to establish a shared reality, they tend to develop memories, opinions, or attitudes about a target referent that are biased into the direction of their communication partner's opinion or attitude. This social tuning effect indicates that they experienced shared reality and consider the socially shared understanding of a target referent as valid and reliable (Hardin & Higgins, 1996). I propose that experiencing shared reality with a news endorser's positive opinion about a shared news article results in a rather positive memory of the news content and a positive opinion about the news topic, while a negative news endorser opinion evokes a rather negative memory and opinion. I build on studies under the saying-is-believing paradigm where researchers varied the valence of a communication partners opinion (positive vs. negative) and observed that participants' subsequent memories and opinions were biased in the direction of the audience attitude (e.g., Echterhoff et al., 2008; Echterhoff et al., 2017; Pierucci et al., 2014). Research under the implicit-prejudice paradigm demonstrated social tuning effects on implicit attitudes even for less blatant comparisons of partial and neutral attitudes of the interaction partner (i.e., egalitarian vs. neutral attitude; Lowery et al., 2001; Lun et al., 2007; Sinclair et al., 2005b).

The assumption of news endorser congruent opinion valence after exposure to a news post is also supported by findings regarding social influence on social media. The valence of individual perceptions of online news content is affected by the valence of social cues, ranging from subtle endorsements through sharing a news article on a SNS (Turcotte et al., 2015) to majority opinions derived from user comments (e.g., Youngju Kim, 2015; von Sikorski, 2016; Waddell, 2018; Winter, 2019). Researchers demonstrated effects of social cue valence on opinion formation or news perception by varying positive vs. negative comments, (Waddell, 2018; Winter et al., 2018) or comments supporting or opposing the journalistic rationale (von Sikorski, 2016; Winter et al., 2015) as independent variable. When comparing positive and negative social cue valence to a control condition without comments, Winter et al. (2015) observed a significant difference only for negative argumentative comments, but von Sikorski and Hänelt (2016) observed that positive comments only predicted reader attitudes that were significantly different from the control

condition. Therefore, the literature is inconclusive with regard to the question whether positive or negative valence of social cues predicts influences on opinion formation more strongly.

In summary, the shared reality model for news internalizing on Facebook suggests that users will experience shared reality with a news endorser when the reception of a news post is driven by epistemic and/or affiliative needs and they experience commonality with the news endorser's inferred opinion about the news topic. Furthermore when striving for shared reality is driven by affiliative motivation, the opinion about the news topic has to be relevant to the relationship of user and news endorser. The establishment of shared reality regarding the opinion about a news topic becomes apparent through an individual opinion that is congruent with the news endorser's opinion.

By testing the model in my empirical studies, I will investigate whether shared reality is the underlying mechanism of social influence of interpersonal communication on opinion formation about mass media communication in news internalizing on Facebook.

4.6 First Investigation of Shared Reality Creation in Social Media

A first approach of investigating shared reality creation about news shared in social media was conducted at the University of Hohenheim (Lupprich, 2018). In her bachelor's thesis, Annika Lupprich manipulated the social status of a male news endorser (expert vs. peer group) and his opinion (positive vs. negative) on an ambiguous news article about the avoidance of plastic. She adapted the saying-is-believing paradigm and measured social tuning effects of news endorser opinion on environmental friendly attitude. As nonverbal interpersonal communication in terms of likes or reaction is prevalent on Facebook, she developed a measure that allowed to capture social tuning to the news endorser's opinion in nonverbal communication. She used a 7-point scale consisting of images of Facebook's Like thumb that expressed varying

response valence ranging from negative to positive represented by nuanced changes in the alignment of the thumb from 1 = *thumbs down* to 7 = *thumbs up*.

The results of Lupprich's online experiment ($N = 220$) revealed that participants' nonverbal reactions to the news post were in line with the opinion of both, an expert news endorser and a peer news endorser ($\eta_p^2 = .32$). However in both opinion conditions, the feedback was rather positive. There was also a main effect of news endorser opinion on environmental friendly attitude ($\eta_p^2 = .12$): Participants considered avoidance of plastic to be more important when the news endorser had argued in support of it in the news post. This contradicted the author's expectation according to which people would exhibit social tuning effects to an equal status news endorser but not to a higher status news endorser. However, social status of the news endorser did not affect response valence and environmental friendly attitude and there was also no interaction effect of the two independent variables. She also measured epistemic trust in the news endorsers and found no difference between the expert and the peer. This implies that both expertise and similarity of social status may render a news endorser an epistemic authority, which is in line with the latest insights from Echterhoff et al. (2017) who showed that when a communication partner possesses high expertise with regard to the target referent, individuals strive to achieve a shared reality with him, even when he is no member of their in-group and thus neither similar nor socially close to them.

5 The Present Research: Investigating the Establishment of Shared Reality about News Shared on Facebook

Previous literature has shown that exposure to news on Facebook is pervasive. Users encounter attitude consistent, as well as contradicting, views in the news items that their Facebook friends like, share, and comment (Bakshy et al., 2015; Beam et al., 2018; Flaxman et al., 2016; J. K. Lee & Kim, 2017; Lu & Lee, 2019). Studies have demonstrated that social closeness determines whether users expose themselves to counter-attitudinal mass media content. News shared by strong ties on Facebook are more likely to be selected even when they are in contradiction to one's attitudes (Anspach, 2017; Bergström & Jervelycke Belfrage, 2018; Boczkowski et al., 2018; Jungnickel & Maireder, 2015; Kümpel, 2018). To my knowledge, previous research has not yet investigated whether the opinion of a strong tie news endorser also affects opinion formation about news topics more strongly than the opinion of a weak tie news endorser. However, there is evidence that users' opinion about news topics is influenced by social information on social media. Several studies have shown that they take into account attitudinal consensus among anonymous users in the comment section when forming a personal opinion about a news topic (Hong & Cameron, 2018; T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Winter, 2019; Winter et al., 2015). Building on these insights and on shared reality theory (Echterhoff

& Higgins, 2017; Echterhoff et al., 2009a; Hardin & Higgins, 1996), I will investigate whether opinion formation is influenced by the opinion of one single news endorser and whether the influence depends on the social closeness between news endorser and receiver.

Shared reality theory offers two explanations as to why individuals tune to others' attitudes: the epistemic motivation to establish a valid and reliable understanding of a target referent and the relational motivation to feel connected to another person. According to the theory, both motivations are stronger for socially close others such as spouses, family, and in-group members. Therefore, the approach is well suited to predict differences in news endorsers' influence on opinion formation about news content depending on social closeness.

In my research, I investigate the epistemic-social-tuning hypothesis with regard to news internalizing on Facebook. I assume that news articles represent ambiguous stimuli that elicit the need to establish a valid view of the topic. When they are shared by a socially close Facebook friend, a user may thus be motivated to infer the news endorser's opinion on the topic to establish a shared reality. As a result, the user should socially tune his or her opinion to the news endorser.

Hence, I have adapted the saying-is-believing paradigm to the context of news internalizing on Facebook to test the following general proposition.

Proposition. *Individuals strive to experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers, but not with socially distant news endorsers.*

In the saying-is-believing paradigm, the proposed experience of shared reality is assessed by testing a series of hypotheses that need to be supported in order to determine the experience of shared reality. I will derive these assumptions for the context of news internalizing on Facebook in the following section, building on previous research under the saying-is-believing paradigm, social influence, and news perception on social media.

5.1 Hypotheses

5.1.1 Social Tuning Effects of News Endorser Opinion on Opinion Formation

In the saying-is-believing paradigm, scholars determine the establishment of shared reality based on its observable effects, the congruence of subsequent inner states among interaction partners (e.g., Echterhoff et al., 2008; Echterhoff et al., 2017; Hausmann et al., 2008; Higgins & Rholes, 1978). Social tuning effects of shared reality about the perception of a news article on Facebook may find expression in various cognitions; such as in the interpretation of the content, the memory of the information, and the opinion that a reader forms about its subject. In my approach, I am interested in effects of the news endorser opinion on opinion formation.

Previous studies under the saying-is-believing paradigm found social tuning effects after communication with members of one's in-group (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Echterhoff et al., 2009b), communication partners who possess high epistemic authority because of group-consensus (Echterhoff et al., 2017; Hausmann et al., 2008) or acquaintance with the target referent (Echterhoff et al., 2017) as appropriate for shared reality creation. Research on social influence on online news perception also revealed that consensus in user comments affects a reader's opinion about the subject matter (Hong & Cameron, 2018; Youngju Kim, 2015; T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Waddell, 2018). On Facebook, tie strength predicts selection of news content and trust in a news medium increases when an opinion leader endorses a news story (Turcotte et al., 2015). Yet, there is no prior evidence for social influence of a single news endorser's opinion on opinion formation. In studies under the saying-is-believing paradigm, social tuning effects have been found after computer-mediated communication with a single person. However, they did not investigate social tuning effects in an online communication setting but used a computer for writing and transmitting messages. Studies under the implicit-prejudice paradigm also observed social tuning effects after interaction with a single person (Lun et al., 2007; Sinclair et al., 2005b).

Hence, I suggest that social tuning effects on opinion formation will occur after the interaction with a single news endorser as well. Building on the insights of the saying-is-believing paradigm, I assume that they will only occur if the news endorser is socially close, that is, a member of one's in-group or a strong tie.

Hypothesis 1. *Social closeness of news endorser and news endorser opinion interact such that individuals' opinion about the news topic will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. When the news endorser is socially close, individuals' opinion will be more positive when the news endorser expressed a positive opinion compared to when the news endorser expressed a negative opinion.*

The saying-is-believing paradigm owes its name to the underlying process through which social tuning effects occur. After communicators tailored a message to the ostensible opinion of an interaction partner whose judgment they consider as valid and reliable, the valence of their subsequent opinion is congruent with the socially tuned message (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Higgins & Pittman, 2008).

Previous saying-is-believing studies found support for the humans' tendency to tune to others' inner states in communication. Scholars usually included instructions which encouraged participants to tailor messages to communication partners' knowledge, intentions, and attitudes in order to be polite (Echterhoff et al., 2005; Echterhoff et al., 2009b), entertain someone (Echterhoff et al., 2008), or describe a target person so that an audience would be able to recognize him (e.g., Echterhoff et al., 2005; Echterhoff & Kopietz, 2013; Hausmann et al., 2008). Individuals socially tune messages even under conditions unfavorable for shared reality; for example, when the audience provides no epistemic authority in terms of belonging to the same social group (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b) or possessing domain specific expertise (Echterhoff et al., 2017).

I argue that this tendency does not extend to verbal responses to news posts on Facebook. News sharing is a form of broadcasting, a quite non-committal

kind of active public Facebook communication (see Frison & Eggermont, 2016; Vanden Abeele et al., 2018). Expectations to respond to undirected news posts by whatever means – a comment, a private message, a remark in face-to-face conversation – are rather low. As responses are persistent, scalable, and visible to the entire friends list and beyond, they contribute to a user's self-presentation (boyd, 2010; Treem & Leonardi, 2013). I propose that it is rather unlikely that users signal commonality of opinions in a response when they are not striving for shared reality creation with the news endorser. Instead, I expect social tuning to the news endorser's opinion in responses to the news post only when the news endorser is socially close to the user. Hence, I hypothesize:

Hypothesis 2. *Social closeness of news endorser and news endorser opinion interact such that the valence of individuals' responses to the news post will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. When the news endorser is socially close, the valence of individuals' responses to the news post will be more positive when the news endorser expressed a positive opinion compared to when the the news endorser expressed a negative opinion.*

Social tuning effects occur to the extent that individuals actually share the opinion they expressed in communication: *saying* is not always believing, but *sharing* is (Echterhoff & Higgins, 2017). On the contrary, social tuning effects may occur even without socially tuned communication, as long as participants experience a belief to be shared with others (Echterhoff et al., 2017; Hausmann et al., 2008; Higgins et al., 2007).

Transferred to the context of news internalizing on Facebook, I assert that users' opinion about a news article will be congruent with the socially tuned opinion which they expressed in a verbal response to a post when they consider this opinion as shared with a trustworthy news endorser. I assume sharing-is-believing effects only when the news endorser is socially close to the user, that is, a member of her in-group or a strong tie and derive the following hypothesis from this argumentation.

Hypothesis 3. *When the news endorser is socially close, individuals will socially tune the valence of their responses to a news post to the news endorser's opinion which will in turn positively predict individuals' opinion valence about the shared news topic. Response valence mediates the effect of news endorser opinion on individual opinion valence when the news endorser is socially close.*

The effect of social tuning is supposed to be stronger the more individuals subjectively experience a commonality of their own opinion about the news topic with the news endorser's opinion. As shown by Hellmann et al. (2011), experienced shared reality moderates the effect of message valence on subsequent memory. Individuals who more strongly experience the shared reality with their audience later remember original information biased in the direction of the socially tuned message. I suggest that individual differences, such as tendency to experience social closeness on Facebook, are likely to cause variance in the subjective experience of shared reality through interaction. Thus, there should be a moderating effect of experienced commonality with the news endorser on the causal relationship between response valence and opinion about a shared news article:

Hypothesis 4. *When the news endorser is socially close, the valence of the socially tuned response to a news post will predict individuals' opinion about the shared news article more strongly when individuals experience strong commonality with the news endorser compared to when they experience weak commonality with the news endorser. Experienced commonality moderates the positive indirect relation between news endorser opinion and opinion valence through response valence when the news endorser is socially close.*

5.1.2 Epistemic Trust in the News Endorser

Studies under the saying-is-believing paradigm induce epistemic motivation to establish a shared reality by presenting participants an ambiguous stimulus (e.g., Echterhoff et al., 2005; Echterhoff & Kopietz, 2013; Higgins & Rholes, 1978). An important finding of empiric tests of the epistemic-social-tuning hypothesis is that individuals tune inner states to a communication partner's

opinion about the target referent to the extent that they perceive him as epistemically trustworthy (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b; Kopietz et al., 2009) or as an expert in the field of the target referent (Echterhoff et al., 2017). While the latter is based on knowledge and familiarity with the respective subject matter, epistemic trust emerges from similarity and likability (Kruglanski et al., 2009; Kruglanski et al., 2006). Hence, previous studies found epistemic trust to be higher in communicators who are considered members of one's in-group than members of an out-group (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b; Kopietz et al., 2009). On Facebook, where users interact with others from different social groups and contexts, I assume that the achievement of shared reality about news articles likewise depends on epistemic trust. Higher epistemic trust in strong ties may explain why Facebook users are willing to select counter-attitudinal news content shared by strong ties on Facebook (Anspach, 2017). Furthermore, it may explain the underlying mechanism of opinion leadership. Although there is first evidence that users consider a source more trustworthy when a news item had been shared by someone they consider as opinion leader (Turcotte et al., 2015), the approach provides no clear definition of what characterizes an opinion leader and how he influences his followers (e.g., Katz, 1957; Katz & Lazarsfeld, 1964[1955]; O'Keefe, 1981b; Riecken & Yavas, 1986; Trepte & Scherer, 2010; Weimann, 1994). Building on shared reality research, I argue that opinion leaders on Facebook as well as strong ties are characterized by high levels of epistemic trustworthiness and their influence on followers results from the establishment of shared realities. In this way, shared reality explains how social relationship characteristics (i.e., strong ties, opinion leaders) affect opinion formation about news shared on Facebook.

Hypothesis 5. *Individuals have stronger epistemic trust in socially close than in socially distant news endorsers which in turn predicts news endorser congruent opinion valence. Epistemic trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.*

The degree to which social tuning effects are mediated by epistemic trust in the news endorser is likely to vary as a function of individual tolerance of

ambiguous news content. Ambiguity intolerance is defined as an individual's tendency "to perceive (i.e., interpret) ambiguous situations as sources of threat" (Budner, 1962, p. 29). I assume that Facebook users who are generally intolerant for ambiguity should be more likely to rely on a trustworthy news endorser when forming an opinion about a news article shared on Facebook. Users who are tolerant of ambiguous situations may accept the ambiguity elicited by the article and rely less on the news endorsers opinion, although they have epistemic trust in her judgment. Hence I assume:

Hypothesis 6. *Epistemic trust in the news endorser will predict news endorser congruent opinion valence more strongly when individual ambiguity tolerance is low compared to when ambiguity tolerance is high. Ambiguity tolerance moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through epistemic trust in the news endorser.*

In the context of news internalizing on Facebook, the attitudes regarding the source of a news article is also likely to moderate the effect of epistemic trust on opinion formation. Even when a news article is not an opinion piece, journalistic framing of an issue suggests certain interpretations while others are neglected (Entman, 1993). Facebook users may thus consider the article itself a source of epistemic input. The degree of epistemic trust in the news medium could therefore mitigate or amplify the effect of epistemic trust on opinion valence. From this, it follows that individuals who have high epistemic trust in the news medium accept an ambivalent portrayal in the article as a valid and reliable assessment of the subject matter and are thus less affected by a news endorser's opinion. Accordingly, I hypothesize:

Hypothesis 7. *Epistemic trust in the news endorser will predict news endorser congruent opinion valence more strongly when epistemic trust in the news medium is low compared to when epistemic trust in the news medium is high. Epistemic trust in the news medium moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through epistemic trust in the news endorser.*

5.1.3 Relational Trust in the News Endorser

Although my objective is to test the epistemic-social-tuning hypothesis in the present research, I take account of the assumption that epistemic and relational motives for shared reality are inter-related and operate simultaneously (Echterhoff et al., 2017; Hardin & Conley, 2001). Relational motivation is assumed to be related to the need of feeling connected and belonging to others, which is usually felt with regard to close others and valued social groups – others that an individual considers as in-group (Echterhoff et al., 2009b; Higgins & Pittman, 2008). Thus, interaction with close others or in-group members elicits a sense of affiliation which Echterhoff et al. (2009a) termed relational trust. They showed that relational trust in in-group members tends to be stronger than in out-group members and that it mediates the effect of social relationship characteristics on social tuning effects. I suggest that relational trust is a mediator of social tuning effects on opinion about news shared on Facebook as well. The strength of the tie between a user and a news endorser predicts whether a shared news article is selected. The selection decision may not only be rooted in epistemic trust but also in the desire to feel close to a friend by knowing what he or she is interested in. Exposure to news shared by strong ties or in-group members should elicit a stronger sense of affiliation than for weak ties. Accordingly, the degree of opinion valence should vary as a function of relational trust strength.

Hypothesis 8. *Individuals have stronger relational trust in socially close than in socially distant news endorsers which in turn predicts news endorser congruent opinion valence. Relational trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.*

However, I would assume that even though users may have strong relational trust in a news endorser, the degree to which it impacts a biased opinion about the news article is moderated by need to belong. A strong need to belong elicits strong relational motivation for shared reality creation (Echterhoff et al., 2009b). Accordingly, when both the need to belong and relational trust in a news endorser are high, it is very likely that a user will establish a shared

reality about a news item with the news endorser. On the contrary, when an individual generally has a low need to belong, he might not be motivated to create a shared reality, even if he experiences a sense of affiliation when exposed to the news post. Thus, I hypothesize:

Hypothesis 9. *Relational trust in the news endorser will predict news endorser congruent opinion valence more strongly when individual need to belong is high compared to when need to belong is low. Need to belong moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through relational trust in the news endorser.*

5.2 Investigating Social Tuning Effects on Facebook with an Adapted Saying-Is-Believing Design

The aim of my empirical studies is to test whether social influences on a user's opinion about news shared on Facebook may be explained by a sharing-is-believing effect. Therefore, I adapted the research design of saying-is-believing studies to correspond with the context of news internalizing on Facebook. Building on my analysis of literature on news sharing and internalizing on Facebook, I developed stimulus material and a procedure which both ensure the internal validity to observe the sharing-is-believing effect as well as ensuring the external validity of news exposure and perception on Facebook. In my adapted study procedure, I mainly expose participants to a Facebook news post and the linked article about a political topic, ask them to write a message to the news endorser as response to the news post, and measure the dependent variables memory and opinion of the article. These theory-based variations in study design have implications for expected social tuning effects.

First, I expect smaller social tuning effects compared to previous saying-is-believing studies, as the target referent in my study is a political news topic, not a person. I aim at understanding how ostensible news endorser opinion affects political opinion formation on Facebook. Hence, instead of an

ambiguous description of a target person, participants in my studies read an ambiguous news article. Accordingly, I do not assess shared reality about social cognition, but about political opinion. While social cognition of an unfamiliar target person may elicit a strong need for immediate social validation of one's perception, people can rely on existing beliefs, general political orientation, previous knowledge and information, too, when forming an opinion about a political news topic. Contrary to previous saying-is-believing studies, I assess social tuning effects on *change* of inner states rather than effects on *construction* of inner states (Echterhoff & Higgins, 2017).

In the laboratory experiments of prior studies, participants formed an impression about a target person whom they had no more knowledge of than the description they received during the study procedure. Thus, they constructed inner states regarding the target person during the study and the observed social tuning effects were effects on the construction of memory of or opinion about the target person. In my studies, participants form opinions about news topics. Although I aimed at presenting them with rather unpopular news topics, it is possible that they developed an opinion about the topics before or that existing attitudes regarding associated issues might mitigate social tuning effects. Considering shared reality theory, it is possible that existing shared realities about a news topic or related issues reduce participants' striving for the establishment of a shared reality with the news endorser (Magee & Hardin, 2010; McCann et al., 1991). Thus, I assume that social tuning effects in my approach will be smaller compared to previous research.

Second, the news endorser's opinion expressed in the news post is obvious and strongly linked to the target referent: the shared news article. This corresponds with the affordances of SNSs, particularly association, persistence, and visibility of communication. They create a persistent inextricable link between mass media content and interpersonal communication. Yet in previous saying-is-believing studies, participants were informed as a sideline about their audience's opinion of the target person. Compared to this, the news endorser's opinion is presented blatantly in my approach. Self-disclosure in news posts is a common way in which users share their opinion about a current news topic with Facebook friends. It is supposed to render users' inner states accessible for

others and to allow for the experience of commonality (Echterhoff, 2013). Hence the SNS-specific way of expressing one's opinion about a target referent should equally lead to social tuning of verbal responses and to sharing-is-believing effects.

Third, based on findings that suggest a tendency to consider and rely on user comments when forming an opinion about online news (e.g., Hong & Cameron, 2018; von Sikorski, 2016; Winter, 2019; Winter et al., 2015), I propose that the epistemic shared reality goal is salient in the context of news internalizing on Facebook. The ambiguity caused by news articles encountered on Facebook elicits the motivation to establish a shared reality with others. Accordingly, I assume that exposure to an ambiguous news article in my experimental studies should elicit social tuning effects on participants' opinion without specifying a purpose of the verbal response that reinforces shared reality as goal of communication. However, previous saying-is-believing studies did include such an additional goal. Participants usually were instructed to produce messages based on which the receiver would be able to correctly identify the target person (e.g., Echterhoff et al., 2005; Echterhoff & Kopietz, 2013; Higgins & Rholes, 1978). This might also explain why participants usually tailored their messages to their audience irrespective of whether they were motivated to establish a shared reality or not.

As a consequence, although I expect that participants in my studies will tailor responses to news posts of socially close news endorsers, I do not expect social tuning in responses to socially distant news endorsers. What is more, I will not instruct participants to describe the article in their response to the news endorser (which would be analogous to describing the target person for the audience in prior saying-is-believing studies). I expect the verbal responses to news posts of socially close news endorsers to be more independent from the content of the news article, for example, there could be new information provided which relates to the news topic (Higgins et al., 1982) or question the news endorser's opinion. This is another reason why I assume that social tuning effects will be smaller compared to previous studies under the saying-is-believing paradigm.

5.3 Statistical Analyses

I used statistical packages based on the programming language *R* (R Core Team, 2019) for all analyses. For data cleaning, reshaping, and merging data sets, I used the packages *plyr* (Wickham, 2011), *dplyr* (Wickham, François, Henry, & Müller, 2018), and *reshape* (Wickham, 2007). I used the *car* package (Fox & Weisberg, 2019) for recoding variables. I report statistically significant effects when $p < .05$.

5.3.1 Descriptive Analysis and Assumption Testing

For descriptive analyses of observed variables and correlations, I used the *car* and *psych* (Revelle, 2018) packages. I assessed normal distribution on the basis of skewness and kurtosis values as well as by looking at histograms produced with the package *ggplot2* (Wickham, 2016). Multivariate normality of data, an assumption that has to be met for confirmatory factor analyses (CFA), was tested with the generalized Shapiro-Wilk Test provided by the *mvShapiroTest* package (Gonzalez-Estrada & Villasenor-Alva, 2013).

5.3.2 *t*-Tests and Analysis of Variance

I assessed mean difference between two groups with one-and two-sided *t*-tests using the *stats* package (R Core Team, 2019). I also conducted equivalence tests for *t*-tests using the *TOSTER* package (Lakens, 2017). I report the Cohen's *d* index for effect size computed with the *effsize* package (Torchiano, 2019). My interpretations of effect size are based on the classification suggested by Cohen (1988, pp. 25–26), according to whom *d* values of .2, .5, and .8 represent small, medium, and strong effects, respectively. I consider effects with sizes $d < .2$ as negligible effects. I used the package *car* (Fox & Weisberg, 2019) for analysis of variance and computed the effect size ω^2 for *F*-tests using the *sjstats* package (Lüdecke, 2019). As suggested by Kirk (1996), I gauge ω^2 values of .01, .06, and .14 small, medium, and strong effects, respectively (see also Field, 2014, p. 474). I consider effects with sizes $\omega^2 < .01$ as negligible effects.

5.3.3 Confirmatory Factor Analyses and Structural Equation Modeling

The construct validity of all latent variables was assessed in CFAs. As the assumption of multivariate normality was violated for most variables, I used maximum likelihood estimation with robust (Huber-White) scaled standard errors and a scaled test statistic that is (asymptotically) equal to the Yuan-Bentler test statistic (MLR) (Rosseel, 2012) for estimation. I assessed model fit based on several indices as suggested by Kline (2011, pp. 209–210) and Hair, Black, Babin, and Anderson (2014, p. 583). The χ^2 test of differences in observed and estimated covariance matrices, the only statisctically based test of structural equation modeling (SEM) fit, is sensitive to sample size and number of observed variables. The χ^2 statistic increases and the difference becomes significant in larger samples (> 250) and complex models. Thus, it is advisable to consider several indices when evaluating evidence of construct validity (Hair et al., 2014, p. 583). Along with the χ^2 statistic, I report the incremental fit indices Tucker Lewis Index (TLI) and Comparative Fit Index (CFI), which are both relatively insensitive to model complexity. I also report the Root Mean Square Error (RMSEA), an index that takes sample size and model complexity into account and thus attempts to correct for the χ^2 statistic's tendency to reject models that consist of many observed variables and are based on large samples. The standardized root mean residual (SRMR) is a standardized value and thusly allows for comparing fit of several models (Hair et al., 2014, p. 578). Hair et al. (2014) recommend to choose cut-off values for model fit based on sample and model characteristics. Following their advice, I assessed the goodness of fit of different models according to the indice values in Table 5.1.

I conducted CFAs in order to test the factor structure of scales. Modifications were based on factor loadings and modification indices. I did not pursue the aim of achieving excellent model fit but aimed at approximating theory. Thus, I avoided modifications that would comprise theory (Hair et al., 2014, p. 589). In order to achieve satisfactory convergent validity, I excluded items with poor factor loadings. According to Hair et al. (2014, p. 618), standardized loading

Table 5.1: Cut-off Values for SEM Goodness of Fit Indices Dependent on Model Complexity and Sample Size

	$N < 250$		$N > 250$	
Observed variables	$m \leq 12$	$12 < m < 30$	$m \leq 12$	$12 < m < 30$
χ^2	Insignificant p-values expected	significant p-values even with good fit	Insignificant p-values expected	significant p-values even with good fit
CFI and TLI	$\geq .97$	$\geq .95$	$\geq .95$	$\geq .92$
RMSEA	$< .08$ with CFI $\geq .97$	$< .08$ with CFI $\geq .95$	$< .07$ with CFI $\geq .97$	$< .07$ with CFI $\geq .92$
SRMR	Biased upward	$< .08$ with CFI $\geq .95$	Biased upward	$< .08$ with CFI $\geq .92$

Note. Table adapted from Hair, Black, Babin, and Anderson (2014, p. 584). m = number of observed variables; N number of observations

estimates should ideally be .70 or higher, at least .50. Moreover, I calculated average variance extracted (AVE), a summary indicator of convergence that indicates the mean variance extracted for the items loading on a latent construct. The AVE of a latent variable should be above .50, as lower values indicate that less variance in the items is explained by the latent factor than by error (Hair et al., 2014, p. 619).

I report the congeneric reliability coefficients McDonald's ω (McDonald, 1999) and ρ (Raykov, 1997), which are both more adequate for CFA models than Cronbach's α, as they do not make the assumption of equal indicator loadings on a latent variable (Breitsohl, 2019; Cho, 2016). CFAs and SEMs were conducted with the *R* packages *lavaan* (Rosseel, 2012) and *semTools* (Jorgensen, Pornprasertmanit, Schoemann, & Rosseel, 2019).

I assess the significance of indirect relationships in mediation analyses on the basis of confidence intervals retained from bootstrapping with 1000 bootstrap samples and report bias corrected confidence intervals (CIs) (Rosseel, 2012).

5.3.3.1 Structured Means Modeling Approach

Several of the dependent variables in my experiments are latent measures of psychological constructs. The structured means modeling (SMM) approach is a SEM variant for appropriately analyzing experimental data with latent variables. SMM is very similar to ANOVA, with the difference that it compares the means of latent dependent variables across experimental groups (Aguirre-Urreta, 2014; Breitsohl, 2019; Sörbom, 1978). In contrast to ANOVA, SMM explicitly models the use of multiple indicators, their measurement errors as well as *measurement invariance*, the extent to which the indicator loadings and indicator intercepts are equal across groups (Breitsohl, 2019). In this regard, SMM is less restrictive than the alternative SEM variant for analyzing experimental data called multiple indicators and multiple causes (MIMIC) or group code approach, which assumes (untested) perfect measurement invariance (Hancock, 2004). However, non-invariance of measurment is rather likely in experiments, particularly because the experimental manipulation might cause varying interpretations of measurement items in the experimental groups (Breitsohl, 2019).

I estimated SMM using the multiple group analysis function of the *lavaan* package in *R*. Following the procedure suggested by Breitsohl (2019) and Rudnev, Lytkina, Davidov, Schmidt, and Zick (2018), I tested measurement invariance by consecutively testing for configural, metric, and scalar invariance of the latent dependent measures. First, a multigroup CFA comparing all experimental groups against each other with satisfying model fit indicates configural invariance (i.e., equal model structure across groups). In order to test metric invariance (i.e., equal indicator loadings across groups), indicator loadings are constrained to equality and the constrained metric invariance model is compared to the configural model in a χ^2 difference test. A non-significant χ^2 difference in model fit indicates metric invariance. Finally, scalar invariance is tested by constraining indicator intercepts to equality and comparing the model fit with the metric invariance model. Again, a non-significant χ^2 difference in model fit indicates scalar invariance.

In order to test main and interaction effects of the independent variables on latent group means, the model fit of the unconstrained model of the dependent

variables is compared to models in which the respective main or interaction effect is restricted to zero. I followed the procedure described by Breitsohl (2019). As my experiments had 2 x 2 designs, I started with testing the interaction effect. If a χ^2 difference test revealed a significant deterioration in model fit for the model which restricted the interaction effect to zero, the effect on the latent dependent variable was significant and I proceeded with testing simple effects. If there was no interaction effect, I proceeded with testing the main effects.

Hancock (2001) developed the effect size index $\hat{f}$, an adaptation of the Cohen's $\hat{f}$ (Cohen, 1988) for latent group mean differences. $\hat{f}$ is the standardized standard deviation of the latent group means from the latent grand mean (Breitsohl, 2019; Hancock, 2001). Hancock (2001) suggested to gauge $\hat{f}$ .11, .28, and .45 small, medium, and strong effects. I consider effects with sizes $\hat{f} < .11$ as negligible effects.

5.3.3.2 Latent Variable Scaling

According to Little, Slegers, and Card (2006b), identification of covariance and mean structures of latent variables in SMM may be achieved by three interchangeable methods: 1) When using the *reference group* method, the latent variance is fixed to 1 and the latent mean is fixed to 0 in a reference group. Latent variance and means of the subsequent groups are scaled relative to the fixed mean and variance of the first group. 2) The *marker variable* method involves fixing the intercept of one indicator of each latent variable or factor to 0 and the loading of the same indicator to 1. By this means, the scale of the latent variable is equivalent to the selected indicator's scale across all groups. 3) With the *effects coding* method, all indicator intercepts of a variable or factor are constrained to sum to 0 and the factor loadings are constrained to average 1 (Little et al., 2006b; Rudnev et al., 2018). As a result, the observed metric of the indicators is reflected in the estimated latent variances and means, which are optimally weighted by the extent to which every indicator represents the latent construct (Little et al., 2006b). This third method is analogous to ANOVA effects coding.

The effects coding approach is superior in SMM for several reasons. First, the latent variable scales correspond to all of their indicators (contrary to the marker variable method), which is a meaningful metric for interpretation of latent mean differences similar to mean index differences in ANOVA (Breitsohl, 2019). Second, effects coding is a non-arbitrary method to estimate latent parameters, as variable scales are not dependent on a single marker indicator or group (Little et al., 2006b). Third, effects coding allows to compare a construct across groups when the assumption of measurement invariance is violated, as the metric of the estimated latent variable reflects the specific behavior of the indicators in each group (Little et al., 2006b).

Hence, I used the effects coding method for scaling all latent variables in my empirical studies and applied it to first-order factors as well as second-order factors.

5.3.3.3 Latent Interaction

In order to estimate interactions among latent variables, I used the residual centering approach proposed by Little, Bovaird, and Widaman (2006a). The technique is an extension of orthogonalizing in regression for SEM and relatively simple to apply using the *R* package *lavaan*. It involves a two-step procedure: first, the uncentered observed indicators of the dependent variable X and the moderator variable W are multiplied (i.e., x1*w1, x1*w2, x2*w2 etc.). The products are regressed on all indicators of X and W and the residuals of these regressions are saved in the data set. Second, in the latent interaction model, the residuals are used as indicators of the product variable (Steinmetz, Davidov, & Schmidt, 2011).

As SEMs with several latent variables and large numbers of indicators require large samples sizes to converge, it is reasonable to reduce complexity when the sample size is small (Ng & Chan, 2019). One approach to complexity reduction is to calculate factor scores based the confirmatory factor analyses of a latent variable and use them as predictors. Simulation studies indicate that the factor score approach performs satisfactorily in comparison to latent interaction structural equation modeling (Ng & Chan, 2019; C. Yang, Nay,

& Hoyle, 2010). Thus, I used factor scores to test moderation hypotheses in Study 1.

6 Study 1: A Laboratory Experiment

6.1 Goal and Operationalization

The goal of Study 1 was to investigate social tuning effects on opinion formation about a news article shared on Facebook. I tested the adapted general shared reality proposition according to which individuals experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers, but not with socially distant news endorsers.

To test this proposition, I adapted the saying-is-believing paradigm for the context of news internalizing on Facebook. In order to induce a general need for shared reality creation, I exposed participants in this study to a Facebook post with a link to an ambiguity and uncertainty eliciting news article. Building on previous experiments under the saying-is-believing paradigm, I created conditions favorable vs. unfavorable for the establishment of shared reality about the opinion of the news topic by varying the new endorser's epistemic authority (Echterhoff et al., 2008; Echterhoff & Kopietz, 2013; Echterhoff et al., 2009b). She was either presented as an in-group member (social close condition) or as a member of an out-group (social distant condition). Moreover, I manipulated the news endorser's opinion about the topic of the shared article (positive vs. negative).

After exposure to the news post, participants wrote a message to the news endorser. The dependent variables were message valence, memory valence,

opinion valence as well as epistemic and relational trust. I measured participants' tolerance of ambiguity and need to belong as potential moderators of social tuning effects before presenting the stimuli. The study was designed to test the epistemic-social-tuning hypothesis. In addition, I explored the role of relational trust for social tuning. The hypotheses and variables investigated in Study 1 are summarized in Table 6.1 and Figure 6.1.

The study was supported by the German Society for Online Research (DGOF).

Table 6.1: Hypotheses and Variables of Study 1

Hypotheses	**Variables**
Hypothesis 1	
Social closeness of news endorser and news endorser opinion interact such that individuals' opinion about the news topic will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser.	IV: social group, news endorser opinion DV: opinion valence, memory valence
Hypothesis 2	
Social closeness of news endorser and news endorser opinion interact such that the valence of individuals' responses to the news post will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser.	IV: social group, news endorser opinion DV: message valence

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Hypothesis 3	
Response valence mediates the effect of news endorser opinion on individual opinion valence when the news endorser is socially close.	IV: social group, news endorser opinion Mediator: message valence DV: opinion valence, memory valence
Hypothesis 5	
Epistemic trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.	IV: social group Mediator: epistemic trust DV: opinion valence, memory valence
Hypothesis 6	
Ambiguity tolerance moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through epistemic trust in the news endorser.	IV: social group Mediator: epistemic trust Moderator: tolerance of ambiguity DV: opinion valence, memory valence
Hypothesis 8	
Relational trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.	IV: social group Mediator: relational trust in news endorser DV: opinion valence, memory valence

continues on next page

Hypothesis 9	
Need to belong moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through relational trust in the news endorser.	IV: social group Mediator: relational trust in news endorser Moderator: need to belong DV: opinion valence, memory valence

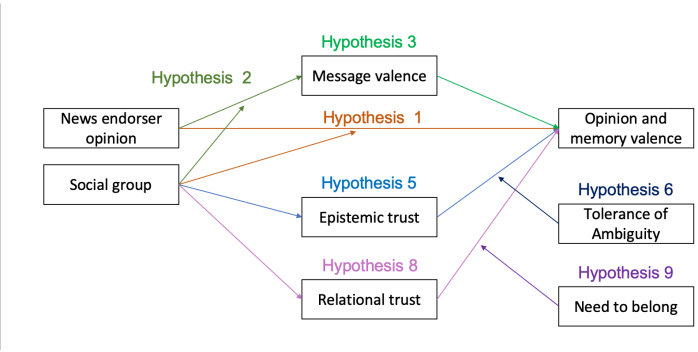


Figure 6.1: Graphic Model of the Hypotheses and Variables Tested in Study 1

6.2 Method

6.2.1 Participants

The study is based on a self-selected sample of $N = 223$ students of the University of Hohenheim. I conducted an a priori power analysis to determine the sample size using the application G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007). Previous studies with varying manipulations and stimulus materials observed large effect sizes of $d = 0.52 – 2.11$ for the social-tuning effect under shared reality conditions. However, as argued in Chapter 5.2, I expected smaller effect sizes for social tuning effects on opinion formation about news shared on Facebook. I calculated the optimal sample size to have 90% power to detect main and interaction effects of medium size $f = .25$ at an α-level of .05 in a two-factorial analysis of variance. Based on these specifications, the required sample size was 171. As I included an additional control condition, I recruited a total of 227 participants for the study. By this means, I also made sure to attain the statistical power, allowing for excluding data sets due to suspicion, drop-out, or incomplete responses.

Sixty-six participants were undergraduate communication science students of an introductory lecture on social research methods. They were invited to participate in the study to gain practical experience in the procedure of an empirical study. As compensation, they received sweets and I presented an extended debriefing and preliminary results of the study in a later lecture on experimental designs. Two research assistants recruited additional 161 participants on campus. Thanks to the kindness of several professors and lecturers I asked for permission in advance, they invited students to participate in the study at the beginning of their lectures. We handed out schedules in every lecture and asked students to sign in for their preferred time slot with their email address. One day before the selected date, one of the research assistants sent a reminder and provided directions to the laboratory. The non-communication science students received 5 Euros as a compensation for participating.

One participant dropped out of the study as she was overwhelmed with answering the open questions. The resulting sample consisted of $N = 226$

participants (69% women, $M_{age} = 21$ years, $SD_{age} = 2.66$, age range: 18-33 years). Participants were students in the fields of Communication Science ($n = 65$), Agricultural Sciences ($n = 59$), Economics ($n = 53$), Agricultural Biology ($n = 24$), Management ($n = 9$), Education for Business and Economics ($n = 7$), Biology ($n = 4$), Information Systems ($n = 2$), Agribusiness ($n = 2$) and Biobased Products ($n = 1$). About 88% of them used Facebook, 51% Instagram and 46% Snapchat. Only less than one percent reported to use Twitter and twelve participants (5%) indicated they did not use any of these social media platforms. With regard to news use on the Internet, 67% reported to visit at least sometimes websites of news media, 66% read RSS-news feeds on smartphones or tablets, 59% used smartphone or tablet apps of news media and 79% reported to read or watch at least sometimes news that a friend recommended by sending them a link via email or messenger app. Among those who used Facebook, 76% said they read or watched at least sometimes news one of their friends had posted on the SNS and 70% consumed news stories posted by news media organizations that they follow on Facebook. Thus, the majority of the participants had experiences with news exposure on Facebook.

6.2.2 Design

The experiment was based on a 2 (news endorser opinion: positive vs. negative) x 2 (social group: student of same university vs. electronics technician) between-subjects design with random assignment and an additional control group that received a generic news post without a social endorsement. The dependent variables were message valence, memory valence, and opinion valence.

6.2.3 Procedure

The study was conducted in the laboratory of the Department of Media Psychology at the University of Hohenheim between November 21 and December 9, 2016. It was administered via an online survey to reduce interaction between experimenters and participants. Two research assistants took turns in leading the sessions. They were blind to the hypotheses and experimental conditions. I

briefed them orally and instructed them to adhere closely to the written script during the sessions. Their role as experimenters was limited to welcome and guide participants to a computer spot in the laboratory, read out the initial instructions, intervene in case of technical problems, read out the debriefing at the end, and hand out incentives. Initial instructions included a description of procedure, technical notes, and the request not to talk to each other, use cell phones, or visit any other website than the questionnaire, and to carefully read the information about the study before giving consent to participate.

Several people participated simultaneously in the experiment; the maximum number was 13. They were seated as far apart as possible, with visual covers on the desks that blocked the view on adjacent computer screens. On each desk was a sheet of paper with a unique experimental code which participants had to enter in order to begin the study. After that, they reached a page with information about the aim, content, and duration of the study. According to the cover story, the study was about perception of news in social media and built upon a prior study on news sharing in social media. They were informed about anonymous data processing and their right to abandon the survey at any time. Participants had to select the option "I have read the information about participation and would like to start with the study 'News in social media'", in order to proceed. Otherwise, they could deny participation.

In a pre-survey, participants first had to answer questions about social media use, online news consumption, and knowledgeability of several news topics. I also measured the moderator variables need to belong and tolerance of ambiguity. After that, participants were randomly assigned to one of the four experimental conditions or to the control condition by the survey software.

In the experimental conditions, participants were informed that they would be exposed to a Facebook news post shared by a participant of a prior qualitative study in which we interviewed respondents about news that they shared on Facebook and motives for sharing. They were told that some participants of the prior study agreed in using their Facebook posts in the current study to investigate news post perception and comprehensibility of the shared articles. The post that they were going to see was from a participant of this previous study who was introduced as a member of their in-group (student of the University of Hohnheim) or as a member of an out-group (electronic technician).

Next, participants in all experimental conditions were exposed to a Facebook news post, in which the endorser – Julia – shared a link to an article published on the German news website, *Spiegel Online*. I manipulated the valence of the endorser's opinion about the topic of the article (positive vs. negative) by means of a verbal opinion expression in the news post. The article was a balance of current developments in EU Internet politics.

In the control condition, participants were also told that they would see a news post extracted from a prior qualitative study, whereas here it was not a post *shared* but *encountered* by a prior study participant. There was no particular person mentioned, instead, participants were told that they would see a news post distributed via the Facebook page of *Spiegel Online*. The post contained no manipulation of the independent variables.

Participants were asked to regard the news post and read the linked article. After exposure to the article, participants in all experimental conditions (but not in the control group) were requested to write a message to the news endorser, stating their assessment of the EU Internet politics. On the questionnaire page with this task, the Facebook news post with Julia's opinion according to the manipulation was displayed again. The instruction read:

> "Please imagine, you would now have the opportunity to tell Julia how you think about the EU Internet politics. Use the field below the post to write Julia, how you evaluate the EU Internet politics."

After drafting the message, participants evaluated the comprehensibility and ambiguity of the article. This served as filler task as well as a measure to control whether the article was perceived equally across all conditions. It was followed by three unrelated word and sentence unscrambling tasks. After the filler tasks, the questionnaire continued with measures of the mediators epistemic and relational trust in the endorser and epistemic trust in participants' message to the news endorser. In the next step, I measured the dependent variables opinion valence and memory valence. Firstly, participants reported the valence of their opinion about EU Internet politics on a closed measure. Next, I captured the valence of their memory of the article with a surprise

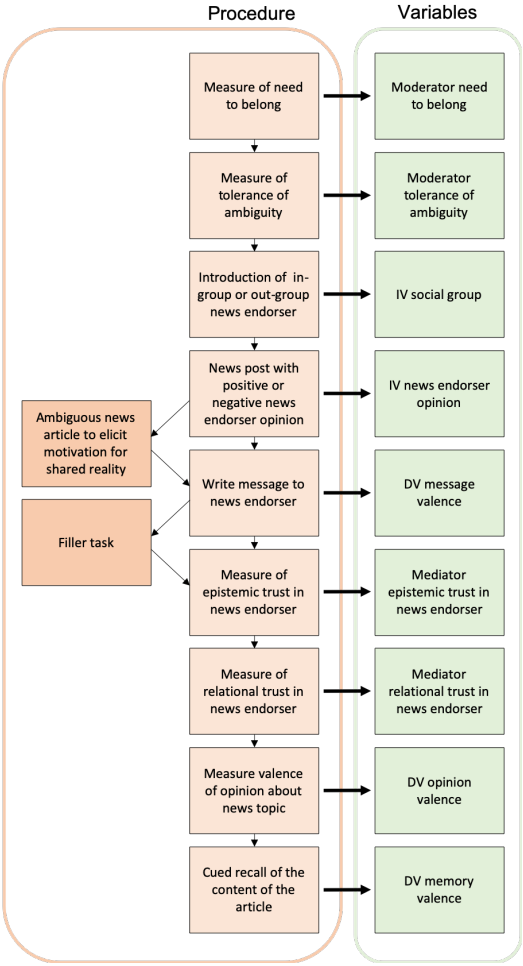


Figure 6.2: Procedure Steps and Related Variables in Study 1

cued-recall task. I asked them to remember and write down information about EU Internet politics given in the article. Unlike prior studies, I did not use a free-recall task, as participants in a pretest perceived the article as complex and were overwhelmed with memorizing its content. To avoid frustration, I cued the three measures discussed in the article: the General Data Protection Regulation (GDPR), the Right to be Forgotten, and the European Court of Justice's decision on invalidating the Safe Harbor agreement (Safe Harbor decision). For each measure, I provided a separate input field. The instruction read as follows:

> "We would like to ask you now to recall the information about EU Internet politics provided in the news article and write them down. To help you recall the information, we listed the three political measures mentioned in the article. Please try to recall as much information as possible about the three measures from the article and write it down as complete as possible."

The memory protocols were analyzed and rated by independent coders to determine memory valence.

Participants in the control group did not answer questions regarding epistemic trust, instead, they exclusively received questions regarding news sharing behavior in order to keep the duration of the study roughly equal. Finally, participants in the four experimental conditions indicated sympathy, perceived similarity with the endorser and perceived similarity with an average student of the University of Hohenheim rather than an average electronic technician. I used the answers for manipulation checks for the social group manipulation. In order to check whether the news endorser opinion manipulation was successful, I asked them to indicate the endorser's opinion about the Internet politics of the European Union. At the end of the survey, all participants received questions about demographics, a suspicion check, and a comment box.

The questionnaire ended with a basic debriefing in which I explained that both the Facebook news post and the article were fictitious and that the article had not been published by *Spiegel Online* or any other medium. Participants recruited in the Communication Science introductory course received

an extended debriefing during the lecture immediately after all of them had participated. All other participants were debriefed in detail by the research assistants at the end of the session.

6.2.4 Manipulation and Stimulus Material

The manipulation of the first independent variable, the *social group* of the news endorser was included in the introduction to the presentation of the Facebook post. Participants in the experimental conditions were informed that they were going to see a Facebook post shared by Julia, a participant of a prior study. In the control group, they were told that they would see a post published by *Spiegel Online* on their Facebook page. In the in-group condition, Julia was introduced as a 20-year-old student of the University of Hohenheim. In the out-group condition, she was introduced as an electronics technician of the same age at a medium sized enterprise. Prior studies by Echterhoff et al. (2005) with students have shown that fellow students of the same university are considered as in-group members and elicit necessary epistemic trust to establish a shared reality. I tested this assumption and assessed possible out-groups with a pilot study (see Chapter 6.2.4.2). Contrary to members of one's in-group, out-group members are usually considered less similar and likable (Deaux, 1996; Echterhoff et al., 2005). The pilot participants – all students of the University of Hohenheim – rated a 20 year old female electronics technician as least similar and likable. Thus, I adopted this news endorser description for the out-group manipulation.

The stimulus consisted of two parts: A Facebook news post and the article that was linked in the news post. The news post contained the manipulation of the news endorser opinion, but the article was identical across all conditions. After I informed participants that they were going to see a Facebook news post either shared by the participant of a prior study or by *Spiegel Online*, they were instructed to regard the post on the following page of the questionnaire and after that, read the article. I neither guided their attention explicitly to the opinion stated by the news endorser, nor did I prepare them that they would have to draft a message to the news endorser, state their personal opinion

on the topic, and memorize the content. I aimed at creating a genuine and natural reception situation.

In the experimental conditions, the Facebook post stem from the fictitious user Julia. Her profile picture displayed in the post showed a woman's head from behind. The name Julia was visible, while the surname was blurred, in order to keep up with the cover story, according to which the post stem from a former study participant who agreed to use her post in a subsequent study. Next, the post contained a statement from Julia, through which I manipulated the independent variable *news endorser opinion*. In the positive valence condition, Julia's statement was "The EU is finally headed in the right direction" (For the German original statement see Figure 6.3). In the negative valence condition, it read "The EU is on the wrong track again" (see Figure 6.4). It further included a preview of a linked *Spiegel Online* article, in which the news brand, headline, picture, and teaser were visible. At the bottom of the post, the aggregated number of 22 likes was displayed. Preview and likes were identical across all experimental conditions and the control condition. In the control condition, name and profile picture of Julia were replaced by the news brand and logo of *Spiegel Online*. The post contained no statement, only the article preview (see Figure 6.5).

The news post was identical with a Facebook post as it would appear in the participants news feed when posted by one of their friends. The post was presented alone and not integrated into a news feed. Though this is different than the original Facebook experience, where users scroll through their news feed, it assures that participants focus on the manipulated information in the post. As in a real Facebook post, the content of the preview was clickable and participants were forwarded to the article on the next page by clicking on the picture, headline or teaser. In the case of a user not intuitively clicking on the content, a note at the bottom of the page told them to click on the picture in order to proceed to the article.

The article was presented on the next page of the online questionnaire, although the layout of the page was identical with the layout of the *Spiegel Online* website. The article was designed to elicit ambiguity, which I aimed to accomplish by choosing an ambivalent topic, invoking an equal number of

Figure 6.3: Facebook Post in the Positive Opinion Condition

Figure 6.4: Facebook Post in the Negative Opinion Condition

Figure 6.5: Facebook Post in the Control Condition

equivalent pro and contra arguments, and by not providing a clear assessment by the author.

The Internet politics of the European Union seemed to be a suitable topic. At the time of conducting this study, the issue was not high on the media agenda but occasionally it was the object of reports. It is not a controversial topic with declared opponents and proponents of distinct political camps. Thus, it seemed likely that participants could not rely on other recent information or positions but only what was given in the article when forming an opinion. Furthermore, the topic is inherently complex, as it touches various political interests and incompatible goals. On the one hand are individuals who wish to have unlimited access to digital content, to protect their privacy, and personality rights. On the other hand, there are organizations that want to exploit digital data for innovative products and services, establish digital business models, and protect copyrights. The EU institutions endeavor to find regulations that suit both, the private Internet user and the economic progress. Thus, the impact of EU Internet politics is difficult to judge for the individual. This becomes apparent as Germans consider themselves not well informed on topics such as the European Court of Justice's decision on invalidating the

Safe Harbor agreement (Open-XChange, 2016). The EU Internet politics is thus an ambivalent issue and together with a low level of knowledge, it is likely to elicit ambiguity.

The stimulus article is based on journalistic reports and opinions from German leading media. It lists recent EU decisions aimed at regulating the Internet, the General Data Protection Regulation, the Right to be Forgotten and the European Court of Justice's decision on invalidating the Safe Harbor agreement and raises the question whether these measures are reasonable. For each measure, the article quotes an advantage and a disadvantage, but it does not provide a final judgment of whether it should be considered beneficial or detrimental. I selected and revised the arguments based on the pilot study described in Chapter 6.2.4.1.

The title "Quo vadis, digitalization?", introduction[1], and conclusion[2] emphasize the ambivalence and unpredictability of EU decisions (see Appendix 2 for the complete stimulus article). Several colleagues, research assistants, and non-specialist peers read the first version of the article, and gave feedback regarding journalistic style, credibility, comprehensibility, and most notably the perceived ambiguity. With Pilot Study 2, I assessed whether participants perceived the article as ambiguous (see Chapter 6.2.4.2).

6.2.4.1 Pilot Study 1: Development of an Ambiguous News Article

In order to create a news article that is perceived as ambiguous, I adapted the pilot study procedure of Niemeier (2011). I created four ambivalent, one positive, and one negative assessment of the EU Internet politics and presented them in an online survey individually to $N = 45$ pilot participants

[1] "... The European Union aims at regulating these developments by measures such as the General Data Protection Regulation. Yet, how does EU Internet politics impact practice? A stock taking."

[2] "What becomes evident in these examples is symptomatic of the EU Internet politics as a whole: Intended positive effects of the measurements involve a number of questionable consequences. The regulation of the Internet remains a tightrope walk for the European Union."

for evaluation ($M_{age} = 35.2$, 20 women). The goal of the study was to select descriptions of EU Internet politics measures, that are neither perceived as clearly positive, nor as clearly negative, and thus elicit uncertainty about one's own evaluation, which is an indicator of ambiguity.

By searching current media coverage on EU Internet politics, I identified four recent measures which are evaluated ambivalently in the news coverage: the General Data Protection Regulation (GDPR), the Right to be Forgotten, the European Court of Justice's decision on invalidating the Safe Harbor agreement (Safe Harbor decision), and a complaint filed against Google by the EU commission, claiming that the company abuses its monopoly in general online search to reach a market-dominating position among comparison shopping sites too (Google complaint). For each of the topics, I developed an ambivalent assessment by invoking potential positive and negative effects. I further developed one clearly positive and one clearly negative assessment regarding the GDPR in order to contrast their evaluations with those of the ambiguous assessments.

I recruited participants through snowball sampling of my social network by sending out invitations via email and instant messenger (Facebook, WhatsApp, and Threema). They evaluated the paragraphs with assessments of EU Internet politics on five dimensions: the extent to which they depicted the EU Internet politics as 1) reasonable, 2) a risk for European citizens, 3) missing the point, 4) as a chance for European citizens, and 5) inconsistent (Measured on 6-point scales ranging from 1 = *not at all* to 6 = *very much*). They subsequently indicated certainty of their judgment on the same 6-point scale. A mean index of items 1) to 4) captured the perceived valence of the assessment.

A descriptive comparison of the perceived valence of the assessment index revealed that participants had an ambiguous perception of the four ambivalent assessment statements, as the scores were close to the scale midpoint 3.5 ($M = 3.07$ – 3.56). They were particularly indecisive regarding the assessment of the GDPR ($M = 3.37$, $SD = 0.95$) and the Right to be Forgotten ($M = 3.56$, $SD = 0.96$). The assessment of the Safe Harbor decision was evaluated as tendentially negative ($M = 3.07$, $SD = 1.15$). For comparison, the positive assessment was perceived clearly positive ($M = 4.41$, $SD = 1.14$), the negative assessment was perceived negative only by tendency ($M = 3.07$, $SD = 0.95$).

With regard to inconsistency of the assessments, particularly the GDPR ($M = 4.29$, $SD = 1.58$) and the Safe Harbor decision ($M = 4.16$, $SD = 1.57$) were perceived as rather inconsistent. With exception of the ambivalent assessment of the Right to be Forgotten ($M = 4.07$, $SD = 1.14$), participants indicated lower levels of judgment certainty regarding ambivalent assessments ($M = 3.40$ –3.89) than for the positive ($M = 4.13$, $SD = 1.29$) and the negative assessment ($M = 4.02$, $SD = 1.08$).

Based on the pilot study, I revised the assessments of the GDPR and the Safe Harbor decision by strengthening the positive arguments. I originally included all four ambiguous assessments in the stimulus article and added a short introduction and a conclusion. However, the article seemed too long and too dense for the purpose of the study. Pilot readers had difficulty recalling any information after reading it once and I was concerned that participants would be overwhelmed with memorizing the complex information as well. Thus, I decided to drop the assessment of the Google complaint as the other three statements were well suited for a coherent narration.

6.2.4.2 Pilot Study 2: Identification of a Suitable In-Group and Out-Group

I wanted to test the hypothesis that social tuning effects occur only when Facebook users are exposed to the opinion of a socially close user, that is, someone who is perceived as a member of their in-group. Thus, I had to create news endorser identities that would be perceived as in-group or out-group members respectively by participants. As I planned to conduct the study with students of the University of Hohenheim, I built on experimental designs under the saying-is-believing paradigm, where student participants considered fellow students of their university as members of their in-group (Echterhoff et al., 2005). In order to confirm this assumption and identify a suitable out-group, I conducted Pilot Study 2 with $N = 70$ master students of the University of Hohenheim ($M_{\text{Age}} = 22.3$ years, 60 women) in November 2016, adapting the procedure of Echterhoff et al. (2005). In an online survey, participants were exposed to a news post by Facebook user Julia, who expressed a positive

opinion about the news topic, the EU Internet politics. Participants read the article, drafted a message to Julia, and answered questions regarding comprehensibility and ambiguity of the article. Finally, they indicated how much they liked Julia and how similar they felt to her.

The study was an experiment with a between-subjects design with five conditions. Participants were randomly assigned to one of the five different introductions of the news endorser Julia. She was introduced as:

1) a 20-year old student of the University of Hohenheim
2) a 20-year old electronics technician
3) a 52-year old electronics technician
4) a 20-year old dental technician
5) a 52-year old dental technician.

The four non-student conditions were supposed to represent potential outgroups, because they implied different socio-economic backgrounds and as in conditions 3) and 5), a different generation. Participants rated on completely labeled 7-point scales on how similar they felt to Julia and how much they liked her (1 = *not similar/likable at all* to 7 = *very similar/likable*). A MANOVA with the similarity and likability rating as outcome variables indicated no significant differences between the five descriptions of Julia ($V = 0.15$, $F(8, 130) = 1.33$, $p = .23$). A descriptive analysis of the group means revealed that although pilot participants liked Julia most when she was introduced as a fellow student ($M = 4.19$, $SD = 0.66$, compared to $M = 3.25 - 3.87$ in the other conditions), they did not feel most similar to her ($M = 2.94$, $SD = 1.27$, compared to $M = 2.38$ – 3.00 in the other conditions).

Because the sample sizes in each group were small and prior studies successfully used a fellow student audience for the in-group manipulation, I decided to adapt this manipulation despite the discouraging results for perceived similarity. As I was concerned that varying both age and economic background could lead to confounding, I selected the description of Julia as a 20-year old electronics

technician as out-group manipulation (Similarity: $M = 2.54$, $SD = 1.27$; Likability: $M = 3..69$, $SD = 1.03$).

I also used the pretest to assess the perceived ambiguity of the news article. After drafting the message, pilot participants evaluated the comprehensibility and ambiguity of the article on a completely labeled 7-point scale ranging from 1 = *do not agree at all* to 7 = *totally agree*. I use three items to assess perceived ambiguity of the article: "The article is complex" ($M = 3.03$, $SD = 1.01$), "The message of the article is clear" (Reversely coded, $M = 5.00$, $SD = 1.05$), and "The article is ambivalent" ($M = 3.04$, $SD = 0.95$). I concluded that participants did not perceive the article as ambiguous and that I had to revise it in order to obtain an ambiguous stimulus that elicits epistemic needs for the establishment of a shared reality.

Moreover, I learned that the instruction for writing a message to the news endorser was not precise. Several participants did not express their opinion about the news topic as intended but asked the news endorser for a clarification of her opinion, criticized, or cheered her for sharing the article. Furthermore, about one third did not write a message at all. This showed that it would be necessary to make the text box for the message to the news endorser an obligatory answer in the main study to avoid missing values for this central variable.

6.2.5 Measures

The results of the generalized Shapiro-Wilk tests indicated that the assumption of multivariate normality of data was violated for most latent variables. Hence, I estimated CFA and SEM with the robust MLR estimator (Rosseel, 2012). I will report the robust variants of the CFI, TLI, and RMSEA fit indices.

6.2.5.1 Tolerance of Ambiguity

To measure participants tolerance of ambiguous information, I used the MSTAT-scale of ambiguity tolerance by McLain (2009). The 13-item measure is based on the definition of intolerance of ambiguity by Budner (1962), according to

which it is "the tendency to perceive (i.e., interpret) ambiguous situations as sources of threat" (p. 29). Budner further suggested that ambiguous situations are characterized by novelty, complexity, and insolubility. Accordingly, McLain included 13 items in his scale, that refer to complexity (two items), novelty (two items), insolubility (three Items), general ambiguity (five items) and one item referring to uncertain stimuli (see Table 6.2 for item wordings). I translated the items to German by myself and a native speaker of both German and English reviewed the translation. Ambiguity tolerance was measured on a labeled 7-point scale (1 = *does not apply at all*, 2 = *does mostly not apply*, 3 = *does rather not apply*, 4 = *partly/partly*, 5 = *rather applies*, 6 = *mostly applies*, 7 = *applies totally*). Nine items were reverse-scored.

Although McLain assumed different sources of ambiguity, he conceptualized ambiguity tolerance as a one-dimensional construct. An exploratory factor analysis and a subsequent confirmatory factor analysis, which allowed the covariance of residuals of general ambiguity items and items referring to specific sources of ambiguity, supported his assumption. However, I was not able to fit a one-dimensional model to my data. Following the theoretical dimensions reflected in the scale, I fitted a second-order model with four latent variables: general ambiguity tolerance, complexity tolerance, novelty tolerance, and insolubility tolerance[3]. The fit for this solution was better, but several first order indicators had factor loadings below .50. The first order factor novelty also had a low factor loading and one of its items had a negative variance. After consulting modification indices, I excluded three items with low factor loadings from the factor general ambiguity tolerance, one from the factor insolubility tolerance, and I excluded the factor novelty tolerance. From a theoretical perspective it makes sense that tolerance of novel, unknown situations contributes less to ambiguity tolerance than the other three dimensions. Although some people might perceive novel situations as a threat, they do not necessarily lack information to understand it or are uncertain about its consequences.

[3]I omitted the theoretical dimension uncertainty, as it was represented by only one item in the MSTAT-II an could thus not be modeled as a latent factor.

Table 6.2: Psychometric Properties of the Modified 6-Item Tolerance of Ambiguity Scale

Items	*M*	*SD*	Range	λ
Factor 1: General ambiguity tolerance				
I am tolerant of ambiguous situations.	5.17	1.01	2 – 7	.78
I dislike ambiguous situations.^{r}	4.76	1.20	2 – 7	.61
Factor 2: Complexity tolerance				
I avoid situations that are too complicated for me to easily understand.^{r}	4.84	1.32	1 – 7	.77
I enjoy tackling problems that are complex enough to be ambiguous.	4.52	1.16	1 – 7	.66
Factor 3: Insolubility tolerance				
I would rather avoid solving a problem that must be viewed from several different perspectives.^{r}	5.43	1.25	1 – 7	.78
Problems that cannot be considered from just one point of view are a little threatening.^{r}	5.26	1.11	2 – 7	.81

Note. M = Mean, SD = Standard deviation, λ = Factor loadings in the confirmatory factor analysis. Items by McLain (2009), measured on a 7-point scale ranging from 1 = *does not apply at all* to 7 = *applies totally.* ^{r}Reverse-scored item. $n = 226$.

Finally, I retained a well-fitting model with a second order structure and three factors with two observed indicators (MLR, $\chi^2(6) = 3.35$, $p = .764$; CFI = 1.0; TLI = 1.03; RMSEA = .00, 90% CI [0.00, 0.06]; SRMR = .01). Loadings of the latent factors were good for three dimensions with .88, .92 and .83. For testing the moderated mediation hypothesis, I used the factor scores for the second-order factor based on this CFA. See Table 6.9 on p. 242 for reliability and psychometric properties of the variable.

6.2.5.2 Need to Belong

I used the 10-item Need to Belong scale (NTBS) (Leary, Kelly, Cottrell, & Schreindorfer, 2013) in the German translation by (Renner, 2006). The measure captures differences in people's strengths of need for belonging and acceptance

(see Table 6.3 for item wordings). Participants indicated the degree to which each item described their true characteristics on a 7-point scale (1 = *does not apply at all*, 2 = *does mostly not apply*, 3 = *does rather not apply*, 4 = *partly/partly*, 5 = *rather applies*, 6 = *mostly applies*, 7 = *applies totally*).

Although the internal consistency of the one-dimensional scale was satisfactory, a CFA revealed poor factor loadings of three items ("I need to feel that there are people I can turn to in times of need", "Being apart from my friends for long periods of time does not bother me" (reversely coded), and "I do not like being alone"), and the model was not fitting the data well. Thus, I excluded the three items and retained a good fitting one-dimensional model of the need to belong measure with seven items (MLR, $\chi^2(14) = 20.65$, $p = .11$; CFI = .98; TLI = .97; RMSEA = .05, 90% CI $[0.00, 0.09]$; SRMR = .04). For reliability and psychometric properties of the variable see Table 6.9 on p. 242. I used the factor scores based on this CFA to test the moderated mediation.

6.2.5.3 Message Valence

After participants regarded the news post and read the article, I asked them to write a message to the news endorser in response to the post. In order to measure the valence I initially aimed at adopting the coding scheme that had been used in previous studies under the saying-is-believing paradigm to ensure comparability (Echterhoff, 2017). According to this coding scheme, coders had to rate the holistic valence of the messages and to break them down into passages corresponding to the original text and assign codes for negative or positive distortion. They rated both the overall impression of the message and the single passages on 7-point scales, ranging from $---$ = *very negative* to $+++$ = *very positive*. Finally, they summed up ratings for the single passages and compared them to the holistic impression of the valence in order to not overrate positivity or negativity based on single passage scores. The final rating of message valence was assigned on an 11-point scale, ranging from -5 = *extremely negative* to $+5$ = *extremely positive*.

I did not adopt this procedure for several reasons. Firstly, the instructions in the codebook used by Echterhoff are vague and imprecise with respect to

Table 6.3: Psychometric Properties of the Modified 7-Item Need to Belong Scale

Items	M	SD	Range	λ
If other people don't seem to accept me, I don't let it bother me.^{r}	4.25	1.59	1 – 7	.69
I try hard not to do things that will make other people avoid or reject me.	4.11	1.70	1 – 7	.70
I seldom worry about whether other people care about me.^{r}	4.39	1.54	1 – 7	.56
I want other people to accept me.	5.62	1.11	2 – 7	.51
I have a strong "need to belong."	4.25	1.37	1 – 7	.61
It bothers me a great deal when I am not included in other people's plans.	4.85	1.34	1 – 7	.52
My feelings are easily hurt when I feel that others do not accept me.	4.18	1.59	1 – 7	.76

Note. M = Mean, SD = Standard deviation, λ = Factor loadings in the confirmatory factor analysis. Items by Leary, Kelly, Cottrell, and Schreindorfer (2013) in the German translation by Renner (2006) and measured on a 7-point scale ranging from 1 = *does not apply at all* to 7 = *applies totally.* ^{r}Reverse-scored item. $n = 226$.

assigning valence scores on an 11-point scale based on holistic impression and single passage rating scores. It would be more comprehensible to average the ratings and assign the final rating also on a 7-point scale. I considered the coding procedure as not reliable and was not able to replicate it with my material, although I had the original codebook used by Echterhoff and their colleagues in prior saying-is-believing studies (i.e., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff & Kopietz, 2013; Echterhoff et al., 2009b).

Secondly and as the scenario in my study was aimed at simulating a social interaction, it was inadequate to ask participants to describe EU Internet politics in a message to the news endorser because that would be an odd reaction to a news post. Instead, I asked them to communicate their evaluation of the article content, which is a more plausible reaction. A consequence of

this was that several participants simply stated an opinion without referring to the text at all. Simply coding the extent of negative or positive distortions would not have allowed the capturing of social tuning in statements.

Thirdly, pilot tests of an early codebook version revealed that 7-point scales were too differentiated to allow for reliable coding. Thus, I developed a new codebook following Echterhoff (2017), which accounted for the conditions of my own study.

The final, reliable version of the codebook was the result of an iterative process involving two pretests and reliability tests, each with a subsample of 20 cases from the full data set[4]. Two coders (blind to the conditions), myself and a research assistant independently rated all messages in a random order. The coders were familiar with the original text of the article and the experimental instruction for writing the message. Following the instructions of the codebook, coders rated the valence of the messages in two runs. In the first run, they read all messages and noted their holistic impression of the messages' valence. In the second run, they determined the extent of agreement with Julia's opinion, perceived slant of the article, and the message valence based on single units of meaning.

They then entered the scores for the three variables agreement with the news endorser's opinion, evaluation valence, and perceived valence of the article, along with their unique coder number, the participant code, and the case number of the respective message in the survey data set into an online input mask based on an online survey programmed with SoSci Survey. The content analysis was conducted between September 22 and November 27, 2017. I will describe the categories in detail in the following section.

Category 1: *Holistic impression of the message valence.* Coders were instructed to read each participant's entire message and note their impression of its valence after single reading. They indicated their holistic impression of the valence on a 5-point scale -2 = *negative* to $+2$ = *positive*. No further instructions were given besides the

[4]The German codebook is available on the Open Science Framework (OSF) repository: https://osf.io/GTSA9

Table 6.4: Instructions for Holistic Perception of Message Valence

Score value	Description
Negative (−2)	Person expresses clearly and unconditionally that he or she thinks that the EU Internet politics are negative.
Rather negative (−1)	Person expresses a tendentially but only partially negative opinion about the EU Internet politics.
Ambivalent (0)	Person is undecided how to evaluate the EU Internet politics, as he or she is aware of advantages and disadvantages.
Rather positive (+1)	Person expresses a tendentially but only partially positive opinion about the EU Internet politics.
Positive (+2)	Person expresses clearly and unconditionally that he or she thinks that the EU Internet politics are positive.

Note. Numbers in parentheses are the scale values of the respective options.

descriptions of the meaning of the scale points shown in Table 6.4. They entered holistic impressions for all messages into an online input mask before proceeding with the second run. Both coders coded all 227 messages with sufficient reliability (Krippendorff's $\alpha = .85$). The holistic impression of the message valence was later averaged with the score of the category evaluation valence, which was based on rating single passages. I aimed at accounting for holistic valence information that might get lost in the decomposing coding procedure for rating evaluation valence.

Category 2: *Agreement with news endorser opinion.* The coders first determined whether participants explicitly agreed or dissented to the opinion Julia expressed in her Facebook post. The extent of agreement or dissent was measured on a 5-point scale, where the midpoint represented no explicit agreement or dissent with Julia's opinion (−2 = *total dissent*, −1 = *partial dissent*, 0 = *no explicit reference to news endorser opinion*, +1 = *partial agreement*, +2 = *total agreement*). As coders were blind to the conditions, they could not

determine whether agreement with the news endorser was equal to a positive or a negative evaluation of the news topic (unless they additionally expressed their personal opinion). Thus, the variable was particularly necessary in capturing social tuning in cases where participants did not state more than agreement or dissent with the news endorser.

Intercoder reliability for the category agreement with news endorser opinion was high (Krippendorff's $\alpha = .93$) and I merged the scores from both coders into one single score for analyses by calculating the mean. In $n = 30$ cases, participants explicitly agreed or disagreed with the news endorser's opinion. On average, they rather expressed agreement ($M = 0.78$, $SD = 1.51$, Range -2 – $+2$, Skewness $= -0.93$, Kurtosis $= -0.74$).

I transformed the agreement measure into a message valence measure for the analyses. In the negative news endorser opinion conditions, I multiplied the scores by -1. In the transformed measure, positive scores indicated positive message valence (i.e., agreement with the news endorser's positive opinion or disagreement with the news endorser's negative opinion) and negative scores indicated negative message valence of the verbal response (i.e., agreement with the news endorser's negative opinion or disagreement with the news endorser's positive opinion). The scores of this measure were combined with the scores of the message valence category for the dependent variable that I used for the analyses, as described below[5].

Category 3: *Evaluation valence.* The evaluation valence was determined in two steps. First of all, coders assessed explicit evaluations of the EU

[5]The score 0 (originally representing "no explicit reference to Julia's opinion") was coded as missing, as including the value in the mean calculation would have underestimated the valence of the message. While a statement of agreement or disagreement is a strong indicator for social tuning, not explicitly stating whether one agrees or disagrees with the opinion is not an indicator of ambiguity and may thus not be equaled with the value 0 of the evaluation valence scale.

Internet politics, such as "I don't think of the EU Internet politics as good right now, but it is headed into the right direction" or "I don't think the EU Internet politics is very wrong, actually". They assigned scores on a 5-point scale, ranging from $-2 =$ *negative* to $+2 =$ *positive*. In a second step, they broke down the argumentation part of the messages in passages that either referred to one of the three politics measures discussed in the article or to new arguments evoked by participants. They rated the valence of each passage on the same 5-point rating scale.

The codebook provided precise descriptions of how to determine the valence of an argumentative passage and several examples for each scale value (The full scales and coding instructions in German are provided in the codebook on the OSF repository, p.10-16). To determine the valence of the argumentation in total, coders averaged the passage rating scores according to the rules described in Table 6.5. Finally, they determined the total evaluation valence by averaging the valence of the explicit evaluation of EU Internet politics and the argumentation based on the rules in Table 1 in Appendix 1. Intercoder reliability for the evaluation valence was very high with Krippendorff's $\alpha = .98$.

Category 4: *Perceived valence of the article.* Coders additionally coded whether participants explicitly referred to the article and revealed their understanding of its evaluation of EU Internet politics. The category was meant to capture whether the news endorser opinion manipulation affected the perceived valence of the news article. Coders indicated on a 5-point scale whether participants cited the article for $-2 =$ *negatively*, $-2 =$ *rather negatively*, $=$ *ambiguously*, $+1 =$ *rather positively* or $+2 =$ *positively* assessing the EU Internet politics. Intercoder reliability for perceived valence of the article was also high with Krippendorff's $\alpha = .93$. However, only 29 participants explicitly referred to the article in the message. Hence, I did not consider the variable for further analyses.

Table 6.5: Instructions for Averaging the Scores of the Argumentation Passages

Score value	Description
Negative (−2)	Only negative arguments.
Rather negative (−1)	More negative than positive or ambiguous arguments.
Ambiguous (0)	Argumentation is balanced or ambiguous.
Rather positive (+1)	More positive than negative or ambiguous arguments.
Positive (+2)	Only positive arguments.

Note. Numbers in parentheses are the scale values of the respective options.

I computed the final *message valence* variable in three steps. Firstly, I averaged the scores of the evaluation valence category with the scores for holistic impression of the message valence in order to account for possible overrating of negativity or positivity, potentially resulting from coding single units of the message while neglecting the overall evaluative tone. Secondly, I computed the mean score for both coders, because they coded both categories with high reliability. Thirdly, I added the 30 cases whose message valence was derived from the scores of the category agreement with news endorser opinion to the message valence variable. The bipolar measure for message valence, ranging from -2 = *negative* to $+2$ = *positive* was used as the dependent variable in the analyses ($M = 0.28$, $SD = 1.18$, Range -2 – $+2$, Skewness $= -0.38$, Kurtosis $= -0.91$). See Table 6.9 on p. 242 for the psychometric properties of the variable. The content analysis captured the message valence for 169 cases. Forty-six cases in the control group did not have to write a message and 11 participants did not write a meaningful message so coders could not rate the valence. Thus, analyses including message valence are based on $n = 169$ cases, which is slightly below the required sample size of 171 determined in the a priori power analysis.

6.2.5.4 Epistemic Trust

I used an adapted version of the 8-item epistemic trust measure developed by Echterhoff et al. (2008) and used in prior saying-is-believing experiments. The measure comprises of four items to assess trust in the audience and four items to measure trust in the veracity of participants' own message about the target. I changed the wording of the items to fit the context of the study. Instead of asking about trust in the audience's judgment about other people or the target person, I asked about trust in the news endorser's judgment about the EU Internet politics. Likewise, I asked about the perceived veracity of the assessment of EU Internet politics expressed in the message to the news endorser instead of the assessment of the target person, as in the original version of the items (see Table 6.6 for item wordings and the measures in Appendix 2 for the German wording). Furthermore, participants reported the extent of epistemic trust on 7-point scales (1 = *not at all*, 2 = *mostly not*, 3 = *rather not*, 4 = *partly/partly*, 5 = *rather*, 6 = *mostly*, 7 = *very much*), while prior studies used 8-point scales with the same labels. However in order to provide an option to express indifference, I decided to use 7-point scales.

Echterhoff et al. (2008) used the mean of all eight items as mediator variable. Yet, from a theoretical perspective, the scale comprises of two dimensions: epistemic trust in the communication partner and epistemic trust in participants' own message. I tested the assumption of a two-factorial structure against a one-dimensional measurement model by comparing the CFA models for both solutions. The empirical data clearly supported the two-factor model, yielding a satisfactory model fit (MLR, $\chi^2(19) = 28.31$, $p = .078$; CFI = .98; TLI = .97; RMSEA = .06, 90% CI $[0.00, 0.10]$; SRMR = .04). The model comparison indicated that the two-factor model fit the data significantly better than the one-dimensional solution ($\chi^2\Delta = 101.11$, $p < .001$). To assess configural invariance, I compared the two-factor model across the four experimental groups (MLR, $\chi^2(76) = 105.57$, $p = .014$; CFI = .95; TLI = .93; RMSEA = .09, 90% CI $[0.04, 0.13]$; SRMR = .07). Comparisons with models constrained to metric and scalar invariance revealed no significant changes in model fit ($\chi^2\Delta = 14.15$, $p = .719$ and $\chi^2\Delta = 20.43$, $p = .309$ respectively). I used the two-factor model to test my hypotheses by including the two latent factors as correlated variables

Table 6.6: Psychometric Properties of the Variable Epistemic Trust

Items	*M*	*SD*	Range	λ
Factor 1: Epistemic trust in news endorser				
Is Julia a person whose judgment about the Internet policy of the EU one can trust?	3.22	1.20	1 – 6	.68
Is Julia a trustworthy source of information about the Internet policy of the EU?	2.94	1.32	1 – 6	.78
Does Julia appear to you as trustworthy?	3.81	1.14	1 – 6	.69
Does Julia appear to you as a reliable source of knowledge?	3.08	1.28	1 – 6	.85
Factor 2: Epistemic trust in message				
How well does your message reflect the real characteristics of the Internet policy of the European Union?	3.82	1.19	1 – 6	.73
To what extent do you trust the view you expressed in your message?	4.21	1.32	1 – 7	.72
To what extent does your message communicate an appropriate view of the Internet policy of the EU?	3.61	1.38	1 – 7	.76
To what extent could other people trust the view of the Internet policy of the EU you expressed in your message?	3.57	1.43	1 – 7	.82

Note. M = mean, SD = standard deviation, λ = factor loadings in the confirmatory factor analysis. Items are adapted from Echterhoff, Higgins, Kopietz, and Groll (2008) and measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much.* $n = 180$ participants in the four experimental groups.

in SEM analyses. See Table 6.9 on p. 242 for the psychometric properties of the variable.

6.2.5.5 Relational Trust in News Endorser

For the relational trust measure, I combined items from relational trust measures of prior studies – three from Echterhoff et al. (2009b) and two from

Niemeier (2011). The items capture the strength of closeness and commonality that participants perceive after having communicated with the news endorser. As for the epistemic trust, I adapted the item wording to the study context (see Table 6.7 for item wordings and Annex for the German wording). Relational trust was measured on a 7-point scale (1 = *does not apply at all*, 2 = *does mostly not apply*, 3 = *does rather not apply*, 4 = *partly/partly*, 5 = *rather applies*, 6 = *mostly applies*, 7 = *applies totally*). Similarly to the epistemic trust measure, scaling diverges from the original measures, where participants rated relational trust in the communication partner on an 8-point scale.

Given that the measure had been used as a mean index in prior studies, I tested reliability and conducted a CFA of a one-dimensional measurement model with all five items. However, the item "Would you prefer to speak with Julia in person about the Internet politics of the European Union?" had a very poor factor loading of .08, internal consistency of the 5-item scale was low, and the model did not fit well. Modification indices suggested a two-factor solution, with two items per factor. According to Kline (2011) a two-factor model with two indicators per factor is just identified, but prone to problems in the analysis (p. 138). I estimated a model with a two-factor structure with the latent factors closeness and commonality. The model that I retained was saturated with zero degrees of freedom and fit indices are thus not applicable. Yet, as factor loadings were satisfactory, I included the two latent factors as correlated variables in SEM analyses. See Table 6.9 on p. 242 for the psychometric properties of the variable.

6.2.5.6 Opinion Valence

With this measure, I aimed to assess the valence of participants' opinion about EU Internet politics based on the article. I conceptualized it as a formative measure, hypothesizing that the opinion is formed by independent evaluations of each information and assessments given in the article (for definitions of formative indicators and constructs, see e.g., Bollen & Diamantopoulos, 2017; Edwards & Bagozzi, 2000). In line with the logic for assessing the memory, I assumed the individual evaluation of the three regulation measures GDPR, the

Table 6.7: Psychometric Properties of the Variable Relational Trust in News Endorser

Items	*M*	*SD*	Range	λ
Factor 1: Closeness				
How close do you feel to Julia?	2.46	2.59	1 – 6	.88
How closely do you feel connected to Julia through your communication?	2.59	1.26	1 – 5	.66
Factor 2: Commonality				
How much do you feel your view harmonizes with Julia's view on the Internet policy of the EU?	3.55	1.30	1 – 7	.61
Do you think that you and Julia have many things in common?	3.14	1.11	1 – 6	.73

Note. M = mean, SD = standard deviation, λ = factor loadings in the confirmatory factor analysis. Items are adapted from Echterhoff, Lang, Krämer, and Higgins (2009b) and Niemeier (2011) and measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much*. $n = 180$ participants in the four experimental groups.

Safe Harbor decision, and the Right to be Forgotten to be the not interchangeable building blocks for the opinion about the topic. Thus, I assessed opinion valence by asking: "How do you evaluate the European Court of Justice's decision on invalidating the Safe Harbor agreement?" ($M = 0.38$, $SD = 0.98$), "...the EU's GDPR" ($M = 0.80$, $SD = 0.95$) and , "...Right to be Forgotten" ($M = 0.89$, $SD = 1.42$). Participants indicated their evaluation on 7-point scales (-3 = *very negative*, -2 = *mostly negative*, -1 = *rather negative*, 0 = *neither/nor*, $+1$ = *rather positive*, $+2$ = *mostly positive*, $+3$ = *very positive*).

Because of the formative specification of the construct, assessing reliability and construct validity by means of internal consistency coefficient (e.g., Cronbach's α) and classical factor analyses are counter-productive, as they are not consistent with logic of the formative measurement and may lead to invalid conclusions (Bollen & Diamantopoulos, 2017; Diamantopoulos & Winklhofer, 2001). Instead the literature suggests that there should be no

collinearity among formative indicators (Bollen & Lennox, 1991; Diamantopoulos & Winklhofer, 2001) and external validity of the measure should be tested (Diamantopoulos & Winklhofer, 2001). Multicollinearity checks revealed variance inflation factors between 1.08 and 1.16, which is below the cut off value of 10 indicating problematic multicollinearity (Field, 2014, p. 325). Following the procedure suggested by Diamantopoulos and Winklhofer (2001), I also included a basic test of external validity by correlating the formative indicators with a global single-item capturing opinion valence about the EU Internet politics which I inquired separately: "How do you evaluate the Internet politics of the EU?"($M = 0.25$, $SD = .97$). All three formative indicators were significantly correlated with the global item ($r_{GDPR} = .47$, $p < .001$; $r_{SafeHarbor} = .32$, $p < .001$; $r_{RightToBeForgotten} = .21$, $p < .002$).

Formative measurement models are not identified in covariance based structural equation models if they do not include at least two additional reflective indicators or predict other reflective constructs (Diamantopoulos & Siguaw, 2006). As opinion valence is an endogenous variable in my model and I measured only one reflective indicator (the general opinion valence) it could not be included as a latent factor in SEM analyses. Thus, I used the three items as correlated observed variables in SEM analyses and in path models and as a composite in MANOVA.

6.2.5.7 Memory Valence

I used memory valence as an implicit measure for social tuning effects on opinion. Since the original study by Higgins and Rholes (1978), experiments have repeatedly demonstrated that communicators who are motivated to establish shared reality tune their memory of a target referent to the ostensible opinion about an interaction partner. Although technically memory bias is measured, it can be understood as the result of considering the other's opinion about the target referent as valid and internalizing it. The internalized opinion of the news endorser causes the memory to be evaluatively biased in the direction of the news endorser opinion.

In order to determine social tuning effects on memory valence, the evaluative tone of the memory protocols was also measured by means of a content analysis.

In prior studies, memory valence was coded with exact the same coding scheme as message valence. Because of concerns regarding reliability (mentioned above) and the differences of my design compared to prior studies, I developed a new codebook for coding the memory protocols as well. As coding of message valence afforded a different procedure than coding the degree to which participants memory of the article was positively or negatively distorted, the codebook also diverged from the one used for analyzing the messages.

Training the coders and developing a reliable codebook was more complex and effortful than the codebook for coding message valence[6]. Four pretests with subsamples of $n = 15$ to $n = 35$ cases of the data set, subsequent extensive case-by-case discussions, reliability checks, and major revisions of the codebook were necessary to achieve valid and reliable results. Two research assistants (blind to the conditions) independently coded all memory protocols in a random order. They were familiar with the original text of the article and the instruction for writing down the memory from the study. They entered the scores for the categories (described below) along with their unique coder number, the participant code, and the case number of the respective memory protocol within the survey data set into an online input mask based on an online survey programmed with SoSci Survey. The final content analysis was conducted between August 6 and September 5, 2017.

As I measured memory with cued recall, asking participants to recall the information given in the article on the three regulation measures (i.e., Right to be Forgotten, Safe Harbor decision, and GDPR) and providing a text box for each of them, coders also assessed the memory valence for each of the measures separately. The final dependent variable for memory valence, however, was a mean index of memory valence of all three measures. The codebook, simply put, consisted of three categories that were coded for each of the three cued regulation measures in independent blocks (see Figure 6.6). I will explain categories and coding procedure by taking the example of the GDPR.

The first two categories were technical and supported coders in reliably considering all relevant information contained in the memory protocols when

[6]The German codebook is available on the OSF repository: https://osf.io/GTSA9

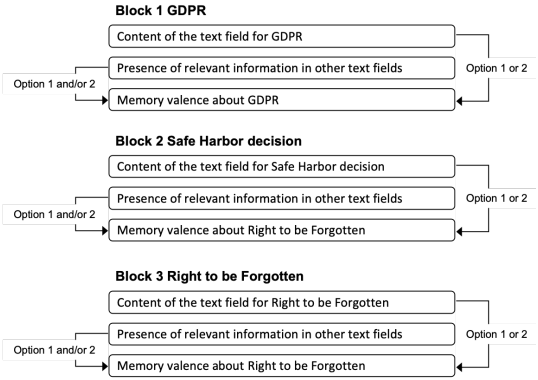


Figure 6.6: Structure of the Coding Procedure of Memory Protocols

assigning a valence score. They were coded first and as coders used an online input mask, they served as filters and guidance when coding the core category memory valence (see Figure 6.6).

Category 1: *Content of the text field for GDPR.* With the first category, coders assessed whether the memory protocol in the text field intended for the recall of original information about the GDPR from the text contained such information or not. They assigned one of four values of this categorical variable: 1 = *Information relevant for GDPR recalled from the article*, 2 = *Only information relevant for other measures recalled from the article*, 3 = *Only information that was not given in the article*, and 4 = *No memory.* The intercoder reliability for the content of the field GDPR was Krippendorff's $\alpha = .72$ (for the respective variables for the content of the text field Safe Harbor decision intercoder reliability was Krippendorff's $\alpha = .88$ and for Right to be Forgotten Krippendorff's $\alpha = .84$).

Table 6.8: Psychometric Properties of the Opinion Valence Indicators and Memory Valence

Item	n	M	SD	Range	Skew.	Kurt.
Memory valence[a]	220	0.78	0.90	−2 – +2	−0.54	−0.22
Opinion valence GDPR[b]	185	1.29	1.08	−2 – +2	−1.39	1.00
Opinion valence Safe Harbor decision[a]	151	0.68	1.28	−2 – +2	0.01	−1.01
Opinion valence Right to be Forgotten[b]	215	0.51	1.10	−2 – +2	−0.47	−0.88

Note. M = mean, SD = standard deviation, Skew. = Skewness, Kurt. = Kurtosis.
[a] Memory valence was rated by two independent coders on a 5-point scale ranging from −2 = *negative* to +2 = *positive*.
[a] Opinion valence was measured on a 7-point scale ranging from −3 = *very negative* to +3 = *very positive*.

Category 2: *Presence of relevant information in other text fields.* With the second category, they determined whether participants did recall information about the GDPR from the article, but wrote it in one of the text fields with cues for the other regulation measures. They indicated whether information about the GDPR was written in the text field for the Safe Harbor decision (1 = *yes*; 0 = *no*) and/or Right to be Forgotten (1 = *yes*; 0 = *no*) or in Neither of the fields (1 = *yes*; 0 = *no*). Based on the selected values, the online input mask that guided coders through the content analysis reminded them to consider the other text fields as well, when coding valence of memory about the GDPR. As I used the cues to help participants to recall information, but not as a test of whether they could distinguish the regulation measures correctly, considering relevant information from all fields was important for a valid assessment of the memory.

However in order to prevent multiple coding of valence of the same passage, they coded the presence of relevant information with

the value 1 only when the text field for Safe Harbor decision or Right to be Forgotten *exclusively* contained information from the article about the GDPR. When participants, for example, mixed up information about GDPR and Safe Harbor decision in the field intended for memory on the Safe Harbor decision, coders would assign the value 0 for the option information about the GDPR in the text field for the Safe Harbor decision. As a result, they would not consider the content of the field when coding memory valence of GDPR. However, they would code memory valence in the block for coding the memory about the Safe Harbor decision.

With respect to intercoder reliability, the two coders did not agree on the presence of relevant information about the GDPR in other text fields in only three of 227 cases[7]. Regarding the presence of information about the Right to be Forgotten in other fields, they disagreed in only one case[8] and regarding the presence of information about the Safe Harbor decision in other fields, they disagreed in two cases[9].

Category 3: *Memory valence.* This is the core category by which coders assessed whether the memory of the GDPR was as ambiguous as in the

[7]The Krippendorff's α coefficient is not informative here, as it overrates the disagreement due to the low variance. There were only four cases in which at least one coder identified relevant information in another text field, the vast majority of participants did not mismatch their memories. Yet, I report it for the sake of completeness: Krippendorff's $\alpha = .34$ for information present in the field for Safe Harbor decision, $\alpha = 1.00$ for information present in the field for Right to be Forgotten Krippendorff's, and Krippendorff's $\alpha = .34$ for the option that there was no information in neither of the two fields.

[8]See above, for information present in the field for Safe Harbor decision Krippendorff's $\alpha = 1.00$, for information present in the field for the GDPR Krippendorff's $\alpha = .80$, and Krippendorff's $\alpha = .90$ for the option that there was no information in neither of the two fields.

[9]See above, Krippendorff's $\alpha = 1.00$ for information present in the field for Right to be Forgotten, Krippendorff's $\alpha = .85$ for information present in the field for the GDPR, and Krippendorff's $\alpha = .87$ for the option that there was no information in neither of the two fields.

news article, or whether it was positively or negatively distorted. The valence was assigned on a 5-point scale (-2 = *negative*, -1 = *rather negative*, 0 = *ambiguous/neutral*, $+1$ = *rather positive*, $+2$ = *positive*). Early pretests revealed that it was often difficult to relate the content of the memory protocols to the article, as participants used their own words as well as extended or abridged the original information. Thus, the codebook provided comprehensive instructions and several examples to ensure valid and reliable coding. In the final content analysis, coders were able to code the 227 cases with a good reliability with Krippendorff's $\alpha = .92$ for valence of memory about the GDPR (Krippendorff's $\alpha = .89$ for memory valence about the Safe Harbor decision; Krippendorff's $\alpha = .88$ for memory valence about the Right to be Forgotten). As for message valence, I used the means of both coder scores for analyses.

The varying sample sizes in Table 6.8 indicate that not all participants remembered information about all three regulation measures. In particular, the information about the Safe Harbor decision appeared to be hard to recall. Building a latent variable with the three indicators would have lead to a massive loss of information. Furthermore, missing data in the valence variables does not mean that participants did not answer. They would often write "I do not remember" or similar, which coders assessed as "No memory" and thus did not rate the valence. Therefore, it was illegitimate to impute that data either. Hence, I used the mean score of the three single variables memory valence about 1) GDPR, 2) the Right to be Forgotten, and 3) the Safe Harbor decision as dependent variable for memory valence. As the original variables, the mean score had a 5-point scale ranging from -2 = *negative* to $+2$ = *positive* ($M = 0.79$, $SD = 0.90$, Range -2 – $+2$, Skewness $= -0.54$, Kurtosis $= -0.24$). See Table 6.9 on p. 242 for the psychometric properties of the variable.

6.2.5.8 Manipulation Checks

Perception of news endorser social group. Based on the assumption that individuals like members of their in-group more and feel more similar to them,

Table 6.9: Psychometric Properties of the Variables in Study 1

Variables	n	M	SD	Range	Skew.	Kurt.	ω	ρ	AVE
Message valence	169	0.28	1.18	−2 – +2	−0.38	−0.91			
Opinion valence GDPR	185	1.29	1.08	−2 – +2	−1.39	1.00			
Opinion valence Safe Harbor	151	0.68	1.28	−2 – +2	0.01	−1.01			
Opinion valence Right to be Forgotten	215	0.51	1.10	−2 – +2	−0.47	−0.88			
Memory valence	220	0.78	0.90	−2 – +2	−0.54	−0.22			
Epistemic trust in news endorser	180	3.26	1.02	1.25 – 6	0.20	−0.47	.84	.84	.58
Epistemic trust in message	180	3.8	1.10	1.5 – 6.25	−0.23	−0.70	.85	.85	.58
Closeness	180	2.52	1.10	1 – 5.5	0.04	−0.58		.75	
Commonality	180	3.35	1.03	1 – 6	0.06	−0.24		.62	
Need to belong	226	4.52	1.01	1.43 – 7	−0.12	−0.08	.82	.82	.40
Tolerance of ambiguity							.86	.82	.56
General ambiguity tolerance	226	4.78	0.96	2.33 – 7	−0.06	−0.32			
Complexity tolerance	226	4.68	1.07	1.5 – 7	0.04	−0.36			
Insolubility tolerance	226	5.17	0.98	1.67 – 7	−0.20	−0.07			

Note. M = mean, SD = standard deviation, Skew. = Skewness, Kurt. = Kurtosis, ω = McDonald's omega, ρ = congeneric reliability, AVE = average variance extracted.

I tested whether the social group manipulation was successful with the following three items: "How similar do you see yourself to an average student of the University of Hohenheim/an average electronics technician?" (Item wording was aligned to the respective social group condition. The descriptive data across both conditions was: $M = 3.57$, $SD = 1.51$, Range 1–7, Skewness $= -0.10$, Kurtosis $= -0.97$, reported here are the average scores for both social group conditions), "How similar is Julia to you? " ($M = 3.02$, $SD = 1.16$, Range 1 – 6, Skewness $= -0.02$, Kurtosis $= -0.69$) and "How likable is Julia?" ($M = 3.98$, $SD = 0.94$, Range 1 – 6, Skewness $= -0.54$, Kurtosis $= 0.70$). Participants rated perceived similarity and likability on a completely labeled 7-point scale ranging from 1 = *not similar/likable at all* to 7 = *very similar/likable*.

Perception of news endorser opinion. I assessed whether participants perceived the news endorser's opinion about EU Internet politics as intended by the manipulation with the item "How did Julia evaluate the EU Internet politics in her Facebook post?". Participants indicated their answer on a 7-point scale ranging from -3 = *very negative* to $+3$ = *very positive* ($M = -0.26$, $SD = 2.2$, Range 1 – 7, Skewness $= 0.14$, Kurtosis $= -1.46$).

Perception of the article as ambiguous. I further tested whether the manipulation did not affect participants' perception of the article as ambiguous. Immediately after writing the message to the news endorser, Julia, I asked participants to indicate their perception of the news article in terms of comprehensibility, structure, readability, complexity, clarity, and ambiguity. Three items regarding the latter three properties were used to test whether participants across all experimental groups and the control group perceived the article as ambiguous: "The article is complex" ($M = 4.00$, $SD = 1.44$, Range 1 – 7, Skewness $= 0.01$, Kurtosis $= -0.67$), "The message of the article is clear" (Reversely coded, $M = 4.08$, $SD = 1.44$, Range 1 – 7, Skewness $= 0.07$, Kurtosis $= -0.61$, and "The article is ambivalent" ($M = 4.38$, $SD = 1.19$, Range 1 – 7, Skewness $= 0.21$, Kurtosis $= 0.44$). Items were measured on a completely labeled 7-point scale ranging from 1 = *do not agree at all* to 7 = *totally agree*.

6.2.5.9 Questions for Randomization Check and Control

I suggested that differences in individual knowledgeability of Internet politics, Facebook usage, and experience with news shared by friends on Facebook may be potential confounding variables. By randomly assigning participants to the four experimental conditions and the control group, I intended to eliminate their influence on the dependent variables. In order to check successful randomization, I asked the following questions. I report the results of the randomization and control checks in Chapter 6.3.1

Knowledgeability of Internet politics. In the pre-survey, participants rated their knowledgeability of Internet politics on a 7-point scale ranging from 1 = *not well at all* to 7 = *very well* ($M = 3.40$, $SD = 1.40$, Range 1 – 7, Skewness = 0.19, Kurtosis = −0.75). In order not to prime them or arouse suspicion, the item was presented in an item battery with seven further news topics: animal rights protection, health and nutrition, refugee policy, celebrities, sports, foreign affairs, and cinema, TV and series. Internet politics was the field in which participants claimed the lowest knowledgeability compared to all others.

Facebook use and consumption of news shared by Facebook friends. Additionally in the pre-survey, participants indicated whether they used Facebook or not and how often they consumed news on Facebook and in other social and online media on a 7-point scale ranging from 1 = *never* to 7 = *very frequently.* I used the item "Reading/watching news that appear in my Facebook news feed because my Facebook friends shared them" to test whether groups differed with regard to experience with the type of news encounter simulated in the experiments. The median for this item was 5 = *rather often*, which indicates that the majority of participants are familiar with this kind of news encounter. Table 6.10 gives an overview over the distribution of news use habits in the sample.

6.2.5.10 Suspicion Check

At the end of the online survey, I included a question to detect participants suspicion about the hypotheses of the study. I asked them "What do you think is the aim of the study?" and offered an input field for open answers.

Table 6.10: Online and Social Media News Use

Item	n	never	very rarely	rather rarely	some times	rather often	often	very often
News websites	226	1.3	12.8	19.0	22.5	15.5	17.7	11.1
News engines	226	24.3	17.7	9.3	16.4	11.5	11.1	9.7
News shared by friends on Facebook	220	2.5	12.0	9.5	24.5	19.0	23.0	9.5
News shared by news media on Facebook	220	13.0	6.5	11.0	14.0	20.5	20.5	14.5
News shared by friends in private message/ email	226	4.9	12.4	9.7	21.7	15.0	19.5	16.8
News shared by friends on Twitter	19	21.1(4)	21.1(4)	10.5(2)	21.1(4)	15.8(3)	5.3(1)	5.3(1)
News shared by news media on Twitter	19	10.5(2)	5.3(1)	5.3(1)	36.8(7)	21.1(4)	15.8(3)	5.3(1)
News feed reader on a smartphone or tablet	226	15.1	10.2	8.4	19.0	14.6	20.4	12.4
News app on a smartphone or tablet	226	19.5	12.4	9.3	11.5	11.9	15	20.4

Note. Frequency of in percent. Additional absolute numbers for Twitter in parenthesis. Questions regarding Facebook and Twitter only answered by respective users.

Thirty-two participants stated they believe that the aim of the study was to measure the influence of "Facebook posts" or even more precisely of "other Facebook users' opinions" on opinion formation about a news topic. However, only three of them guessed that the study aimed at investigating how the relationship to a news endorser determines social influences on opinion formation. As I assumed that analyses without these three suspicious cases would not change the results, I abstained from conducting the hypotheses test without them.

6.2.5.11 Variables not Considered for Analyses

The questionnaire contained a further question that aimed at measuring correct recall of the content of the news article placed after the memory valence measure. There were six statements about EU Internet politics measures; three of them were correct statements from the article, three were wrong. However, the measure was not well conceived and could not be used in order to test social tuning effects on memory. I did not use the measure for testing my hypotheses.

6.3 Results

6.3.1 Randomization Check

The five groups did not differ with respect to gender ($\chi^2(4) = 1.62$, $p = .805$), age ($F(1, 224) = 0.45$, $p = .502$), knowledgeability of EU Internet politics ($F(1, 224) = 0$, $p = .995$), Facebook use ($\chi^2(4) = 3.89$, $p = .421$), and frequency of consuming news shared by friends on Facebook ($F(1, 198) = 0.18$, $p = .676$). This indicates a successful randomization with regard to potential confounding variables.

6.3.2 Manipulation Check

I conducted a two-factorial MANOVA to check whether participants in the two in-group conditions perceived the news endorser more strongly as an in-group

member than participants in the out-group conditions. The assumption of multivariate normality was violated in two of the four experimental groups, as indicated by significant multivariate Shapiro-Wilk tests. However with equal sample sizes, the Pillai's trace statistic is robust to violations of multivariate normality (Field, Miles, & Field, 2012, p. 719). Thus, using Pillai's trace, there was a significant main effect of the social group manipulation on the three outcome variables perceived similarity of an average member of the respective group, similarity of news endorser Julia, and likability of Julia ($V = 0.32$, $F(3, 174) = 27.38$, $p < .001$). The MANOVA further revealed an unexpected main effect of news endorser opinion on the outcome variables ($V = 0.05$, $F(3, 174) = 2.74$, $p = .045$) and an interaction effect ($V = 0.11$, $F(3, 174) = 7.32$, $p < .001$).

Separate univariate ANOVAs revealed a large significant main effect of the social group manipulation on perceived similarity with an average member of the group ($F(1, 176) = 80.65$, $p < .001$, $d = 1.33$; In-group: $M = 4.42$, $SD = 1.20$; Out-group: $M = 2.74$, $SD = 1.32$) and a medium effect on perceived similarity with Julia ($F(1, 176) = 12.46$, $p < .001$, $d = 0.51$; In-group: $M = 3.31$, $SD = 1.09$; Out-group: $M = 2.74$, $SD = 1.16$) but not on likability ($F(1, 176) = 0.16$, $p = .690$; In-group: $M = 4.01$, $SD = 1.02$; Out-group: $M = 3.96$, $SD = 0.86$). There was a significant but negligible main effect of the news endorser opinion manipulation on similarity with Julia ($F(1, 176) = 5.95$, $p = .016$, $d = 0.02$; Positive opinion: $M = 3.22$, $SD = 1.19$; Negative opinion: $M = 2.82$, $SD = 1.10$) and a small effect on likability ($F(1, 176) = 4.00$, $p = .047$, $d = .30$; Positive opinion: $M = 4.12$, $SD = 0.89$; Negative opinion: $M = 3.84$, $SD = 0.96$), but not on perceived similarity with an average group member ($F(1, 176) = 0.03$, $p = .866$; Positive opinion: $M = 3.58$ $SD = 1.63$; Negative opinion: $M = 3.55$, $SD = 1.63$). The univariate ANOVAs also revealed small significant interaction effects of the two manipulations on perceived similarity with an average member of the group ($F(1, 176) = 4.00$, $p = .047$, $\omega^2 = .02$) and on similarity with the news endorser ($F(1, 176) = 5.90$, $p = .016$, $\omega^2 = .01$), but not on likability ($F(1, 176) = 0.17$, $p = .677$). Simple effects analyses revealed that participants felt more similar to Julia when she expressed a positive opinion ($M = 3.71$,

$SD = 0.99$) compared to a negative opinion ($M = 2.91$, $SD = 1.05$) in the in-group condition ($t(176) = 3.44$, $p < .001$, $d = .37$), but there was no effect of news endorser opinion on perceived similarity in the out-group condition. With regard to the interaction effect on perceived similarity with an average member of the respective group, no significant simple effects were found.

Given that the MANOVA revealed a significant effect on the three outcome variables measuring perception of news endorser social group, I consider the manipulation as successful. It is important to bear in mind though that the ratings for perceived similarity and likability in the in-group are moderate. The perception of news endorser Julia as an in-group member was not very strong in the sample. Moreover, the unintended main effect of news endorser opinion and the interaction effect are important insights for the interpretation and discussion of the results of the hypotheses tests.

To test whether participants correctly remembered the opinion that the news endorser Julia expressed in the Facebook post, I conducted a two-factorial ANOVA. As expected, results indicated a significant main effect of the news endorser opinion manipulation on participants' memory of the news endorser's opinion ($F(1, 176) = 439.90$, $p < .001$, $d = 3.12$) but no main effect of the social group manipulation ($F(1, 176) = 0.55$, $p = .459$) and no interaction effect ($F(1, 176) = 2.79, p = .097$). Participants in the positive opinion conditions remembered a positive opinion ($M = 1.57$, $SD = 1.32$) and participants in the negative opinion conditions remembered a negative opinion ($M = -2.12$, $SD = 1.02$).

Finally, I checked whether the article was perceived as equally ambiguous across the four experimental groups and in the control group using MANOVA. The assumption of multivariate normality was violated in all groups except for the control group. The MANOVA results revealed no significant effect of the treatment conditions on perceived ambiguity of the article ($V = 0.07$, $F(12, 663) = 1.29$, $p = .218$). However, a follow-up univariate ANOVA ($F(4, 221) = 2.52$, $p = .043$, $\omega^2 = .03$) revealed significant differences for perceived complexity of the article between the control group ($M = 3.52$, $SD = 1.22$) and the group where an in-group news endorser expressed a positive opinion ($M = 4.30$, $SD = 1.33$), the group where an in-group news endorser

expressed a negative opinion ($M = 4.23$, $SD = 1.48$), and the group where an out-group news endorser expressed a negative opinion ($M = 4.20$, $SD = 1.42$). No other effects were significant. I suggest that despite the difference regarding perceived complexity, the results of the MANOVA support the assumption that the article was perceived equally ambiguous by all participants, particularly by the participants in the four experimental groups.

6.3.3 Hypotheses Tests

6.3.3.1 Social Tuning Effects on Opinion and Memory Valence

Hypothesis 1 predicted that social closeness of news endorser and news endorser opinion interact in such a way that individuals' opinion about the news topic will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. In the case of the news endorser being socially close, individuals' opinion would be more positive when the news endorser expressed a positive opinion compared to when the news endorser expressed a negative opinion. I tested this hypothesis with a MANOVA with news endorser opinion and social group as independent variables as well as memory valence and the three opinion valence indicators as dependent variables. Multivariate Shapiro-Wilk tests identified non multivariate-normal distributions of the composite. However, as stated before, the Pillai's trace statistic is assumed to be robust for violations of multivariate-normality.

Using Pillai's trace, the results did not reveal the expected interaction effect between news endorser opinion and social group on opinion or memory valence ($V = 0.01$, $F(4, 169) = 0.35$, $p = .847$). There was also no main effect of news endorser opinion ($V = 0.02$, $F(4, 169) = 0.79$, $p = .533$) and no main effect of social group of the news endorser on the dependent variables ($V = 0.05$, $F(4, 169) = 2.14$, $p = .078$).

Subsequent univariate analyses of variance indicated a significant main effect of social group on opinion about the GDPR ($F(1, 172) = 6.80, p = .010, d = -0.39$). The group means revealed that participants indicated a more negative opinion about the GDPR in the in-group conditions compared to the conditions in which the news endorser was a member of the out-group (see Table 6.11).

The univariate ANOVAS for Right to be Forgotten ($F(1, 172) = 1.70$, $p = .169$) and the Safe Harbor decision ($F(3, 176) = 0.86$, $p = .461$) revealed no significant effects of news endorser opinion and social group. There were also no significant effects of the independent variables on memory valence ($F(1, 172) = 1.17$, $p = .323$). The scores for memory valence in Table 6.11 show a positively distorted memory in all four groups. The expected mean difference between the two in-group conditions was small. Different than expected, the memory was even more positively distorted in the condition where the out-group news endorser expressed a positive opinion. Although the mean differences were not significant, the tendency contradicts the assumptions derived from shared reality theory according to which I expected stronger congruence between news endorser and participant opinion in the in-group condition.

As neither the opinion valence measures nor the memory valence measure indicated the expected social tuning effect in the in-group condition, Hypothesis 1 was not confirmed.

6.3.3.2 Social Tuning of Message Valence

Hypothesis 2 predicted that social closeness of news endorser and news endorser opinion interact in such a way that the valence of individuals' responses to the news post will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. In other words, I expected that in the case where the news endorser is socially close, the valence of participants' messages to the news post would be more positive when the news endorser expressed a positive opinion in comparison to when the news endorser expressed a negative opinion.

A two-factorial ANOVA with news endorser opinion and social group as independent variables and message valence as dependent variable revealed that, contrary to my expectations, there was no such interaction effect ($F(1, 165) = 0.12$, $p = .726$). There was neither a significant main effect of news endorser opinion ($F(1, 165) = 1.72$, $p = .192$), nor a main effect of social group of the news endorser ($F(1, 165) = 0.15$, $p = .694$).

Table 6.11: Opinion Valence, Memory Valence, and Message Valence as a Function of News Endorser Opinion and Social Group

		News endorser opinion	
Dependent variable	Social group	Positive	Negative
Opinion valence Safe Harbor decision	In-goup	0.28 (1.05)	0.32 (0.91)
	Out-group	0.51 (0.97)	0.56 (1.01)
Opinion valence GDPR	In-group	0.65 (0.90)	0.52 (1.05)
	Out-group	1.02 (1.10)	0.91 (0.90)
Opinion valence Right to be Forgotten	In-group	0.67 (1.38)	0.73 (1.58)
	Out-group	1.29 (1.42)	0.96 (1.38)
Memory valence	In-group	0.89 (0.81)	0.66 (0.96)
	Out-group	0.98 (0.97)	0.87 (0.75)
Message valence	In-group	0.16 (1.19)	0.33 (1.17)
	Out-group	0.17 (1.24)	0.47 (1.13)

Note. Displayed are mean scores and standard deviations. Opinion valence was measured via survey on a 7-point scale ranging from $-3 =$ *negative* to $+3 =$ *positive*. Message and memory valence scores are based on content analysis of open answers, coded on a 5-point scale ranging from $-2 =$ *negative* to $+2 =$ *positive*.
In-group/positive opinion, $n = 42$; In-group/negative opinion, $n = 41$; Out-group/positive opinion, $n = 43$; Out-group/negative opinion, $n = 43$.

Hypothesis 2 was not supported by the data. If anything, the consideration of descriptive mean differences indicates a tendency for anti-tuning, as the valence of participants' messages was more positive in the negative opinion conditions than in the positive opinion conditions (see Table 6.11).

6.3.3.3 Mediation of Social Tuning Effects on Opinion and Memory Valence Through Message Valence

With Hypothesis 3, I expected that when the news endorser is socially close, individuals would socially tune the valence of their responses to a news post to

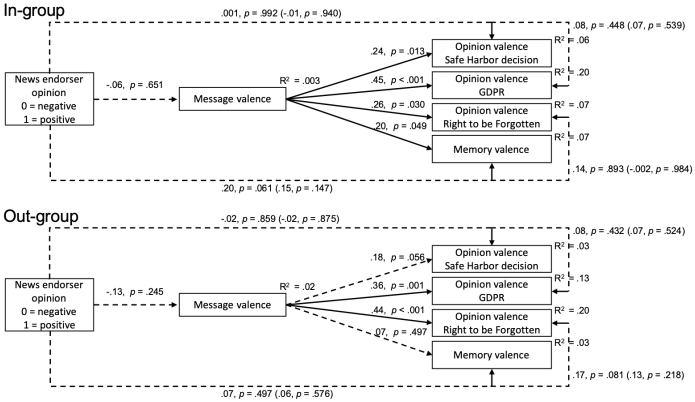
the news endorser's opinion which would, in turn, predict individuals' opinion valence about the shared news topic. I assumed that response valence mediates the effect of news endorser opinion on individual opinion valence when the news endorser is socially close – the sharing-is-believing effect.

As the test of Hypothesis 2 already showed that participants did not tune the valence of their messages to the endorser's opinion, the precondition to assume a mediating role of message valence was not met. Nonetheless, I conducted a multigroup path model to test the presumed mediation, with news endorser opinion as independent variable, message valence as mediator, the three formative opinion valence indicators and memory valence as dependent variables, and social group as grouping variable. The model fit was not acceptable (MLR, $\chi^2(6) = 16.38$, $p = .012$; CFI = .85; TLI = .26; RMSEA = .15, 90% CI $[0.07, 0.24]$; SRMR = .06).

In line with the results of Hypothesis 2, there were no effects of news endorser opinion on message valence in either social group condition (see Figure 6.7). The indirect relations between news endorser opinion and all four dependent variables were not significant in the in-group condition (Opinion valence Safe Harbor decision: $p = .292$, $\beta = -.03$; Opinion valence GDPR: $p = .260$, $\beta = -.06$; Opinion valence Right to be Forgotten: $p = .306$, $\beta = -.03$; Memory valence: $p = .317$, $\beta = -.03$).

There were also no significant indirect relations between news endorser opinion and the dependent variables in the out-group condition (Opinion valence Safe Harbor decision: $p = .340$, $\beta = -.23$; Opinion valence GDPR: $p = .280$, $\beta = -.05$; Opinion valence Right to be Forgotten: $p = .253$, $\beta = -.06$; Memory valence: $p = .362$, $\beta = -.02$).

As shown in Figure 6.7, there were positive relations between message valence and all opinion valence items and memory valence when the news endorser was an in-group member. When the message valence was more positive, participants' subsequent opinion valence about the three EU Internet politics measures and their memory valence of the information in the article was more positive. This indicates a saying-is-believing effect to the extent that the opinion participants expressed in the messages to the news endorser was congruent with the opinion that they expressed in the survey or in their memory. I did not find evidence



Note. Displayed are standardized coefficients.

Figure 6.7: Test of the Indirect Relation Between News Endorser Opinion, Opinion Valence, and Memory Valence Through Message Valence

of the sharing-is-believing effect, which requires that the valence of participant messages is tuned to the opinion of the news endorser, which, in turn, predicts opinion and memory valence. Thus, Hypothesis 3 was not supported.

I did not expect that message valence mediates the relationship between news endorser opinion and the dependent variables in the out-group condition. However, there were positive relations between message valence and opinion valence about the GDPR as well as about the Right to be Forgotten.

6.3.3.4 Mediation of Social Tuning Effects Through Epistemic and Relational Trust in News Endorser

Hypothesis 5 predicted that individuals have stronger epistemic trust in socially close news endorsers than in socially distant news endorsers which, in turn,

predicts news endorser congruent opinion valence. In other words, I presumed that epistemic trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence. Moreover, I assumed the same indirect relation through relational trust in the news endorser in Hypothesis 8: Individuals have stronger relational trust in socially close news endorsers than in socially distant news endorsers which, in turn, predicts news endorser congruent opinion valence. Relational trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.

A significant effect of the social group manipulation on epistemic and relational trust is the prerequisite for the predicted indirect relations. Thus, I tested the latter first in two SMMs with epistemic trust and relational trust as dependent variables and news endorser opinion and social group as independent variables.

The model for the two-dimensional epistemic trust measure exhibited an acceptable fit to the data (MLR, $\chi^2(112) = 139.021$, $p = .043$; CFI = .96, TLI = .96, RMSEA = .07, 90% CI $[0.02, 0.11]$; SRMR = .10). The expected main effect of social group on epistemic trust was not significant (Epistemic trust in news endorser: $\hat{f} = .06$, $p = .444$; Epistemic trust in message: $\hat{f} = .01$, $p = .950$). Instead, the model revealed an unexpected small main effect of news endorser opinion on the latent factor epistemic trust in news endorser ($\hat{f} = .17$, $p = .033$). Participants' epistemic trust in the news endorser was stronger when she expressed a positive opinion (see Epistemic trust in news endorser column in Table 6.12). The main effect of news endorser opinion on the latent factor epistemic trust in message was not significant ($\hat{f} = .02$, $p = .855$). There was also no interaction effect of the independent variables on epistemic trust in news endorser ($\hat{f} = .02$, $p = .821$) and no main effect on latent factor epistemic trust in message ($\hat{f} = .10$, $p = .250$).

The model fit of the SMM for the two-factorial relational trust measure fit the data well (MLR, $\chi^2(16) = 19.96$, $p = .222$; CFI = .98; TLI = .96; RMSEA = .07, 90% CI $[0.00, 0.16]$; SRMR = .07). The expected main effect of social group was neither significant for the latent factor commonality ($\hat{f} = .14$, $p = .145$), nor for the latent factor closeness ($\hat{f} = .02$, $p = .795$). There was an unexpected small main effect of news endorser opinion on commonality ($\hat{f} = .23$, $p = .031$), but not on closeness ($\hat{f} = .16$, $p = .081$).

Table 6.12: Latent Group Means for Epistemic Trust as a Function of News Endorser Opinion and Social Group

	News endorser opinion			
	Epistemic trust in news endorser		Epistemic trust in message	
Social group	Positive	Negative	Positive	Negative
In-group	3.48 (0.90)	3.13 (0.88)	3.89 (1.13)	3.72 (0.93)
Out-group	3.33 (1.08)	3.05 (0.77)	3.68 (0.94)	3.91 (1.05)

Note. Displayed are latent means and variances. Epistemic trust was measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much*. In-group/positive opinion, $n = 46$; In-group/negative opinion, $n = 44$; Out-group/positive opinion, $n = 45$; Out-group/negative opinion, $n = 45$.

Although the freely estimated SMM also indicated an interaction effect of news endorser opinion and social group on the latent factor commonality ($\hat{f} = .19$, $p = .039$), a comparison of the unconstrained model with a model where I constrained the interaction effect to zero revealed that the difference between the models was not significant ($\Delta\chi^2 = 4.43$, $p = .109$; Breitsohl, 2019). The interaction effect on the latent factor closeness was non-significant as well ($\hat{f} < .04$, $p = .654$).

The latent means for the commonality dimension of relational trust in Table 6.13 show a tendency for interaction. While participants indicated to have more in common with the news endorser in both social group conditions when she had expressed a positive opinion, the difference was more pronounced in the in-group condition. Again, the predicted main effect of social group was not present and the precondition for mediation analyses was not met.

Nonetheless, I estimated a multigroup path model with social group as dependent variable, epistemic and relational trust as mediator variables, the formative opinion valence indicators and memory valence as dependent variables, and news endorser opinion as grouping variable. I used factor scores for the mediator variables epistemic trust in news endorser and epistemic trust in message as well as for the relational trust sub-dimensions commonality and

Table 6.13: Latent Group Means for Relational Trust as a Function of News Endorser Opinion and Social Group

	News endorser opinion			
	Closeness		Commonality	
Social group	Positive	Negative	Positive	Negative
In-group	2.63 (1.01)	2.25 (0.84)	3.77 (0.77)	3.11 (0.70)
Out-group	2.60 (1.01)	2.37 (0.89)	3.25 (0.98)	3.20 (0.61)

Note. Displayed are latent means and standard deviations. Relational trust was measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much*. In-group/positive opinion, $n = 46$; In-group/negative opinion, $n = 44$; Out-group/positive opinion, $n = 45$; Out-group/negative opinion, $n = 45$.

closeness. The model fit was very bad (MLR, $\chi^2(8) = 42.64$, $p < .001$; CFI = .85; TLI = −.31; RMSEA = .23, 90% CI [0.16, 0.29]; SRMR = .09) and indicated that the proposed mediation model did not fit the data.

With regard to the test of Hypothesis 5, none of the indirect relations between social group and the dependent variables through the epistemic trust dimensions epistemic trust in news endorser and epistemic trust in message were significant (see Table 2 in in Appendix 1). Neither in the positive news endorser opinion condition, nor in the negative news endorser condition, did I find the hypothesized mediating role of epistemic trust. Thus, Hypothesis 5 was not confirmed by the data.

With regard to Hypothesis 8, the model also revealed no indirect relations between social group and the dependent variables through the two dimensions of relational trust, closeness and commonality (see Table 2 in Appendix 1). Thus, I also reject Hypothesis 8.

As shown in Figure 6.8, the only significant paths in the model for the positive news endorser opinion were small negative direct effects of social group on opinion valence about the GDPR ($b = -.45$, $SE = .23$, CI [−0.88, −0.03], $\beta = -.22$), opinion valence about the Right to be Forgotten ($b = -.70$, $SE = .31$, CI [−1.32, −0.09], $\beta = -.24$), and a small positive direct effect of social

group on the commonality dimension of relational trust ($b = .34$, $SE = .15$, CI $[0.04, 0.64]$, $\beta = -.23$). In the negative news endorser opinion condition, there was only the small significant negative direct effect of social group on opinion valence about the GDPR ($b = -.38$, $SE = .19$, CI $[-0.75, -0.02]$, $\beta = -.20$).

6.3.3.5 Moderation of the Indirect Relationship between Social Group, Opinion Valence, and Memory Valence Through Epistemic Trust

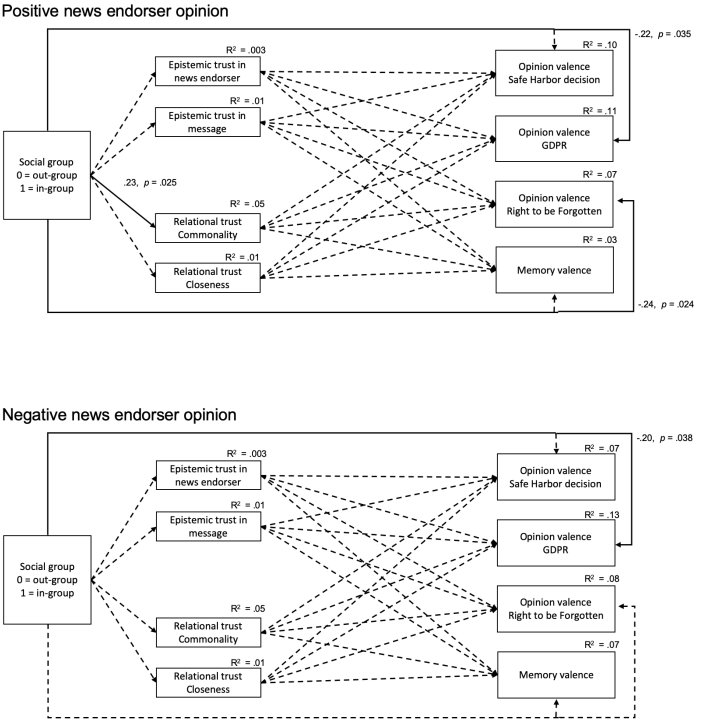
In a next step, I included need to belong and tolerance of ambiguity as moderators in the model. Please note that the moderating roles predicted in Hypothesis 6 and 9 depend on the assumption that epistemic and relational trust mediate the relationship between social group of the news endorser, memory, and opinion valence. This precondition was not met as revealed in the mediation model above.

With Hypothesis 6, I assumed that epistemic trust in the news endorser would predict news endorser congruent opinion valence more strongly when individual ambiguity tolerance is low, compared to when ambiguity tolerance is high. In other words, I hypothesized that ambiguity tolerance moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through epistemic trust in the news endorser.

According to Hypothesis 9, relational trust in the news endorser should predict news endorser congruent opinion bias more strongly when individual need to belong is high compared to when need to belong is low. In other words, need to belong moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through relational trust in the news endorser.

After I included the moderator variables[10] in the mediation model, fit indices again indicated a poor fit of the proposed model to the data (MLR,

[10]I used the centered factor scores for epistemic trust in news endorser, epistemic trust in message, the commonality and the closeness dimension of relational trust, need to belong and tolerance of ambiguity in the path analysis.



Note. To reduce complexity, only significant paths are labeled. Dashed paths are non-significant. Displayed are standardized coefficients.

Figure 6.8: Test of the Indirect Relation Between Social Group, Opinion Valence, and Memory Valence Through Epistemic Trust and Relational Trust

$\chi^2(78) = 128.53$, $p < .001$; CFI = .76; TLI = .45; RMSEA = .10, 90% CI $[0.06, 0.13]$; SRMR = .10).

In the positive news endorser opinion condition, the model revealed an interaction between tolerance of ambiguity and epistemic trust in the message on the relation with memory valence ($b = -.42$, $SE = .20$, CI $[-0.82, -0.02]$, $\beta = -.27$). When the level of ambiguity tolerance was low, epistemic trust in the message positively predicted memory valence ($b = .36$, $SE = .13$, CI $[0.10, 0.63]$, $\beta = .40$). At the high level of tolerance of ambiguity, there was a non-significant negative relation between epistemic trust in message and memory valence ($p = .498$, $\beta = -.15$). The memory valence of individuals who experience ambiguous information as inconvenient was more positive when they had strong epistemic trust in their own message.

Moreover, there was a negative conditional direct relation between tolerance of ambiguity and memory valence ($b = -.31$, $SE = .15$, CI $[-0.61, -0.29]$, $\beta = -.20$). Participants' memory about the article was more negative when they scored high on tolerance of ambiguity.

There was also a significant interaction between need to belong and the relational trust dimension closeness for the relation between closeness and opinion valence about the Right to be Forgotten ($b = -.42$, $SE = .20$, CI $[-0.80, -0.03]$, $\beta = -.23$). At low level of need to belong, there was a positive non-significant relation between closeness to the news endorser and opinion valence about the Right to be Forgotten ($p = .512$, $\beta = .12$). At the high level of need to belong, the relation between the relational trust dimension closeness and opinion valence about the Right to be Forgotten was negative and non-significant ($p = .052$, $\beta = -.34$). Thus in the positive news endorser opinion condition, there was a tendency for individuals with strong need to belong to indicate a more negative opinion about the Right to be Forgotten when they experienced the news endorser as close. This is contrary to my expectations.

Moreover, the model revealed significant conditional effects of social group on the relational trust dimension commonality ($b = .34$, $SE = .15$, CI $[0.04, 0.64]$, $\beta = -.23$), on opinion valence about the GDPR ($b = .34$, $SE = .15$, CI $[0.04, 0.64]$, $\beta = -.23$), and on opinion valence about the Right to be Forgotten ($b = .34$, $SE = .15$, CI $[0.04, 0.64]$, $\beta = -.23$).

In the negative news endorser opinion condition, there was a significant interaction between need to belong and the relational trust dimension commonality in relation to memory valence ($b = -.44$, $SE = .17$, CI $[0.77, -0.10]$, $\beta = -.25$). At the low level of need to belong, there was a positive relation between commonality with the news endorser and memory valence ($b = -.30$, $SE = .17$, CI $[0.02, 0.18]$, $\beta = .39$). At high level of need to belong, the relation between the relational trust dimension commonality and memory valence was negative and non-significant ($p = .495$, $\beta = -.10$). This is again contrary to my expectations. In the condition where the news endorser expressed a negative opinion, I assumed that a strong need to belong should predict a tendency to tune one's memory of the article to the news endorser's opinion. Hence, I would have expected a negative relation between commonality and memory valence when individuals had a strong need to belong.

The model revealed a significant positive conditional relation between epistemic trust in message and opinion valence about the GDPR ($b = .19$, $SE = .10$, CI $[0.01, 0.38]$, $\beta = .18$). Stronger trust in the validity of one's message to the news endorser predicted a more positive opinion valence about the GDPR.

Despite of the fact that the preconditions for Hypotheses 6 and 9 were not met, that is to say, no indirect relationships between social group, opinion valence, and memory valence through epistemic trust (Hypothesis 5) and relational trust (Hypothesis 8), the model also provided no evidence for the predicted moderations of the relations between the mediators and the dependent variables. A low tolerance of ambiguity was not related to a stronger relation between epistemic trust in news endorser and message and news endorser congruent opinion and memory valence (more positive in the positive news endorser opinion condition, more negative in the negative news endorser opinion condition). Hypothesis 6 was not supported.

Moreover, a strong need to belong did not predict a stronger positive relationship between relational trust in terms of closeness and commonality, and news endorser congruent opinion and memory valence. Accordingly, Hypothesis 9 was neither supported.

6.3.4 Additional Analyses

6.3.4.1 Differences Between Men and Women

I investigated the role of participant gender on the effects of the independent variables on the dependent variables message valence, opinion valence, and memory valence and for the mediator variables epistemic trust and relational trust.

Firstly, I tested interaction effects between participant gender and the independent variables social group and news endorser opinion on message valence. A three-way ANOVA revealed no significant effects ($F(7, 161) = 0.34$, $p = .935$). There were neither any interaction, nor main effects of gender, social group, and news endorser opinion.

Secondly, I assessed the same interaction effects between participant gender and the independent variables social group as well as news endorser opinion on opinion and memory valence in a three-way MANOVA. The dependent variables were the composite of the three opinion valence indicators and memory valence.

Using Pillai's trace, the results did not indicate an interaction between participant gender and social group of the news endorser ($V = 0.03$, $F(4, 165) = 1.28$, $p = .279$), nor between participant gender and news endorser opinion ($V = 0.02$, $F(4, 165) = 0.88$, $p = .478$) nor did they between social group and news endorser opinion ($V = 0.01$, $F(4, 165) = 0.40$, $p = .812$). The three-way interaction between the three predictors in the model was not significant ($V = 0.01$, $F(4, 165) = 0.46$, $p = .762$) and there were no main effects of the three predictors on the dependent variables (Social group: $V = 0.05$, $F(4, 165) = 2.11$, $p = .081$; News endorser opinion: $V = 0.02$, $F(4, 165) = 0.79$, $p = .530$; Participant gender: $V = 0.01$, $F(4, 165) = 0.15$, $p = .885$).

To assess whether there were interaction effects between participant gender and the independent variables social group and news endorser opinion on epistemic trust, I estimated an SMM with the two-factorial latent epistemic trust variable as dependent variable. The model did not fit the data well (MLR, $\chi^2(236) = 411.26$, $p < .001$; CFI = .79; TLI = .79; RMSEA = .17, 90% CI $[0.14, 0.20]$; SRMR = .15) because it was rather complex and the sample

was small. Moreover the number of observations per group differed strongly as women were over represented in the sample. The model indicated no interaction effect between participant gender and social group on the two dimensions of epistemic trust (Epistemic trust in news endorser: $\hat{f} = .03$, $p = .728$; Epistemic trust in message: $\hat{f} = .08$, $p = .383$) and no interaction effect of participant gender and news endorser opinion on the dependent variables (Epistemic trust in news endorser: $\hat{f} = .03$, $p = .692$; Epistemic trust in message: $\hat{f} = .04$, $p = .679$). The three-way interaction between the three independent variables neither significantly predicted the dependent variables (Epistemic trust in news endorser: $\hat{f} = .01$, $p = .938$; Epistemic trust in message: $\hat{f} = .09$, $p = .340$), nor did the the interaction between social group and news endorser opinion (Epistemic trust in news endorser: $\hat{f} = .02$, $p = .835$; Epistemic trust in message: $\hat{f} = .09$, $p = .345$).

There was a significant main effect of news endorser opinion on the epistemic trust in the news endorser dimension ($\hat{f} = .20$, $p = .022$), but not on the epistemic trust in message ($\hat{f} < .01$, $p = .968$). As shown in Table 6.14, epistemic trust was stronger when the news endorser expressed a positive opinion than when she expressed a negative opinion in the news post. This finding is in line with the results of the SMM where I did not include participant gender as additional independent variable.

Neither the main effect of social group (Epistemic trust in news endorser: $\hat{f} = .05$, $p = .545$; Epistemic trust in message: $\hat{f} = .03$, $p = .785$) nor the main effect of participant gender (Epistemic trust in news endorser: $\hat{f} = .12$, $p = .176$; Epistemic trust in message: $\hat{f} = .18$, $p = .068$) were significant.

The same SMM with participant gender, social group, and news endorser opinion as independent variables and the two-factorial latent relational trust measure as dependent variable revealed a better but still not good fit to the data (MLR, $\chi^2(28) = 37.57$, $p = .107$; CFI = .94; TLI = .89; RMSEA = .12, 90% CI $[0.00, 0.23]$; SRMR = .10). The model revealed a significant interaction effect between participant gender and news endorser opinion on the relational trust factor closeness ($\hat{f} = .22$, $p = .022$) but not on the factor commonality ($\hat{f} = .10$, $p = .389$).

As shown in the closeness columns in Table 6.15, simple effects analyses revealed that women experienced stronger relational trust in terms of closeness

Table 6.14: Epistemic Trust as a Function of News Endorser Opinion, Social Group and Participant Gender

		Epistemic trust in news endorser		Epistemic trust in message	
		News endorser opinion			
Social group	Participant gender	Positive	Negative	Positive	Negative
In-Group	Women	3.54	3.22	3.88	3.61
		(0.94)	(0.91)	(1.08)	(0.86)
	Men	3.34	2.92	3.96	3.88
		(0.78)	(0.73)	(1.28)	(1.08)
Out-group	Women	3.36	3.12	3.43	3.84
		(1.14)	(0.81)	(0.96)	(1.11)
	Men	3.28	2.90	4.16	4.09
		(0.94)	(0.60)	(0.51)	(0.84)

Note. Displayed are latent means and standard deviations. Epistemic trust was measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much*.
In-group/positive opinion/female participant, $n = 34$; In-group/positive opinion/-male participant, $n = 12$; In-group/negative opinion/female participant, $n = 30$; In-group/negative opinion/male participant $n = 14$; Out-group/positive opinion/female participant, $n = 30$; Out-group/positive opinion/male participant, $n = 15$; Out-group/negative opinion/female participant, $n = 33$; Out-group/negative opinion/male participant, $n = 12$

when the news endorser expressed a positive opinion in the news post than when she expressed a negative opinion ($\hat{f} = .27$, $p = .014$). Male participants' experience of relational trust in terms of closeness was not significantly affected by the news endorser opinion ($\hat{f} = .16$, $p = .345$).

There were no significant interaction effects between participant gender and social group (Closeness: $\hat{f} = .01$, $p = .948$; Commonality: $\hat{f} = .08$, $p = .535$), social group and news endorser opinion (Closeness: $\hat{f} = .01$, $p = .934$; Commonality: $\hat{f} = .16$, $p = .157$), and also no three-way interaction between the three independent variables (Closeness: $\hat{f} = .01$, $p = .360$; Commonality: $\hat{f} = .13$, $p = .284$).

The main effects of social group (Closeness: $\hat{f} = .04$, $p = .710$; Commonality: $\hat{f} = .11$, $p = .327$), news endorser opinion (Closeness: $\hat{f} = .07$, $p = .483$; Commonality: $\hat{f} = .22$, $p = .090$), and participant gender (Closeness: $\hat{f} = .06$, $p = .535$; Commonality: $\hat{f} = .01$, $p = .942$) were also not significant.

Thus after including participant gender as predictor in the SMM, the small main effect of news endorser opinion on commonality was no longer significant. Instead, the model revealed that only women perceived the news endorser as closer when she expressed a positive opinion compared to a negative opinion.

6.3.4.2 Comparison of Opinion and Memory Valence with Control Group

I compared opinion valence and memory valence in the four experimental groups to the control group, where participants received the news post and the news article without a social endorsement. I conducted a MANOVA with the experimental condition as independent variable (5 levels; in-group/positive opinion, in-group/negative opinion, out-group/positive opinion, out-group/negative opinion, control) and the formative opinion valence and memory valence measures as dependent variables. The MANOVA results revealed no significant effect of the treatment conditions on opinion valence about the article ($V = 0.09$, $F(16, 860) = 1.31$, $p = .181$). Follow-up univariate ANOVAS did not indicate differences between the control group and the experimental conditions.

As shown in Table 6.16, participants formed slightly positive opinions about the news topic and recalled the information with positive distortions. I expected

Table 6.15: Relational Trust as a Function of News Endorser Opinion, Social Group and Participant Gender

		Closeness		Commonality	
		News endorser opinion			
Social group	Participant gender	Positive	Negative	Positive	Negative
In-Group	Women	2.81	2.13	3.87	3.04
		(1.03)	(0.80)	(0.74)	(0.60)
	Men	2.15	2.55	3.46	3.25
		(0.71)	(0.83)	(0.65)	(0.69)
Out-group	Women	2.69	2.36	3.21	3.17
		(0.92)	(1.01)	(0.83)	(0.59)
	Men	2.38	2.49	3.37	3.25
		(1.12)	(0.26)	(0.81)	(0.45)

Note. Displayed are latent means and standard deviations. Relational trust was measured on a 7-point scale ranging from 1 = *not at all* to 7 = *very much*.
In-group/positive opinion/female participant, $n = 34$; In-group/positive opinion/-male participant, $n = 12$; In-group/negative opinion/female participant, $n = 30$; In-group/negative opinion/male participant $n = 14$; Out-group/positive opinion/female participant, $n = 30$; Out-group/positive opinion/male participant, $n = 15$; Out-group/negative opinion/female participant, $n = 33$; Out-group/negative opinion/male participant, $n = 12$

that participants' opinion and memory valence would be most ambiguous (i.e., closest to the scale midpoint 0) in the control group. With regard to the experimental groups, I assumed that participants' opinion and memory valence would be more positive compared to the control group in the in-group condition where the news endorser opinion was positive and more negative compared to the control condition, where the news endorser opinion was negative. However, these assumptions were not confirmed.

As I did not expect social tuning effects of the out-group news endorser, I expected no differences between the control group and the two out-group conditions.

6.4 Discussion of Study 1

In Study 1, I adapted design and procedure of the saying-is-believing paradigm for the context of opinion formation about news shared on Facebook. I investigated how the social group of a news endorser affects the establishment of shared reality by assessing social tuning effects of the news endorser's opinion on individuals' opinion valence. According to the shared reality theory, the establishment of shared reality through interpersonal communication becomes observable through sharing-is-believing effects. Individuals first tailor messages about a target referent (e.g., a shared news article) to the perceived opinion of their communication partner and if they are motivated to create a shared reality, the valence of the tailored message affects their own subsequent opinion about the target referent. As a result, their individual opinion about the target referent will be congruent with the perceived opinion of the communication partner (e.g., Echterhoff & Higgins, 2017; Hardin & Higgins, 1996). However, individuals are motivated to create shared reality only to the extent that a target referent elicits ambiguity (Pierucci et al., 2014) and the communication partner is considered as epistemic authority whose judgment one can trust (Echterhoff & Higgins, 2017; Echterhoff et al., 2008).

In Study 1, I manipulated the opinion of a news endorser about a shared news article (positive vs. negative) and her social group (in-group vs. out-group) and assessed effects on message valence, memory valence, and opinion

Table 6.16: Opinion Valence and Memory Valence as Function of the Five Treatment Conditions

Dependent variable	Treatment condition				
	In-group positive	In-group negative	Out-group positive	Out-group negative	Control
Opinion valence Safe Harbor decision	0.28 (1.05)	0.32 (0.91)	0.51 (0.97)	0.56 (1.01)	0.24 (0.95)
Opinion valence GDPR	0.65 (0.90)	0.52 (1.05)	1.02 (1.10)	0.91 (0.90)	0.87 (0.75)
Opinion valence Right to be Forgotten	0.67 (1.38)	0.73 (1.58)	1.29 (1.42)	0.96 (1.38)	0.87 (1.28)
Memory valence	0.89 (0.81)	0.66 (0.96)	0.98 (0.97)	0.87 (0.75)	0.53 (0.91)

Note. Displayed are mean scores and standard deviations. Opinion valence was measured via survey on a 7-point scale ranging from $-3 =$ *negative* to $+3 =$ *positive*. Message and memory valence scores are based on content analysis of open answers, coded on a 5-point scale ranging from $-2 =$ *negative* to $+2 =$ *positive*.
In-group/positive opinion, $n = 42$; In-group/negative opinion, $n = 41$; Out-group/positive opinion, $n = 43$; Out-group/negative opinion, $n = 43$; Control group, $n = 44$.

valence. I also investigated the mediating role of epistemic and relational trust in the news endorser and the moderating role of individual need to belong and tolerance of ambiguity. The results support none of the hypotheses that I tested in the study. In the following sections, I will summarize the results of my hypotheses tests and discuss implications for the conceptualization of shared reality creation about news shared on Facebook and for further research.

6.4.1 Summary of the Results of Study 1

In line with previous shared reality research, I assumed that individuals would tune the valence of opinion and memory of a shared news article only to the opinion of an in-group news endorser, but not to the opinion of an out-group news endorser. Contrary to my assumptions, there was no such interaction effect of social group and news endorser opinion on opinion and memory valence. Regardless of the social group and opinion of the news endorser, participants indicated rather positive opinions about the news article and their memory of the article was also slightly positively distorted. There was also no difference between participants who were exposed to a news endorser's opinion about the news topic and those who read the article without any social endorsement. Hence, exposure to a negative opinion of an in-group news endorser sdid not lead to a more negative opinion about the news topic.

Moreover, I predicted that individuals would tailor the valence of a message to the opinion of an in-group news endorser but not to the opinion of an out-group news endorser. This assumption is contrary to previous research under the saying-is-believing paradigm (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Echterhoff et al., 2009b), but accounts for the specific conditions for interpersonal communication on SNSs. However, there was no evidence for tuning message valence to an in-group news endorser's opinion about a shared news article. In all conditions, participants expressed rather positive thoughts about the news topic in their messages to the news endorser. Although not significant, there was even a tendency for anti-tuning of message valence. In both social group conditions, message valence was more positive when the news endorser's opinion was negative.

From this, it follows that the precondition for the sharing-is-believing effect was not met. There was no evidence for the predicted indirect relation between news endorser opinion and individual opinion and memory valence through message valence when the news endorser was a member of one's in-group.

I further assumed that epistemic trust mediates the relation between social group and individual opinion and memory valence such that individuals have stronger epistemic trust in socially close news endorsers of their in-group which, in turn, predicts news endorser congruent opinion and memory valence. The results revealed no effect of social group on epistemic trust. Instead, there was an unexpected main effect of news endorser opinion on epistemic trust in the news endorser. Participants indicated stronger epistemic trust in the news endorser when she expressed a positive opinion about the news topic. Although the absent effect of the social group manipulation on epistemic trust contradicts previous findings, there is prior evidence for stronger epistemic trust in communication partners who express a positive opinion on a target referent (e.g., Echterhoff et al., 2005; Higgins et al., 2007). However, I did not find the assumed indirect relation between social group and opinion as well as memory valence through epistemic trust in the news endorser.

With regard to the relationship between epistemic trust and opinion and memory valence, I hypothesized a moderating role of individual tolerance of ambiguity such that stronger epistemic trust predicted by an in-group news endorser is related more strongly to news endorser congruent opinion and memory valence when individual tolerance of ambiguity is low compared to when individual tolerance of ambiguity is high. With due regard to the fact that there was no effect of social group on epistemic trust, tolerance of ambiguity moderated the relation between the epistemic trust dimension epistemic trust in the news endorser and memory valence when the news endorser expressed a positive opinion about the news topic. Epistemic trust positively predicted memory valence when tolerance of ambiguity was low, but there was no significant relation when ambiguity tolerance was high.

I did not find the interaction for the second dimension of epistemic trust – epistemic trust in the message that participants wrote to the news endorser – and there was no interaction of tolerance of ambiguity and either of the

epistemic trust dimensions and memory valence when the news endorser expressed a negative opinion. There was no evidence leading to the moderating role of tolerance of ambiguity with regard to opinion valence in either of the news endorser opinion conditions.

I also predicted that relational trust in the news endorser mediates the relation between social group, opinion and memory valence such that individuals have stronger relational trust in socially close news endorsers of their in-group. This, in turn, predicts news endorser congruent opinion and memory valence. Additionally in this regard, I found no evidence of the effect of social group on relational trust, but rather a main effect of news endorser opinion on the relational trust dimension commonality that captures the extent to which individuals perceived their view on the news topic to be in line with the news endorser's view. A positive news endorser opinion was related to higher ratings of commonality. However, the predicted indirect relationship between social group and opinion as well as memory valence through relational trust in the news endorser was absent.

With regard to the relationship between relational trust and opinion and memory valence, I assumed a moderating role of the individual need to belong such that stronger relational trust predicted by an in-group news endorser is related more strongly to news endorser congruent opinion and memory valence when the individual need to belong is high, compared to when individual need to belong is low.

With due regard to the fact that there was no effect of social group on relational trust, need to belong moderated the relation between the relational trust dimension closeness and one opinion valence indicator – opinion valence about the Right to be Forgotten – when the news endorser expressed a positive opinion about the news topic. However, there was only a tendency for a negative conditional relation between closeness and opinion valence about the Right to be Forgotten when need to belong was high. When need to belong was low, there was a positive non-significant relation between closeness and opinion valence about the Right to be Forgotten. This contradicts my assumption according to which the relation between closeness and opinion valence should be positive in the positive news endorser opinion condition in order to indicate

news endorser congruent opinion valence. I did not find the interaction for the second dimension of relational trust, commonality, and there was no interaction of need to belong and either of the relational trust dimensions with regard to the other two opinion valence indicators.

In the negative news endorser opinion condition, need to belong moderated the relation between the commonality dimension of relational trust and memory valence such that there was a positive relation between commonality and memory valence when need to belong was low. There was no significant relation between commonality and memory valence, when need to belong was high. This indicates that individuals with little need to belong are less willing to rely on a news endorser view when remembering the content of a shared article, although they experience commonality of views. However, there was no support for the expected stronger tuning of individual memory to a news endorser's negative opinion when need to belong was strong. I did not find the interaction for closeness in the negative news endorser opinion condition. Nor was there an interaction of need to belong and either of the relational trust dimensions with regard to opinion valence.

In conclusion, the results provide no evidence for social tuning effects in terms of news endorser congruent individual opinion and memory as well as no evidence for sharing-is-believing effects in terms of news endorser congruent messages that predict news endorser congruent individual opinion and memory after exposure to a news post by a news endorser from their in-group. There was no support for my proposition that individuals strive to experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers. In the following section, I suggest explanations for the unexpected findings.

6.4.2 Challenges and Differences to prior Shared Reality Research

There are several reasons that might explain why I failed to replicate the findings of prior studies under the saying-is-believing paradigm.

The first and foremost explanation is that participants did not feel the epistemic need to establish a shared reality about the article. I created the article with the intention to elicit uncertainty and ambiguity in participants which should motivate them to seek social validation of their opinion about the news topic. Yet, control questions revealed that participants did not perceive the article as strongly ambiguous, albeit they did not think that its message was clear. Pierucci et al. (2014) demonstrated that only when a target referent elicits epistemic uncertainty, do individuals tune to others' assessments in communication which subsequently biases their memory. When they are certain about their own judgment, neither social tuning in communication nor social tuning effects on memory occur. As participants in Study 1 neither tailored their messages to the news endorser's opinion, nor were subsequent memory of the article and opinion congruent with the news endorser's opinion, I conclude that the article did not elicit sufficient ambiguity to strive for shared reality.

I propose there are three reasons why the article did not elicit ambiguity. First of all, I intended to create an ambivalent article by contrasting positive and negative aspects of the EU politics and by having the author evaluate the status quo as ambivalent. Ziegler and Diehl (2003) argue that ambiguity does not result from mixed messages with equal numbers of strong and weak or positive and negative arguments, but from messages that consist of moderately strong arguments.

Secondly, balanced portraying of political issues is an important quality criterion for journalism. This might have impacted epistemic trust in the author of the article or in the news medium *Spiegel Online* and participants might have tolerated the ambivalent assessment as a valid view on EU Internet politics. In other words, they might have established a shared reality with the author and thus might not have felt the need to create a shared reality with the news endorser.

Thirdly, relevance of the topic might have been too low for participants and thus, they were not motivated to achieve a valid and reliable view about a topic, that does not matter to them personally.

A second explanation for the absence of social tuning effects is the fact that processing of news information is different from reading a description of an

unknown target person. Even if participants had not heard of the GDPR, the Right to be Forgotten, and the Safe Harbor decision before they certainly have developed attitudes regarding the European Union, data protection, and Internet companies. These predispositions are likely to be activated when reading the article and may affect information processing and interpretation (Price & Tewksbury, 1997). In prior saying-is-believing studies, the target referent of communication and memory was novel and participants could not rely on any existing attitude but only on the description they received in the study and their communication partner's assessment (e.g., Echterhoff et al., 2005; Hausmann et al., 2008; Higgins & Rholes, 1978; Pierucci et al., 2014).

In my study, participants in all treatment conditions, as well as in the control group, indicated a rather positive opinion about EU Internet politics and their memory of the article was distorted positively. It is plausible that they held positive attitudes regarding the EU and data protection regulations that determined processing of the information in the article. Positive predispositions may also explain why they did not rely on the news endorser when she expressed a negative opinion. They might have formed a positive opinion about the topic in consonance with existing attitudes.

A third explanation concerns the urgency to establish a shared reality. In several studies under the saying-is-believing paradigm, scholars implemented a motivation for participants to achieve a shared view of the target person. For example, participants were told that their audience would have to identify the target person based on their description (e.g., Echterhoff & Higgins, 2017; Echterhoff et al., 2008; Higgins & Pittman, 2008; Pierucci et al., 2014). Kopietz et al. (2010) gave bogus feedback on participants' social judgment competence in order to elicit the epistemic need to validate their presumably invalid perception of the target person with others.

I did not implement such a strong motivator in the design of my study. Instead, I relied on evidence for heuristic processing of social cues in news content on the Internet (e.g., von Sikorski & Hänelt, 2016; Waddell, 2018; Winter, 2019; Winter & Krämer, 2016). As previous studies found evidence of social influence on news perception without explicitly encouraging consideration of social cues, I assumed that people would rely on the opinion of the news

endorser too. Moreover, I argued that reliance on a social cue provided by a member of one's in-group should be even more influential than the anonymous user comments in previous research. The results indicate that this was not the case. Apparently, the student participants of my study felt no need to rely on a fellow student's opinion about the EU Internet politics in order to form an opinion about the topic.

The lack of motivation for shared reality creation also became obvious in the tendency for anti-tuning in the messages. I instructed participants simply to imagine having the opportunity to tell the news endorser how they assess the EU Internet politics. I implemented no task or motivation that would have elicited epistemic or relational needs for shared reality. Consequently, there was also no reason for the participants to tailor their messages to the news endorser's opinion. I hypothesized that in an authentic communication situation with a Facebook friend, users should be motivated to express a similar opinion in order to foster their bond and to reassure their like-mindedness. However, it seems that such motivation was not salient in the communication with an unknown news endorser, even when she was introduced as a fellow student.

Moreover, the Facebook setting may also elicit a different communication mode than the transmission of a message via a study software in prior studies. Although I did not instruct participants to respond with a comment to the news post, presenting the text field for their messages to the news endorser below the news post might have created the impression that they were about to write a public comment. In this case, participants would not only have one audience to tune their message to – the news endorser – but they might also have imagined the audience of their actual Facebook friends. It is possible that the setting activates self-presentational considerations and leads to impression-motivated information processing and communication (Winter, 2019). Thus, participants' messages were not tailored to the news endorser's opinion, but to an imagined audience, which has been found to be a decisive factor for interactions with news content on SNSs (Shin et al., 2017).

A further interesting observation is that the news endorser's opinion, but not her social group, affected epistemic and relational trust. On the one

hand, I conclude that introducing the news endorser as a fellow student was not sufficient to elicit strong epistemic and relational trust. When forming an opinion about a political topic, the other person being a student of the same university does not render her assessment as valid and trustworthy. In this regard, the communication setting on Facebook is certainly relevant as well. On the social networking site, where people are connected with others of varying tie strength, an unknown fellow student is a tie as weak as an unknown electronics technician. Consequently, the basis for relational trust is weak as well. Recent studies suggested that Facebook users rather select news recommendations from strong ties than from weak ties and that social influence may trump selective exposure to attitude consistent content (Anspach, 2017; Kaiser et al., 2018). I propose that in order to induce epistemic and relational trust in a Facebook context, it seems necessary to select a news endorser who is not only considered a member of one's in-group, but who is a strong tie.

On the other hand, epistemic and relational trust seem to be more dependent on a communication partner's opinion when the target referent is a news article than an unknown person. The results show that participants perceived the news endorser to be more trustworthy and indicated to have more in common with her when she expressed a positive opinion about the news topic. Prior studies under the saying-is-believing paradigm already observed that epistemic trust tended to be stronger when communication partners had a positive attitude towards the target person (see for example Echterhoff & Higgins, 2017; Echterhoff et al., 2005; Echterhoff et al., 2008; Higgins et al., 2007). Higgins et al. (2007) suggested that people might be more motivated to share their view of a person with someone who likes other people or that they tend to attribute a negative opinion to their communication partners own biases.

My data suggests that either participants had positive predispositions regarding opinion about EU Internet politics or the news article conveyed a rather positive assessment of current EU Internet politics. Regardless, they seemed not to be uncertain about the assessment of the topic as rather positive. As a consequence, they had stronger epistemic trust in the news endorser when she also expressed a positive opinion and they had less epistemic trust in her, when she expressed a different, negative opinion. This would also explain why they

perceived to have more in common with the news endorser when she expressed a positive opinion. At the same time, it seems reasonable that the opinion did not affect the closeness dimension of relational trust, as sharing an opinion is rather an indicator for commonality but not necessarily for closeness.

In summary, the first attempt to transfer the logic and procedure of studies under the saying-is-believing paradigm to the context of news internalizing on Facebook revealed challenges. The results indicate that studying social tuning effects on opinion formation about news shared on Facebook requires more consideration of the peculiarities of the communication context. This concerns the creation of an ambiguous stimulus article, the selection of news endorsers who possess the epistemic authority to create a condition favorable for shared reality creation, as well as the urgency of establishing a valid understanding of the topic of a shared news article.

6.4.3 Limitations and Future Directions

The analyses revealed further methodical challenges that have implications for Study 2.

A news article as ambiguous stimulus seemed to be more cognitively challenging for participants than the description of a person or a pictured scene in previous saying-is-believing studies (e.g., Echterhoff et al., 2005; Hellmann et al., 2011; Kopietz et al., 2009; Pierucci et al., 2014). On the one hand, the topic was multifaceted, complex, and afforded attentive reading in order to be able to reproduce its content. As the request to recall the article followed unexpectedly, several participants rather skimmed its content or did not read it at all. I learned this from their feedback at the end of the study. Some noted that they were not interested in the topic of the article and thus did not read it thoroughly. Although my intention was to create a realistic and external valid situation for exposure to a news post, the content analysis of the fragmentary memory protocols was challenging. It turned out that the individual interpretation and reproductions diverged to a great extent from the original content of the article and memory valence was difficult to rate for the coders. It was effortful and complicated to develop a valid and reliable

codebook. Thus, it is necessary to revise the stimulus article not only with regard to ambiguity, but also regarding length and memorability. Finding a topic that is more relevant to participants would also be helpful to get them to read the article without hinting at the subsequent memory task.

With regard to variable measurement, the formative measure for opinion valence was not well suited as dependent variable in SEM and I had to include the single indicators as correlated observed variables. Therefore, the models were complex and together with the small sample size, this was one reason for bad model fit. Moreover, the relational trust measure turned out not to be uni-dimensional and the modified two-factor solution was just identified. The less-than-ideal measurement model also accounts for insufficient model fit.

Another methodical limitation was the university student sample. One aim of scientific education is to teach tolerance of ambiguity. Students are taught to look at problems from several angles, that there are different theoretical approaches to explain phenomena, and even that empirical evidence may often be conflicting. Thus, it is not surprising that the sample scored high on tolerance of ambiguity. This characteristic might explain why they did not feel the need for social validation of their perception of the article. It is likely that they accepted the ambivalence of political measures and decisions, not having to determine whether they were positive or negative. The higher ambiguity tolerance of students is more relevant in the context of news internalizing on Facebook in my study compared to prior studies under the saying-is-believing paradigm, as there was no external incentive (like the correct identification of a person by the audience based on the description in the message) to gain a valid understanding of the news article. In order to deal with this limitation in Study 2, it is reasonable to use a more heterogeneous sample and to implement a motivation for achieving a valid assessment of an ambiguous stimulus.

Furthermore, the evaluation of participants' responses to the suspicion check question revealed that several of them believed the aim of the study was to investigate impression formation of people who share news on Facebook. Thus, participants' attitudes regarding posting news or more general, political content on Facebook might have influenced the likability ratings of the news endorser. This might explain why the manipulation checks revealed significant difference

for similarity but not for likability between the in-group and out-group news endorser.

Although I already expected smaller effects sizes of social tuning effects compared to previous saying-is-believing studies, I found them to be even smaller. Instead of expecting medium sized effects, it is more reasonable to assume small effects at most. Moreover, the sample was too small to estimate complex SEM models such as a latent moderated mediation. Even for the complexity reduced moderated mediation based on CFA factor scores, the sample size of the current study was too small in order to provide the necessary power. Although I argued that there are several reasons for why I did not find social tuning effects, it is also important to have sufficient statistical power to test the hypotheses.

6.4.4 Implications for Study 2

Based on the discussion of the results, I identified six implications for Study 2. First, identify and select a more relevant topic for the news article, so that participants will be motivated to achieve a valid and reliable opinion about the topic which elicits striving for shared reality with the news endorser. Second, create an article that is actually perceived as ambiguous in order to elicit epistemic needs for the establishment of shared reality. Third, implement an incentive for achieving a valid perception of the topic of the article. Fourth and in order to increase willingness to achieve a shared reality with the news endorser, select a social closeness manipulation that induces high epistemic authority. Fifth, conduct the study with a large sample to detect potentially smaller social tuning effects of a news endorser opinion on opinion formation. Sixth, develop better measures for the dependent variables, that is, reflective measures that can be used as latent variables in SEM.

7 Study 2: Online Experiment

7.1 Goal and Operationalization

The goal of Study 2 was to investigate social tuning effects on opinion formation about a news article shared on Facebook. I tested the adapted general shared reality proposition according to which individuals experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers, but not with socially distant news endorsers.

From the results of Study 1, I concluded that social group adherence is not salient on Facebook, where users interact mostly with individuals they know personally and with whom they have established social relationships of varying strength, ranging from strong ties to weak and latent ties. Thus, I assume that relational closeness is a better indicator for the motivation to establish shared reality about news shared on Facebook than social group membership.

I used the same procedure as in Study 1. Participants received a Facebook news post and the linked full article. In order to manipulate relational closeness, I instructed participants to name a close or distant Facebook friend who was presented as news endorser. As in Study 1, I also manipulated the valence of news endorsers' opinion about the news topic (positive vs. negative). After that, participants wrote a verbal response to the news endorser. The dependent variables were open response valence and thought valence measures, a closed opinion valence measure as well as epistemic trust in the news endorser. In this study, I also assessed the moderating role of subjective experience of commonality with the news endorser and epistemic trust in the news medium.

Table 7.1 summarizes the hypotheses tested in Study 2 and the operationalization of independent, dependent, mediator, and moderator variables. Figure 7.1 represents a graphic model of the hypotheses.

I created an improved stimulus article about the proposal of a EU-wide passport and ID which was meant to elicit ambiguity because of mediocre arguments. Moreover, I aimed at increasing epistemic motivation for shared reality about the news topic by telling participants that they will have to vote for the proposal in an online petition. In order to have sufficient statistical power, I conducted an online experiment which facilitated recruiting a large number of participants.

Table 7.1: Hypotheses and Variables of Study 2

Hypotheses	**Variables**
Hypothesis 1	
Social closeness of news endorser and news endorser opinion interact such that individuals' opinion about the news topic will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser.	IV: relational closeness, news endorser opinion DV: opinion valence, thought valence
Hypothesis 2	
Social closeness of news endorser and news endorser opinion interact such that the valence of individuals' responses to the news post will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser.	IV: relational closeness, news endorser opinion DV: response valence

continues on next page

Hypothesis 3	
Response valence mediates the effect of news endorser opinion on individual opinion valence when the news endorser is socially close.	IV: relational closeness, news endorser opinion Mediator: response valence DV: opinion valence, thought valence
Hypothesis 4	
Experienced commonality moderates the positive indirect relation between news endorser opinion and opinion valence through response valence when the news endorser is socially close.	IV: relational closeness, news endorser opinion, Mediator: response valence Moderator: experienced commonality DV: opinion valence, thought valence
Hypothesis 5	
Epistemic trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.	IV: relational closeness Mediator: epistemic trust in news endorser DV: opinion valence, thought valence
Hypothesis 7	
Epistemic trust in the news medium moderates the positive indirect relation between social closeness and news endorser congruent opinion valence through epistemic trust in the news endorser.	IV: relational closeness Mediator: epistemic trust in news endorser Moderator: epistemic trust in news medium DV: opinion valence, thought valence

7.2 Method

7.2.1 Participants

In order to determine sample size, I conducted an a priori power analysis using G*Power 3 (Faul et al., 2007). As I did not observe the audience tuning effect, I could not directly derive an expected effect size from the results of Study 1. However as the interaction effect of news endorser group membership and opinion valence on opinion formation was negligible and not significant, I supposed that even when the news endorser is an actual close friend, the effects on opinion formation about a news article will only be small. Thus, I calculated the optimal sample size to have 90% power to detect main and interaction effects of small size $f = .10$ at an α-level of .05 in a two-factorial analysis of variance. Based on these specifications, the required sample size was 1053.

I tried to recruit a convenience sample of Facebook users via various online platforms. I posted the link in several Facebook groups, asked Facebook friends to share and disseminate the link as well as published it on the website of the psychological magazine *Psychologie Heute*. As incentive for participation, I

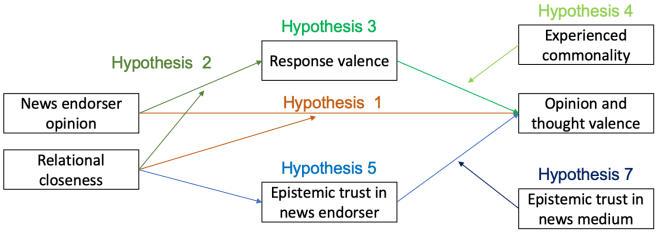


Figure 7.1: Graphic Model of the Hypotheses and Variables Tested in Study 2

offered participants the possibility to take part in a lottery drawing for five annual subscriptions to a music or movie streaming platform of their choice. Yet, I was only able to recruit 432 participants (61% women, $M_{age} = 34$ years, $SD_{age} = 13.78$) that way. To reach the target sample size, I assigned the recruitment to Lightspeed Research GmbH (meanwhile KANTAR) who invited members of their online research panel to participate in the study. As women were already overrepresented in the convenience sample, I applied an equal gender quota to reach more balance. Only respondents who indicated to use Facebook at least sometimes completed the survey. Non-users were screened out at the beginning. The panel provider agreed to exclude participants who reached the last page of the survey in under seven minutes, which was 38% faster than the median response time of the convenience sample (62 cases). I yielded an additional sample of $N = 742$ respondents (50% women, $M_{age} = 48$ years, $SD_{age} = 14.41$). Participants who completed the survey were rewarded by Lightspeed Research based on their own incentive system.

To retain the final sample, I excluded respondents who were faster than seven minutes from the convenience sample as well (19 cases). Furthermore, I checked in both samples whether participants provided a friend's name in the survey and excluded cases where the name was missing or preposterous such as "Friend X", "Maria Tom Nora", or "nobody" (33 cases). Finally, I discarded one case with an implausible age value of 5. The final sample consisted of $N = 1116$ participants (54% women, $M_{age} = 43$ years, $SD_{age} = 15.53$, age range: 16-99 years).

Regarding gender and age groups, the sample structure was comparable to the representative German Internet user sample of the Reuters Institute Digital News Survey 2017, which was also drawn from an online access panel (Hölig & Hasebrink, 2017, p. 9). However, there were deviations in my sample with regard to gender and age. Women and younger users were represented excessively, while the age group above 55 years was underrepresented. This is due to the fact that I sampled Facebook users, who are younger than Internet users.

Six participants were still in school, $n = 3$ had no secondary-school qualifications, 14.1% had graduated from secondary school (Haupt- and Realschule),

43.5% had a higher education entrance qualification, 38.1% a university degree, and 3.2% some other qualification. The majority of respondents, 52.7% were employees or self-employed, 16.4% students, 1.8% in vocational training, 3.3% unemployed, 4% unemployable through ill health, 3.9% homemakers, 15.9% retired, and 1.9% named other occupations.

Germans constitute the majority of the sample with 95.5%. Six participants were Turkish, $n = 5$ Polish, and $n = 4$ Austrian. By twos were French, Greek, Italian, Croatian, Ukrainian, Indian, and US-American. One person each was Bulgarian, Finnish, Latvian, Swedish, Serbian, Slovenian, Spanish, Belarusian, Cyprian, Tunisian, Kenyan, Australian, Canadian, and Sudanese. Two participants indicated a dual citizenship: German-Croatian and German-Polish.

Table 7.2 shows that while respondents use Facebook frequently, the majority once or several times a day, most of them do not use other SNSs. With regard to public interactions on Facebook, they are most likely to interact with posts from friends by liking or commenting them, albeit such interactions occur rather occasionally. Reactions to posts shared by Facebook pages are even less frequent.

7.2.2 Design and Procedure

The experiment in Study 2 was based on a 2 (*relational closeness*: close vs. distant) x 2 (*news endorser opinion*: positive vs. negative) between-subjects design. The dependent variables were valence of verbal response to the post, valence of thoughts on news topic, opinion on news topic, and epistemic trust in news endorser.

In order to control quotas, participants first indicated gender and social media use. Non-Facebook users were screened out so the sample contained only respondents who used Facebook at least sometimes. As warm-up, respondents then indicated the frequency of several activities on Facebook. After that, they were randomly assigned to one of the four experimental conditions and received the relational closeness manipulation: they had to think of either a

Table 7.2: Social Media Use and Facebook Activities

	n	*Md*	Never 1	Monthly or less 2	Several times a month 3	Several times a week 4	Daily 5	Several times a day 6
Social media use								
Facebook	1116	5	-	8.5	9.7	16.8	27.4	37.5
Instagram	1109	1	53.3	6.0	6.6	8.3	9.0	15.9
Snapchat	1015	1	77.9	6.9	3.1	4.1	3.4	4.6
Twitter	1108	1	67.4	9.5	6.0	8.1	5.1	3.8
Facebook activities								
Post status update	1111	2	36.3	38.3	13.0	8.8	2.8	1.0
Share photo	1108	2	26.1	47.1	16.1	8.6	1.4	1.0
Share link to website	1107	2	40.0	31.5	16.3	9.0	2.0	1.2
Share link to news	1112	2	46.5	28.3	13.6	8.3	2.4	1.0
Share a friend's post	1114	2	28.6	33.8	20.4	11.2	4.3	1.6
Share a Facebook page's post	1110	2	44.8	31.5	13.6	6.6	2.4	1.1
Like a friend's post	1111	3	16.0	18.9	24.5	24.6	9.9	6.0
Like a Facebook page's post	1110	2	32.0	23.6	20.3	15.5	5.5	3.2
Comment a friend's post	1111	3	18.9	28.4	26.1	19.0	4.8	2.9
Comment a Facebook page's post	1128	2	42.1	29.2	14.0	10.2	3.2	1.3

Note. *Md* = Median. Frequencies of social media use and communication activities on Facebook in percent. Some numbers do not add up due to rounding errors.

close or a distant Facebook friend, enter his or her first name into a text field and indicate his or her age as well as gender.

The presentation of the stimulus news post was introduced by the following text: "Now please imagine that the following post appears in your Facebook news feed. Have a look at the post and attentively read the linked article. Afterwards, we will ask you to vote for the online petition mentioned in the article." By implementing the online petition into the study and announcing in advance that they would have to give their vote, I aimed at creating a motivation for achieving a valid opinion about the issue and thus a motivation for shared reality.

I programmed the online survey to paste the name of the selected friend into a fictitious Facebook post. The post consisted of a preview of a linked article about the proposal for a common passport and ID for all EU member states. Additionally, the friend expressed his or her support or rejection of the proposal. Participants were reminded to click on the post and read the article by a note at the bottom of the page. After they had read the article, they were asked: "Which thoughts would you like to share with *your friend* as a verbal response on this post? Please write down your thoughts here, even if you would not like to comment on the post". The responses were analyzed by means of a content analysis in order to measure *response valence*.

The next step was the online petition. Participants were told that it was the aim of the study to assess the success of the social movement mentioned in the article. I asked them to indicate whether they would or would not sign the petition. Although this was only a measurement of intention, I deliberately decided not to make them believe they participated in an actual petition. I did not have any hypotheses regarding the willingness to sign the petition but implemented it as a motivator for shared reality creation. Furthermore, I had ethical concerns to ask them to participate in an actual petition and I wanted to prevent dropouts.

After that, I measured epistemic trust in the news endorser, the selected friend, followed by epistemic trust in the medium *Spiegel Online*. These measures were followed by a thought listing task through which I aimed at capturing influences of news endorser opinion and the previous verbal response

to the post on subsequent personal thoughts about the topic. "Now we would like to know, how you personally think about the introduction of a uniform EU-wide passport and ID. Please take a few minutes of time and write every thought into a new line." The online questionnaire provided ten text fields for thoughts. First, only four fields were shown and when respondents had filled in one, a new field appeared. The thoughts were analyzed by means of a content analysis in order to measure *thought valence*.

The thought listing task was followed by a closed measure of *opinion valence* about the news topic. After that, participants indicated the extent of experienced commonality of opinions.

The last part of the online survey consisted of several questions for manipulation and randomization checks, control questions for unintended effects and demographics. The survey ended with a suspicion check and finally, a debriefing. In the debriefing, I declared that the study was an experiment and that I investigated whether Facebook users rely on the opinion of their Facebook friends when forming an opinion about current topics. I also clarified that the article and the citizens' initiative mentioned were fictitious and that it had not been published on *Spiegel Online*. Furthermore, I ascertained them that they did not vote for an actual petition.

7.2.3 Manipulation and Stimulus Material

The manipulation of the independent variable *relational closeness* to the news endorser consisted of the instruction to select a close or distant Facebook friend. In the close friend condition, the written instruction asked participants to think of a Facebook friend who is very close to them and who shares content on Facebook at least sometimes. In the distant friend condition, the instruction asked them to think of a Facebook friend with whom they are rather superficially acquainted and who shares content on Facebook at least sometimes. They were then asked to write the first name of the person in a text field. In order to bring the chosen friend to their minds, I asked them for his or her age and gender.

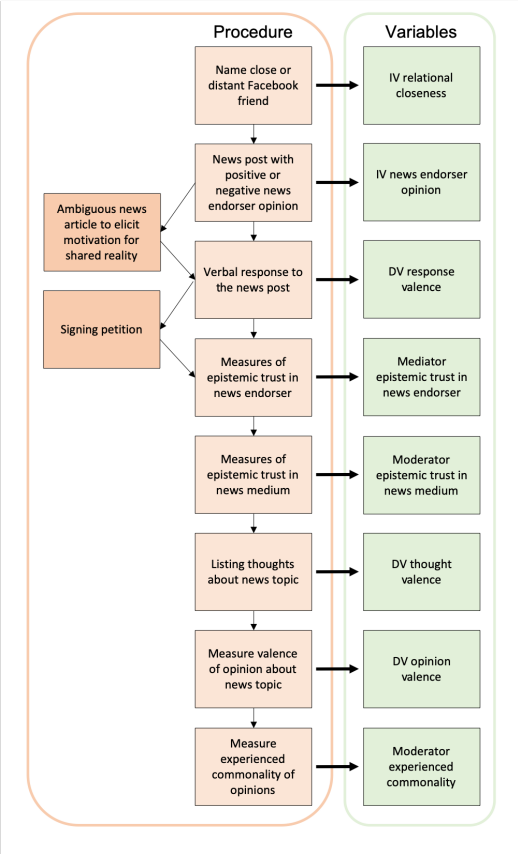


Figure 7.2: Procedure Steps and Related Variables in Study 2

The stimulus material consisted of a Facebook news post and the linked article. Next to a blurred profile picture, I automatically inserted the name of the close or distant Facebook friend named by the participant.

I manipulated the second independent variable *news endorser opinion* through a personal statement in the Facebook post. In the positive opinion condition, the selected friend stated: "This suggestion makes sense. A common passport will advance the EU"(for the German original statement see Figure 7.3). In the negative opinion condition, the statement read: "This suggestion makes no sense. A common passport will hardly advance the EU." (see Figure 7.4). The post further contained a preview of the article including the title picture, the headline, and the source, *Spiegel.de*. As in Study 1, I presented the article in the layout of the German online news medium *Spiegel Online* (see Appendix 3 for the complete stimulus article). The article was about a fictitious European citizens' initiative, *YouAreEU* that campaigns for a common passport and ID for all EU member states (in the following abbreviated to proposal of a common EU passport). In order to support their cause, they initiated an online petition for the introduction of common identification documents. The article mentioned three ambiguous arguments for the suggestion allegedly brought forward by the initiative. By means of two pilot studies, described in the following sections, I ensured that the article would be interesting and relevant for respondents. On the basis of the results of Pilot Study 1, I selected the topic, and on the basis of Pilot Study 2, I identified mediocre arguments for the introduction of a common passport and ID in the EU that should elicit ambiguity (Ziegler & Diehl, 2003).

7.2.3.1 Pilot Study 1: Identification of a Relevant and Ambiguous News Topic

The purpose of the first pilot study was to identify a news topic that is relevant to the average Facebook user but at the same time elicits ambiguity. I identified 13 topics which I believed might meet both criteria, listed in Table 3. Four topics were adopted from a pilot study conducted by Winter (2019), nine further topics stem from searching German news media. For the pilot study, I selected

Figure 7.3: Facebook Post in the Positive Opinion Condition

Figure 7.4: Facebook Post in the Negative Opinion Condition

current topics that seemed relevant for the majority of people, controversial but not highly, and about which people might not be well informed.

I invited Facebook users to participate in the pilot study by posting the link in several Facebook groups. As an incentive, they could take part in a lottery drawing of four Amazon gift cards for 25 Euro. The sample consisted of $N = 70$ respondents ($M_{age} = 30$ years, $SD_{age} = 10.36$, 51 women). It was a highly educated sample as 42 had achieved a university degree, 22 had a higher education entrance qualification, four had graduated from secondary school, and two indicated some other achievement. Data were collected between January 22 and February 5, 2018.

All participants were asked to read short abstracts (48 - 57 words) of news articles about the 13 topics. After reading each abstract, they responded to the following items on 7-point scales: "To what extent are you interested in the topic?" (1 = *not at all* to 7 = *very much*), "How do you evaluate your

knowledge regarding this issue?" (1 = *not at all informed* to 7 = *very well informed*), "To what extent does the issue personally affect you?" (1 = *not at all* to 7 = *very much*), "How likely would you read the full article about this topic?"(1 =*not likely at all* to 7 =*very likely*), and "How likely would you share the article on social media or pass it on to someone?"(1 = *not likely at all* to 7 = *very likely*). Furthermore, I asked them for their agreement with opinion statements regarding each of the 13 topics, which are listed in Table 3. They responded on a 7-point scale ranging from 1 = *do not agree at all* to 7 = *fully agree*. I also asked them how certain they felt about their own attitude regarding the topic, which they also indicated on a 7-point scale ranging from 1 = *not certain at all* to 7 = *very certain*. Table 3 in Appendix 1 displays the descriptive results of Pilot Study 1.

Based on these results, I considered the proposal of a common EU passport as the most suitable topic. Pilot participants were rather interested in the topic, considered it as personally relevant, and indicated that they would be likely to read the full article. The topic also received a relatively high score of likelihood to be shared with others, albeit in average participants would rather not share it. Participants were undecided regarding their opinion about the topic, as the mean was close to the indifferent scale midpoint. Although they indicated to be certain about their attitude, the certainty was rather low compared to the other topics. Thus, I selected the topic for the ambiguous stimulus article.

7.2.3.2 Pilot Study 2: Development of Ambiguous Arguments for the Introduction of a Common EU Passport

In order to develop an ambiguous stimulus article about the proposal of a common EU passport, I followed a similar procedure as in Pilot Study 1 for Study 1. I let pilot participants rate the ambiguity of 16 arguments for the introduction of a common passport for all EU member states. Ziegler and Diehl (2003) argued that ambiguity emerges from mediocre arguments, not from contrasting strong and weak or pro and contra arguments. Following their approach, I aimed at selecting arguments that were considered neither

as weak, nor as strong but somewhere in between. I derived arguments from print and online news media, particularly from articles on the online debate magazine *The European*, and from a blog post about the timeliness of the European passport on the weblog *Future Travel*.

Twenty-seven participants were recruited via social media by posting the survey link to Facebook groups ($M_{age} = 44$, $SD_{age} = 14.98$, 18 women). Among them, 13 had a university degree, six a higher education entrance qualification, two graduated from secondary school and one did not indicate educational achievements. Data were collected from March 20 to April 1, 2018.

Participants rated every one of the 16 arguments regarding persuasiveness and quality. The item wording was the following: "How do you evaluate the persuasiveness of this argument for the introduction of a common EU ID and passport?" and "How do you personally think of this argument for the introduction of a common EU ID and passport?". Both items were measured on an 8-point scale ranging from 1 = *not convincing at all* to 8 = *very convincing* and from 1 = *very bad* to 8 = *very good* respectively. The items were strongly correlated for each of the 16 arguments ($r = .69$ to $r = .90$) and I computed the mean of the scores for each argument separately.

To determine perceived ambiguity, I computed one-sample t-tests with the scale midpoint 4.5 as test value. Arguments which were not evaluated as significantly different from the midpoint were considered ambiguous (see Table 4 in Appendix 1 for results of the t-tests). I also tested whether the arguments were perceived differently by women and men. The mean differences between women and men varied between 0.03 – 1.42 ($t = 0.03$ – -1.84, $p = .084$ – .976).

Based on these results, I selected three arguments that were evaluated ambiguously as indicated by mean scores close to the scale midpoint: argument 1 about the symbolic value of passports, argument 4 about equality regarding international entry requirements, and argument 13 about the unification of EU member state societies. I used these arguments to write a news story about a citizens' initiative that started an online petition for a common EU passport and ID.

7.2.4 Measures

The results of the generalized Shapiro-Wilk tests indicated that the assumption of multivariate normality of data was violated for most latent variables. Hence, I estimated CFAs and SEMs with the robust MLR estimator (Rosseel, 2012). I will report the robust variants of the CFI, TLI, and RMSEA fit indices.

7.2.4.1 Response Valence

After participants regarded the news post and read the article, I asked them to write down the thoughts they would like to share with the news endorser (their close or distant Facebook friend) in response to the post.

In order to measure the valence of the verbal responses, three coders (who were blind to the conditions), myself and two research assistants, independently rated randomly assigned sub-samples. I developed a codebook based on the codebook for rating message valence in Study 1. I adjusted it to the specific task and to the content of the news article. The final reliable version of the codebook was the result of an iterative process involving two pretests and reliability tests, each with a sub-sample of $N = 20$ cases from the full data set[1]. Eighty-nine cases were rated by all coders to test reliability. The coders were familiar with the original text of the article and the experimental instruction for writing down one's personal thoughts in verbal response to the Facebook post.

Following the instructions in the codebook, coders rated the response valence in two runs. In the first run, they read all verbal responses and noted their holistic perception of valence. In the second run, they determined the type of verbal response, extent of agreement with news endorser opinion, and response valence by determining the valence of single units of meaning. They entered the scores for the type of verbal response, response valence or agreement with news endorser opinion, along with their unique coder number, the participant code, and the case number of the respective verbal response into an online input mask based on an online survey programmed with SoSci Survey. Pretest

[1]The German codebook is available on the OSF repository: https://osf.io/ES9BH

Table 7.3: Instructions for Holistic Perception of Response Valence

Score value	Description
Negative (−2)	Person expresses clearly and unconditionally that he or she thinks that the introduction of a common EU passport is negative.
Rather negative (−1)	Person expresses a tendentially but only partially negative opinion about the introduction of a common EU passport.
Ambivalent (0)	Person is undecided how to evaluate the introduction of a common EU passport, as he or she is aware of advantages and disadvantages.
Rather positive (+1)	Person expresses a tendentially but only partially positive opinion about the introduction of a common EU passport.
Positive (+2)	Person expresses clearly and unconditionally that he or she thinks that the introduction of a common EU passport is positive.

Note. Numbers in parentheses are the scale values of the respective options.

and discussions among test coders during codebook development revealed that the mean valence of single units of meaning sometimes did not reflect the valence of the entire response as the argumentation context was lost. Thus, the codebook instructed coders to rely on their holistic impression of response valence in order to determine whether coding of single units of meaning was valid. The content analysis was realized between July 2 and November 21, 2018. I will describe the categories in detail in the following section.

Category 1: *Holistic impression of response valence.* Coders were instructed to read the entire verbal response of one participant and note their impression of its valence after single reading. They indicated their holistic impression of response valence on a 5-point scale from -2 = *negative* to $+2$ = *positive*. Coders received no further instructions besides a description of the meaning of the scale points

shown in Table 7.3. They noted the holistic impression of response valence on the printouts of verbal responses and did not enter them into the data set.

Category 2: *Type of verbal response.* Next, they assessed whether participants referred to the topic of the article in their verbal responses or whether they purported something else. The category comprised eight options described in Table 5. Although it was not a true ordinal variable, coders selected the options following a hierarchical logic when assigning codes. They were instructed to select subsequent codes only when none of the previous options applied. For example, they would only assign code 4 when a participant criticized the EU without any reference to the EU passport. If the verbal response included both, statements about the EU and about the proposed EU passport, they would assign value 2: the participant urged an argument against the EU passport that was not discussed in the article. An example that would have been coded with value 2 is: "The EU has to change profoundly in order not to lose the support of several member states. I believe the EU passport would be detrimental, as it would scare away more nationalist states."

Only when coders assigned the values 1 to 4 for the category type of verbal response did they rate response valence in the next step. When they assigned value 5 for a comment referring to the news endorser's opinion, they subsequently rated agreement with news endorser opinion. If type of verbal response was coded with 6, 7 or -1, coders did not rate response valence or agreement with news endorser opinion in the following.

Intercoder reliability for type of verbal response was rather low with Krippendorff's $\alpha = .73$[2]. Thus, I checked agreement regarding the three most important distinctions: did coders agree whether the verbal response was 1) about the EU passport or the EU

[2]Reliability tests are based on a sub-sample of $n = 89$ cases coded by all three coders.

(option 1, 2, 3, and 4), 2) a comment on the news endorser's opinion (option 5), or 3) not referring to the content of the article or to the news endorser's opinion at all (option 6, 7, and −1). Hence, I created a new variable with three options. Intercoder reliability for this measure was Krippendorff's $\alpha = .79$, which is not excellent but acceptable.

Category 3: *Agreement with news endorser opinion.* In cases where participants' verbal responses consisted only of a comment referring to the news endorser's opinion about the proposal of a common EU passport (type of verbal response = 5), coders assessed the valence of the verbal response with this category. It applied to verbal responses such as "I couldn't agree more with you!" or "I am not sure whether you are right here". Coders assessed the extent of disagreement or agreement on a 5-point scale (−2 = *absolute disagreement*, −1 = *partial disagreement*, 0 = *ambivalent*, +1 = *partial agreement*, +2 = *absolute agreement*).

There were 29 cases in which a verbal response consisted only of a comment referring to the news endorser's opinion about the proposal for which this category was coded. Three participants expressed absolute disagreement and four partial disagreement. Absolute agreement was expressed by seven respondents, one agreed partially with the news endorser and 14 felt ambivalent about whether to agree or disagree with their Facebook friend. I do not report the reliability coefficient for this category as it was coded for four cases only in the reliability test sample. The three coders did agree in two of the four cases.

I transformed the agreement measure into a response valence measure for the analyses. In the negative news endorser opinion conditions, I multiplied the scores by −1. In the transformed measure, positive scores indicated a positive valence of the verbal response (i.e., agreement with the news endorser's positive opinion or disagreement with the news endorser's negative opinion) and

negative scores a negative valence of the verbal response (i.e., agreement with the news endorser's negative opinion or disagreement with the news endorser's positive opinion). The scores of this measure were combined with the scores of the response valence category for the dependent variable that I used for the analyses, as described below.

Category 4: *Response valence.* When participants referred to the common EU passport or at least to the EU, coders assessed the valence of their statement (type of verbal response = 1 – 4). I argue that thoughts about the EU in general are associated with the idea of a common passport for all EU member states. Thus, coders considered also verbal responses where participants not explicitly referred to the passport but to the EU for valence coding. Coders broke down the verbal response into single units of meaning. They rated the valence of each unit of meaning on a 5-point scale (-2 = *negative*, -1 = *rather negative*, 0 = *ambivalent*, $+1$ = *rather positive*, $+2$ = *positive*). In order to retain the overall response valence, they divided the sum of the scores of all units of meaning through the number of units of meaning that they identified. The result of this calculus was assigned to scores on a 5-point scale again: -2 = *negative* for values between -2 and -1.5, -1 = *rather negative* for values between -1.4 and -0.6, 0 = *ambivalent* for values between -0.5 and 0.5, $+1$ = *rather positive* for values between $+0.6$ and $+1.4$ and $+2$ = *positive* for values between $+1.5$ and $+2$.

In a final step, coders were instructed to compare the overall response valence with the holistic impression of the valence they noted during the first run. In case there was a one-scale point difference between the holistic impression and the calculated overall valence, they should check whether they perceived the holistic impression as more valid. If so, they assigned the score for holistic impression of the valence as final score, if not, they relied on the calculated overall response valence. In case the difference between overall and holistic score was two scale points, they assigned the value in between as final score. The

codebook provided detailed descriptions for each score and several examples that were based on actual verbal responses from the data set. The complete instructions are available in the codebook on the OSF repository, p. 9–11. Intercoder reliability for this category was very good, with Krippendorff's $\alpha = .96$. In total, coders assessed the valence of $n = 899$ participants who referred to the common EU passport or at least to the EU in their verbal responses.

Before analyses, I added the 29 cases whose response valence was derived from the scores of the category agreement with news endorser opinion to the response valence variable. I attained a sub-sample of $n = 928$ cases with response valence scores ($M = -0.18$, $SD = 1.64$, Range -2 – $+2$, Skewness $= 0.18$, Kurtosis $= -1.60$).

The content analysis revealed that $n = 188$ participants did not write a verbal response or that their verbal responses were neither related to the topic of the news article, nor to the news endorser's opinion. As shown in Table 5, 113 participants wrote nothing or nonsense. I presume that these participants did not take the survey seriously which raises concerns regarding the quality of their responses in general. Thus, I decided not to include these cases in the analyses. Further $n = 71$ participants did not express thoughts regarding the content of the news topic or the news endorser's opinion but, for example, criticized disclosure of political opinion on Facebook and thus did not communicate about the target referent, the news topic. Although it would be interesting to investigate social tuning effects dependent on target referent orientation in communication, I did not include them in my research design a priori. As a consequence, I cannot systematically investigate differences between those who referred to the target referent and those who did not. Hence, I excluded these cases from the analyses as well.

In conclusion, I decided to use only cases in which respondents expressed thoughts about the target referent, the proposal of a common EU passport, or at least about the EU in their verbal responses. All following descriptive analyses and the hypotheses tests rely on 928 cases, where these criteria were met. However, this implies that I failed to reach the required sample size of $N = 1,053$ cases determined by the a priori power analysis.

7.2.4.2 Epistemic Trust in News Endorser

The 4-item-subscale for epistemic trust in the news endorser from Study 1, based on items developed by Echterhoff et al. (2008), was adapted for Study 2. I inserted the selected Facebook friend's name in the item text automatically. The extent of epistemic trust in the selected Facebook friend was indicated on a fully labeled 7-point scale (-3 = *not at all*, -2 = *mostly not*, -1 = *rather not*, 0 = *partly/partly*, $+1$ = *rather*, $+2$ = *mostly*, $+3$ = *very much*; see Table 7.4 for item wording an psychometric properties of the items).

I tested a unidimensional measurement model in a CFA. Although the factor loadings were very high and the scale exhibited good reliability (see Table 7.7 on p. 313), the fit indices indicated no sufficient model fit (MLR, $\chi^2(2) = 91.97$, $p < .001$; CFI = .92; TLI = .80; RMSEA = .30, 90% CI $[0.25, 0.35]$; SRMR = .05). Modification indices suggested a solution with two correlated latent factors with two indicators each. However, a measurement model with two-correlated factors cannot be treated as one latent variable in SEM, a problem that I already encountered with relational trust in Study 1. Moreover, to ensure comparability with Study 1, I did not optimize the model fit but used the unidimensional measurement model in SEM.

The configural invariance test for the four experimental groups revealed a similar model fit (MLR, $\chi^2(8) = 117.85$, $p < .001$; CFI = .93; TLI = .80; RMSEA = .29, 90% CI $[0.25, 0.34]$; SRMR = .04). Comparison with a model constrained for metric invariance revealed no significant changes in model fit ($\chi^2\Delta = 4.06$, $p = .908$), which implies equal factor loadings across groups. The assumption of scalar invariance was violated, as indicated by a significant change in model fit ($\chi^2\Delta = 39.16$, $p < .001$). As scalar invariance refers to differences in the item intercepts that can be understood as systematic biases in responses to one or several items, this might be a result of the experimental manipulations (Steinmetz, Schmidt, Tina-Booh, Wieczorek, & Schwartz, 2009).

7.2.4.3 Epistemic Trust in News Medium

To assess epistemic trust in the news source *Spiegel Online*, I used the same four items as for epistemic trust in the news endorser and adjusted the item

wording (see Table 7.4 for wording and psychometric properties of the items). Participants indicated the extent of trust on the same, fully labeled 7-point scale as for epistemic trust in the news endorser. Scale reliability was high as shown in Table 7.7 on page 313. Not all fit indices indicated an acceptable model fit (MLR, $\chi^2(2) = 106.20$, $p < .001$; CFI = .96; TLI = .89; RMSEA = .33, 90% CI $[0.28, 0.39]$; SRMR = .02). Measurement invariance tests for the four experimental groups also yielded inconsistent model fit indices for configural invariance (MLR, $\chi^2(8) = 127.84$, $p < .001$; CFI = .96; TLI = .88; RMSEA = .35, 90% CI $[0.29, 0.40]$; SRMR = .02). Additional constraints for testing metric and scalar invariance did not lead to significant changes in model fit ($\chi^2\Delta = 14.17$, $p = .116$ and $\chi^2\Delta = 9.13$, $p = .425$ respectively).

7.2.4.4 Thought Valence

Unlike in Study 1, I measured audience tuning effects not based on evaluatively biased memory, but on the valence of participants' personal thoughts about the topic of the article. Participants were asked to write up to ten thoughts about the proposal of a common EU passport. In order to determine the valence of their thoughts, four coders blind to the conditions, myself and three research assistants, independently rated randomly assigned sub-samples of the thoughts based on a codebook. Procedure and categories were similar to the content analysis of the verbal response to the news post, with some variations due to the nature of the task.

The final reliable version of the codebook was the result of an iterative process involving two pretests and reliability tests, each with a sub-sample of $n = 20$ cases from the full data set[3]. Eighty-nine cases were rated by all coders to test reliability. The coders were familiar with the original text of the article and the experimental instruction for writing down one's personal thoughts about the proposal of a common EU passport. They entered all ratings into an online input mask based on an online survey programmed with SoSci Survey. For each case, they indicated their unique coder number, participant code, case number from the original survey data set, and the number of text fields that

[3]The German codebook is available on the OSF repository: https://osf.io/ES9BH

Table 7.4: Psychometric Properties of the Variables Epistemic Trust in News Endorser and Epistemic Trust in News Medium

Items	*M*	*SD*	Range	λ
Epistemic trust in news endorser				
Is *your friend* a person whose judgment about the introduction of an EU passport one can trust?	0.73	1.46	−3 – +3	.76
Is *your friend* a trustworthy source of information about the introduction of an EU passport?	0.78	1.54	−3 – +3	.82
Does *your friend* appear to you as trustworthy?	1.82	1.27	−3 – +3	.84
Does *your friend* appear to you as a reliable source of knowledge?	1.40	1.39	−3 – +3	.90
Epistemic trust in news medium				
Is *Spiegel Online* a medium whose judgment about the introduction of an EU passport one can trust?	0.70	1.43	−3 – +3	.91
Is *Spiegel Online* a trustworthy source of information about the introduction of an EU passport?	0.79	1.44	−3 – +3	.92
Does *Spiegel Online* appear to you as trustworthy?	0.81	1.56	−3 – +3	.98
Does *Spiegel Online* appear to you as a reliable source of knowledge?	0.85	1.53	−3 – +3	.97

Note. M = mean, SD = standard deviation, λ = factor loadings in the confirmatory factor analysis. Items are adapted from Echterhoff, Higgins, Kopietz, and Groll (2008) and measured on a 7-point scale ranging from −3 = *not at all* to +3 = *very much*. *your friend* is a placeholder for selected friends' names. $n = 928$.

the respective participant had filled out. The online input mask supported the coding process by filtering the displayed categories based on the number of thoughts coders indicated earlier and by hiding the thought valence category if a participant expressed thoughts unrelated to the topic of the article.

The coding procedure involved two runs. In the first run, coders read all thought protocols and indicated their holistic impression of their overall valence. In the second run, they determined type and valence of every single thought. The final thought valence variable for analyses was the mean of the holistic impression of thought valence and the mean index of the thought valence of the single thoughts. Pretests and discussions during codebook development showed that this was the most valid measure of the valence of participants' thoughts. The content analysis was conducted between June 28, 2018 and January 9, 2019. I will describe the categories of the codebook in the following sections.

Category 1: *Holistic impression of thought valence.* Coders were instructed to read all thoughts of one participant and note their impression of their valence after a single reading. They indicated their holistic impression of the thought valence on a 5-point scale from $-2 =$ *negative* to $+2 =$ *positive*. Coders assigned the code -1 for missings. They received no further instructions besides the descriptions of the meaning of the scale points, which was identical to the descriptions for verbal response valence shown in Table 7.3. The average holistic impression of participants' thoughts was $M = -0.27$ ($SD = 1.62$). Even though the codebook provided no detailed instructions, the four coders' holistic impressions of the thought valence were congruent with Krippendorff's $\alpha = .93$[4].

Category 2: *Number of thoughts.* With this technical category, coders indicated how many text fields every participant had used for his or her thoughts. The purpose of the category was to filter input mask options. When a participant used three text fields to express his

[4]Reliability tests are based on a sub-sample of $n = 89$ cases coded by all four coders.

thoughts, coders had to indicate type of thought and thought valence three times. The majority of 28.2% used only one text field, 23.1% used two, 24.7% used three, 13.4% four, 5.9% five and 2.3% filled six text fields with their thoughts. Higher field numbers were each used by less than 1%: eight participants used seven fields, six used eight fields, two wrote thoughts in nine fields, and seven filled all provided fields. As expected, coders reached perfect reliability for coding the number of thoughts with Krippendorff's $\alpha = 1.00$.

Category 3: *Type of thought.* Coders assessed whether participants referred to the topic of the article in their thoughts or whether they purported something else. They assigned scores for type of thought for every text field that a respondent had used. Unlike for type of verbal response, the codebook distinguished only five options: $1 =$ *A general evaluation of the idea to introduce a common EU passport*, $2 =$ *A statement or evaluation that refers to one or several arguments in the article*, $3 =$ *A statement or evaluation of the common EU passport based on new arguments*, $4 =$ *A general statement or evaluation of the EU without referring to the common EU passport* and -1 *No thoughts indicated or thoughts that do not refer to the common EU passport or the EU*. Counted among the latter are statements such as "no idea", "I don't like politics" or "nothing". When coders assigned the value -1 for a thought, they did not indicate single thought valence subsequently. Intercoder reliability for this category was good with Krippendorff's α=.85.

Category 4: *Single thought valence.* For every thought that was related to the common EU passport or at least to the EU (type of thought coded with $1, 2, 3$, or 4), coders assessed the valence. For up to ten thoughts per participant, they assigned values on a 5-point scale ranging from $-2 =$ *negative* to $+2 =$ *positive*. If there was no valence detectable, they assigned the value -1 for missing. The codebook available on the OSF repository provides detailed coding

instructions for the thought valence category on p. 11–12. Coders achieved a high agreement on thought valence with Krippendorff's α=.93.

For the dependent variable thought valence that I used in analyses, I first computed the mean across all ten thought valence variables for every participant. The average valence of thoughts according to this measure was $M = -0.24$ ($SD = 1.56$). In a second step, I combined the valence score based on coding single thoughts with the holistic impression of valence across all thoughts by creating a mean score based on the average valence of the ten thoughts and the score for the holistic impression of thought valence ($M = -0.25$, $SD = 1.58$, Range -2 – $+2$, Skewness = 0.29, Kurtosis = -1.5). I used this score as dependent variable *thought valence* in all analyses.

7.2.4.5 Opinion Valence

An additional closed measure, consisting of four semantic differentials, captured participants' opinion valence. They indicated on a 7-point scale whether "The introduction of a uniform EU passport and ID is ... unreasonable/reasonable, negative/positive, undesirable/desirable, unnecessary/necessary". Table 7.5 shows the psychometric properties of the four items. A CFA yielded a well-fitting model according to CFI and TLI, but not according to RMSEA (MLR, $\chi^2(2) = 14.69$, $p = .001$; CFI = .99; TLI = .98; RMSEA = .13, 90% CI $[0.08, 0.20]$; SRMR = .01). The items loaded highly on the factor and they revealed very high reliability, as shown in Table 7.7. Tests for configural invariance across the four groups also resulted in a similar model fit (MLR, $\chi^2(8) = 24.67$, $p = .002$; CFI = .99; TLI = .98; RMSEA = .14, 90% CI $[0.08, 0.21]$; SRMR = .01). The assumptions of metric and scalar invariance were satisfied as indicated by non-significant changes in model fit ($\chi^2\Delta = 4.59$, $p = .868$ and $\chi^2\Delta = 8.74$, $p = .461$ respectively).

7.2.4.6 Experienced Commonality

In order to assess the extent of experienced shared reality with their Facebook friend, I included four items adapted from Hellmann et al. (2011) that capture

Table 7.5: Psychometric Properties of the Dependent Variable Opinion Valence

Semantic differentials	*M*	*SD*	Range	λ
Unreasonable/ reasonable	−0.21	2.29	−3 – +3	.95
Negative/ positive	−0.14	2.23	−3 – +3	.96
Undesirable/ desirable	−0.23	2.25	−3 – +3	.97
Unnecessary/ necessary	−0.83	2.04	−3 – +3	.91

Note. M = mean, SD = standard deviation, λ = factor loadings in the confirmatory factor analysis. Items were measured on a 7-point scale ranging from −3 to +3. $n = 928$.

experienced commonality. Participants indicated their experience on a fully labeled 7-point scale (−3 = *not at all*, −2 = *little*, −1 = *rather not*, 0 = *partly/partly*, +1 = *rather*, +2 = *considerable*, +3 = *very much*). Psychometric properties and wording of the items are displayed in Table 7.6. Based on a sufficient inter-item correlation, Hellman and their colleagues computed the mean index as a measure for shared reality. However, I aimed at using the four items as indicators of a latent variable and tested the unidimensionality and construct validity with a CFA. I retained a well-fitting model (MLR, $\chi^2(2) = 9.94$, $p = .007$; CFI = .99; TLI = .98; RMSEA = .08, 90% CI $[0.04, 0.13]$; SRMR = .02). Scale reliability was also good, as indicated by the indices in Table 7.7 on p. 313. Testing measurement invariance across the four experimental groups yielded a little less well-fitting model for configural invariance (MLR, $\chi^2(8) = 20.59$, $p = .008$; CFI = .99; TLI = .97; RMSEA = .10, 90% CI $[0.05, 0.16]$; SRMR = .02). Constraints for testing metric invariance did not lead to a significant change in model fit ($\chi^2\Delta = 14.34$, $p = .111$). However, the assumption of scalar invariance was violated as indicated by a significant difference of the χ^2 statistic ($\chi^2\Delta = 21.71$, $p = .010$).

7.2.4.7 Manipulation Checks

Perceived opinion valence. To check whether participants perceived the news endorser's opinion according to the intended manipulation, I asked them:

Table 7.6: Psychometric Properties of the Moderator Experienced Commonality

Items	M	SD	Range	λ
Do you agree with *your friend*'s opinion about the introduction of a common EU passport?	−0.02	2.00	−3 – +3	.70
How important is it for you that you conform to *your friend*'s opinion about the introduction of a common EU passport?	−0.76	1.91	−3 – +3	.83
Do you feel connected with *your friend* through regarding the post?	−0.22	1.77	−3 – +3	.83
Did *your friend*'s judgment help you to form an impression about the introduction of a common EU passport?	−0.41	1.86	−3 – +3	.72

Note. M = mean, SD = standard deviation, λ = factor loadings in the confirmatory factor analysis. Items were adapted from Hellmann, Echterhoff, Kopietz, Niemeier, and Memon (2011) and measured on a 7-point scale ranging from −3 = *not at all* to +3 = *very much*. *your friend* is a placeholder for selected friends' names. $n = 928$.

"What was the opinion *your friend* expressed about the introduction of a uniform EU-passport in the Facebook post?". Respondents indicated the perceived opinion valence on a fully labeled 7-point scale ranging from −3 = *very negative* to +3 = *very positive* ($M = 0.35$, $SD = 1.57$, Range = −3 – +3, Skewness = −0.35, Kurtosis = 0.60).

Age difference. I asked participants to indicate the age of their selected friend right after they named him or her. I told them they should estimate the age if they were not sure about it. It seemed likely that participants would not know the exact age of distant friends, so I added this note in order not to ask too much of them or lose data. Participants indicated their age at the end of the questionnaire in the demographic section. I computed the absolute difference between participant age and selected friend's age in order to assess differences between the close and distant friend condition. The mean difference was 8.53 years ($SD = 9.47$, Range 0 − 48, Skewness = 1.4, Kurtosis = 1.26).

Contact frequency. Participants indicated on ordinal 6-point scales how often they had contact with the selected friend face-to-face, via Facebook, telephone, and instant messenger (1 = *never*, 2 = *once a month or less*, 3 = *several times a month*, 4 = *several times a week*, 5 = *daily*, 6 = *several times a day*). The median of contact frequency for face-to-face, telephone, and Facebook was 3 = *several times a month*, while the median for conversations via instant messengers was 2 = *once a month or less*.

Relational Closeness Scale. To assess relational closeness to the selected friend, I used two measures: the Inclusion of Other in Self Scale (IOS) by Aron, Aron, and Smollan (1992) and the Unidimensional Relational Closeness Scale (URCS) by Dibble, Levine, and Park (2012). The IOS is a single-item pictorial measure of closeness. The answer options are Venn-like diagrams each picturing two circles with different degrees of overlap, which increases linearly on a 7-point interval scale. Aron et al. demonstrated a good concurrent, discriminant, and predictive validity as well as re-test reliability. The mean score on the IOS in my study was $M = 3.26$ ($SD = 1.86$, Range $1 - 7$, Skewness = .59, Kurtosis = $-.71$). In order to be able to create a latent variable for structural equation modeling, I also used the URCS and translated it into German. Following the authors' advice, I dropped the item "I'm sure of my relationship with *your friend*", as construct validity tests revealed inconsistent results. Moreover, I reasoned that it would be odd to answer this particular item for a distant Facebook friend. Instead, I added one item that was of particular theoretical interest to me "*your friend*'s opinion is important to me". I estimated a CFA for a unidimensional measurement model with the IOS, eleven items of the URCS, and the self developed item. I retained a model with good fit according to CFI and TLI, but less according to RMSEA (MLR, $\chi^2(65) = 484.35$, $p < .001$; CFI = .96; TLI = .95; RMSEA = .10, 90% CI $[0.10, 0.11]$; SRMR = .02). All indicators had high factor loadings and the scale had a very good reliability. Configural invariance for the four experimental groups can be assumed (MLR, $\chi^2(260) = 721.80$, $p < .001$; CFI = .95; TLI = .95; RMSEA = .11, 90% CI $[0.10, 0.11]$; SRMR = .03). The assumptions of metric and scalar invariance were violated ($\chi^2\Delta = 87.72$, $p < .001$ and $\chi^2\Delta = 52.61$, $p = .036$ respectively).

7.2.4.8 Control Variables

News endorser political expertise. I developed three items to measure attributed political expertise of the news endorser. Participants indicated whether "*your friend* is an expert in political questions" ($M = -0.48$, $SD = 1.52$), whether "*your friend* is well informed about EU policy" ($M = -0.40$, $SD = 1.52$), and whether "*your friend* is always up to date on political developments" ($M = 0.02$, $SD = 1.55$). I measured attributed political expertise on a fully labeled 7-point scale (-3 = *does not apply at all*, -2 = *does mostly not apply*, -1 = *does rather not apply*, 0 = *partly/partly*, $+1$ = *rather applies*, $+2$ = *mostly applies*, $+3$ = *applies totally*). When estimating a CFA using the effects coding method for factor scaling, the model had zero degrees of freedom. Fit indices could thus not be estimated. Factor loadings were strong and varied between .88 and .94. Tests of configural invariance across the four groups also yielded a model with zero degrees of freedom. The model constrained for metric invariance revealed a good model fit (MLR, $\chi^2(6) = 5.43$, $p = .490$; CFI = 1.00; TLI = 1.00; RMSEA = .00, 90% CI $[0.00, 0.08]$; SRMR = .02), and a comparison with the model constrained for testing scalar invariance indicated no significant deterioration in model fit ($\chi^2\Delta = 7.48$, $p = .279$).

Facebook post likelihood. I was aware of the possibility that participants would perceive the post as unlikely, particularly in the close friend condition. In order to be able to control for the effects of unlikelihood, I asked: "How likely does it appear to you that *your friend* shares such a post on Facebook. Respondents indicated their answer on a fully labeled 7-point scale (-3 = *very unlikely*, -2 = *unlikely*, -1 = *rather unlikely*, 0 = *partly/partly*, $+1$ = *rather likely*, $+2$ = *likely*, $+3$ = *very likely*). I also provided a "don't know" option. On average, participants perceived the post as rather likely ($M = 0.72$, $SD = 1.88$, Range -2 – $+4$, Skewness = 0.08, Kurtosis = -1.09).

Article ambiguity. To control whether participants perceived the article as ambiguous, I used a two-item measure adapted from Ziegler and Diehl (2003): "How convincing did you find the arguments for the introduction of an EU passport and ID in the Spiegel Online article?" and "To what extend do you agree with the following statement: 'The article provides good reasons for the introduction of a uniform EU passport and ID' ". Both items were

measured on a fully labeled 7-point scale ranging from -3 = *not convincing at all* to $+3$ = *very convincing* and -3 = *do not agree at all* to $+3$ = *totally agree* respectively. Unfortunately, there was a programming error in the online questionnaire, due to which these questions have not been displayed in the first field phase, when I was recruiting the convenience sample. Hence, the descriptive data and the analyses that I conducted with this variable rely on a subset of $n = 566$ from the Lightspeed Research online access panel. The two items were strongly correlated ($r = .90$, $p < .001$) and I computed a mean index. The mean was close to the scale midpoint, $M = 0.74$ ($SD = 1.66$, Range = -2 – $+4$, Skewness=-0.05, Kurtosis = -0.95).

7.2.4.9 Socio-Demographic Variables

The block for demographic information was more comprehensive than in Study 1. For randomization check and control, I asked participants to indicate their age, nationality, political orientation, and identification as European.

Political orientation. In order to measure political orientation, I included a measure from the Eurobarometer 887 (European Commission, 2017). The wording of the question was: "In political matters people talk of "the left" and "the right". Thinking about your views, how would you place yourself on this scale?". As in the original version, participants indicated their orientation on a 10-point scale ranging from 1 = *left* to 10 = *right*. They could also select the "don't know" option. For analyses, I transformed the 10-point scale into a 5-point scale as five scale points can be interpreted according to common distinctions of political orientation ($1(1-2)$ = *left*, $2(3-4)$ = *center/left*, $3(5-6)$ = *center*, $4(7-8)$ = *center/right*, $5(9-10)$ = *right*). Measured on the 5-point scale, the political orientation of the sample was center-left ($M = 2.70$, $SD = 1.00$, Range = 1 – 5, Skewness = 0.12, Kurtosis = -0.55).

Nationality and European identification. I adopted a measure for national vs. European identification from the Eurobarometer 887 (European Commission, 2017). I first asked participants about their citizenship. They could select from a drop-down menu of 42 nationalities and the option "other" (see section 7.2.1 for the distribution of nationality, occupation, and formal education). After

asking about current occupation, highest educational achievement, and political orientation, I asked them whether they identified as citizen of their national state or as European. The earlier indicated citizenship was pasted into the answer options, so that a German could choose between the options, 1 = *only as German*, 2 = *as German and European*, 3 = *as European and German*, and 4 = *only as European*. I provided a "don't know" option as well. The majority of participants selected the second option. About 56% saw themselves mostly as citizens of their home country but also as Europeans, 25% had a strong national identity. About 16% identified first as European, rather than as citizens of their nations, and only about 3% saw themselves solely as European.

7.2.4.10 Suspicion Check

At the end of the online survey, I included a question to detect participants suspicion about the hypotheses of the study. I asked them "What do you think is the aim of the study?" and offered an input field for open answers. Twenty-one participants assumed that the aim of the study was to investigate the relationship between relational closeness and effects of individual opinion and judgments. The extensive manipulation checks at the end of the survey, particularly the measures of relational closeness, made it easy to guess the aim of the study. Therefore, it is rather surprising that only about 2% guessed the underlying hypothesis correctly. Thus, I assumed that the measurement of dependent variables was not affected by participants' comprehension of the research aim.

As I already underscored the required sample size because of missing response valence scores, I decided to conduct all analyses with the 21 cases.

7.3 Results

7.3.1 Randomization Check

In the final sample, the $n = 928$ participants were allocated to the four conditions as follows: close friend/positive opinion: $n = 232$, close friend/negative

Table 7.7: Psychometric Properties of the Variables in Study 2

Variables	n	M	SD	Range	Skew.	Kurt.	ω	ρ	AVE
Response valence	928	−0.19	1.65	−2 – +2	0.19	−1.61			
Thought valence	913	−0.23	1.57	−2 – +2	0.26	−1.51			
Opinion valence	928	−0.35	2.12	−3 – +3	0.12	−1.44	.97	.97	.90
Epistemic trust in news endorser	928	1.18	1.24	−3 – +3	−0.62	0.12	.90	.90	.68
Epistemic trust in news medium	927	0.79	1.44	−3 – +3	−0.68	0.12	.97	.97	.90
Experienced commonality	928	−0.35	1.57	−3 – +3	0.29	−0.64	.85	.85	.59
News endorser political expertise	928	−0.28	1.44	−3 – +3	−0.05	−0.48	.90	.93	.68
Political orientation	867	2.70	1.00	1 – 5	0.12	−0.55			
European identification	899	1.97	0.73	1 – 4	0.54	−0.30			
Perceived ambiguity of news article*	566	3.74	1.66	1 – 7	−0.05	−0.95			
Perceived opinion of news endorser	928	0.35	1.57	−3 – +3	−0.35	−0.60			
Likelihood of Facebook post	890	0.72	1.88	−3 – +3	0.08	−1.09			

Note. M = mean, SD = standard deviation, Skew. = Skewness, Kurt. = Kurtosis, ω = McDonald's omega, ρ = congeneric reliability, AVE = average variance extracted.
*Due to a programming error in the online questionnaire, these questions were answered by a subset of $n = 566$ participants from the Lightspeed Research online access panel only.

opinion: $n = 227$, distant friend/positive opinion: $n = 237$, and distant friend/negative opinion: $n = 232$. The four experimental groups did not differ with respect to the distributions of gender ($\chi^2(6) = 8.32$, $p = .216$), age ($F(3, 924) = 1.23$, $p = .297$), educational achievement ($\chi^2(21) = 26.13$, $p = .201$), frequency of Facebook use ($\chi^2(12) = 5.63$, $p = .934$), political orientation ($F(3, 863) = 0.33$, $p = .934$), and identification as European ($\chi^2(9) = 12.36$, $p = .194$). Thus, I considered the randomization as successful.

7.3.2 Manipulation Checks

Manipulation check relational closeness to news endorser. In order to test whether participants followed the instructions and named a close Facebook friend or a distant one respectively, I first compared contact frequency. As expected, participants in the close friend condition reported to have more frequently contact in person ($Md_{\text{close}} = 3$; $Md_{\text{distant}} = 2$, $\chi^2(5) = 102.69$, $p < .001$), via Facebook ($Md_{\text{close}} = 3$; $Md_{\text{distant}} = 3$, $\chi^2(5) = 25.55$, $p < .001$), on the telephone ($Md_{\text{close}} = 2$; $Md_{\text{distant}} = 1$, $\chi^2(5) = 102.12$, $p < .001$), and via messenger ($Md_{\text{close}} = 4$; $Md_{\text{distant}} = 2$, $\chi^2(12) = 115.96$, $p < .001$) with the selected friend than participants in the distant friend condition. The difference was least pronounced for communication via Facebook, which is not surprising because I asked participants in both conditions to select a person who shares public posts on Facebook. Thus even if they do not interact reciprocally with the selected distant friend on the SNS, they may still receive information about him or her through public Facebook activities.

Different than expected, a one-sided t-test did not reveal a smaller age difference in the close friend condition than in the distant friend condition ($M_{\text{close}} = 8.76$, $SD_{\text{close}} = 9.35$; $M_{\text{distant}} = 8.30$, $SD_{\text{distant}} = 9.59$, $t(912.89) = 0.73$, $p = .234$). Yet, the age difference is a rather weak indicator for relational closeness because Facebook friends may be of similar age but still only superficially acquainted.

The most significant indicator for a successful manipulation was that participants in the close friend condition scored higher on the relational closeness measure than those in the distant friend condition. A well-fitting SMM (MLR,

$\chi^2(154) = 615.51$, $p < .000$; CFI = .96; TLI = .95; RMSEA = .10, 90% CI $[0.09, 0.10]$; SRMR = .05) with relational closeness of the news endorser as independent variable and the latent relational closeness measure as dependent variable revealed a strong effect of the manipulation ($\hat{f} = .50$, $p < .001$, $M_{\text{close}} = 0.89$, $SD_{\text{close}} = 1.48$; $M_{\text{distant}} = -0.72$, $SD_{\text{distant}} = 1.74$).

To sum up the results of the manipulation checks for relational closeness to the news endorser, as users in the close Facebook friend condition indicated to have more frequent contact with the selected friend across four communication channels and scored higher on the relational closeness measure, the manipulation can be considered successful.

Manipulation check news endorser opinion. A one-sided t-test on the difference of perceived valence of news endorser opinion in the positive vs. the negative news endorser opinion conditions revealed a strong effect of the manipulation ($t(903.83) = 9.54$, $p < .001$, $d = 0.63$). As intended, participants perceived the opinion to be more positive in the positive news endorser opinion condition ($M = 0.82$, $SD = 1.40$) than in the negative news endorser opinion condition ($M = -0.12$, $SD = 1.60$).

Control for unintended effects of experimental manipulations. I also tested whether the manipulations unintentionally affected perceived political expertise of the news endorser, ambiguity of the article, and likelihood of the post.

Unexpectedly, there was a main effect of news endorser opinion on perceived ambiguity of the article ($F(1, 583) = 8.01$, $p = .004$, $d = 0.24$). Participants perceived the article more ambiguously, when the news endorser expressed a negative opinion, as indicated by group means closer to the scale midpoint (close friend/positive opinion: $M = 0.91$, $SD = 1.68$; close friend/negative opinion: $M = 0.77$, $SD = 1.57$; distant friend/positive opinion: $M = 0.97$, $SD = 1.70$; distant friend/negative opinion: $M = 0.33$, $SD = 1.63$). Participants perceived the arguments of the article as more convincing when the news endorser expressed a positive opinion. The small interaction effect of relational closeness and opinion valence was not significant ($F(1, 583) = 3.26$, $p = .071$, $d = 0.14$). This finding indicates that a positive news endorser opinion reduced the ambiguity that is elicited by ambiguous news content.

However in all experimental conditions, one-sample t-tests revealed that the group means were statistically different from the scale midpoint 0 (close

friend/positive opinion: $t(153) = 6.70$, $p < .001$; close friend/negative opinion: $t(140) = 5.81$, $p < .001$; distant friend/positive opinion: $t(143) = 6.83$, $p < .001$; distant friend/negative opinion: $t(147) = 2.49$, $p = .014$).

A SMM also revealed an unexpected though small main effect of relational closeness on political expertise of the news endorser (MLR, $\chi^2(12) = 12.99$, $p = .370$; CFI = 1.00; TLI = 1.00; RMSEA = .02, 90% CI $[0.00, 0.07]$; SRMR = .02, $\hat{f} = .08$, $p = .017$). Participants in the close friend condition rated their friend to be more competent in political questions than participants in the distant friend condition (close friend/positive opinion: $M = -0.16$, $SD = 1.42$; close friend/negative opinion: $M = -0.18$, $SD = 1.26$; distant friend/positive opinion: $M = -0.33$, $SD = 1.42$; distant friend/negative opinion: $M = -0.47$, $SD = 1.42$). Thus political expertise and relational closeness appear to be confounded in this study. It is important to note that in general, participants considered their friends to be not as literate in political topics.

Moreover, there was a small significant main effect of the relational closeness manipulation on likelihood of the post ($F(1, 886) = 5.19$, $p = .023$, $d = 0.16$). The post was perceived more likely when the news endorser was a distant friend (close friend/positive opinion: $M = 0.71$, $SD = 1.81$; close friend/negative opinion: $M = 0.43$, $SD = 1.90$; distant friend/positive opinion: $M = 0.93$, $SD = 1.91$; distant friend/negative opinion: $M = 0.79$, $SD = 1.88$). The small main effect of opinion valence did not reach statistical significance ($F(1, 886) = 2.77$, $p = .096$, $d = 0.11$).

I conducted additional analyses to explore how the unintended differences in perceived political expertise of the news endorser, ambiguity, and likelihood of the post are related to the dependent variables and the hypothesized effects (see Chapter 7.3.4 starting from p. 329).

7.3.3 Hypotheses Tests

In order to assess the epistemic shared reality hypothesis, I first tested Hypotheses 1 to 7. The conclusion of whether individuals experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers, but not with socially distant news endorsers, is drawn based on the results of these hypotheses tests.

7.3.3.1 Social Tuning Effects on Thoughts and Opinion

Hypothesis 1 predicted that social closeness of news endorser and news endorser opinion interact in such a way that individuals' opinion about the news topic will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. When the news endorser is socially close, individuals' opinion will be more positive when the news endorser expressed a positive opinion in comparison to when the the news endorser expressed a negative opinion. I tested this hypothesis by analyzing the effects of the experimentally manipulated independent variables relational closeness (distant = 0; close = 1) and news endorser opinion (negative = 0; positive = 1) on the dependent variables thought valence and opinion valence in a SMM.

The model exhibited a good model fit (MLR, $\chi^2(36) = 66.44$, $p = .001$; CFI = .99; TLI = .99; RMSEA = .07, 90% CI $[0.04, 0.10]$; SRMR = .02) and small main effects of news endorser opinion on opinion valence ($\hat{f} = .09$, $p = .006$) and thought valence ($\hat{f} = .1$, $p = .005$). The small main effects of relational closeness on opinion valence ($\hat{f} = .06$, $p = .066$) and thought valence were not significant ($\hat{f} = .05$, $p = .139$). What is most important for assessing the hypothesis is that the predicted interaction effect of relational closeness and news endorser opinion was negligibly small and neither significant for opinion valence ($\hat{f} = .04$, $p = .303$), nor for thought valence ($\hat{f} = .02$, $p = .503$). As shown in the thought valence and opinion valence columns in Table 7.8, participants' opinion about the proposal of a common EU passport was congruent with news endorser opinion irrespective of whether the news endorser was a close or distant friend.

The thought measure, which is based on participants' open-ended lists of thoughts regarding the proposal of a common EU passport, captured slightly positive evaluations of the proposal when the news endorser expressed a positive opinion and rather negative evaluations when the news endorser expressed a negative opinion. With regard to self-reported opinion about the topic, participants generally exhibited disapproval for the proposal (Latent grand $M = -.339$). However, their opinion was less negative when the news endorser

Table 7.8: Response, Thought, and Opinion Valence as a Function of Relational Closeness to News Endorser and News Endorser Opinion

	Response valence[a]		Thought valence[b]		Opinion valence[b]	
	News endorser opinion					
Relational closeness	Positive	Negative	Positive	Negative	Positive	Negative
Close	0.03	−0.23	0.23	0.02	−0.09	−0.33
	(1.64)	(1.67)	(1.43)	(1.42)	(2.08)	(2.04)
Distant	−0.19	−0.33	0.15	−0.19	−0.20	−0.75
	(1.61)	(1.61)	(1.45)	(1.42)	(2.12)	(2.06)

Note. [a]Displayed are mean scores and standard deviations. Response and thought valence scores are based on content analysis of open answers, coded on a 5-point scale ranging from −2 = *negative* to +2 = *positive*.
[b]Displayed are latent means and standard deviations. Opinion valence was measured via survey on a 7-point scale ranging from −3 = *negative* to +3 = *positive*.
Close friend/positive opinion, $n = 229$; Close friend/negative opinion, $n = 225$; Distant friend/positive opinion, $n = 230$; Distant friend/negative opinion, $n = 229$.

expressed a positive opinion. Moreover, we see a tendency for more negative opinion valence when the news endorser was a distant friend.

In conclusion, both opinion valence measures, thought valence and opinion valence, revealed social tuning effects of news endorser opinion about the proposal of a common EU passport irrespective of relational closeness. Thus, Hypothesis 1, which predicted that participants opinion would be congruent with the opinion of a news endorser only when he or she was a close friend, was not supported.

7.3.3.2 Social Tuning of Response Valence

Hypothesis 2 predicted that social closeness of the news endorser and news endorser opinion interact such that the valence of individuals' responses to

the news post will be congruent with the opinion of a socially close news endorser but not with the opinion of a socially distant news endorser. When the news endorser is socially close, the valence of individuals' responses to the news post will be more positive when the news endorser expressed a positive opinion in comparison to when the the news endorser expressed a negative opinion. I tested this hypothesis by analyzing the effects of the experimentally manipulated independent variables relational closeness (distant = 0; close = 1) and news endorser opinion (negative = 0; positive = 1) on the dependent variable response valence in a two-way ANOVA.

The small main effect of news endorser opinion on response valence was not statistically significant ($F(1, 924) = 3.58$, $p = .058$, $\omega^2 = .003$). There was neither a significant main effect of relational closeness on response valence ($F(1, 924) = 2.11$, $p = .149$, $\omega^2 = .001$), nor the expected interaction effect between relational closeness and news endorser opinion ($F(1, 924) = 0.53$, $p = .598$, $\omega^2 = -.001$). The group means in the response valence column in Table 7.8 indicate more negative valence of participants' verbal responses in the negative opinion conditions compared to the positive opinion conditions. Yet, they generally expressed rather negative thoughts on the news topic in their responses to the Facebook post. Similar to the results regarding Hypothesis 1, the expected interaction effect, according to which response valence would be congruent with news endorser opinion only in the relational close news endorser conditions, was absent. Hypothesis 2 was not supported by the data.

7.3.3.3 Mediation of Social Tuning Effects on Opinion and Thought Valence Through Response Valence

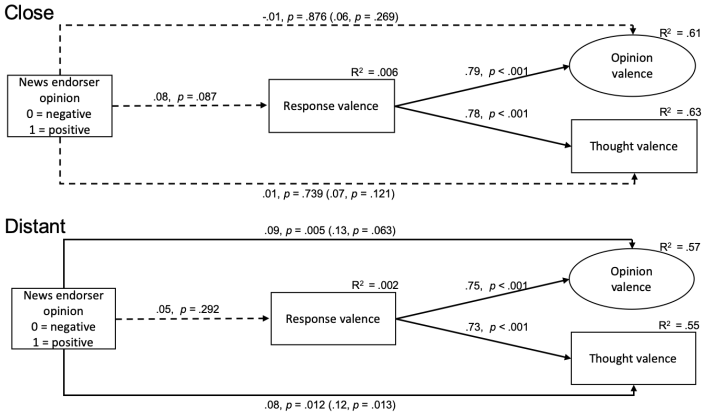
Hypothesis 3 predicted the sharing-is-believing effect, according to which individuals will socially tune the valence of their responses to a news post to the news endorser's opinion which will in turn positively predict individuals' opinion about the shared news topic, when the news endorser is socially close, but not when the news endorser is socially distant. In other words, I presumed that response valence mediates the effect of news endorser opinion on individual opinion valence when the news endorser is socially close.

To test the mediation hypothesis predicted in Hypothesis 3, I estimated a multigroup SEM with news endorser opinion (negative = 0; positive = 1) as independent variable, response valence as thought valence and opinion valence as dependent variables, and relational closeness as grouping variable. The model exhibited good fit (MLR, $\chi^2(21) = 51.21$, $p < .001$; CFI = .99; TLI = .99; RMSEA = .07, 90% CI $[0.05, 0.10]$; SRMR = .01).

In the close news endorser condition, the small positive indirect relationships between a positive news endorser opinion and participants' thought and opinion valence through more positive verbal response valence were not significant (Thought valence: non-significant indirect relation $p = .089$, $\beta = .06$; non-significant direct relation $p = .739$, $\beta = .01$; non-significant total relation $p = .121$, $\beta = .07$; Opinion valence: non-significant indirect relation $p = .088$, $\beta = .06$; non-significant direct relation $p = .876$, $\beta = -.01$; non-significant total relation $p = .215$, $\beta = .06$). The effect of news endorser opinion on response valence was small and not significant ($\beta = .08$, $p = .087$). As shown in Figure 7.5, the valence of participants' verbal responses to the news post positively predicted thought and opinion valence. The data did not support the sharing-is-believing effect for relationally close news endorsers, that is, the mediation of the effects of news endorser opinion on the dependent variables through response valence.

In line with my prediction, there was no indirect relation between news endorser opinion and the dependent variables in the distant friend condition. However, the model revealed unexpected direct effects of news endorser opinion on thought valence and opinion valence. (Thought valence: non-significant indirect relation $p = .292$, $\beta = .04$; significant direct relation $b = 0.25$, $SE = 0.10$, CI $[0.05, 0.45]$, $\beta = .08$; significant total relation $b = 0.37$, $SE = 0.15$, CI $[0.08, 0.66]$, $\beta = .12$; Opinion valence: non-significant indirect relation $p = .292$, $\beta = .04$; significant direct relation $b = 0.26$, $SE = 0.09$, CI $[0.08, 0.44]$, $\beta = .09$; significant total relation $b = 0.36$, $SE = 0.14$, CI $[0.10, 0.63]$, $\beta = .13$). Figure 7.5 shows that the mediator response valence was not predicted by news endorser opinion. However, valence of response to the Facebook post positively predicted thought and opinion valence.

To summarize the findings, there was a surprising direct effect of news endorser opinion on thought valence and opinion valence for distant news



Note. Displayed are standardized coefficients. Direct effects before including the mediator in parentheses.

Figure 7.5: Test of the Indirect Relation Between News Endorser Opinion, Opinion Valence, and Thought Valence Through Response Valence

endorsers. While in the close news endorser condition, neither the direct effect nor the indirect relation were significant, there was a tendency for the predicted sharing-is-believing effect. Although participants did not tailor the valence of their responses to the news post to the opinion of distant news endorsers, their subsequent thoughts and opinion about the news topic were congruent with the opinion of distant news endorsers. On the basis of these findings, I reject Hypothesis 3.

7.3.3.4 The Moderating Role of Experienced Commonality of Opinions

With Hypothesis 4, I predicted that when the news endorser is socially close, the valence of the socially tuned response to a news post will predict individuals'

opinion about the shared news article more strongly when individuals experience strong commonality with the news endorser compared to when they experience weak commonality with the news endorser. In other words, I presumed that experienced commonality moderates the positive indirect relation between news endorser opinion and individual opinion through response valence when the news endorser is socially close.

To test this hypothesis, I included the latent experienced commonality measure as moderator into the mediation model. The test of Hypothesis 3 revealed only a tendency for the predicted mediation effect in the close friend condition and no indirect effect in the distant friend condition. Moreover, it revealed strong effects of verbal response valence on opinion and thought valence in both the close and the distant friend conditions. With this result in mind, it seems less advisable to assume a substantial moderating role of the experienced commonality. Nevertheless, I tested the moderating role of experienced commonality for the relation between response valence, thought valence, and opinion valence.

Including the moderator deteriorated the model fit slightly (MLR, $\chi^2(164) = 507.06$, $p < .001$; CFI = .96; TLI = .95; RMSEA = .08, 90% CI $[0.07, 0.08]$; SRMR = .13). In the close friend condition, the interaction effect of verbal response valence and experience of commonality was small but significant for both dependent variables (Thought valence: $b = 0.06$, $SE = 0.02$, CI $[0.01, 0.09]$, $\beta = .08$, Opinion valence: $b = 0.26$, $SE = 0.15$, CI $[-0.04, 0.56]$, $\beta = .09$). As the non-significant effects of news endorser opinion on response valence remained unchanged, the conditional indirect relations were again not significant. Tests of the conditional effects of verbal response valence on the dependent variables in the close friend condition revealed that the effect was present at low and high levels of experienced commonality, but it was stronger when the moderator level was high (Thought valence: $b = 0.79$, $SE = 0.04$, CI $[0.70, 0.87]$, $\beta = .92$, Opinion valence: $b = 1.04$, $SE = 0.04$, CI $[0.90, 1.17]$, $\beta = .94$), than when it was low (Thought valence: $b = 0.56$, $SE = 0.07$, CI $[0.42, 0.69]$, $\beta = .58$; Opinion valence: $b = 0.71$, $SE = 0.09$, CI $[0.54, 0.87]$, $\beta = .56$). For coefficients of the single paths in the model, see Figure 7.6.

Moreover, there were positive conditional relations between experienced commonality and the dependent variable. When participants experienced

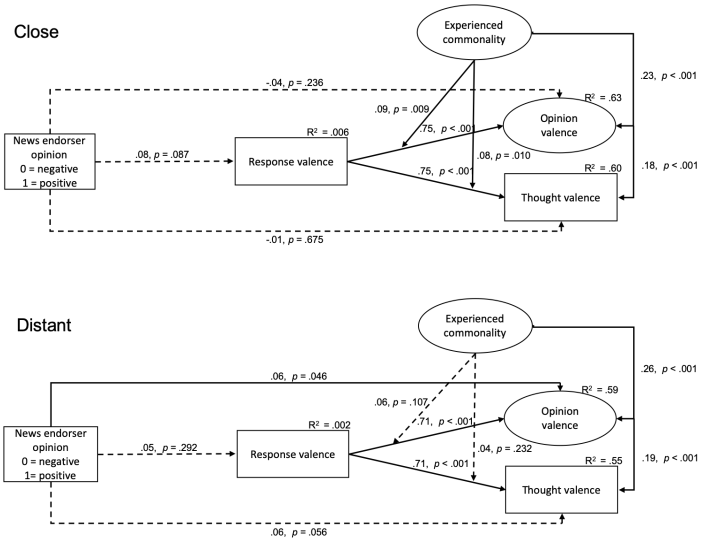
commonality with the news endorser more strongly, their thoughts and opinion about the proposal of a common EU passport were more positive (Thought valence: $b = 0.19$, $SE = 0.04$, CI $[0.11, 0.27]$, $\beta = .18$; Opinion valence: $b = 0.32$, $SE = 0.06$, CI $[0.21, 0.44]$, $\beta = .23$).

In the distant friend condition, the latent interaction between response valence and experienced commonality was not significant, neither for the relation between response valence and thought valence, nor relation between response valence and opinion valence (Thought valence: $p = .232$, $\beta = .04$; Opinion valence: $p = .107$, $\beta = .06$). As in the close friend condition, there were positive conditional relations between response valence and the dependent variables (Thought valence: $b = 0.67$, $SE = 0.03$, CI $[0.61, 0.74]$, $\beta = .71$; Opinion valence: $b = 0.67$, $SE = 0.04$, CI $[0.59, 0.75]$, $\beta = .71$) as well as between experienced commonality and the dependent measures (Thought valence: $b = 0.27$, $SE = 0.07$, CI $[0.13, 0.42]$, $\beta = .19$; Opinion valence: $b = 0.36$, $SE = 0.10$, CI $[0.18, 0.55]$, $\beta = .26$).

Keep in mind that there was only a tendency for tuning the valence of verbal responses to the opinion of the news endorser in the close news endorser condition. Thus, I cannot conclude that participants' opinion and thoughts about the proposal of a common EU passport were more congruent with their socially tuned messages when they subjectively experienced strong commonality with the news endorser. The results allow only for the interpretation that the opinion valence of participants, who subjectively experienced their opinion as being shared with the news endorser, was more congruent with the valence of their verbal responses to the news post. Thus, I reject Hypothesis 4.

7.3.3.5 Mediation of Social Tuning Effects Through Epistemic Trust in News Endorser

Hypothesis 5 predicted that individuals have stronger epistemic trust in socially close rather than in socially distant news endorsers which, in turn, predicts news endorser congruent opinion valence. In other words, I presumed that epistemic trust in the news endorser mediates the effect of social closeness on news endorser congruent opinion valence.



Note. Displayed are standardized coefficients.

Figure 7.6: Test of the Interaction Effect of Experienced Commonality on the Indirect Relation Between News Endorser Opinion, Opinion Valence, and Thought Valence Through Response Valence

Table 7.9: Latent Group Means for Epistemic Trust in News Endorser as a Function of Relational Closeness and News Endorser Opinion

	News endorser opinion	
Relational closeness	Positive	Negative
Close friend	1.38 (1.03)	1.49 (0.93)
Distant friend	1.04 (1.29)	1.08 (1.26)

Note. Displayed are latent means and standard deviations. Epistemic trust was measured on a 7-point scale ranging from $-3 =$ *not at all* to $+3 =$ *very much*. Close friend/positive opinion; $n = 232$; Close friend/negative opinion, $n = 227$; Distant friend/positive opinion, $n = 237$; Distant friend/negative opinion, $n = 232$.

A prerequisite for the mediation is a significant effect of the relational closeness manipulation on epistemic trust. Thus, I tested the latter first in a SMM with epistemic trust in the news endorser as dependent variable and the relational closeness and news endorser opinion manipulations as independent variables.

The SMM did not fit the data well (MLR, $\chi^2(26) = 168.57$, $p < .001$; CFI = .92; TLI = .93; RMSEA = .17, 90% CI $[0.15, 0.17]$; SRMR = .06). There was a small significant main effect of relational closeness on epistemic trust in the news endorser ($\hat{f} = .21$, $p < .001$). Table 7.9 shows the latent means in all four experimental groups. Epistemic trust was stronger in close than in distant news endorsers. The small interaction effect of relational closeness and news endorser opinion was not significant ($\hat{f} = .06$, $p = .079$).

The group means show a tendency for stronger epistemic trust in news endorsers who exhibited a negative opinion about the proposal of a common EU passport. However, in line with the theoretical assumptions, the main effect of news endorser opinion was negligible and not significant ($\hat{f} = .01$, $p = .697$).

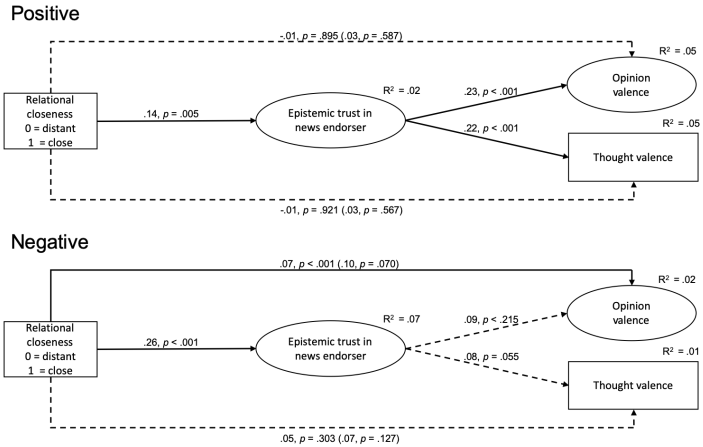
I proceeded with testing the mediation predicted in Hypothesis 5 in a multigroup SEM with relational closeness as independent variable (distant = 0; close = 1), epistemic trust in news endorser as mediator, thought and

opinion valence as dependent variables, and news endorser opinion as grouping variable. The model exhibited good fit, except for the RMSEA value (MLR, $\chi^2(60) = 287.739$, $p < .001$; CFI = .97; TLI = .96; RMSEA = .10, 90% CI $[0.09, 0.11]$; SRMR = .04).

In the positive news endorser opinion condition, the positive indirect relationship between relational closeness and the dependent variables through epistemic trust in the news endorser was significant (Thought valence: indirect relation, $b = .10$, $SE = 0.04$, CI $[0.02, 0.18]$, $\beta = .03$; non-significant direct relation, $p = .921$, $\beta = -.01$; non-significant total relation, $p = .567$, $\beta = .03$; Opinion valence: indirect relation, $b = .14$, $SE = 0.06$, CI $[0.03, 0.24]$, $\beta = .03$; non-significant direct relation, $p = .895$, $\beta = -.01$; non-significant total relation, $p = .586$, $\beta = .03$). When the news endorser expressed a positive opinion in the news post, participants had stronger epistemic trust in the judgment of close compared to distant news endorsers which was related to more positive thoughts and a more positive opinion about the proposal of a common EU passport. The results are in line with Hypothesis 5.

With regard to the negative opinion condition, I predicted that stronger epistemic trust in the news endorser is negatively related to the dependent variables. These indirect relationships between relational closeness and thought and opinion valence through epistemic trust were both positive and not significant. Instead, there was a positive direct effect of relational closeness of the news endorser on opinion valence (Thought valence: non-significant indirect relation, $p = .133$, $\beta = .02$; non-significant direct relation, $p = .303$, $\beta = .05$; non-significant total relation, $p = .127$, $\beta = .07$; Opinion valence: non-significant indirect relation, $p = .275$, $\beta = .03$; significant direct relation, $b = .18$, $SE = 0.03$, CI $[0.12, 0.23]$, $\beta = .07$; significant total relation, $b = .24$, $SE = 0.04$, CI $[0.16, 0.32]$, $\beta = .10$). When a news endorser who expressed a negative opinion on the news article was a close friend, participants indicated a more positive opinion about the news topic compared to when a distant news endorser expressed a negative opinion.

Figure 7.7 shows that Hypothesis 5 was confirmed only for news endorsers with a positive opinion but not for those with a negative opinion. The positive direct effect of relational closeness on opinion valence in the negative news endorser opinion condition was unexpected.



Note. Displayed are standardized coefficients. Direct effects before including the mediator in parentheses.

Figure 7.7: Test of the Indirect Relation Between Relational Closeness, Opinion Valence, and Thought Valence Through Epistemic Trust in News Endorser

7.3.3.6 Moderating Role of Epistemic Trust in News Medium

With Hypothesis 7, I presumed that epistemic trust in the news endorser will predict news endorser congruent opinion valence more strongly when epistemic trust in the news medium is low in comparison to when epistemic trust in the news medium is high. In other words, I presumed that epistemic trust in the news medium moderates the relation between epistemic trust in the news endorser and news endorser congruent opinion valence. I tested the hypothesis by including the latent interaction between epistemic trust in the news endorser and epistemic trust in the news medium in the previous mediation model and

compared the positive news endorser opinion condition with the negative news endorser opinion.

This resulted in a tremendous deterioration of model fit because the sample did not have not enough power for a model with such a high number of degrees of freedom (MLR, $\chi^2(790) = 10274.44$, $p < .001$; CFI = .62; TLI = .58; RMSEA = .22, 90% CI [0.22, 0.23]; SRMR = .08). The latent interaction between epistemic trust in news endorser and epistemic trust in news medium was neither significant in the positive news endorser opinion condition (Thought valence: $p = .289$, $\beta = .04$; Opinion valence: $p = .108$, $\beta = .06$), nor in the negative news endorser condition (Thought valence: $p = .610$, $\beta = -.02$; Opinion valence: $p = .229$, $\beta = -.06$).

In the positive news endorser opinion, there were positive conditional relations between epistemic trust in the news endorser and the dependent variables (Thought valence: $b = .22$, $SE = 0.06$, CI [0.10, 0.33], $\beta = .16$; Opinion valence: $b = .28$, $SE = 0.09$, CI [0.11, 0.46], $\beta = .16$), as well as between epistemic trust in the news medium and the dependent variables (Thought valence: $b = .33$, $SE = 0.05$, CI [0.25, 0.42], $\beta = .31$; Opinion valence: $b = .50$, $SE = 0.06$, CI [0.38, 0.62], $\beta = .35$). The conditional indirect relations between relational closeness and the dependent variables through epistemic trust in news endorser remained significant after including the latent interaction (Thought valence: indirect relation, $b = .07$, $SE = 0.03$, CI [0.01, 0.13], $\beta = .02$; non-significant direct relation, $p = .572$, $\beta = .03$; non-significant total relation, $p = .279$, $\beta = .05$; Opinion valence: indirect relation, $b = .09$, $SE = 0.04$, CI [0.01, 0.18], $\beta = .02$; non-significant direct relation, $p = .511$, $\beta = .03$; non-significant total relation, $p = .243$, $\beta = .05$). For coefficients of the single paths in the model, see Figure 7.8.

In the negative news endorser opinion condition, there were positive conditional relations between epistemic trust in the news medium and the dependent variables only (Thought valence: $b = .44$, $SE = 0.06$, CI [0.32, 0.55], $\beta = .29$; Opinion valence: $b = .40$, $SE = 0.07$, CI [0.27, 0.53], $\beta = .31$). The positive conditional relations between epistemic trust in news endorser and the dependent variables were not significant (Thought valence: $p = .368$, $\beta = .05$; Opinion valence: $p = .269$, $\beta = .06$). The conditional indirect relations

between relational closeness and the dependent variables through epistemic trust in news endorser were not significant (Thought valence: non-significant indirect relation, $p = .376$, $\beta = .01$; non-significant direct relation, $p = .286$, $\beta = .04$; non-significant total relation, $p = .127$, $\beta = .07$; Opinion valence: non-significant indirect relation, $p = .276$, $\beta = .02$; non-significant direct relation, $p = .087$, $\beta = .07$; significant total relation, $b = .23$, $SE = 0.10$, CI $[0.03, 0.43]$, $\beta = .09$). The previously significant positive effect of relational closeness on opinion valence was no longer significant.

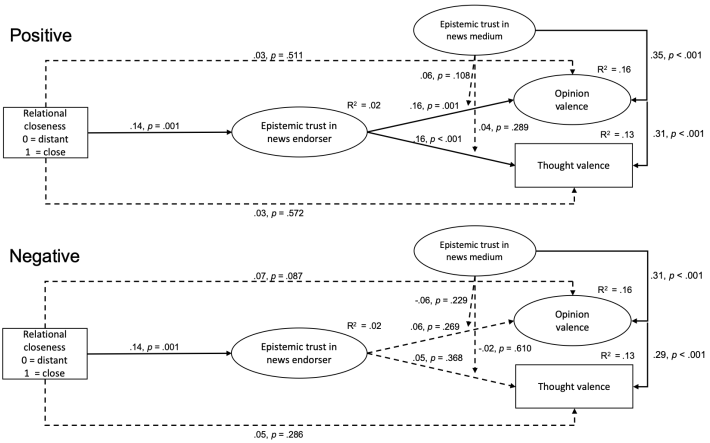
However as the latent interaction between epistemic trust in news endorser and epistemic trust in news medium was not significant, Hypothesis 7 was not supported by the data.

7.3.4 Additional Analyses

7.3.4.1 Manipulation Effects on Moderator Variables

Following up the test of Hypothesis 7, I estimated a SMM to check whether the experimental manipulations affected the moderator variable epistemic trust in the news medium. The model fit was acceptable except for the; RMSEA value (MLR, $\chi^2(26) = 201.45$, $p < .001$; CFI = .96; TLI = .96; RMSEA = .19, 90% CI $[0.17, 0.22]$; SRMR = .03). The interaction of relational closeness and news endorser opinion was small and not significant ($\hat{f} = .06$, $p = .078$). The latent means in Table 7.10 show a tendency for stronger epistemic trust in the news medium, when the article had been shared by a close Facebook friend with a negative (vs. positive) opinion. In the distant friend condition the relationship was vice-versa: participants exhibited higher epistemic trust in the news medium when the news endorser expressed a positive (vs. negative) opinion about the topic of the article. Neither the main effect of relational closeness ($\hat{f} = .02$, $p < .572$), nor the main effect of news endorser opinion ($\hat{f} < .01$, $p < .935$) were significant.

I also analyzed effects of the manipulations on the moderator variable experienced commonality with SMM. The model fit the data well (MLR, $\chi^2(26) = 58.27$, $p < .001$; CFI = .97; TLI = .97; RMSEA = .08, 90% CI $[0.05, 0.10]$; SRMR = .05). It revealed small main effects of both relational



Note. Displayed are standardized coefficients.

Figure 7.8: Test of the Interaction Effect of Epistemic Trust in News Medium on the Indirect Relation Between Relational Closeness, Opinion Valence, and Thought Valence Through Epistemic Trust in News Endorser

closeness ($\hat{f} = .13$, $p < .001$) and news endorser opinion ($\hat{f} = .13$, $p < .001$) on experienced commonality. The interaction effect was not significant ($\hat{f} = .01$, $p = .689$). Participants experienced stronger commonality of opinions about the news article with close news endorsers than with distant news endorsers. They also experienced stronger commonality when the news endorser expressed a positive (vs. negative) opinion (see Table 7.10). The latter finding is surprising, considering that participants expressed rather negative thoughts and opinions about the news topic in the study.

Table 7.10: Latent Group Means for Epistemic Trust in News Medium and Experienced Commonality as a Function of Relational Closeness and News Endorser Opinion

	Epistemic trust in news medium		Experienced commonality	
	News endorser opinion			
Relational closeness	Positive	Negative	Positive	Negative
Close friend	0.67	0.85	0.02	−0.37
	(1.50)	(1.33)	(1.36)	(1.46)
Distant friend	0.89	0.74	−0.38	−0.70
	(2.01)	(1.92)	(1.56)	(1.42)

Note. Displayed are latent means and standard deviations. Both variables were measured on a 7-point scale ranging from $-3 =$ *not at all* to $+3 =$ *very much*.
Close friend/positive opinion; $n = 232$; Close friend/negative opinion, $n = 227$; Distant friend/positive opinion, $n = 237$; Distant friend/negative opinion, $n = 232$.

7.3.4.2 Political Expertise as Mediator of Social Tuning Effects

The control for unintended effects of the manipulations revealed an effect of relational closeness on perceived political expertise of the news endorser (see section 7.3.2). Close news endorsers were considered more competent in political questions than distant news endorsers. Hence, I tested whether epistemic trust and perceived expertise of the news endorser mediate the effect of relational closeness on thought and opinion valence. I included perceived political expertise as a second mediator in the multigroup SEM estimated to test Hypothesis 5. The model fit the data rather poorly (MLR, $\chi^2(113) = 661.807$, $p < .001$; CFI = .95; TLI = .93; RMSEA = .11, 90% CI $[0.07, 0.09]$; SRMR = .15). In the positive opinion group, there was an indirect relation between relational closeness and the dependent variable thought valence through epistemic trust in news endorser (Thought valence: indirect relation, $b = .09$, $SE = 0.04$, CI $[0.01, 0.17]$, $\beta = .03$; non-significant direct relation,

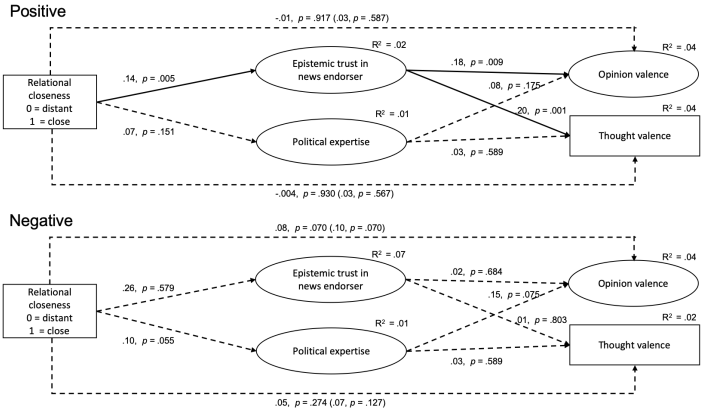
$p = .930$, $\beta < -.01$; non-significant total relation, $p = .601$, $\beta = .02$; Opinion valence: non-significant indirect relation, $p = .601$, $\beta = .01$; non-significant direct relation, $p = .917$, $\beta = -.01$; non-significant total relation, $p = .967$, $\beta < -.01$). There was no significant indirect relation through political expertise (Thought valence: non-significant indirect relation, $p = .608$, $\beta < .01$; non-significant direct relation, $p = .930$, $\beta < -.01$; non-significant total relation, $p = .970$, $\beta < -.01$; Opinion valence: non-significant indirect relation, $p = .317$, $\beta = .01$; non-significant direct relation, $p = .917$, $\beta = -.01$; non-significant total relation, $p = .985$, $\beta = .001$).

In the negative opinion condition, none of the tested indirect relations were significant. There was no indirect relation through epistemic trust in news endorser (Thought valence: non-significant indirect relation, $p = .862$, $\beta < .01$; non-significant direct relation, $p = .274$, $\beta = .05$; non-significant total relation, $p = .234$, $\beta = .06$; Opinion valence: non-significant indirect relation, $p = .807$, $\beta < .01$; non-significant direct relation, $p = .070$, $\beta = .08$; non-significant total relation, $p = .115$, $\beta = .08$) and also no indirect relation through political expertise, although the total effect on opinion valence was significant (Thought valence: non-significant indirect relation, $p = .068$, $\beta = .02$; non-significant direct relation, $p = .274$, $\beta = .05$; non-significant total relation, $p = .161$, $\beta = .07$; Opinion valence: non-significant indirect relation, $p = .076$, $\beta = .02$; non-significant direct relation, $p = .070$, $\beta = .08$; significant total relation, $p = .025$, $\beta = .09$).

Thus when epistemic trust and political expertise are assessed simultaneously as mediators of the relationship between relational closeness and thought as well as opinion valence, the small effect of relational closeness on political expertise diminishes.

7.3.4.3 Likelihood of Facebook Post as Moderator of Social Tuning Effects

Another unintended effect that might be relevant for the interpretation of the results is the significant difference of the perceived likelihood of the Facebook post for close and distant Facebook friends. Although the likelihood was



Note. Displayed are standardized coefficients. Direct effects before including the mediator in parentheses.

Figure 7.9: Test of the Interaction Effect of Epistemic Trust in News Medium on the Indirect Relation Between Relational Closeness, Opinion Valence, and Thought Valence Through Epistemic Trust in News Endorser

rated rather low in both conditions, participants perceived the post as less likely when it allegedly stemmed from a close friend than when the news endorser was a distant friend. The study procedure randomly assigned a positive or negative opinion about the news topic to real Facebook friends of the participants. Particularly in the close friend condition, it is likely that participants' background knowledge about the selected friend contradicted the opinion he or she allegedly expressed in the news post and thus mitigates the effect of the manipulation.

I examined how likelihood of Facebook post interacted with the manipulated news endorser opinion. Firstly, I tested the moderating role for the effects on participants' thought and opinion valence in a two group SEM for the close

and distant friend condition. However, all fit indices indicated poor model fit (MLR, $\chi^2(31) = 1543.39$, $p < .001$; CFI = .75; TLI = .57; RMSEA = .39, 90% CI $[0.37, 0.41]$; SRMR = .17). There was no significant interaction between news endorser opinion and likelihood of the Facebook post predicting thought valence and opinion valence in the close news endorser condition (Thought valence: $p = .322$, $\beta = .15$, Opinion valence: $p = .104$, $\beta = .25$) and no significant conditional main effect of news endorser opinion (Thought valence: $p = .243$, $\beta = .06$, Opinion valence: $p = .436$, $\beta = .04$) or likelihood of the Facebook post on the dependent variables (Thought valence: $p = .899$, $\beta = -.02$, Opinion valence: $p = .678$, $\beta = -.06$).

However, the interaction between news endorser opinion and Facebook post likelihood was significant in the distant news endorser condition for thought valence (Thought valence: $b = .17$, $SE = 0.08$, CI $[0.02, 0.32]$, $\beta = .31$, Opinion valence: $p = .077$, $\beta = .32$). There were significant conditional main effects of news endorser opinion (Thought valence: $b = .36$, $SE = 0.15$, CI $[0.07, 0.65]$, $\beta = .11$; Opinion valence: $b = .25$, $SE = 0.09$, CI $[0.07, 0.43]$, $\beta = .11$) but no significant conditional relation between Facebook post likelihood and the dependent variables (Thought valence: $p = .363$, $\beta = -.13$, Opinion valence: $p = .490$, $\beta = -.11$). In the distant friend condition, there was a significant positive effect of news endorser opinion when the perceived likelihood of the Facebook post was high. The effect was negative and non-significant when perceived likelihood was low ($p = .889$, $\beta = -.05$).

Furthermore, I examined whether there were conditional effects on the mediator response valence and thus on the indirect effects on thought and opinion valence. I estimated moderated mediation models for the close and distant friend condition separately. The model fit exhibited a considerable deterioration compared to the mediation model without the interaction term (MLR, $\chi^2(45) = 1656.10$, $p < .001$; CFI = .77; TLI = .64; RMSEA = .33, 90% CI $[0.31, 0.34]$; SRMR = .14, $\chi^2\Delta = 1937.60$, $p < .001$). In neither relational closeness condition, did I detect an interaction of news endorser opinion and Facebook post likelihood on the mediator variable response valence (Close: $p = .352$, $\beta = .14$; Distant: $p = .467$, $\beta = .11$). Perceiving the Facebook post as more likely did not affect the extent of social tuning to the opinion of the news endorser in responses to the news post.

7.3.4.4 The Role of News Endorser Gender

I examined whether gender of the news endorser affected response valence, thought and opinion valence, epistemic trust in and perceived political expertise of the news endorser.

I estimated a first SMM with a 2 (relational closeness: distant = 0; close = 1) x 2 (news endorser opinion: negative = 0; positive = 1) x 2 (news endorser gender: male = 0; female = 1) design. Thought and opinion valence were the dependent variables in this model. The model fit the data well (MLR, $\chi^2(80) = 115.00$, $p = .006$; CFI = .99; TLI = .99; RMSEA = .06, 90% CI $[0.04, 0.10]$; SRMR = .03). News endorser gender had neither main effects on participants' thought and opinion valence nor were there interaction effects with relational closeness or news endorser opinion on the two dependent variables. After including news endorser gender in the model, it still revealed small significant main effects of news endorser opinion on thought valence ($\hat{f} = .09$, $p = .014$) and opinion valence ($\hat{f} = .08$, $p = .032$; see Table 7.11 for group means).

With a three-way ANOVA, I examined the effects of relational closeness, news endorser opinion, and news endorser gender on participants' response valence. The analyses revealed no significant effects on the dependent variable ($F(1, 915) = 1.46, p = .179$).

A second SMM with the same 2 x 2 x 2 design and epistemic trust in the news endorser and perceived political expertise as dependent variables exhibited a rather poor fit to the data (MLR, $\chi^2(174) = 438.08$, $p < .001$; CFI = .94; TLI = .95; RMSEA = .12, 90% CI $[0.10, 0.13]$; SRMR = .07). The model revealed a small main effect of news endorser gender on perceived political expertise ($\hat{f} = .25$, $p < .001$). Participants perceived female news endorsers to be less competent in political questions than male news endorsers (see Table 7.12). The effect was stronger than the effect of relational closeness on perceived political expertise in the same model ($\hat{f} = .08$, $p = .028$). The model revealed no main effect of news endorser opinion on political expertise. Neither the three-way interaction, nor the two-way interactions between the independent variables were significant.

Table 7.11: Response, Thought, and Opinion Valence as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and News Endorser Gender

		Response valence[a]		Thought valence[a]		Opinion valence[b]	
		News endorser opinion					
Relational closeness	News endorser gender	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
Close	Women	0.13	−0.31	0.09	−0.21	0.10	−0.40
		(1.63)	(1.69)	(1.45)	(1.47)	(2.06)	(1.98)
	Men	−0.15	−0.08	−0.03	−0.09	−0.40	−0.15
		(1.67)	(1.66)	(1.51)	(1.46)	(2.09)	(2.11)
Distant	Women	−0.30	−0.33	−0.09	−0.45	−0.33	−0.85
		(1.60)	(1.62)	(1.50)	(1.44)	(2.14)	(2.03)
	Men	−0.02	−0.33	0.04	−0.25	−0.03	−0.50
		(1.61)	(1.59)	(1.49)	(1.52)	(2.05)	(2.14)

Note. [a]Displayed are mean scores and standard deviations. Response and thought valence scores are based on content analysis of open answers, coded on a 5-point scale ranging from −2 = *negative* to +2 = *positive*. [b]Displayed are latent means and standard deviations. Opinion valence was measured via survey on a 7-point scale ranging from −3 = *negative* to +3 = *positive*.
Close friend/positive opinion/female news endorser, $n = 143$; Close friend/positive opinion/male news endorser, $n = 89$; Close friend/negative opinion/female news endorser, $n = 136$; Close friend/negative opinion/male news endorser $n = 88$; Distant friend/-positive opinion/female news endorser, $n = 138$; Distant friend/positive opinion/male news endorser, $n = 97$; Distant friend/negative opinion/female news endorser, $n = 153$; Distant friend/negative opinion/male news endorser $n = 79$.

The model revealed a small main effect of relational closeness on epistemic trust in the news endorser ($\hat{f} = .19$, $p < .001$) and a small significant interaction between relational closeness and news endorser opinion on epistemic trust ($\hat{f} = .10$, $p = .049$).

Neither news endorser opinion nor news endorser gender had a significant main effect on epistemic trust in the news endorsers. There was no three-way interaction and also no two-way interaction between news endorser gender and the independent variables relational closeness and news endorser opinion.

I estimated a third SMM with the same 2 x 2 x 2 design and experienced commonality as dependent variable. Model fit was acceptable except for the RMSEA value (MLR, $\chi^2(58) = 114.58$, $p < .001$; CFI = .96; TLI = .97; RMSEA = .10, 90% CI $[0.07, 0.12]$; SRMR = .07). News endorser gender had no main effect on experienced commonality and no interaction effects with the independent variables news endorser opinion and relational closeness on experienced commonality. There was also no three-way interaction between the three independent variables. However, there were small main effects of both relational closeness ($\hat{f} = .13$, $p = .001$) and news endorser opinion on experienced commonality ($\hat{f} = .14$, $p = .001$). Participants experienced more commonality with a close news endorser than with a distant news endorser. In both relational closeness conditions, they experienced more commonality when the news endorser exhibited a positive opinion about the proposal of a common EU passport than when the expressed opinion was negative (see Table 7.13).

7.3.4.5 The Role of Participant Gender

Analogously to news endorser gender, I examined whether the effects of the dependent variables were conditional on participant gender.

I estimated a first SMM with a 2 (relational closeness: distant = 0; close = 1) x 2 (news endorser opinion: negative = 0; positive = 1) x 2 (gender: male = 0; female = 1) design using thought and opinion valence as dependent variables. The model fit the data well (MLR, $\chi^2(80) = 132.26$, $p < .001$; CFI = .99; TLI = .99; RMSEA = .08, 90% CI $[0.05, 0.11]$; SRMR = .03). Participant gender

Table 7.12: Epistemic Trust and Political Expertise as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and News Endorser Gender

		Epistemic trust in news endorser		Political expertise of news endorser	
		News endorser opinion			
Relational closeness	News endorser gender	Pos.	Neg.	Pos.	Neg.
Close	Women	1.39	1.53	−0.35	−0.46
		(0.99)	(0.92)	(1.34)	(1.16)
	Men	1.36	1.43	0.16	0.24
		(1.12)	(0.98)	(1.52)	(1.24)
Distant	Women	0.88	0.87	−0.70	−0.67
		(1.29)	(1.30)	(1.33)	(1.37)
	Men	1.31	0.89	0.19	−0.08
		(1.26)	(1.22)	(1.42)	(1.43)

Note. Displayed are latent means and standard deviations. Epistemic trust in news endorser and political expertise of news endorser were measured via survey on a 7-point scale ranging from $-3 =$ *not at all* to $+3 =$ *very much*.
Close friend/positive opinion/female news endorser, $n = 143$; Close friend/positive opinion/male news endorser, $n = 89$; Close friend/negative opinion/female news endorser, $n = 136$; Close friend/negative opinion/male news endorser $n = 88$; Distant friend/positive opinion/female news endorser, $n = 138$; Distant friend/positive opinion/male news endorser, $n = 97$; Distant friend/negative opinion/female news endorser, $n = 153$; Distant friend/negative opinion/male news endorser $n = 79$.

Table 7.13: Experienced Commonality as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and News Endorser Gender

		News endorser opinion	
Relational closeness	News endorser gender	Positive	Negative
Close	Women	−0.14	−0.50
		(1.23)	(1.38)
	Men	0.20	−0.21
		(1.50)	(1.34)
Distant	Women	−0.59	−0.80
		(1.60)	(1.39)
	Men	−0.16	−0.56
		(1.48)	(1.45)

Note. Displayed are latent means and standard deviations. Experienced commonality was measured on a 7-point scale ranging from −3 = *not at all* to +3 = *very much*. Close friend/positive opinion/female news endorser, $n = 143$; Close friend/positive opinion/male news endorser, $n = 89$; Close friend/negative opinion/female news endorser, $n = 136$; Close friend/negative opinion/male news endorser $n = 88$; Distant friend/-positive opinion/female news endorser, $n = 138$; Distant friend/positive opinion/male news endorser, $n = 97$; Distant friend/negative opinion/female news endorser, $n = 153$; Distant friend/negative opinion/male news endorser $n = 79$.

had neither main effects, nor interaction effects with the two independent variables on participants' thought and opinion valence. Table 7.14 shows the group means.

A three-way ANOVA with the same 2 x 2 x 2 design revealed a main effect of news endorser opinion on response valence after controlling for participant gender ($F(1, 915) = 4.09, p = .043$). There were no interaction effects of participant gender with the independent variables relational closeness and news endorser opinion on response valence, as well as no main effects of relational closeness and participant gender.

A second SMM with the same 2 x 2 x 2 design using epistemic trust and perceived political expertise as dependent variables exhibited an acceptable

Table 7.14: Response, Thought, and Opinion Valence as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and Participant Gender

		Response valence[a]		Thought valence[a]		Opinion valence[b]	
		News endorser opinion					
Relational closeness	Participant gender	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
Close	Women	0.10	−0.13	0.13	−0.09	−0.02	−0.31
		(1.61)	(1.69)	(1.48)	(1.47)	(1.87)	(1.99)
	Men	−0.06	−0.34	−0.04	−0.24	−0.18	−0.33
		(1.69)	(1.65)	(1.56)	(1.56)	(2.30)	(2.11)
Distant	Women	−0.29	−0.19	−0.10	−0.38	−0.31	−0.78
		(1.61)	(1.62)	1.52)	(1.49)	(2.09)	(2.15)
	Men	−0.07	−0.53	0.05	−0.38	−0.08	−0.66
		(1.60)	(1.57)	(1.58)	(1.56)	(2.02)	(2.15)

Note. [a]Displayed are mean scores and standard deviations. Response and thought valence scores are based on content analysis of open answers, coded on a 5-point scale ranging from −2 = *negative* to +2 = *positive*.
[b]Displayed are latent means and standard deviations. Opinion valence was measured via survey on a 7-point scale ranging from −3 = *negative* to +3 = *positive*.
Close friend/positive opinion/female participant, $n = 126$; Close friend/positive opinion/-male participant, $n = 106$; Close friend/negative opinion/female participant, $n = 127$; Close friend/negative opinion/male participant $n = 98$; Distant friend/positive opinion/female participant, $n = 125$; Distant friend/positive opinion/male participant, $n = 112$; Distant friend/negative opinion/female participant, $n = 137$; Distant friend/negative opinion/male participant, $n = 95$.

fit, except for the; RMSEA (MLR, $\chi^2(174) = 412.26$, $p < .001$; CFI = .95; TLI = .95; RMSEA = .11, 90% CI $[0.10, 0.13]$; SRMR = .07). There was no main or interaction effect of participant gender on epistemic trust or political expertise. Relational closeness had a medium sized main effect on epistemic trust ($\hat{f} = .34$, $p < .001$) and a negligible main effect on perceived political expertise of the news endorser ($\hat{f} = .07$, $p = .025$). Participants had stronger epistemic trust in relational close news endorsers and they perceived them to be more competent with regard to politics (see Table 7.15). No other effects were significant.

I estimated a third SMM with the same 2 x 2 x 2 design and experienced commonality as dependent variable. The model fit the data well (MLR, $\chi^2(58) = 86.25$, $p = .009$; CFI = .98; TLI = .98; RMSEA = .07, 90% CI $[0.03, 0.10]$; SRMR = .07). There was a small main effect of participant gender on experienced commonality ($\hat{f} = .11$, $p = .002$). Women perceived less commonality with the news endorsers than men. There were also small main effects of relational closeness ($\hat{f} = .12$, $p < .001$) and news endorser opinion ($\hat{f} = .13$, $p = .001$): participants experienced less commonality with distant news endorsers and when the news endorser expressed a positive opinion about the proposal of a common EU passport (see Table 7.16). None of the interaction effects were significant.

Table 7.15: Epistemic Trust and Political Expertise as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and Participant Gender

		Epistemic trust in news endorser		Political expertise of news endorser	
		News endorser opinion			
Relational closeness	Participant gender	Pos.	Neg.	Pos.	Neg.
Close	Women	1.36	1.50	−0.18	−0.16
		(1.00)	(0.94)	(1.46)	(1.25)
	Men	1.39	1.48	−0.14	−0.20
		(1.08)	(0.96)	(1.37)	(1.22)
Distant	Women	0.96	0.87	−0.52	−0.50
		(1.33)	(1.30)	(1.41)	(1.43)
	Men	1.18	0.89	−0.11	−0.39
		(1.22)	(1.22)	(1.43)	(1.41)

Note. Displayed are latent means and standard deviations. Epistemic trust in news endorser and political expertise of news endorser were measured via survey on a 7-point scale ranging from −3 = *not at all* to +3 = *very much*.
Close friend/positive opinion/female participant, $n = 126$; Close friend/positive opinion/-male participant, $n = 106$; Close friend/negative opinion/female participant, $n = 127$; Close friend/negative opinion/male participant $n = 98$; Distant friend/positive opinion/female participant, $n = 125$; Distant friend/positive opinion/male participant, $n = 112$; Distant friend/negative opinion/female participant, $n = 137$; Distant friend/negative opinion/male participant, $n = 95$.

Table 7.16: Experienced Commonality as a Function of Relational Closeness to News Endorser, News Endorser Opinion, and Participant Gender

		News endorser opinion	
Relational closeness	Participant gender	Positive	Negative
Close	Women	−0.05	−0.33
		(1.29)	(1.25)
	Men	0.14	−0.39
		(1.47)	(1.51)
Distant	Women	−0.49	−0.74
		(1.62)	(1.44)
	Men	−0.22	−0.64
		(1.47)	(1.41)

Note. Displayed are latent means and standard deviations. Experienced commonality was measured on a 7-point scale ranging from −3 = *not at all* to +3 = *very much*. Close friend/positive opinion/female participant, $n = 126$; Close friend/positive opinion/male participant, $n = 106$; Close friend/negative opinion/female participant, $n = 127$; Close friend/negative opinion/male participant $n = 98$; Distant friend/positive opinion/female participant, $n = 125$; Distant friend/positive opinion/male participant, $n = 112$; Distant friend/negative opinion/female participant, $n = 137$; Distant friend/negative opinion/male participant, $n = 95$.

7.4 Discussion of Study 2

The goal of the online experiment of Study 2 was to investigate the general proposition derived from shared reality theory, according to which individuals experience shared reality regarding the perception of ambiguous news articles shared on Facebook with socially close news endorsers, but not with socially distant news endorsers. I assessed the experience of shared reality by testing six hypotheses underlying the proposition. In the following sections, I will summarize the results of the hypotheses tests and additional analyses, point out the limitations of the experiment, and draw a conclusion on whether the proposition was supported or not.

In line with the saying-is-believing paradigm, I proposed that social tuning to a news endorser's opinion would lead to a subsequent opinion about the news topic that is congruent with the news endorser opinion when individuals are motivated to establish a shared reality. Although the results revealed small effects of news endorser opinion on participants' opinion about the news topic, they are only in part in agreement with the hypotheses that I derived from shared reality theory. Only Hypothesis 5 was supported by the data, all other hypotheses were not confirmed.

7.4.1 Summary of the Results of Study 2

First of all, I presumed that social tuning effects on opinion about the ambiguous news topic would only occur if the news endorser was a close friend. However, I found no evidence for the predicted interaction effect. Instead, news endorser opinion affected participants' individual thought and opinion valence irrespective of whether it had been expressed by a close or distant Facebook friend in the news post. This contradicts previous studies under the saying-is-believing paradigm, which found that social closeness of a communication partner in terms of in-group membership impacts the motivation to establish a shared reality and therefore, social tuning effects (e.g., Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b).

Yet, there is also evidence for social tuning effects after communication with members of an out-group when they are considered as a reliable source of information about the target referent because of high domain specific expertise (Echterhoff et al., 2017). Furthermore, it is possible that participants considered distant Facebook friends as sufficiently socially close in order to strive for shared reality creation. Similarly, Higgins and McCann (1984) expected undergraduate participants of a saying-is-believing study to experience shared reality only with an equal-status audience (a fellow student) but not with a higher-status audience (a senior grad student). Lupprich (2018) presumed that Facebook users would tune their opinion about an ambiguous news article to the opinion of a news endorser from their peer group but not to the opinion of an expert. Contrary to their assumptions, Higgins and McCann (1984) and Lupprich (2018) observed social tuning effects in both social status conditions.

Finally, the finding is in line with previous studies on social influence in social media which have shown that user-generated content affects opinions about mass media content regardless of the relational closeness of communicators and receivers (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Winter, 2019).

Secondly, I hypothesized that individuals will tune the valence of responses to the news post to the news endorser opinion only when the news endorser is a close friend. However, the results did not support my assumption. Instead, there was only a tendency for a small main effect of news endorser opinion on response valence in the close news endorser condition. With regard to the question of why social tuning in responses was weaker than subsequent social tuning of thought and opinion valence, I suggest the following explanation. A response to a news post in which a news endorser expressed his or her opinion on a political topic is similar to getting involved in a discussion about the news topic. Individuals may feel the urge to introduce new thoughts and own reasoning in order to contribute meaningfully to the conversation. In this regard, a response to a news post is conceptually different to reciting information about a target referent, which is the standard task for messages in most saying-is-believing studies (e.g., Echterhoff et al., 2017). It is also different from responding to a news post with a non-verbal reaction, for example, a like, wherefore Lupprich (2018) observed social tuning in a similar setting. The significant effects of the news endorser's opinion on subsequent thought and opinion valence may be explained as follows: despite of introducing own thoughts in the responses to the news post, participants may rely on the news endorser's opinion as epistemic input when forming an opinion about the ambiguous news topic (Echterhoff & Higgins, 2017).

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Thirdly, I assumed that the news endorser congruent valence of responses to a Facebook news post would mediate the effect of news endorser opinion on an individual's opinion about the news topic, when the news endorser was a close friend. As the precondition of social tuning of responses to news endorser opinion was not met, there was not any evidence for the hypothesized mediation. However in the close Facebook friend condition, there was a tendency for the expected mediation effect because news endorser opinion had a very small, statistically not significant effect on response valence. On the other hand, the mediator response valence had a strong positive effect on subsequent opinion and thought valence about the news topic. This indicates that there was a saying-is-believing effect, but no significant sharing-is-believing effect (Echterhoff & Higgins, 2017): participants' opinions were in line with their overt responses. Yet, the responses did not reflect an opinion shared with the news endorser. As there was only a tendency for social tuning of response valence, I consider the finding as a tendency for sharing-is-believing effects.

Fourthly, I expected that the subjective experience of commonality of opinions with the news endorser would moderate the indirect effect of news endorser opinion on participant opinion through news endorser congruent responses to the news post. Again, as I did not observe significant social tuning of response valence, there was also no evidence for the moderating role of experienced commonality on the mediation. Yet in the close friend condition, the moderator predicted the strength of the relation between response valence and opinion valence which was stronger when participants subjectively experienced strong commonality with the news endorser. This is in line with previous findings by

Hellmann et al. (2011), who found that the relation between message valence and recall valence was stronger when the individual scored high on the measure for experienced shared reality.

Fifthly and drawing on previous studies, I hypothesized that epistemic trust explains why relationally close news endorsers affect opinion formation while relationally distant news endorsers do not. I observed the expected indirect effect of relational closeness on news endorser congruent opinion valence through epistemic trust only for news endorsers who expressed a positive opinion in the news post: relationally close news endorsers with a positive opinion elicited stronger epistemic trust which in turn lead to more positive opinion and thought valence. Relational closeness did not increase epistemic trust in news endorsers with a negative opinion. Moreover, epistemic trust was not related to a more negative opinion and thought valence in the negative news endorser opinion condition. Hypothesis 5 was confirmed only for the positive news endorser opinion. The finding should be interpreted with caution. The size of the indirect effect was very small but reached significance because models with mediators tend to have more statistical power (O'Rourke & MacKinnon, 2015). However, the mediating role of epistemic trust for social tuning effects is a central assumption on which the epistemic-social-tuning hypothesis is built (e.g., Echterhoff & Higgins, 2017; Echterhoff et al., 2008; Echterhoff et al., 2017). Hence, I consider the result as limited support for the mediating role of epistemic trust in a news endorser for social tuning effects on opinion formation on Facebook.

Sixthly and in due consideration of the news medium as additional source of epistemic input, I expected a moderating role of epistemic trust in the news medium on the indirect effect of relational closeness on opinion valence through epistemic trust in the news endorser. However, there was no evidence for the hypothesized interaction effect. The scores for epistemic trust in the news medium were moderate and lower than the ratings for epistemic trust in the news endorser.

As I selected the widely known online medium *Spiegel Online* as source of the stimulus article, I expected that epistemic trust in the news medium should be independent from the experimental manipulations. Although the

assumption was confirmed, the data revealed a tendency for an interaction effect of relational closeness and news endorser opinion on epistemic trust in the news medium: participants indicated slightly stronger trust in the news medium when a close friend expressed a negative opinion on the news article, whereas when the news endorser was a distant friend, they indicated stronger epistemic trust in the news medium when he or she expressed a positive opinion.

Additional analyses revealed an unexpected effect of the relational closeness manipulation on the perceived political expertise of the news endorser. However, perceiving close friends to be more competent in political questions did not mediate the relationship between news endorser opinion and participants' opinion as well as thought valence. As the mediating role of epistemic trust was present at least in the positive news endorser opinion condition, the result provides support for the assumption that epistemic authority derived from social closeness is more relevant for the establishment of shared reality than expertise (Echterhoff et al., 2005; Echterhoff et al., 2009b).

Interestingly, the presumed moderator experienced commonality of opinion with the news endorser was influenced by both independent variables. Participants experienced stronger commonality when the news endorser was a close Facebook friend and they perceived their opinion to be more in common with the news endorser when he or she expressed a positive opinion. The latter is especially noteworthy, as, in general, participants did express rather negative or at most slightly positive opinions.

I investigated a potential moderating role of the likelihood of the Facebook post, as participants perceived the post more likely in the distant friend condition than in the close friend condition. While post likelihood did not affect the effects of news endorser opinion on response, thought, and opinion valence in the close friend condition, there was a significant interaction regarding effects on thought and opinion valence in the distant friend condition. When participants considered the post of a distant friend as rather likely, a positive news endorser opinion caused more positive thoughts and opinions about the news topic. There were no significant effects of news endorser opinion when the post was considered unlikely.

I further explored the role of news endorser gender. Including it in the models resulted in smaller effects of the independent variables on response,

thought, and opinion valence and stronger effects on epistemic trust. News endorser gender had a direct effect only on political expertise: male news endorsers where perceived more competent.

Participant gender neither had a direct effect on the dependent variables of response, thought, and opinion valence, and epistemic trust. Yet, the small main effect of news endorser opinion became significant after controlling for news endorser's gender and the valence of responses to the news post were more positive when the news endorser expressed a positive opinion about the news topic than when he or she expressed a negative view in the news post. Analyses further revealed that women experienced less commonality with the news endorser than men.

To sum up, the results of Study 2 provide weak evidence for the experience of shared reality with a news endorser about ambiguous news shared on Facebook. I found social tuning effects for both close and distant news endorsers and there was a non-significant tendency for the sharing-is-believing effect when the news endorser was a close friend. Moreover, epistemic trust in the news endorser mediated the relationship between relational closeness of the news endorser and opinion as well as thought valence, at least in the positive news endorser opinion condition.

7.4.2 Limitations and Future Directions

Although the online experiment was designed in order to improve the design of the experiment in Study 1, there were still limitations that I will discuss below.

The manipulation of relational closeness of the news endorser consisted of the instruction to select a close or distant Facebook friend, respectively. Thus, I had no control over participants' actual choice and the selected friends might differ in other characteristics than relational closeness that also affect motivation for shared reality. Internal validity regarding the effects of relational closeness is limited. Accordingly, there was a negligibly small effect of the relational closeness manipulation on perceived political expertise of the news endorser: close friends were considered to be more competent. This may also

be seen as a consequence of relational closeness, because close others generally are evaluated more advantageously than distant others regarding various traits. Importantly, manipulation checks confirmed strong effects of the manipulation on relational closeness to the news endorsers, which I take as evidence that I successfully manipulated relational closeness to the news endorser.

It is possible that I failed to find differences in social tuning effects between close and distant Facebook friends, because distant *friends* may still be adequate partners to establish a shared reality with. Similarly, Higgins and McCann (1984) found that undergraduate students tune to both senior students from the same university (higher status) and fellow undergraduate students (same status). However, they did not expect social tuning with the higher status audience. Thus, varying a close Facebook friend and a stranger could be a more powerful manipulation of relational closeness in future research.

What is more critical is that I randomly assigned an opinion about the proposal of a common EU passport to the selected Facebook friends, which might have been contrary to his or her actual opinion. I selected a rather unknown news topic from the pretest so that participants optimally would have neither formed an opinion nor would they be aware of their Facebook friend's attitude. Yet, knowing whether the selected friend is an advocate or an opponent of the European Union might be sufficient to perceive the news post and the expressed opinion as unlikely. Thus, it is possible that the presumed actual opinion of the Facebook friend might have mitigated the effect of the opinion manipulation. I assume that the risk is especially high in the close friend condition, as people tend to know the political attitudes of close friends better. It is possible that knowledge of the friend's actual opinion explains why I did not find the expected stronger social tuning effects in the close friend condition.

In order to avoid misfitting news endorser opinions one could collect original comments from participants' friends and use them for manipulation, as did Anspach (2017) in an elaborate multi-step study. However, the approach is questionable with regard to preserving participants' privacy and anonymity, because it requires to gather names as well as opinion statements and present them together as stimuli.

In comparison to prior saying-is-believing studies, my procedure lacks a strong motivation for shared reality creation besides the reduction of ambiguity elicited by the news article. Participants in previous studies were told that their audience would have to recognize a target person based on their description (e.g., Echterhoff, 2013; Echterhoff et al., 2005; Higgins & Rholes, 1978). I told participants that they will have to vote in an online petition about the news topic in order to induce motivation for considering the news endorser's view. This was a deliberate decision in order to simulate an externally valid interaction on Facebook. On the one hand, this may explain why the degree of social tuning to the news endorser opinion in responses was not significant and why I did not observe sharing-is-believing effects. On the other hand, this is an important extension of empirical shared reality research as it questions sharing-is-believing effects in settings where there is no external inducement for aligning one's view to a communication partner in communication.

Another limitation was the poor model fit of the CFAs for the mediators epistemic trust in the news endorser and epistemic trust in the news medium. In spite of sufficient reliability and convergent validity indicated by high factor loadings and AVE, the models did not fit the data well. Modification indices indicated a two-dimensional factor structure. However as I measured epistemic trust with only four items, the model would not have been identified. For theoretical reasons and because the scales consisted of only four items, I did not modify the models in order to achieve a better fitting solution.

Finally while conducting an experiment online allows for recruiting large and heterogeneous samples, this is achieved at the expense of less control over the situation and lower data quality. Although I excluded a considerable number of cases from analyses because of speeding or implausible responses, there might have been further disturbances that are not detectable in the data set. Thus, the online experiment has less internal validity compared to a laboratory experiment. However, given the small effect sizes, it was important to have enough statistical power for analyses, which could only be realized by means of an online study.

8 General Discussion

I would like to answer two fundamental questions with my thesis. The starting point of my work was to question how the relationship to single news endorsers affects opinion formation about news shared on social media. My analysis of theoretical frameworks that might explain the processes underlying such social influence on news perception led me to the social psychological shared reality theory (Echterhoff & Higgins, 2017; Echterhoff et al., 2009a; Hardin & Higgins, 1996). Consequently, the second question which I addressed is whether news endorser influence on opinion formation is a result of shared reality creation.

In this chapter, I will first recapitulate my theoretical assumptions. I will summarize the central findings of the empirical studies and integrate them into existing literature (Chapter 8.1). Following this, I will describe how my research contributes to the field of social influence on news perception on social media and to shared reality theory (Chapter 8.2). I will point out limitations of my work and suggest directions for future research (Chapter 8.3). Finally, I will derive practical implications (Chapter 8.4).

Social networking sites are online environments where users encounter mass media content about current affairs often incidentally (e.g., Bergström & Jervelycke Belfrage, 2018; Fletcher & Nielsen, 2017; Newman et al., 2017; Wladarsch, 2014). Social media organizations, such as Facebook, do not produce mass media content, but their platforms function as intermediaries between news media and users. The intermediary function originates for the most part in the users' activity. They redistribute news content that they encounter on the Web by sharing links via social media or by interacting with news content shared by others, for example; by liking, sharing, or commenting

on a news post. As a consequence, SNS users are often exposed to news that is endorsed by people that they know, such as their Facebook friends. Given that friends lists on Facebook usually include a large variety of social relationships from different social contexts, I presumed that social closeness between news endorser and receiver determines the strength of social influence that an endorsement has on opinion formation.

The literature provided ample evidence for social influence of the valence of user comments on news perception and opinion formation in social media (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010; von Sikorski & Hänelt, 2016; Winter et al., 2015; Winter & Krämer, 2016). Furthermore, findings indicated that tie strength affects whether or not users select a shared news article (Anspach, 2017; Jungnickel & Maireder, 2015; Kaiser et al., 2018). However, there were no empirical findings on how the relationship to a single news endorser affects opinion formation about news content. Moreover and up until now, scholars did not suggest a theoretical foundation for the psychological process underlying social influences on news perception depending on social relationships.

In order to fill this gap in previous research, I proposed the shared reality theory as theoretical framework. The theory posits that epistemic and affiliative needs drive humans to experience commonality with others regarding beliefs, attitudes, and opinions (Echterhoff & Higgins, 2017; Echterhoff et al., 2009a; Hardin & Higgins, 1996). A successful establishment of shared reality becomes evident in social tuning effects: people's individual opinion is congruent with the opinion that they experience to be shared with others. Importantly, not just any person is a desired partner for shared reality. The literature suggests that individuals create shared reality with socially close others but deny shared reality with socially distant others (Hardin & Conley, 2001).

I adapted the shared reality theory for the context of opinion formation about news shared on Facebook. I assessed whether social closeness between news endorsers and receivers determines social tuning effects of the news endorser opinion on the receiver's opinion about the news content.

At the end of Chapter 4, I derived the shared reality model for news internalizing on Facebook based on my synthesis of shared reality literature and research on news use on social media. I postulated five theorems that

are valid for the experience of shared reality about news shared on the social networking site: Theorem 1) the establishment of shared reality about news shared on Facebook is driven by epistemic and affiliative motivation, Theorem 2) users experience commonality of inner states with the news endorser, Theorem 3) users experience shared reality with news endorsers about the same target referent, the news article, Theorem 4) users experience shared reality about inner states of relational relevance, and Theorem 5) the experience of shared reality affects the valence of individual inner states.

In my empirical studies, I aimed at assessing the epistemic-social-tuning hypothesis derived from shared reality theory, according to which social tuning of individual inner states to ostensible inner states of others is motivated by the epistemic need to achieve a valid and reliable understanding of a target referent. Thus, I did not test the affiliative motivation for shared reality immanent to Theorem 1. I also did not investigate Theorem 4, as relational relevance of inner states is a prerequisite for the experience of shared reality driven by affiliative needs.

8.1 Summary of Findings

In order to test the epistemic-social-tuning hypothesis, I adapted the saying-is-believing paradigm (Higgins & Rholes, 1978) to the context of news internalizing on Facebook. The paradigm relies on the assumption that humans tend to tailor interpersonal communication to perceived characteristics of others, for example, to others' opinion. This has been termed social tuning (Hardin & Higgins, 1996).

If humans consider a communication partner as an epistemic authority, as someone who has a valid and reliable view on the present target referent (for example, an ambiguous news article shared on Facebook), their subsequent individual opinion tends to be congruent with the socially tuned message and thus with the communication partner's opinion. This has been defined as the sharing-is-believing effect: individuals experience the opinion they expressed in a message as socially shared whereby their subjective view becomes

objective truth (Echterhoff & Higgins, 2017). The experience of a shared reality with regard to the opinion about a shared news article is the underlying mechanism that explains social tuning effects of the news endorser's opinion on the individual's opinion. The saying-is-believing paradigm assesses the establishment of shared reality based on the observation of sharing-is-believing effects.

In two studies with experimental designs, I aimed at inducing epistemic motivation for shared reality by exposing participants to an ambiguous news article that was either shared in a Facebook post of a socially close or distant news endorser. In Study 1, I operationalized social closeness in terms of the social group membership of the news endorser (participants' in-group vs. participants' out-group). In Study 2, I operationalized social closeness of the news endorser in terms of relational closeness (close vs. distant Facebook friend). In both studies, I additionally manipulated the opinion (positive vs. negative) that the news endorser expressed in the news post.

8.1.1 Social Tuning Effects on Opinion About a News Article Shared on Facebook

According to the shared reality theory, only individuals who are exposed to a socially close news endorser are supposed to establish a shared reality with the news endorser and thus exhibit social tuning effects on their individual opinion about the news content (Echterhoff, 2013; Echterhoff et al., 2005; Echterhoff et al., 2008).

In Study 1 there was no evidence for the presumed interaction effect of social closeness and news endorser opinion. Regardless of whether the news endorser was a member of their in-group or a member of their out-group, there were no social tuning effects of the news endorser's opinion on participants' opinion about the ambiguous news article. While the result for the out-group news endorser is in line with shared reality theory, the absence of social tuning effects in the in-group condition is contrary to the assumption that users seek to reduce ambiguity by establishing shared reality with a socially close other.

I suggest two reasons in particular for these unexpected findings. Firstly, the article may not have elicited the intended ambiguity and uncertainty that fuels the epistemic motivation for shared reality creation. Pierucci et al. (2014) showed that social tuning effects are absent if a target referent is not perceived as ambiguous. Secondly, the in-group news endorser (a fellow student of the same university), may not have radiated sufficient epistemic authority so that individuals would strive to create a shared reality with her. The second explanation is reinforced by the finding that participants did not rate the fellow student news endorser as highly similar and likable, which indicates that her perception as an in-group member was not strong. Moreover, participants did not have stronger epistemic and relational trust in the in-group news endorser compared to the out-group news endorser, which explains, why they did not strive to achieve a shared reality with her.

I addressed both methodical shortcomings in Study 2. I exposed participants to a news post with a more ambiguous news article and manipulated social closeness in terms of relational closeness by selecting either a close or distant actual Facebook friend of every participant as a news endorser.

The results with regard to social tuning effects of the news endorser's opinion on participants' opinion were again surprising. In Study 2, I observed social tuning effects on opinion valence regardless of whether the news endorser was a close or a distant friend. The presumed interaction effect of news endorser opinion and relational closeness was again not significant. Contrary to the hypothesis derived from shared reality theory, participants formed a news endorser congruent opinion about the news topic when the news endorser was a distant friend as well.

Although participants indicated stronger relational closeness to the close friend compared to the distant friend, I presume that they might have also considered the distant friend an epistemic authority and were willing to experience shared reality with her or him. This corresponds with the interpretation of the results of the saying-is-believing study by Higgins and McCann (1984) where the difference between a high and equal status audience was not strong enough to induce different levels of epistemic authority.

8.1.2 Social Tuning in Responses to the News Post and Sharing-is-Believing Effects

In line with previous shared reality research on the epistemic-social-tuning hypothesis, I assumed that social tuning in interpersonal communication is the underlying mechanism of social tuning effects. However, there was a crucial difference of my assumption compared to previous research under the saying-is-believing paradigm. I did not assume that users generally tend to socially tune to others' opinions when responding to a news post on Facebook (cf. Echterhoff et al., 2008; Echterhoff et al., 2017; Higgins & Rholes, 1978). Building on literature on interpersonal communication on SNSs, I presumed that unconditional social tuning is rather unlikely. Due to the visibility and persistence of digital communication users should refrain from statements that they are unconvinced of (boyd, 2010; Marder et al., 2016; Treem & Leonardi, 2013). Hence, I hypothesized that users would tailor the valence of responses to socially close news endorsers only in order to demonstrate commonality of opinions. Moreover, I expected to observe the sharing-is-believing effect – the indirect effect of news endorser opinion on participant opinion valence through response valence – only when the news endorser was socially close.

In Study 1, participants did not tune the valence of their responses to the news endorser's opinion, regardless of whether the news endorser was socially close (in-group) or socially distant (out-group). This finding is in line with the explanation that both the out-group news endorser, but also the in-group news endorser did not radiate sufficient epistemic trust that would render her a trustworthy partner for shared reality. Because of this, participants were also not motivated to tailor the valence of their messages to the new endorser in order to signal commonality of opinion. Consequentially, there was also no evidence for the predicted sharing-is-believing effect in the in-group condition.

In Study 2, the presumed interaction effect of news endorser opinion and social closeness on social tuning in responses to the news post was also not significant. Instead, the results revealed the tendency for a small main effect of news endorser opinion. The effect was small and not significant, but the tendency was opposed to my assumption according to which users should

tailor responses only to the opinion of a close news endorser. In line with my explanation for the unexpected main effect of news endorser opinion on opinion valence, I interpret the tendency for social tuning in messages to relationally close – as well as relationally distant – news endorsers as evidence that participants also perceived distant Facebook friends as epistemic authority for forming a valid and reliable opinion about the news topic.

As there was no social tuning to the news endorser's opinion in responses in Study 2, there was also no evidence for the sharing-is-believing effect. However, there was a tendency for the indirect relation when the news endorser was a close friend. In line with the predictions inferred from shared reality theory, there was no sharing-is-believing effect in the distant news endorser condition. However, there was a significant direct effect of news endorser opinion on opinion valence. This indicates that the psychological mechanism underlying the surprising social tuning effects in the distant news endorser condition was not sharing-is-believing. Nonetheless, participants relied on the epistemic input from the news endorser when forming their opinion about the news.

8.1.3 Subjectively Experienced Commonality as Moderator of the Sharing-is-Believing Effect

The shared reality theory posits that only when social tuning in communication is motivated by the establishment of shared reality does the valence of socially tuned messages mediate social tuning effects on subsequent inner states (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2009b). The literature further suggests that there are individual differences in the experience of shared reality (Echterhoff et al., 2009a; Hellmann et al., 2011). Accordingly, I derived the assumption that the opinion valence of individuals, especially those who experience high commonality with the opinion of a socially close news endorser after social tuning their response to the Facebook post, would be more strongly predicted by the response's valence. I tested the moderating role of experienced commonality in Study 2.

As mentioned before, there was only a tendency for social tuning of response valence to the relationally close news endorser's opinion. Response valence,

on the other hand, was strongly related to opinion valence. The level of experienced commonality moderated the strength of the relationship between response valence and opinion valence. In line with the prediction derived from shared realty theory, the positive relation between response valence and opinion valence was stronger when individuals experienced high commonality with the news endorser. This finding is in line with the results of Hellmann et al. (2011) who showed that individuals' evaluations of a target person were more in line with the socially tuned evaluation in a message when they experienced high shared reality as compared to low experienced shared reality.

There was no moderating role of experienced commonality when the news endorser was a distant friend. Thus, with due respect to the small non-significant effect of news endorser opinion on response valence, I take this as a further clue that social tuning effects on opinion after exposure to a close friend's news post in Study 2 may be explained by the experience of shared reality. However, shared reality creation seems not to be the underlying mechanism of social influences on opinion when the news endorser is a distant friend.

8.1.4 Epistemic Trust as Mediator of Social-Tuning Effects

According to the presumption that the epistemic authority of others determines an individual's willingness to establish a shared reality, scholars showed that epistemic trust in a communication partner mediated the relation between social closeness and biases of inner states such as memory about a target person (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Pierucci et al., 2014). I transferred this insight to the context of opinion formation about news shared on Facebook and hypothesized that socially close news endorsers elicit stronger epistemic trust which in turn predicts news endorser congruent opinion valence.

In Study 1, there was no evidence for stronger epistemic trust in in-group members and consequently, there was also no evidence for the indirect relation

between social closeness and opinion valence through epistemic trust. Surprisingly, individuals indicated stronger epistemic trust in news endorsers who expressed a positive opinion in the news post. Although this finding is partially in line with prior studies that revealed higher epistemic trust ratings for communication partners who expressed a positive opinion about a target referent (Echterhoff et al., 2005; Higgins et al., 2007), the absence of the main effect of social closeness in terms of social group of the news endorser is unprecedented. I suggest that participants in Study 1 did not perceive the news article as ambiguous and were certain about the validity of their own rather positive opinions about the news topic. Hence, they considered a news endorser who also expressed a positive opinion as more trustworthy. I conclude that in the case that an individual has strong epistemic trust in her own judgment, the epistemic trustworthiness of a news endorser depends rather on similarity of opinions than on social closeness.

In Study 2, I found evidence for the predicted indirect relation between social closeness and opinion valence through epistemic trust in the news endorser but only in the positive news endorser opinion condition. In this case, relational closeness elicited stronger epistemic trust in the news endorser which in turn was related to more positive opinion valence. Epistemic trust did not mediate the effect of relational closeness on opinion valence in the negative news endorser opinion condition. Although participants had stronger epistemic trust in a close friend, epistemic trust was not related to a more negative opinion about the news article.

The evidence regarding the role of news endorser opinion for epistemic trust in news endorsers is mixed. While Study 1 suggested a preference for trust in news endorsers with positive judgments, this was not replicated in Study 2.

Higgins et al. (2007) interpreted higher epistemic trust ratings for communication partners with a positive opinion about a target person as evidence for a general preference to rely on others who evaluate human beings positively. In addition, research on self-disclosure on SNSs observed a tendency for sharing positive experiences and thoughts (e.g., Bazarova, Choi, Schwanda Sosik, Cosley, & Whitlock, 2015; Reinecke, Vorderer, & Knop, 2014). Moreover, the findings indicate that negative self-disclosures decrease social attractiveness

ratings of the communicator (Orben & Dunbar, 2017). However, opinion valence seems to affect epistemic trust in the news endorser only when people do not know her personally because there was no such effect for actual Facebook friends. In the latter case, they can judge a news endorser's epistemic authority not only based on one news post, but they can additionally rely on their background knowledge about the friend.

8.1.5 Tolerance of Ambiguity as Moderator of Social Tuning Effects

The literature suggests that the establishment of shared reality depends not only on adequate motivation and epistemic authority of communication partners, but also on individual differences. Accordingly, low epistemic certainty about their own judgment (Kopietz et al., 2010) and a strong need for cognitive closure (Echterhoff et al., 2009b) increase striving for shared reality. With respect to the context of opinion formation about news shared on Facebook, I proposed that trait-like tolerance of ambiguity moderates the relation between epistemic trust in the news endorser and opinion valence. I presumed that stronger epistemic trust in the news endorser predicted by social closeness of the news endorser is related more strongly to news endorser congruent opinion valence when individual tolerance of ambiguity is low compared to when individual tolerance of ambiguity is high.

I assessed the moderating role of tolerance of ambiguity in Study 1. With due regard to the finding that epistemic trust was not predicted by the social group manipulation, there was limited support for the moderation of the relation between epistemic trust and opinion valence. Firstly, the moderation was significant only in the positive news endorser opinion condition. Secondly, the epistemic trust measure consisted of two sub-scales – epistemic trust in the news endorser and epistemic trust in the message – and the moderation was significant only for epistemic trust in the news endorser. Thirdly, the moderation was significant only for the relation between epistemic trust in the news endorser and the dependent variable memory valence but not for the opinion valence indicators measured with three closed questions. Thus in the

positive news endorser opinion condition, epistemic trust in the news endorser positively predicted memory valence when tolerance of ambiguity was low, but there was no significant relation when ambiguity tolerance was high. This at least, is in line with the assumption that social tuning effects occur to the extent that individuals seek to reduce the ambiguity that is elicited by a news article (Kopietz et al., 2010).

8.1.6 Epistemic Trust in the News Medium as Moderator of Social Tuning Effects

Echterhoff and Higgins (2017) postulated that the saying-is-believing paradigm provides participants with three kinds of epistemic input on which they can rely on for their judgment of the target referent: their own judgment, the communication partner's judgment, and the judgment conveyed in the socially tuned message. With regard to opinion formation about news articles, I conceptualized the judgment conveyed by the article as an additional epistemic input. I hypothesized that epistemic trust in the news medium moderates the strength of the relation between epistemic trust in the news endorser and opinion valence.

I tested the moderating role of epistemic trust in the news medium in Study 2, where epistemic trust in the news endorser mediated the relation between relational closeness of the news endorser and opinion valence in the positive opinion condition. Contrary to my expectations, the relation between epistemic trust and opinion valence did not depend on the level of epistemic trust in the news medium but epistemic trust in the news medium positively predicted opinion valence. Stronger epistemic trust in the news medium was related to a more positive opinion about the news topic, even in the negative news endorser opinion condition. I infer from this that participants perceived the tenor of the article as positive and because of that, higher epistemic trust in the medium was related to a more positive opinion about the news topic.

8.1.7 Relational Trust as Mediator of Social Tuning Effects

The literature posits that epistemic and affiliative motives are closely interrelated and that the establishment of shared reality serves a valid and reliable understanding as well as the regulation of social relationships (Echterhoff & Higgins, 2017). According to this proposition, I also assessed relational trust as a measure of experienced closeness and commonality with the news endorser as mediator of the relation between social closeness and opinion valence. I hypothesized that individuals have stronger relational trust in socially close news endorsers rather than in socially distant news endorsers which in turn predicts news endorser congruent opinion valence.

I tested the mediating role of relational trust in the news endorser in Study 1. However, there was no evidence for stronger relational trust in the in-group news endorser compared to the out-group news endorser as well as no evidence for the indirect relation between social closeness and opinion valence through relational trust. The finding does not correspond to the results of Echterhoff et al. (2009b) who found higher ratings of relational trust for an in-group member with equal social status compared to an out-group member with higher social status. Moreover and in line with my findings regarding epistemic trust in Study 1, there was also a main effect of the news endorser's opinion on the relational trust dimension commonality that captures the extent to which individuals perceived their view on the news topic to be in line with the news endorser's view. A positive news endorser opinion was related to higher ratings of commonality.

I suggest that the disapproval of negative self-disclosures on SNSs quoted as explanations for the effect of the news endorser's opinion on epistemic trust account for the unexpected effect on relational trust as well. As negative self-disclosures decrease ratings of social attractiveness, it seems particularly likely that the expression of a negative opinion in a news post decreased rating of relational trust (Orben & Dunbar, 2017).

8.1.8 Need to Belong as Moderator of Social Tuning Effects

The fundamental human need to belong is the origin of affiliative motivation for shared reality. By establishing a shared reality with members of their in-group, people can fulfill their need to belong (Echterhoff et al., 2009b). Moreover, the need to belong also drives the use of social media as they facilitate to keep in touch, reactivate relationships, and make new friends (Ellison et al., 2007; Ferris & Hollenbaugh, 2018; Joinson, 2008; Park & Lee, 2014; Raacke & Bonds-Raacke, 2008; Reich et al., 2012; Sheldon, 2008; Subrahmanyam et al., 2008). I argued that the importance of need to belong for both, social media use and striving for shared reality suggests the investigation of its moderating role in the process of shared reality creation about news shared on Facebook. I hypothesized that the association between relational trust predicted by social closeness and opinion valence is stronger when the individual need to belong is high compared to when the individual's need to belong is low.

I assessed the moderating role of need to belong in Study 1. With due regard to the finding that relational trust was not predicted by the social group manipulation, there was limited support for the moderation of the association between relational trust and opinion valence. The relational trust measure consisted of two sub-scales – perceived closeness to the news endorser and perceived commonality with the news endorser. In the positive news endorser condition, need to belong moderated the relation between the relational trust dimension closeness and one of four dependent variables, opinion valence about the General Data Protection Regulation. However at both high level of need to belong and at low level of need to belong, there was a significant conditional relation between the dimension closeness and opinion valence.

In the negative news endorser opinion condition, need to belong moderated the relation between the relational trust dimension commonality and the dependent variable memory valence. When individual need to belong was low, higher ratings of commonality were related to a more positive memory of the article. Thus at low levels of need to belong, the experience of commonality did not lead to an audience congruent memory valence. In line with my

expectations, higher ratings of commonality were negatively related to memory valence when need to belong was low but the relation was not significant.

8.2 Theoretical Implications

In order to answer my research question, I built on two fields of study: shared reality research and literature on social influence on news perception in social media. I will describe how my findings contribute to the two fields in the following sections.

8.2.1 Theoretical Implications for Shared Reality Theory

8.2.1.1 Shared Reality Creation About News Articles in Social Media

One major contribution of my work to shared reality research is that I investigated shared reality creation about news articles as target referent. Prior research under the saying-is-believing paradigm studied social perception of a male target person (e.g., Echterhoff & Higgins, 2017; Higgins & Rholes, 1978). The majority of empirical findings stem from experiments under this paradigm. As the term implies, the implicit-prejudice-paradigm focuses on social tuning effects on racial prejudice and stereotypes (e.g., Lowery et al., 2001; Sinclair et al., 2005b). Magee and Hardin (2010) and Jost et al. (2008) assessed shared realities about religious and political beliefs among parents and children. Hence, the target referents investigated in more than two decades of research since Hardin and Higgins (1996) advanced the shared reality theory are not diverse.

I proposed that news articles are a target referent of shared reality creation because they are a common purport of interpersonal communication and news topics are likely to elicit the epistemic need for social validation of their interpretation (see for example Ibrahim et al., 2008; Jacobs et al., 2009; Sommer, 2013). By assessing shared reality creation about news articles, I

challenged the validity of Hardin and Higgins' (1996) universal claim that any human experience "survives as reliable, valid, and predictable state of the world to the extent that it is socially verified" (p. 29).

The second major contribution is that I adapted the saying-is-believing paradigm to the context of news internalizing on social media. Prior studies conducted under this paradigm tested the epistemic-social-tuning hypothesis under artificial laboratory conditions. I examined whether the establishment of shared reality and social tuning effects occur under more external valid conditions as well. I presumed that particularly ambiguous news articles shared in social media evoke a need to rely on social cues, such as the news endorser's opinion, in order to form a reliable and valid opinion about the current topic.

The results of Study 1 did not support these assumptions, probably because the news article did not elicit ambiguity and participants were not motivated to experience shared reality with the news endorser. However, Study 2 showed that individuals indeed consider the news endorser's opinion when forming their own opinion, albeit social tuning effects were small compared to previous studies under the saying-is-believing paradigm. This implies that people are quite confident about their own initial judgment about the news topic and therefore, the influence of the news endorser is small. This is in line with Echterhoff and Higgins (2017) argumentation according to which participants in saying-is-believing studies can rely on three epistemic inputs: their own judgment, their message (i.e., the response to the news post), and the other person's judgment (i.e., the news endorser's judgment).

Moreover, the results of both of my experiments suggest that the tendency to tune responses to news posts to the inferred opinion of the news endorser is very low. Consequently, the responses reflect people's own judgment about the news topic. Two of three epistemic inputs are unaffected of the news endorser's judgment, which explains why the news endorser's opinion has no or only a weak influence on the receiver's opinion.

I propose three reasons that explain why social tuning effects in the context of news internalizing on Facebook are smaller compared to previous saying-is-believing studies in the context of social perception (e.g., Echterhoff et al., 2008; Echterhoff et al., 2017; Higgins & Rholes, 1978; Kopietz et al., 2009).

Firstly, even novel and unprecedented news events are usually related to previous experiences, existing knowledge, and attitudes. In particular, if attitudes regarding the current news topic are strong, they are likely to resist social influence (Eagly & Chaiken, 2014, p. 413). In this case, ambiguous information does not elicit a strong need to achieve a valid understanding of a news topic by establishing a shared reality with the news endorser. Instead, people with strong prior opinions are likely to exhibit confirmation biases in processing of ambiguous news content by reinterpreting the information according to their beliefs. As a result, their opinion persists or becomes even more extreme (Fiske and Taylor, 1991, p. 150, Krosnick and Petty, 2014, p. 3).

When forming an impression of an unknown target person, people cannot rely on previous experience. Thus, they are less confident about their own judgment which in turn, increases reliance on another person's judgment who allegedly knows the target person better. In other words, in my approach I examined social tuning effects on already existing mental representations whereas prior saying-is-believing studies investigated social tuning effects on the construction of a novel judgment.

Secondly and in the context of news internalizing on Facebook, the motivation for tailoring one's response to the news endorser's opinion is low. In the original saying-is-believing paradigm, participants fulfill the task to describe the target person for an audience whose task it is to identify the target person as the referent of the participant's message among a set of other persons (Echterhoff et al., 2005). Hence, the motivation to tailor the message to the audience's attitude is quite strong. Without such explicit reason for social tuning, responses to news posts on Facebook are likely to be driven by other motivations, for example, initiating interaction (Karnowski et al., 2018) or to pass on relevant information (Baek et al., 2011). The absence of an external motivation for considering the news endorser's view and potential, other motivations made salient by the context of interpersonal communication on Facebook could explain why participants did not tune the valence of their messages and responses to the news endorser's opinion.

In line with the first explanation, the absence of social tuning in responses to Facebook news posts indicates that people would rather defend existing

views in interpersonal communication instead of adopting the news endorser's judgment.

Thirdly, accurately judging the personalities of others is important for humans in order to distinguish friends from enemies and regulate social relationships (Haselton & Funder, 2006, p. 15). The importance of the judgment increases the motivation to rely on others and establish a shared reality. Compared to social perception, achieving a valid understanding of a news topic is less relevant, unless the information relates to an existential danger. Hence, the importance of a target referent is a boundary condition for social tuning effects and shared reality creation that should be considered theoretically.

In summary, my findings suggest that the motivation to establish shared reality about ambiguous news articles shared on Facebook is moderate, particularly if prior attitudes related to the news topic are strong and the importance or personal relevance of the topic is low. As a consequence, social tuning effects on opinion formation are weak or there are no effects at all.

Future research should include measures of attitude strength as well as examine the role of importance of the current judgment. Moreover, future experiments could manipulate motivation for responses to news posts in order to find out under which conditions individuals are likely to emphasize existing views or to agree with the news endorser's view.

8.2.1.2 Conceptualization of Epistemic Authority

My findings also contribute to the theoretical conceptualization of epistemic authority. Shared reality literature posits that the epistemic authority of a communication partner is crucial in seeking to create a shared reality about a current target referent. In line with Kruglanski (1989) who introduced the concept, shared reality scholars argued that epistemic authority can be assigned to specific persons, in particular significant others such as family members, spouses, or close friends or it can be generalized to social groups. According to Echterhoff et al. (2008), the experience of a shared reality with in-group members fulfills epistemic motives because people assign general epistemic authority to in-group norms. According to this conceptualization,

social closeness to a communication partner (either in terms of relational closeness or in terms of social identification) serves as generalized epistemic authority across various areas of life (Kruglanski et al., 2005).

Several studies under the saying-is-believing paradigm reported not only social tuning effects on social perception after communication with in-group members (vs. out-group members), but also stronger epistemic trust in the judgment of in-group members compared to out-group members (Echterhoff et al., 2005; Echterhoff et al., 2008; Echterhoff et al., 2017; Higgins et al., 2007). Recent studies, however, demonstrated that epistemic trust in a communication partner may also be rooted in domain specific expertise. Accordingly, people even strive for shared reality creation with out-group members when they possess epistemic authority with regard to the target referent (Echterhoff et al., 2017).

Moreover, Echterhoff et al. (2008), Higgins et al. (2007), and Echterhoff et al. (2017) found that people have stronger epistemic trust in communication partners who have a positive opinion about the target person. Echterhoff et al. (2008) attributed this finding to a general preference to establish shared realities with a person who likes other people than who dislikes other people. Higgins et al. (2007) proposed that a communication partner's negative attitude about another person is more likely to be attributed to the communication partner's biases instead of to the true characteristics of the target person. However, the authors did not conceptualize attitude valence as predictor of epistemic trust and motivation for shared reality creation.

My results suggest that there is not simply an asymmetry between positive and negative attitudes, but that *similarity of opinions* determines the epistemic authority assigned to communication partners.

In Study 1, participants did not have stronger epistemic trust in in-group members but they had stronger epistemic trust in news endorsers who expressed a positive opinion. As participants' opinion about the news article was also rather positive, and the article was not perceived as ambiguous, I conclude that participants were confident about the validity of their own opinion. Thus, they considered news endorsers who also expressed a positive opinion as more trustworthy. Opinion similarity was a stronger cue for epistemic trust in the news endorser than her social group membership.

In Study 2, participants exhibited stronger epistemic trust in relational close news endorsers compared to relational distant news endorsers. There was no main effect of opinion, but a small, statistically non-significant interaction effect such that epistemic trust in close news endorsers who exhibited a negative opinion was stronger than in close news endorser who exhibited a positive opinion. As participants' opinion valence about the news article was generally slightly negative in Study 2, this again suggests that epistemic trust may depend not only on relational closeness but also on similarity of opinions. Thus, the explanation for stronger epistemic trust in persons who express positive opinions does not hold true for news articles as target referents.

I argue that the more people are confident about the validity of their own opinion about a target referent, the more their rating of epistemic trust in a communication partner depends on similarity of opinions. My assumption is consistent with the notion that assigning higher levels of epistemic authority to individuals who agree with us serves the preservation of existing beliefs (Kruglanski & Webster, 1996). Kruglanski et al. (2005) claim that particularly individuals who view themselves as epistemic authorities with regard to a target referent find self-validation in agreement with others. As a consequence, they are more likely to confer high degrees of epistemic authority to agreeing others (p. 355).

In conclusion, when investigating shared reality creation in contexts where individuals are likely to have pre-existing attitudes about the target referent or where they are certain about their own judgment, it is necessary to conceptualize similarity of opinions as source of epistemic authority.

8.2.1.3 Conceptualization of Existing Shared Realities

With regard to the social regulatory function of shared reality, Hardin and Conley (2001) posited that beliefs are maintained to the extent that they are shared in social relationships. Pre-existing attitudes about news topics encountered on social networking sites may subsequently be conceptualized as beliefs that are shared with others. As demonstrated in the experiment by Magee and Hardin (2010), beliefs particularly shared within stable relationships

resist persuasion attempts. Accordingly, it is possible that the identification as European shared with one's spouse mitigates the influence of a news endorser who dissents the proposal of a common EU passport. People who already established a shared reality about a news topic and who are motivated to maintain it should not strive for shared reality creation with news endorsers.

Thus, existing shared realities about beliefs related to news topics should be a crucial boundary condition for the occurrence and strength of social tuning effects on opinion formation about news shared in social media.

Chung (2013) showed that dissatisfaction with offline relationships predicts a preference for social interaction on SNSs. I infer from this insight that in the case that people experience their beliefs not to be shared in their offline social environment, they may increasingly seek social validation on SNSs.

When investigating shared reality creation in the context of news internalizing on Facebook, it seems particularly worthwhile to conceptualize and measure individual differences with regard to existing shared realities. Moreover, this would also be an important contribution to shared reality literature in general as research on competing sources for shared reality creation is rare (cf. Magee & Hardin, 2010; McCann et al., 1991).

8.2.2 Theoretical Implications for Social Influence on News Perception in Social Media

8.2.2.1 Social Influence on Opinion Formation About News by Single News Endorsers

By investigating the effects of a news post from single news endorsers on opinion formation, I have filled a gap in existing scholarship. In Chapter 2.4 I proposed that due to the affordances of digital communication on SNSs, news posts create an inextricable link between interpersonal and mass media communication. They allow users to infer the news endorser's view of the shared article. News endorsers' attitudes become particularly obvious when they explicitly express their opinion in the post. To share or to like a news post also indicates that the endorser agrees with the stance conveyed in the news

article (Schwartz et al., 2017). I presumed that the opinion of a single news endorser inferred from a news post influences individual opinion formation about the news content.

The results of Study 2 support this proposition for ambiguous news articles shared by an actual Facebook friend. This contributes to the understanding of social influence on opinion formation about news shared in social media. Up to this point, there was ample evidence for social influence on opinion formation about news. von Sikorski and Hänelt (2016), Winter (2019), and Hong and Cameron (2018) found that the valence of user comments on online news affects the readers' opinions about the news content. My research revealed that users not only rely on consensus derived from several user comments, but also on the judgment of one single friend who re-distributes news content on social media when forming an opinion.

From studies that found social media users to be more likely to select news shared by strong ties than news shared by weak ties, I derived the assumption that opinion formation about news may also depend on tie strength between news endorser and receiver (Anspach, 2017; Kaiser et al., 2018). Neither Study 1 nor Study 2 provided clear support for this assumption.

In Study 1, there was no social influence on opinion formation irrespective of whether the news endorser was a socially close in-group member or a socially distant out-group member. By contrast in Study 2, the opinion of a close Facebook friend as well as a distant Facebook friend affected the valence of the receiver's opinion.

Although I found no evidence of differences due to social closeness in the individual studies, the overarching interpretation of the results suggests that a single familiar news endorser, that is, an actual Facebook friend, is likely to exert influence whereas a stranger – even if she is a member of one's in-group – does not affect opinion formation about news content shared on Facebook.

An additional contribution of my work is that I introduced the concept of epistemic trust in the news endorser as underlying mechanism of social influence. As argued in Chapter 8.2.1.2, in-group membership and relational closeness are proxies for the degree of epistemic authority conferred to a news endorser. Hence, tie strength is not a predictor for social influence (and probably neither

for the selection of shared news articles) per se. Whether a receiver relies on a news endorser's view depends on whether she has epistemic trust in the reliability and validity of the news endorser's judgment. My empirical studies provided first evidence that people have stronger epistemic trust in relational close Facebook friends and in news endorsers who express views that are similar to their own in a news post. When a news endorser has a different opinion on a news topic, people have stronger epistemic trust in a relational close news endorser which, in turn, predicts news endorser congruent opinion valence.

In order to further enhance our understanding of social influence on opinion formation about news in social media, I suggest that future research should examine which factors contribute to the epistemic authority of news endorsers and under which conditions receivers rely on their information to form opinions.

8.2.2.2 Social Influence on Opinion Formation About Shared News Serves Social Validation

In Chapter 2.4 I proposed that the reason why social media users rely on opinion cues from other users is low confidence in their own judgment. They trust the validity of the majority view inferred from user comments (e.g., Hong & Cameron, 2018; T.-T. Lee, 2010) and they perceive news sources as more credible when its coverage is shared by a friend who is seen as opinion leader (Turcotte et al., 2015). My results suggest that social validation is also the motive for relying on the views of single news endorsers when forming an opinion. Accordingly, exposure to an ambiguous news article in Study 2 elicited the expected social influence of the news endorser's opinion on participants' opinion valence. This indicates that they reduced ambiguity by relying on the news endorser's opinion.

In Study 1, participants' opinions on the news article were not influenced by the opinion of the news endorser. Neither after exposure to a positive news endorser opinion nor after exposure to a negative news endorser opinion was participants' opinion valence significantly different from the slightly positive opinion of participants in the control group who read the article without exposure to a social endorsement. I concluded that participants in Study 1 did

not perceive the news article as ambiguous and thus were not motivated to rely on the news endorser's opinion for reasons of social validation.

In summary, it can be stated that social influence of a single news endorser occurs to the extent that a receiver seeks social validation of his or her view on a news topic.

I further proposed that news perception on Facebook is driven by social motivation. Although I did not manipulate social motives in my studies, the shared reality theory posits that epistemic and affiliative motivation are always interrelated (Echterhoff & Higgins, 2017). Moreover, I presume that social motives may explain the social influence of distant Facebook friends on opinion formation in Study 2. I instructed participants in the distant news endorser condition to name a Facebook friend with whom they are rather superficially acquainted and who shares content on Facebook at least sometimes. In line with my assumption, participants had lower epistemic trust in the chosen distant friends but nonetheless, their opinion formation was influenced by distant news endorsers' opinions. It is possible that the affiliative motive to intensify the relationship with the selected distant friends drives people to rely on their judgment when forming their own opinion as well.

With respect to the prevalence of social motivation for Facebook use and for interaction on SNSs, future research is needed that models and examines the role of social motives for social influence on opinion formation about news shared in social media.

8.2.3 Shared Reality Theory as Framework for the Merger of Mass Media and Interpersonal Communication

I drew on shared reality theory for the examination of single news endorser's social influence on opinion formation because theoretical approaches to the merger of mass media and interpersonal communication furnished limited explanations. Although my results do not clearly support the assumption that shared reality creation is the mechanism underlying social influence on opinion formation in social media, I conclude that the theory is a valuable ground

for future studies. In particular, because my investigation of shared reality creation about news shared in social media confirms the recent advancement of the theory, according to which individuals who strive to establish a valid and reliable view on a given topic may rely on several complementary epistemic inputs (Echterhoff & Higgins, 2017). Building on Echterhoff and Higgins as well as on the results of my studies, I suggest that communication scholars should model and empirically examine at least five types of epistemic input in the context of opinion formation about news shared in social media:

1. *News content.* Echterhoff and Higgins (2017) did not consider the target referent itself as a source of epistemic input. However, news articles, even if they cause uncertainty, furnish epistemic input that may be considered for opinion formation about the news topic. In order to determine the degree to which social media users rely on the news information, scholars should examine how they evaluate the quality, clarity, and comprehensibility of a message as well as credibility or epistemic trust in the news medium. Concepts such as political stance of a news medium or hostile media perception (E.-J. Lee, 2012) may also explain whether or not users rely on news content when forming an opinion about a news topic.
2. *Own opinion.* The second type of epistemic input was introduced by Echterhoff and Higgins (2017). As argued above, people are likely to rely on existing attitudes when exposed to new information in a news post on social media. Strong attitudes may lead even to biased processing of other available epistemic inputs in order to persevere an established belief (Fiske & Taylor, 1991, p. 150). Hence, scholars should measure attitude strength (Eagly & Chaiken, 2014, p. 413) and the degree to which a belief is socially shared with others (Jost et al., 2008; Magee & Hardin, 2010) in order to understand under which conditions social media users are susceptible to social influence when exposed to news content.
3. *News endorser view.* I argued that sharing a news article is a kind of social interaction and social media users infer a news endorser's view

from a news post. Whether or not they rely on the news endorser's view depends on whether they confer epistemic authority to a news endorser (Echterhoff & Higgins, 2017). I found only limited support for the assumption that social closeness in terms of social identification and relational closeness determine epistemic authority. Similarity of attitudes emerged as a possible cue for a news endorser's epistemic authority, and there is also evidence for influence of expert news endorsers (Lupprich, 2018). Further research should delve into properties of the news endorser or of the relationship between news endorser and receiver that account for reliance on a news endorser's view.

4. *User comments.* Although I disregarded the role of additional social opinion cues in my studies, insights from prior studies suggest that (anonymous) user comments that are visible in a new post may serve as a further epistemic input. Users tend to infer an opinion climate from user comments which has been found to affect their opinion and thoughts about news topics (e.g., Hong & Cameron, 2018; Winter, 2019). An interesting question for future research is under which conditions users rather rely on the view of a single, familiar news endorser than on an opinion climate derived from the comment section. Moreover, scholars should further examine how argument quality (Winter, 2019), civility (Prochazka et al., 2018), or disagreement among commentators (von Sikorski & Hänelt, 2016), affect individual opinion formation.

5. *Own communication.* The view an individual communicates about a target referent in a verbal message is at the heart of the saying-is-believing paradigm and Echterhoff and Higgins (2017) consider it to be a further source of epistemic input. Whereas Echterhoff, Higgins, and their colleagues observed that humans tend to tailor messages to their audience's attitude (e.g., Echterhoff et al., 2017; Higgins & Rholes, 1978), my findings indicate that on social media users rather contribute new information in responses to news posts. Winter et al. (2018) also found limited support only for social influence of user comments on own opinion expressions in social media. In light of the interactivity in social media,

> it seems worthwhile to investigate how actively discussing news content with others affects opinion formation and how it is related to the other types of epistemic input (Eveland, 2004).

To sum up, communication scientists should conceptualize the merger of mass media and interpersonal communication as the availability of multiple epistemic inputs of varying quality and value for individual opinion formation. In order to understand under which conditions social media users defend existing beliefs, rely on news media content, adopt a news endorser's view, or develop an opinion through participating in a discussion, all types of epistemic inputs should be investigated together in future research.

8.3 Limitations and Future Directions

I already discussed conceptual and methodical limitations for each of the two empirical studies in Chapter 6.4.3 and Chapter 7.4.2. In the following section, I will point out general limitations of my empirical approach and suggest directions for future research.

8.3.1 Design

A radical point of criticism of my empirical approach is the adaptation of the saying-is-believing paradigm for investigating shared reality with regard to opinion formation about news shared on Facebook. The paradigm is based on active message production as shared reality posits that humans communicate actively in order to create shared realities (Echterhoff et al., 2009a; Hardin & Higgins, 1996). However, users rarely respond to news posts on social media and they are least willing to write a verbal response (Hölig & Hasebrink, 2018). In order to model news internalizing and subsequent opinion formation external validly, it seems reasonable to develop a research design that does not require an active response to a news post.

I decided to adapt the saying-is-believing paradigm for my studies because it is the dominant paradigm to investigate the epistemic-social-tuning hypothesis

and my goal was to assess epistemic motives for shared reality creation about news shared on Facebook. By adapting the paradigm, I was able to compare my results to prior findings. At the same time, I identified challenges and limitations with regard to assessing shared reality in the context of news internalizing on Facebook and refined the procedure. Future research should further attune the paradigm to the particular conditions of news internalizing on the social networking site. One way to approach this is to examine the role of signaling agreement with a news post by liking the article similar to Lupprich (2018). Moreover, there is evidence for social tuning effects after exposure to a persons attitude without any response that could be the basis for the development of an appropriate research design (see for example, Hausmann et al., 2008; Higgins et al., 2007; Lowery et al., 2001; Lun et al., 2007; Sinclair et al., 2005b).

8.3.2 Motivation for Shared Reality Creation

A further limitation of this thesis is that I investigated only epistemic motivation for shared reality creation. I proceeded from the insight that news encounters on Facebook are often incidental (Boczkowski et al., 2018; Fletcher & Nielsen, 2017) and that users are exposed to heterogeneous, cross-cutting news content (Bakshy et al., 2015; Flaxman et al., 2016; J. K. Lee & Kim, 2017; Lu & Lee, 2019), which led me to conclude that news exposures on the social networking site are likely to elicit uncertainty and ambiguity. Therefore, I presented participants in my studies with ambiguous news articles in order to elicit the need for social validation of their own view. Future research should examine further characteristics of news articles in order to determine under which conditions users experience epistemic needs for shared reality creation. It is possible that reports about unexpected or unlikely events evoke stronger needs for social validation than ambiguous news content. In particular, satirical news content is likely to cause uncertainty about a valid interpretation and may be the target referent of shared reality creation (LaMarre, Landreville, & Beam, 2009; Schwarzenegger & Wagner, 2018).

However as the prevalent motivation for Facebook use is socializing and maintaining relationships (e.g., Ellison et al., 2007; Ferris & Hollenbaugh, 2018;

Raacke & Bonds-Raacke, 2008; Reich et al., 2012), the affiliative motivation for shared reality creation may be even stronger than the epistemic motivation. Future research should assess whether relational goals such as the desire to intensify the relationship with a news endorser or to get along with him in an offline context motivates shared reality creation about news shared on Facebook. As I neither manipulated nor measured affiliative motivation for shared reality creation in my studies, I could not assess their role for social tuning effects.

8.3.3 Manipulation of Epistemic Authority

In both empirical studies, my goal was to model a condition favorable for shared reality creation with a news endorser on Facebook and an unfavorable condition where participants would deny shared reality with the news endorser. My intention was to systematically vary epistemic authority of the news endorser. I derived from the literature that social closeness in terms of belonging to the same social group provides epistemic authority (e.g., Echterhoff et al., 2009a; Higgins & Pittman, 2008). However, the in-group manipulation that I used in Study 1 did not elicit the expected motivation for shared reality creation. I addressed this shortcoming in Study 2 by manipulating social closeness in terms of relational closeness to actual Facebook friends. In Study 2, the social tuning effects in both conditions indicated that I failed to create a condition unfavorable for shared reality creation. Thus, I cannot conclude which relationship characteristics increase motivation to establish shared reality.

I would suggest two possible directions of how further research can improve the manipulation of epistemic authority in the context of opinion formation about news shared on Facebook.

Firstly, the failed relational closeness manipulation suggests that a distant friend was still too closely related and therefore elicited motivation for shared reality creation. It seems promising to compare a close Facebook friend with a previously unknown news endorser in order to test whether relational closeness is an indicator for epistemic authority in the context of opinion formation about news shared on Facebook.

Secondly, scholars can maintain the manipulation of the social group but identify an in-group definition that is relevant for opinion formation about the current news topic. The social identity model of media effects (Trepte, 2006; Trepte, Schmitt, & Dienlin, 2016) posits that exposure to mass media content, such as news, makes one or several in-groups salient. From this, it could be said that a news endorser who is a member of the salient in-group should provide epistemic authority for forming a valid opinion about the news topic. In order to test this assumption, it is important to attune the content of the news article to the news endorser, that is, the in-group news endorser should be a member of the social category that is made salient in the article and the out-group news endorser should belong to the respective out-group. In case of the news topic in Study 1, EU Internet politics, a more adequate manipulation of social group could have been a social media user (in-group) vs. a representative of a social media company (out-group).

8.3.4 Mode of Responses to News Endorsers

In neither of the experiments did I specify the mode of the responses to the news endorsers. In Study 1, I asked participants to imagine they could share their evaluation of the news topic with the news endorser and offered a text field below the stimulus news post. In Study 2, I asked them for the thoughts that they would like to share with the news endorser in response to the post. I did not clearly instruct participants to contribute a comment to the post or to write a private message. As there are distinct norms for public and private modes of communication and as public communication has a large and potentially heterogeneous audience, future research should focus on whether social tuning effects on Facebook depend on the communication mode.

8.3.5 Measures

I adapted measures of epistemic and relational trust and experienced commonality from prior saying-is-believing studies. It must be stated, though, that information regarding their validity was poor. Scholars reported satisfactory internal consistency and assumed unidimensional scale structures

without conducting factor analyses. Confirmatory factor analyses based on my data revealed poor model fit for unidimensional measurement models and suggested two-factor solutions for relational trust and epistemic trust in the news endorser. However, measurement models with two factors cannot be modeled as one latent variable in SEM. Furthermore as the scales consisted of only a few items, possibilities for modification in order to find a better fitting measurement model were limited. Accordingly, shared reality research would benefit from the development of theoretically grounded and validated scales for central variables such as epistemic trust.

Moreover, the relational trust measure which I used in Study 1 is a weak indicator for affiliative motivation for shared reality creation and in order to keep the online survey short, I did not include a measure for relational trust Study 2. As affiliative and epistemic motivation for shared reality are presumed to be interrelated, it seems necessary to always measure both in order to be able to interpret observed social tuning effects.

8.3.6 Samples

I conducted a laboratory experiment with university students in Study 1 and an online experiment with participants of a commercial online access panel in Study 2. Both were convenience samples, with the sample of the online access panel being more heterogeneous with regard to education and age as well as being more balanced with regard to gender.

Both samples did not provide sufficient statistical power to detect effects of small size. Building on effect sizes observed in prior saying-is-believing studies in Study 1, I expected to find at least a medium sized social tuning effect of news endorser opinion on opinion and memory valence in the condition favorable for shared reality creation: the in-group condition. Aside from the fact that the effect was absent, the effects of the independent variables were small. Moreover, the study was underpowered to estimate complex structural equation models with multiple observed indicators and latent interactions.

I accounted for the shortcomings of Study 1 and calculated the ideal sample size for Study 2 assuming small effect sizes. Unfortunately, I had to exclude

more than 100 cases because of missing values in one of my central variables: message valence. As a result, the second study was underpowered, too, and small effects such as the effect of news endorser opinion on message valence could not be detected. Moreover, the lack of statistical power accounts, at least to some extent, for poor model fit in complex structural equation models.

The online survey was long and demanding. It should be stated that participants recruited from online access panels are not necessarily motivated to complete all answers. In this regard it is advisable for future online experiments to recruit more than the required sample size in order to allow for missing values but yet reach sufficient power.

8.4 Practical Implications

This work has practical implications for two phenomena that are currently objects of the scientific and public discourse surrounding news perception on social networking sites.

First, there is strong interest in the question of whether social media users find themselves in echo chambers where they are mainly exposed to attitude-congruent information about public affairs or whether SNSs like Facebook increase encounters with ideologically cross-cutting media content. The large-scale behavioral data analysis by Bakshy et al. (2015) demonstrated that Facebook users are exposed to diverse news content and Anspach (2017) found in an experimental study that endorsements by strong ties trump the preference for selecting attitude-consistent news posts. However, exposure and even selection of attitude-inconsistent information provide no evidence for effects on information processing, knowledge acquisition, and attitude change.

My findings indicate that attitude-inconsistent social endorsements are likely to affect opinion formation about shared news content only to the degree that users have no strong existing attitudes about a topic. When news information elicits uncertainty, they tend to rely on the views of trustworthy news endorsers. On the one hand, this implies that social media users are not passively influenced by any other user who broadcasts his opinion on a

current news event. They consider others' opinions only when they seek out validation and tend rather to rely on others they know and whose judgment they trust. This implies that exposure to cross-cutting content on SNSs does not necessarily lead to deliberated consideration of counter-attitudinal information and disagreeing opinions. Accordingly, users with less extreme opinions who come across counter-attitudinal news on Facebook are likely to develop even more depolarized views over time, whereas there is no such effect on users with strongly polarized attitudes (Beam et al., 2018).

In light of current tendencies for polarization of political camps, social networking sites seem not to be realms for rapprochement and depolarization. Moreover, exposure to news content and news endorser views tend to be incidental and superficial. It is rather unlikely that users would consider the encountered information thoroughly before forming an opinion. Initiatives aimed at democratization and rapprochement should create spaces where people receive and process opinions and arguments incidentally, as well as where the motivation for achieving a valid and reliable view is more pronounced than in news internalizing on a SNS.

The second phenomenon is also related to political polarization and populism: the distribution and acceptance of fake news. Political actors spread fabricated news with the intent to manipulate the public opinion to achieve support for their political goals. The scalability of public communication on SNSs facilitates reaching large audiences. But only when users interact with fake news posts, share, and like them will they be distributed to these large audiences. Thus, users are likely to encounter fake news in their Facebook news feeds because a friend interacted with it.

In case of exposure to fake news, my research suggests two conditions under which fake news are likely to influence the receiver's opinion formation. On the one hand, when fake news content confirms a user's existing beliefs, he is likely to believe them irrespective of whether the news endorser supports or opposes the message. On the other hand, when a user doubts the truthfulness of fake news but a friend (whose judgment he trusts) approves the message, he would be also likely to believe the news content. On the contrary, own confidence in the falsehood of fake news as well as epistemic trust in a news endorser who debunks the fake news may explain why a user does not believe it.

Facebook started to cooperate with professional local third-party fact-checkers in every country in order to refute the potentially dysfunctional effects of fake news on democratic societies. Content that is rated as disinformation is tagged as such and its visibility is downgraded (Facebook, 2020). This implies that until the discovery of fake news, it has high visibility when redistributed by friends and once it is labeled as disinformation, users are unlikely to come to know about it. In order to spread the corrected information and benefit from social endorsements that reinforce the discrediting of false information, Facebook should reconsider their strategy of fighting against disinformation on the platform. In particular, because single news endorsers who contribute dissenting views on fake news can influence users' perceptions of the social norm, that is, the perceived public opinion (Lewandowsky, Ecker, & Cook, 2017).

9 Conclusion

People nowadays encounter news on social networking sites, mostly incidentally and often endorsed by other users. Exposure to news content is likely to elicit the epistemic need for social validation of news perception. Building on shared reality theory, my work indicates that news endorser opinions inferred from news posts on Facebook may affect opinion formation about shared news.

The results of my experimental research revealed that people rely on the view of close and distant Facebook friends and that epistemic trust in the news endorser explains at least partly why they are influenced by a news endorser's opinion. My findings also indicate that people are not susceptible to social influence when they have confidence in the validity of their own view on a news topic. Hence, my research contributes to the understanding of social influences on opinion formation about news shared on social media.

On the one hand, my findings provide only limited support for the explanatory value of shared reality theory with regard to social influences on news perception in social media. On the other hand, I extended the scope of the theory to a new and application-oriented context and proposed refinements of theoretical assumptions. I consider shared reality theory to be a promising framework and suggest that future research should particularly focus on the role of multiple epistemic inputs for opinion formation as well as on affiliative motivation for shared reality creation about news shared on social media.

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List of Abbreviations

AVE average variance extracted

ANOVA analysis of variance

API application programming interface

CFA confirmatory factor analyses

CFI Comparative Fit Index

CI confidence interval

GDPR General Data Protection Regulation

HSM heuristic-systematic model

ELM elaboration-likelihood model

IAT implicit association test

IOS Inclusion of Other in Self Scale

MANOVA multivariate analysis of variance

MIMIC multiple indicators and multiple causes

MLR maximum likelihood estimation with robust (Huber-White) scaled standard errors and a scaled test statistic that is (asymptotically) equal to the Yuan-Bentler test statistic

OSF Open Science Framework

RMSEA Root Mean Square Error

SDO social dominance orientation

SEM structural equation modeling

SMM structured means modeling

SNS social networking site

SRMR standardized root mean residual

TLI Tucker Lewis Index

URCS Unidimensional Relational Closeness Scale

Appendix 1: Additional Tables

Additional Tables to Chapter 6

Table 1: Instructions for Averaging the Scores of Explicit Assessment and Argumentation Valence for to Determine Evaluation Valence

Explicit assessment	Argumentation valence	Evaluation valence
Negative (−2)	Negative (−2)	Negative (−2)
	Rather negative (−1)	Negative (−2)
	Ambiguous (0)	Rather negative (−1)
	Rather positive (+1)	Rather negative (−1)
	Positive (+2)	Ambiguous (0)
Rather negative (−1)	Negative (−2)	Rather negative (−1)
	Rather negative (−1)	Rather negative (−1)
	Ambiguous (0)	Rather negative (−1)
	Rather positive (+1)	Ambiguous (0)
	Positive (+2)	Ambiguous (0)
Ambiguous (0)	Negative (−2)	Rather negative (−1)
	Rather negative (−1)	Ambiguous (0)
	Ambiguous (0)	Ambiguous (0)
	Rather positive (+1)	Ambiguous (0)
	Positive (+2)	Rather positive (+1)
Rather positive (+1)	Negative (−2)	Ambiguous (0)
	Rather negative (−1)	Ambiguous (0)
	Ambiguous (0)	Rather positive (+1)
	Rather positive (+1)	Rather positive (+1)
	Positive (+2)	Rather positive (+1)
Positive (+2)	Negative (−2)	Ambiguous (0)
	Rather negative (−1)	Rather positive (+1)
	Ambiguous (0)	Rather positive (+1)
	Rather positive (+1)	Positive (+2)
	Positive (+2)	Positive (+2)

Note. Numbers in parentheses are the scale values of the respective options.

Table 2: Test of the Indirect Relation Between Social Group, Opinion Valence and Memory Valence Through Epistemic and Relational Trust

	News endorser opinion			
	Positive		Negative	
Tested relation	β	p	β	p
Opinion valence Safe Harbor decision				
Direct: social group	−.16	.121	−.14	.182
Indirect: epistemic trust in news endorser	−.01	.613	.00	.726
Indirect: epistemic trust in message	.02	.412	.00	.684
Indirect: relational trust/closeness	−.02	.457	−.01	.692
Indirect: relational trust/commonality	.07	.190	.02	.475
Opinion valence GDPR				
Direct: social group	−.22	.035	−.20	.038
Indirect: epistemic trust in news endorser	.01	.623	−.01	.730
Indirect: epistemic trust in message	.00	.899	−.01	.495
Indirect: relational trust/closeness	−.02	.426	−.01	.624
Indirect: relational trust/commonality	.03	.332	.02	.464
Opinion valence Right to be Forgotten				
Direct: social group	−.24	.024	−.09	.394
Indirect: epistemic trust in news endorser	.00	.686	−.01	.709
Indirect: epistemic trust in message	.00	.803	.00	.698
Indirect: relational trust/closeness	−.01	.562	.00	.724
Indirect: relational trust/commonality	.05	.261	.01	.551

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	News endorser opinion			
	Positive		Negative	
Tested relation	β	p	β	p
Memory valence				
Direct: social group	−.02	.785	−.11	.296
Indirect: epistemic trust in news endorser	−.01	.636	−.01	.709
Indirect: epistemic trust in message	.01	.499	.00	.751
Indirect: relational trust/closeness	−.01	.739	−.01	.804
Indirect: relational trust/commonality	.00	.967	.00	.485

Additional Tables to Chapter 7

Table 3: Pilot Study 1: Descriptive Results of the Evaluation of 13 News Topics

Topic	Interest	Know-ledge	Rele-vance	Reading likeli-hood	Sharing likeli-hood	Opinion	Opinion cer-tainty
Cash abolition	5.34 (1.41)	4.23 (1.44)	5.44 1.48)	5.24 (1.60)	3.03 (2.06)	2.90 (2.02)	5.71 (1.30)
Health data	4.79 (1.52)	3.89 (1.55)	4.37 (1.85)	4.81 (1.73)	2.71 (1.93)	2.85 (1.70)	5.04 (1.65)
Suicide in the media	4.40 (1.98)	3.84 (1.94)	2.89 (1.92)	4.37 (2.03)	2.13 (1.48)	4.31 (1.72)	4.94 (1.64)
Tracing on SNSs	4.80 (1.44)	3.80 (1.47)	3.53 (1.72)	4.71 (1.77)	2.67 (1.95)	4.31 (1.86)	5.11 (1.35)
TV license	4.60 (1.84)	4.19 (1.55)	4.64 (2.17)	4.41 (2.07)	2.57 (1.78)	2.19 (1.56)	5.61 (1.71)
Public tracing	4.51 (1.71)	3.96 (1.62)	2.69 (1.65)	4.36 (1.86)	2.51 (1.97)	3.64 (1.92)	5.04 (1.72)
Cyber weapons	4.06 (1.77)	2.64 (1.42)	2.96 (1.52)	4.14 (1.93)	2.20 (1.61)	2.93 (1.54)	4.26 (2.07)
Driving ban	4.71 (1.65)	4.31 (1.56)	4.34 (2.13)	4.39 (1.76)	2.64 (2.64)	4.21 (1.93)	5.43 (1.43)
EU passport	4.90 (1.71)	3.44 (1.59)	5.07 (1.70)	5.10 (1.82)	2.79 (1.86)	4.36 (1.88)	4.77 (1.72)
Basic income	5.32 (1.45)	4.36 (1.55)	4.03 (1.55)	5.30 (1.44)	2.81 (1.88)	4.26 (1.76)	4.87 (1.61)
Crispr-Cas	4.80 (1.67)	3.43 (1.87)	4.69 (1.76)	4.80 (1.81)	2.63 (1.99)	3.29 (1.66)	4.33 (2.06)
28-hour work week	5.23 (1.50)	4.19 (1.56)	4.51 (2.00)	4.90 (1.86)	2.73 (1.90)	5.47 (1.80)	5.43 (1.48)
Concentration camp visits	4.87 (1.78)	4.23 (1.68)	3.44 (1.66)	4.79 (1.93)	2.51 (1.86)	3.73 (1.97)	5.11 (1.65)

Note. Displayed are means and standard deviations in parentheses. All items were measured on 7-point scales. $N = 70$.

Table 4: Pilot Study 2: Ambiguity Rating of 16 Arguments for a Common EU Passport and ID

	Ambiguity rating	Test against scale midpoint	
Arguments	$M(SD)$	t	p
Arg.1: Symbolic value	4.33 (2.13)	−0.41	.688
Arg.2: Acceptance by citizens	5.13 (1.92)	1.70	.100
Arg.3: Brexit	3.67 (2.15)	−2.01	.054
Arg.4: Entry requirements	4.08 (2.35)	−0.90	.377
Arg.5: Costs	3.15 (3.25)	−2.16	.040
Arg.6: Registry office	4.54 (2.34)	0.08	.935
Arg.7: Affinity	5.35 (2.11)	2.10	.046
Arg.8: Appreciation of European identity	5.30 (2.03)	2.03	.052
Arg.9: Strengthen European identity	4.37 (2.35)	−0.29	.777
Arg.10: Strengthen trust in decision maker	3.89 (2.18)	−1.46	.157
Arg.11: Maintenance of cultural differences	4.93 (2.20)	1.01	.324
Arg.12: Function as state	5.06 (1.90)	1.52	.142
Arg.13: Unification of member state societies	4.98 (1.79)	1.39	.175
Arg.14: Prevent nationalism	4.41 (1.87)	−0.26	.799
Arg.15: Strengthen cooperation	4.98 (2.02)	1.24	.226
Arg.16: Reconciliation	4.56 (2.04)	0.14	.889

Note. M = mean, SD = standard deviation. All items were measured on 8-point scales ranging from 1 to 8. $N = 70$.

Table 5: Codebook Response Valence: Description and Frequencies of Types of Verbal Response

Type of verbal response	Description	*n*
Argumentative statement referring to one or several arguments of the article (1)	Select option when reaction seizes arguments from the article. Applies even when reaction contains new arguments, a general evaluation, and agreement or disagreement with the news endorser. Example: "People will lose their national identities."	259
Argumentative statement referring to the EU passport but not to the arguments of the article (2)	Select option when reaction contains new arguments but no arguments from the article. Option applies even when reaction contains a general evaluation and agreement or disagreement with the news endorser. Example: "That will be expensive and unnecessary."	215
General evaluation of the EU passport (3)	Select option when reaction contains a general evaluation but neither new arguments nor arguments from the article. Option applies also when reaction contains agreement or disagreement with the news endorser. Example: "I like the idea."	421
Statement referring to the EU but not to the EU passport (4)	Select option when reaction expresses opinion about EU but not about the EU passport in particular. Option applies also when the reaction contains agreement or disagreement with the news endorser. Example: "I don't think that you are right. The EU should be abolished anyways."	4

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Comment referring to news endorser's opinion (5)	Select option when reaction expresses only agreement or disagreement with the news endorser's opinion, and no opinion about the EU or the EU passport Example: "I think your opinion is too radical"	31
Statement referring to Facebook post or article (6)	Select option when reaction refers to the post, but not to the opinion of the news endorser or the article. Example: "It's annoying to share articles like that"	42
Description of their personal reaction (7)	Select option when participants describe what they would do, without referring to the EU passport or to the opinion of the news endorser. Example: "Would not comment anything"	31
No statement or statement without reference to news post, friend or article (−1)	Select option when there is no reaction at all or statements like "Hmm", "Nope", etc.	113

Note. Numbers in parentheses are the scale values of the respective options. Coders selected options by following a hierarchical procedure: They assigned higher values only, when none of the lower-value options applied.

Appendix 2: Measures and Stimulus Materials Study 1

Measures Study 1

1 Social Media Use

Instruction: Welche der folgenden sozialen Medien nutzen Sie?
Bitte geben Sie an, welche sozialen Medien Sie zumindest gelegentlich nutzen. Sie können mehrere Antwortoptionen auswählen.

Answer format: 1=nicht gewählt, 2=ausgewählt

Items:
1. Facebook
2. Snapchat
3. Twitter
4. Instagram
5. Keins davon

2 Online News Use

Instruction: Wie häufig nutzen Sie die folgenden Kanäle, um sich online über Nachrichten zu informieren?

Answer format: 1=nie, 2=sehr selten, 3=eher selten, 4=manchmal, 5=eher häufig, 6=häufig, 7=sehr häufig, ...

Items:
1. Websites von Nachrichtenmedien aufsuchen (z.B. spiegelonline.de, faz.net, tagesschau.de).
2. Nachrichtensuchmaschinen nutzen (z.B. google News).
3. Nachrichtenbeiträge lesen/ansehen, die in meinem Facebook-Newsfeed erscheinen, weil sie von meinen Facebook-Freunden gepostet wurden.
4. Nachrichtenbeiträge lesen/ansehen, die in meinem Facebook-Newsfeed erscheinen, weil sie von Nachrichtenmedien gepostet wurden, deren Facebook-Seite ich geliked habe.
5. Nachrichtenbeiträge lesen/ansehen, zu denen Freunde mir einen Link in einer persönlichen Nachricht geschickt haben (z.B. via E-Mail, WhatsApp).
6. Nachrichtenbeiträge lesen/ansehen, die Freunde, denen ich auf Twitter folge, dort gepostet haben.
7. Nachrichtenbeiträge lesen/ansehen, die Nachrichtenmedien, denen ich auf Twitter folge, dort gepostet haben.
8. Newsfeeds von Nachrichtenmedien auf dem Smartphone oder Tablet lesen.
9. Nachrichten-Apps auf Smartphone oder Tablet nutzen.
10. Ich nutze weitere Möglichkeiten, nämlich:

3 Knowledgability of Internet Politics

Instruction: Wir präsentieren Ihnen nun eine Liste mit Themen, zu denen häufig Nachrichtenartikel in sozialen Medien geteilt werden.

Wie gut wissen Sie über die folgenden Themen Bescheid?

Answer format: 1=überhaupt nicht gut, 2=nicht gut, 3=eher nicht gut, 4=weder/noch, 5=eher gut, 6=gut, 7=sehr gut, ...

Items:
1. Kino, TV und Serien
2. Tierschutz
3. Internetpolitik
4. Ernährung & Gesundheit
5. Flüchtlingspolitik
6. Prominente
7. Sport
8. Außenpolitik

4 Tolerance of Ambiguity

Source: McLain (2009)

Instruction: Hier geht es noch einmal um Ihre persönlichen Eigenschaften.
Inwiefern treffen die folgenden Eigenschaften auf Sie zu bzw. nicht zu?

Answer format: 1=trifft überhaupt nicht zu, 2=trifft überwiegend nicht zu, 3=trifft eher nicht zu, 4=teils/teils, 5=trifft eher zu, 6=trifft überwiegend zu, 7=trifft voll und ganz zu, ...

Items presented in randomized order:
1. Mehrdeutige Situationen kann ich nicht gut ertragen[r].
2. Ich würde es lieber vermeiden eine Aufgabe zu lösen, die aus mehreren Perspektiven betrachtet werden muss[r].
3. Ich versuche mehrdeutige Situationen zu vermeiden[r].
4. Ich bevorzuge bekannte Situationen gegenüber unbekannten[r].
5. Aufgaben, die aus mehreren Perspektiven betrachtet werden können, empfinde ich als unangenehm[r].
6. Ich vermeide Situationen, die zu kompliziert sind, als dass ich sie leicht verstehen könnte[r].
7. Ich bin tolerant gegenüber mehrdeutigen Situationen.
8. Ich genieße es, komplexe und mehrdeutige Aufgaben anzugehen.
9. Ich versuche Aufgaben zu vermeiden, die mehrere ideale Lösungen haben[r].
10. Generell bevorzuge ich neue Situationen gegenüber bekannten.
11. Ich mag mehrdeutige Situationen nicht[r].
12. Ich finde es schwierig eine Entscheidung zu treffen, wenn das Ergebnis unsicher ist[r].
13. Ich bevorzuge Situationen mit einer gewissen Mehrdeutigkeit.

5 Need to belong

Source: Leary et al. (2013), Renner (2006)

Instruction: Da es uns wichtig ist die unterschiedlichen Persönlichkeiten unserer Befragten zu berücksichtigen, bitten wir Sie die folgenden Fragen zu beantworten. Inwiefern treffen die folgenden Eigenschaften auf Sie zu bzw. nicht zu?

Answer format: 1=trifft überhaupt nicht zu, 2=trifft überwiegend nicht zu, 3=trifft eher nicht zu, 4=teils/teils, 5=trifft eher zu, 6=trifft überwiegend zu, 7=trifft voll und ganz zu, ...

Items presented in randomized order:
1. Es macht mir nichts aus, wenn andere Leute mich nicht zu akzeptieren scheinen[r].
2. Ich strenge mich an, nichts zu tun, was andere Menschen dazu bringt, mich zu meiden oder abzulehnen.
3. Ich mache mir selten Sorgen, ob andere Menschen sich für mich interessieren[r].
4. Ich brauche das Gefühl, dass es Menschen gibt, an die ich mich in Zeiten der Not wenden kann.
5. Ich möchte, dass andere Menschen mich akzeptieren.
6. Ich bin nicht gern allein.
7. Es macht mir nichts aus, längere Zeit von meinen Freunden getrennt zu sein[r].
8. Ich habe ein starkes Bedürfnis, dazu zu gehören.
9. Es macht mir was aus, wenn ich nicht in die Pläne anderer einbezogen werde.
10. Meine Gefühle sind schnell verletzt, wenn ich spüre, dass andere mich nicht akzeptieren.

6 Message to News Endorser

Instruction: Bitte stellen Sie sich nun vor, Sie hätten die Möglichkeit Julia Ihre Einschätzung der Internetpolitik der EU mitzuteilen.
Nutzen Sie das Eingabefeld unter dem Post, um Julia zu schreiben, wie Sie die Internetpolitik der EU einschätzen.

Answer format: open answer

7 Perception of the Article as Ambiguous

Instruction: Wir möchten nun gerne wissen, wie verständlich der verlinkte Artikel für Sie war. Wie bewerten Sie die Verständlichkeit des Artikels?

Answer format: 1=stimme überhaupt nicht zu, 2=stimme über- wiegend nicht zu, 3=stimme eher nicht zu, 4=teils/teils, 5=stimme eher zu, 6=stimme über- wiegend zu, 7=stimme voll und ganz zu

Items:
1. Im Artikel kommen Begriffe vor, die mir nicht geläufig sind.
2. Ich konnte den Artikel leicht und flüssig lesen.
3. Der Artikel ist verständlich geschrieben.
4. Ich verstehe die Aussage des Artikels.
5. Der Artikel ist komplex.
6. Die Struktur des Artikels ist für mich gut nachvollziehbar.

7. Die Aussage des Artikels ist eindeutig.
8. Der Artikel ist ambivalent.

8 Epistemic Trust in News Endorser and Message

Source: Echterhoff et al. (2005), Echterhoff et al. (2008), Niemeier (2011),

Instruction: Welchen Eindruck haben Sie von Julia?

Answer format: 1=überhaupt nicht, 2=überwiegend nicht, 3=eher nicht, 4=teils/teils, 5=eher, 6=überwiegend, 7=sehr

Items:
1. Denken Sie, dass Julia ein Mensch ist, auf dessen Urteil über die Internetpolitik der EU man sich verlassen kann?
2. Ist Julia eine vertrauenswürdige Informationsquelle in Bezug auf die Internetpolitik der EU?
3. Für wie vertrauenswürdig halten Sie Julia?
4. Ist Julia eine glaubwürdige Informationsquelle?

Instruction: Wie schätzen Sie Ihre Nachricht an Julia ein?

Answer format: 1=überhaupt nicht, 2=überwiegend nicht, 3=eher nicht, 4=teils/teils, 5=eher, 6=überwiegend, 7=sehr, ...

Items:
5. Wie gut trifft Ihre Nachricht den tatsächlichen Charakter der Internetpolitik der EU?
6. Wie sehr vertrauen Sie Ihrer Nachricht?
7. Wie gut hat Ihre Nachricht eine angemessene Einschätzung der Internetpolitik der EU vermittelt?
8. Wie gut können andere der in Ihrer Nachricht vermittelten Einschätzung der Internetpolitik der EU vertrauen?

9 Relational Trust in News Endorser

Sources: Echterhoff et al. (2009b), Niemeier (2011)

Instruction: Welchen Eindruck haben Sie von Julia?

Answer format: 1=überhaupt nicht, 2=überwiegend nicht, 3=eher nicht, 4=teils/teils, 5=eher, 6=überwiegend, 7=sehr

Items:
1. Wie nah fühlen Sie sich Julia?
2. Wie sehr fühlten Sie sich durch die Kommunikation mit Julia verbunden?
3. Was glauben Sie, wie gut Ihre Sicht auf die Internetpolitik mit Julias Sicht harmoniert?
4. Denken Sie, dass Sie und Julia viele Gemeinsamkeiten haben?

5. Hätten Sie mit Julia lieber persönlich über die Internetpolitik der EU gesprochen?

10 Opinion Valence

10.1 General Opinion Valence

Instruction: Nun möchten wir gern wissen, was Sie ganz persönlich von der Internetpolitik der EU denken.
Wie bewerten Sie die Internetpolitik der EU?

Answer format: 1= sehr negativ, 2=überwiegend negativ, 3=eher negativ, 4=weder/noch, 5=eher positiv, 6=überwiegend positiv, 7=sehr positiv

10.2 Valence of Opinion About Each Politics Measure

Instruction: Wir möchten nun die einzelnen Regulierungsmaßnahmen der EU näher betrachten. Wie bewerten Sie die folgenden Maßnahmen zur Regulierung des Internets?

Answer format: 1= sehr negativ, 2=überwiegend negativ, 3=eher negativ, 4=weder/noch, 5=eher positiv, 6=überwiegend positiv, 7=sehr positiv

Items:
1. ...das Urteil des Europäischen Gerichtshofs zum Safe Harbor Abkommen?
2. ...die neue Datenschutzgrundverordnung der EU?
3. ...das „Recht auf Vergessenwerden“?

11 Memory of the News Article

Source: self-developed building on Echterhoff et al. (2005)

Instruction: Wir möchten Sie nun bitten, sich die Information aus dem Artikel über die Internetpolitik der EU ins Gedächtnis zu rufen und hier aufzuschreiben. Um Ihnen die Erinnerung zu erleichtern, haben wir die drei Maßnahmen aufgelistet, um die es im Artikel geht.
Bitte versuchen Sie sich möglichst genau daran zu erinnern, welche Informationen im Artikel zu den drei Maßnahmen gegeben werden und schreiben Sie diese so vollständig wie möglich auf.

Answer format: cued recall, open answer

Input fields:
1. Datenschutzgrundverordnung: open memory protocol
2. Urteil des EuGH zum Safe Harbor Abkommen: open memory protocol
3. Recht auf Vergessenwerden: open memory protocol

12 Correct Recall of information from the article (Not Used in Analyses)

Instruction: Im Folgenden haben wir sechs Aussagen aufgelistet. Bitte entscheiden Sie, ob die Aussagen jeweils mit den Aussagen des Artikels übereinstimmen oder nicht.

Answer format: 1=stimmt überein, 2=stimmt nicht überein, -1=weiß nicht

Items:
1. Die neue EU-Datenschutzverordnung ist eine Niederlage für die Verbraucher. (false)
2. Durch das Recht auf Vergessenwerden werden Datenschutzrisiken bei der Internetnutzung reduziert. (correct)
3. Das Urteil des Europäischen Gerichtshofs zum Safe Harbor Abkommen garantiert den Schutz der Daten europäischer Internetnutzer. (correct)
4. Durch die neue Datenschutzgrundverordnung verbaut die EU der europäischen Wirtschaft den Weg in die digitale Zukunft. (correct)
5. Das „Recht auf Vergessenwerden" kommt dem Informationsinteresse der Bürger zugute. (false)
6. Das Urteil des Europäischen Gerichtshofs zum Safe Harbor Abkommen fördert europäische Unternehmen, bei denen der globale Datenaustausch zum Geschäftsmodell gehört. (false)

13 Manipulation Check: Perception of News Endorser Social Group

13.1 Similarity with Social Group of News Endorser

Source: Echterhoff et al. (2005)

Instruction: Was würden Sie sagen, wie ähnlich fühlen Sie sich einer oder einem durchschnittlichen Studierenden der Universität Hohenheim? (question in in-group condition)

Was würden Sie sagen, wie ähnlich fühlen Sie sich einer/einem durchschnittlichen Elektronikerin/Elektroniker? (question in out-group condition)

Answer format: 1=überhaupt nicht ähnlich, 2=überwiegend nicht ähnlich, 3=eher nicht ähnlich, 4=weder/noch, 5=eher ähnlich, 6=überwiegend ähnlich, 7=sehr ähnlich

13.2 Manipulation Check: Similarity with News Endorser

Source: Echterhoff et al. (2005)

Instruction: Wie ähnlich ist Julia Ihnen?

Answer format: 1=überhaupt nicht ähnlich, 2=überwiegend nicht ähnlich, 3=eher nicht ähnlich, 4=weder/noch, 5=eher ähnlich, 6=überwiegend ähnlich, 7=sehr ähnlich

13.3 Manipulation Check: Likability of News Endorser

Source: Echterhoff et al. (2005)

Instruction: Wie sympathisch finden Sie Julia?

Answer format: 1=überhaupt nicht sympathisch, 2=überwiegend nicht sympathisch, 3=eher nicht sympathisch, 4=weder/noch, 5=eher sympathisch, 6=überwiegend sympathisch, 7=sehr sympathisch

14 Manipulation Check: Perceprion of the News Endorser Opinion

Instruction: Wie hat Julia die Internetpolitik der EU in ihrem Facebook-Post bewertet?

Answer format: 1= sehr negativ, 2=überwiegend negativ, 3=eher negativ, 4=weder/noch, 5=eher positiv, 6=überwiegend positiv, 7=sehr positiv

15 News Sharing Habits (Measured in Control Group Only)

Instruction: Wie häufig üben Sie die folgenden Aktivitäten in sozialen Medien aus?

Answer format: 1=nie, 2=sehr selten, 3=eher selten, 4=manchmal, 5=eher häufig, 6=häufig, 7=sehr häufig

Items:
1. Links zu Nachrichtenbeiträgen teilen.
2. Eine persönliche Zusammenfassung von Nachrichten und Schlagzeilen posten, damit andere sie lesen können.
3. Nachrichtenposts teilen, die Freunde zuvor geteilt hatten.
4. Eigene Artikel, Bilder oder Videos zu Nachrichtenereignissen erstellen und teilen.
5. Links zu Nachrichtenbeiträgen mit eigenen Kommentaren zum Inhalt des Beitrags teilen.
6. Kommentare, Fragen oder Informationen als Reaktion auf geteilte Nachrichtenbeiträge posten.
7. Auf die Kommentare anderer Nutzer zu Nachrichtenposts antworten.
8. Durch “Gefällt mir“-Features Zustimmung zu Nachrichtenposts anderer Nutzer ausdrücken.
9. Durch “Gefällt mir“- Features Zustimmung zu Kommentaren anderer Nutzer ausdrücken.

Facebook News Posts Study 1

Figure 1: Facebook Post in the Positive Opinion Condition in Study 1

Figure 2: Facebook Post in the Negative Opinion Condition in Study 1

Figure 3: Facebook Post in the Control Condition in Study 1

Stimulus Article Study 1

Die Internetpolitik der EU unter der Lupe

Quo vadis, Digitalisierung?

Ob bei der Kommunikation mit unseren Liebsten, beim Kauf von Lebensmitteln oder bei der Suche nach einer Bahnverbindung, das Internet durchdringt immer mehr Bereiche unseres Lebens. Die Europäische Union (EU) hat es sich zum Ziel gesetzt, diese Entwicklung durch verschiedene Maßnahmen wie etwa die Datenschutzgrundverordnung zu regulieren. Doch wie wirkt sich die europäische Internetpolitik in der Praxis aus? Eine Bestandsaufnahme.

Von Verena Becker

European Union

Die EU hat sich Digitalisierung auf ihre Fahne geschrieben

Mittwoch, 20.04.2016 17:47 Uhr

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Es gibt zwei Lesarten der 2015 erzielten Einigung über die neue Datenschutzgrundverordnung der Europäischen Union. Nach der ersten ist sie ein Sieg für die Verbraucher: Die Verordnung gibt den Internetnutzern die Kontrolle über ihre Daten zurück. Onlineanbieter wie Facebook oder Amazon müssen künftig besser darüber informieren, wie sie Nutzerdaten erheben und verarbeiten. Gleichzeitig müssen diese Informationen so klar und verständlich formuliert sein, dass wirklich jeder Nutzer sie versteht, bevor er in die Nutzung seiner Daten einwilligt.

Nach der zweiten Lesart verbaut sich die EU mit der Verordnung den Weg in die digitale Zukunft. Das wirtschaftliche Potential von Technologien zur Verarbeitung riesiger Datenmengen (Big Data) für europäische Unternehmen wird einem übertriebenen Datenschutz geopfert. Schlimmer noch: einem Datenschutz, der von den Nutzern nicht begrüßt wird, weil diese jede nötige Zustimmung zur Datenverarbeitung geben, um Google, Facebook & Co. nutzen zu können.

Das Recht auf Vergessenwerden

In der neuen Datenschutzgrundverordnung ist nun auch das Recht auf Vergessenwerden festgeschrieben. Der Europäische Gerichtshof hatte es den Internetnutzern bereits in einem Urteil aus dem Jahr 2014 zugestanden und damit Lob und Kritik gleichermaßen hervorgerufen. Das Recht auf Vergessenwerden verpflichtet Suchmaschinenbetreiber dazu, Einträge zu löschen, wenn ein Nutzer dies verlangt. Verbraucherschützer loben diese Entscheidung. Betroffene erhalten dadurch Kontrolle über Informationen, die im Internet über sie auffindbar sind und mit denen sie nicht in Zusammenhang gebracht werden möchten. Damit wird ein gravierendes Risiko der Internetnutzung abgemildert.

Das Urteil hat jedoch auch bedenkliche Folgen. Denn der Rechtsanspruch lässt sich auf journalistische Websites ausdehnen. Das führt dazu, dass selbst verurteilte Betrüger nach wenigen Jahren von Nachrichtenportalen die Löschung von Links zu früheren Artikeln verlangen können – eine Entwicklung, die zu einer gefährlichen Bereinigung von Archiven führen und das berechtigte Informationsinteresse der Bürger beeinträchtigen würde.

Auch der europäische Gerichtshof regelt den digitalen Datenverkehr

Ambivalent sind auch die Folgen des Urteils des Europäischen Gerichtshofs zum Safe Harbor Abkommen über den Datenaustausch mit den USA. Mit dem Urteil hat das höchste europäische Gericht im Oktober 2015 klargestellt, dass die Daten europäischer Facebook-Nutzer auf Servern in den Vereinigten Staaten nicht sicher genug sind. Zum einen können amerikanische Strafverfolgungsbehörden und Geheimdienste auf die Daten europäischer Nutzer zugreifen, was dem europäischen Datenschutzrecht widerspricht. Zum anderen sind die Nutzer nicht vor breit gefächerten Zugriffen der amerikanischen Geheimdienste geschützt, wie sie der Whistleblower Edward Snowden enthüllt hat. Die Richter forderten ein neues Abkommen, das künftig den Schutz europäischer Nutzerdaten garantieren soll.

Doch was das Urteil von globalen Onlineplattformen wie Facebook verlangt, ist technisch nicht sinnvoll. Die Profile aller Facebook-Nutzer sind vielfach auf Servern auf der ganzen Welt gespiegelt. Es wäre logistisch und ökonomisch absurd, wenn etwa die Urlaubsbilder eines deutschen Nutzers, die er in den USA hochlädt, physisch auf einem Server in Deutschland gespeichert und von seinen amerikanischen Freunden auch von dort wieder abgerufen würden. Ähnliches gilt für europäische Unternehmen, bei denen der globale Datenaustausch zum Geschäftsmodell gehört.

Was sich an diesen Beispielen zeigen lässt, ist symptomatisch für die gesamte Internetpolitik der EU: Neben den beabsichtigten positiven Auswirkungen bringen die Regelungen auch eine Reihe von fragwürdigen Konsequenzen mit sich. Die Regulierung des Internets bleibt eine Gratwanderung für die Europäische Union.

Zur Startseite

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Google EU-Kommission Alle Themenseiten

Appendix 3: Measures and Stimulus Materials Study 2

Measures Study 2

1 Social Media Use

Instruction: Wir möchten mit einigen Fragen zur Nutzung sozialer Medien beginnen. Wie häufig nutzen Sie die folgenden sozialen Medien?

Answer format: 1=nie, 2=einmal pro Monat oder seltener, 3=mehrmals pro Monat, 4=mehrmals pro
Woche, 5=täglich, 6=mehrmals täglich

Items:
1. Facebook
2. Instagram
3. Snapchat
4. Twitter

2 Facebook Activities

Instruction: Wie häufig üben Sie die folgenden Aktivitäten auf Facebook aus?

Answer format: 1=nie, 2=einmal pro Monat oder seltener, 3=mehrmals pro Monat, 4=mehrmals pro
Woche, 5=täglich, 6=mehrmals täglich

Items:
1. Ein Status-Update posten
2. Bilder posten
3. Links zu Online-Inhalten posten
4. Links zu Nachrichtenbeiträgen posten
5. Posts von Facebook-Freunden teilen
6. Posts von professionellen Facebook-Seiten teilen
7. Posts von Facebook-Freunden liken
8. Posts von professionellen Facebook-Seiten liken
9. Posts von Facebook-Freunden kommentieren
10. Posts von professionellen Facebook-Seiten kommentieren

3 Response to Facebook Post

Instruction: Welche Gedanken bezüglich der Einführung eines gemeinsamen EU-Passes würden Sie name gerne als Reaktion auf diesen Post mitteilen?
Bitte schreiben Sie diese Gedanken hier auf, auch wenn Sie keinen Kommentar zu diesem Post schreiben würden.

Answer format: open answer

4 Epistemic Trust in News Endorser

Source: Echterhoff et al (2008)

Instruction: In diesem Abschnitt interessieren wir uns für Ihre Einschätzung von*Name des Freundes*.
Wie schätzen Sie *Name des Freundes* ein?

Answer format: 1=überhaupt nicht, 2=überwiegend nicht, 3=eher nicht, 4=teil/ teils, 5=eher,
6=überwiegend, 7=sehr

Items:
1. Denken Sie, dass *Name des Freundes* ein Mensch ist, auf dessen Urteil über die Einführung eines EU-Passes man sich verlassen kann?
2. Ist *Name des Freundes* eine vertrauenswürdige Informationsquelle in Bezug auf die Einführung eines EU-Passes?
3. Für wie vertrauenswürdig halten Sie *Name des Freundes*?
4. Ist *Name des Freundes* eine glaubwürdige Informationsquelle?

5 Epistemic Trust in News Medium

Source: Echterhoff et al (2008)

Instruction: Nun geht es um Spiegel
Online Wie bewerten Sie Spiegel
Online?

Answer format: 1=überhaupt nicht, 2=überwiegend nicht, 3=eher nicht, 4=teil/ teils, 5=eher,
6=überwiegend, 7=sehr

Items:
1. Denken Sie, dass Spiegel Online ein Medienangebot ist, auf dessen Urteil über die Einführung des EU-Passes man sich verlassen kann?
2. Ist Spiegel Online eine vertrauenswürdige Informationsquelle in Bezug auf die Einführung des EUPasses?
3. Für wie vertrauenswürdig halten Sie Spiegel Online?
4. Ist Spiegel Online eine glaubwürdige Informationsquelle?

6 Thoughts about News Topic

Instruction: Nun würden wir gern erfahren, was Sie persönlich über die Einführung eines EU-weit einheitlichen Personalausweises und Passes denken.
Bitte nehmen Sie sich hierfür einige Minuten Zeit und nutzen Sie für jeden Gedanken eine neue Zeile.

Answer format: open answer, max. ten text fields

7 Opinion Valence

Instruction: Um es noch einmal auf den Punkt zu bringen: Wie ist Ihre Meinung zur Einführung eines gemeinsamen EU-Personalausweises und Passes?
Die Einführung eines gemeinsamen EU-Personalausweises und Passes ist...

Answer format: 7-point semantic differential

Items:
1. Sinnlos/sinnvoll
2. Negativ/positiv
3. Zu vermeiden/erstrebenswert
4. Unnötig/notwendig

8 Experienced Commonality

Source: Hellmann et al. (2011)

Instruction: Im Folgenden haben wir einige Fragen dazu, wie Sie *Name des Freundes*s FacebookPost wahrgenommen haben.

Answer format: 1=überhaupt nicht, 2=wenig, 3=eher nicht, 4=teil/ teils, 5=eher, 6=ziemlich, 7=sehr

Items:
1. Stimmen Sie mit *Name des Freundes*s Meinung zur Einführung eines gemeinsamen EU-Passes überein?
2. Wie wichtig ist es Ihnen, mit *Name des Freundes*s Urteil über die Einführung eines gemeinsamen EU-Passes übereinzustimmen?
3. Fühlen Sie sich durch das Betrachten des Posts mit *Name des Freundes* verbunden?
4. Hat Ihnen die Bewertung von *Name des Freundes* geholfen, um sich eine Meinung von der Einführung eines gemeinsamen EU-Passes zu bilden?

9 Contact Frequency

Instruction: Wie oft haben Sie in den folgenden Kommunikationskanälen Kontakt zu *Name des Freundes*?

Answer format: 1=nie, 2=einmal pro Monat oder seltener, 3=mehrmals pro Monat, 4=mehrmals pro
Woche, 5=täglich, 6=mehrmals täglich, -9=nicht beantwortet

Items:
1. Persönlich
2. Facebook
3. Telefonisch
4. Instant Messenger (z.B. WhatsApp)

10 News Endorser Political Expertise

Instruction: Inwiefern treffen die folgenden Aussagen auf *Name des Freundes* zu?

Answer format: 1=trifft überhaupt nicht zu, 2=trifft überwiegend nicht zu, 3=trifft eher nicht zu,
4=teils /teils, 5=trifft eher zu, 6=trifft überwiegend zu, 7=trifft voll und ganz zu

Items:
1. *Name des Freundes* ist Experte/Expertin in politischen Fragen.
2. *Name des Freundes* kennt sich gut mit der EU-Politik aus.
3. *Name des Freundes* weiß über aktuelle politische Entwicklungen immer Bescheid.

11 Unidimensional Relational Closeness Scale

Source: Dibble et al. (2012)

Instruction: Inwiefern treffen die folgenden Aussagen auf Ihre Beziehung zu *Name des Freundes* zu?

Answer format: 1=trifft überhaupt nicht zu, 2=trifft überwiegend nicht zu, 3=trifft eher nicht zu,
4=teils/ teils, 5=trifft eher zu, 6=trifft überwiegend zu, 7=trifft voll und ganz zu

Items:
1. Meine Beziehung zu *Name des Freundes* ist eng.
2. Wenn wir voneinander getrennt sind, vermisse ich *Name des Freundes* ziemlich.
3. *Name des Freundes* und ich vertrauen einander wichtige persönliche Dinge an.
4. *Name des Freundes* und ich haben eine starke Verbindung.

5. *Name des Freundes* und ich verbringen gern Zeit miteinander.
6. *Name des Freundes* hat in meinem Leben Priorität.
7. *Name des Freundes* und ich tun vieles gemeinsam.
8. Meine Freizeit verbringe ich am liebsten mit *Name des Freundes*.
9. Ich denke häufig an *Name des Freundes*.
10. Meine Beziehung zu *Name des Freundes* ist wichtig für mein Leben.
11. Ich ziehe *Name des Freundes* in Betracht, wenn ich wichtige Entscheidungen treffe.
12. *Name des Freundes*s Meinung ist mir wichtig.

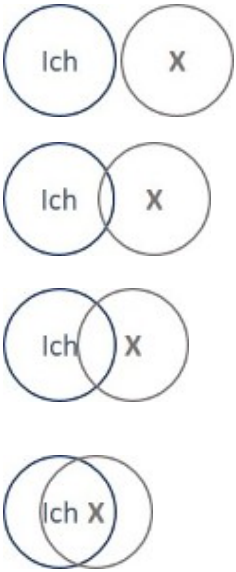
12 Inclusion of Other in Self Scale

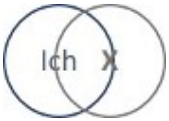
Source: Aron et al. (1992)

Instruction: Nun bitten wir Sie zu überlegen, welches der abgebildeten Kreispaare Ihre Beziehung zu *Name des Freundes* am besten beschreibt. *Name des Freundes* wird in den Abbildungen als X bezeichnet.
Bitte geben Sie durch die Wahl der passenden Abbildung an, wie nah Sie sich *Name des Freundes* fühlen.

Answer format: image scale

Items:





13 Perceived Opinion Valence

Instruction: Welche Meinung hat %name% im Facebook-Post über die Einführung des gemeinsamen EU-Passes geäußert?

Answer format: 1=vollkommen negativ, 2= negativ, 3=eher negativ, 4= teils/ teils, 5= eher positiv, 6= positiv, 7= vollkommen positiv

14 Facebook Post Likelihood

Instruction: Wie wahrscheinlich erscheint es Ihnen, dass *Name des Freundes* einen solchen Beitrag auf Facebook postet?

Answer format: 1=sehr unwahrscheinlich, 2=unwahrscheinlich, 3=eher unwahrscheinlich, 4= teils/ teils, 5= eher wahrscheinlich, 6= wahrscheinlich, 7= sehr wahrscheinlich, -1=weiß nicht

15 Article Ambiguity

Source: Ziegler and Diehl (2003)

Instruction: Wie überzeugend finden Sie die Argumente, die im Artikel von Spiegel Online für die Einführung des EU-Passes und Personalausweises angeführt wurden?

Answer format: 1=überhaupt nicht überzeugend, 2=nicht überzeugend, 3=eher nicht überzeugend,
4= unentschieden, 5= eher überzeugend, 6=überzeugend, 7= sehr überzeugend

Instruction: Inwiefern stimmen Sie folgender Aussage zu: „Der Artikel liefert sehr gute Gründe für die
Einführung eines gemeinsamen EU-Passes und Personalausweises."

Answer format: 1=stimme überhaupt nicht zu, 2=stimme nicht zu, 3=stimme eher nicht zu, 4= unentschieden, 5=stimme eher zu, 6=stimme zu, 7=stimme vollkommen zu

16 Political Orientation

Source: Eurobarometer 887, European Commission (2017)

Instruction: In der Politik spricht man von linker und rechter Orientierung. Wie würden Sie persönlich Ihren politischen Standpunkt auf dieser Skala einordnen?

Answer format: 10-point rating scale ranging from 1= links (left) to 10=rechts (right)

17 Nationality and European Identification

Source: Eurobarometer 887, European Commission (2017)

Instruction: Welche der folgenden Beschreibungen trifft am besten auf Sie zu?

Answer format: 1= nur als *Nationalität*, 2= als *Nationalität* und Europäer/in, 3= als Europäer/in und *Nationalität*, 4= nur als Europäer/in, -1= weiß nicht

Facebook News Posts Study 2

Figure 4: Facebook Post in the Positive Opinion Condition in Study 2

Figure 5: Facebook Post in the Negative Opinion Condition in Study 2

Stimulus Article Study 2

Bürgerinitiative fordert einheitlichen EU-Pass

Staatsangehörigkeit: europäisch

Nicht nur europäische Politiker haben die Erneuerung der Europäischen Union ganz oben auf ihre Agenda gesetzt, auch aus der Zivilgesellschaft kommen Reformideen. So schlägt die europäische Initiative YouAreEU die Einführung eines gemeinsamen EU-Personalausweises und Passes vor. Dieser soll seinen Inhaber als Bürger der EU ausweisen und künftig die nationalen Ausweis- und Reisedokumente der Mitgliedstaaten ersetzen. Anstatt des Heimatlandes sollen darin lediglich Geburts- und Wohnort angegeben sein.

Von Verena Becker

Bildarchiv

Ein gemeinsamer Pass und Personalausweis für alle 28 Mitgliedstaaten

Freitag, **18.05.2018** 08:47 Uhr Drucken Nutzungsrechte Feedback Kommentieren

Laut YouAreEU sind wir schon weit fortgeschritten, was die wirtschaftliche Union angeht. In Europa gibt es einen gemeinsamen Markt, eine gemeinsame Währung und Freizügigkeit von Wertschöpfungsketten und Finanzströmen. Durch den EU-Personalausweis würde auch die Vereinigung und Vereinheitlichung der europäischen Gesellschaften mit dieser Entwicklung Schritt halten.

Zudem gibt es aktuell für die Bürger der EU-Mitgliedstaaten unterschiedliche Einreisebestimmung für Länder außerhalb der Union. Während der deutsche Pass visafreie Einreise in 179 Länder gestattet, können Bulgaren nur in 156 Länder ohne Visum einreisen. Durch den EU-Pass könnten solche Differenzen angeglichen werden, wobei der kleinste gemeinsame Nenner ausschlaggebend wäre.

Pass als Symbol

YouAreEU betont, dass Pässe und Personalausweise neben ihrem praktischen Nutzen auch symbolischen Wert haben: Mit dem EU-Personalausweis könnten Menschen symbolisch ausdrücken, dass sie sich in erster Linie als Europäer sehen und weniger als Bürger ihres Herkunftslandes.

Die Bürgerinitiative YouAreEU möchte erreichen, dass die europäische Kommission ihren Vorschlag prüft. Zu diesem Zweck hat die Initiative eine Online-Petition gestartet, mit der sie Unterstützerinnen und Unterstützer gewinnen möchten.

Zur Startseite

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Curriculum Vitae - Doris Teutsch

Date of birth. 25/04/1987

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Since 03/2014	PhD candidate Institute of Communication Science, University of Hohenheim *News endorser influence in social media* Supervisor: Prof. Dr. Sabine Trepte
10/2010 – 03/2013	Master of Science in Empirical Communication Science University of Hohenheim, Stuttgart, Germany Master thesis: *Of data hunters, self-disclosure and social participation. Media frames in selected German newspapers' reporting on privacy on social networking sites*
09/2008 – 02/2009	Erasmus Scholarship – Journalism & PR Babes-Bolyai University, Cluj-Napoca, Romania
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Since 09/2019	Head of the program planning department Volkshochschule Südtirol, Bolzano, Italy
05/2013 – 04/2019	Research assistant Institute of Communication Science, University of Hohenheim Department of Media Psychology

10/2012 – 03/2013	Student assistant Institute of Communication Science, University of Hohenheim Research Centre for Media and Communication Research
01/2011 – 03/2012	
10/2012 – 03/2013	Editor Deutsche Presseagentur dpa, Stuttgart
04/2012 – 07/2012	Research intern Bigpoint GmbH, Department for Market Research & Games Analysis, Hamburg
05/2010 – 03/2011	Intern and student assistant Fraunhofer Institute for Manufacturing Engineering and Automation IPA, Stuttgart
04/2010	Editorial intern Stuttgarter Nachrichten, Stuttgart
09/2009 – 02/2010	Editorial intern SWR (public service TV-Broadcasting station), Stuttgart Editorial department for the children's TV show "Tigerenten Club"

THIRD PARTY FUNDING

07/2016	Research grant for online research funded by the German Society for Online Research for conducting the first experimental study of my dissertation project (€ 500)
05/2014	Travel grant for the conference of the International Communication Association (ICA) in Seattle, USA, by the German Academic Exchange Service (€1,400)

RECENT ENGAGEMENT

10/2015 – 09/2017	Member of the board of the Graduate Council of the University of Hohenheim Representation of PhDs in university committees, political lobbying, organization of a PhD conference
Since 10/2017	Mid-level faculty representative in the study commission
07/2013– 06/2017	Mid-level faculty representative in the examination committee

TEACHING

Fall term 2013,-2018 2014, 2015, 2016, 2017, 2018	Introduction into research methods, lecture, undergraduate level
Spring term 2018	Developing media psychological article for the media education platform handysektor.de, project course, graduate level
Spring term 2016, 2017	Developing media psychological workshops for school classes, project course, graduate level
Spring term 2015	Sustainability communication from a media psychological perspective , research project, graduate level
Spring term 2014	Self-disclosure in social media, research project, graduate level

Fall term 2013 Development of an online privacy literacy scale, research project, undergraduate level

PUBLICATIONS

Masur, P. K., Teutsch, D.; Dienlin (2019). Privatheit in der Online-Kommunikation [engl. Privacy in online communication]. In W. Schweiger & K. Beck (Hrsg.), Handbuch Online-Kommunikation (pp. 337-365)., 2. Auflage, VS Verlag: Wiesbaden.

Braun, M., von Pape, T., Wolfers, L., Teutsch, D., & Trepte, S. (2018). Perspektiven und Trends der Privatheit [engl. Perspectives and trends in privacy]. In: Friedewald M. (eds) Privatheit und selbstbestimmtes Leben in der digitalen Welt (pp. 221-250). DuD-Fachbeiträge. Springer Vieweg, Wiesbaden.

Teutsch, D., Masur, P. K., Trepte, S. (2018). Privacy in Interpersonal Communication: Subjective Concepts, Perceptions, and Behaviors. 4(2). Social Media + Society. https://doi.org/10.1177/2056305118767134

Masur, P. K., Teutsch, D.; Dienlin, T. & Trepte, S. (2017). Online-Privatheitskompetenz und deren Bedeutung für demokratische Gesellschaften [engl. Online privacy literacy and its significance for democratic societies]. Forschungsjournal Soziale Bewegungen, 30(2), 180-189.

Masur, P. K., Teutsch, D. & Trepte, S. (2016). Entwicklung und Validierung der Online-Privatheitskompetenzskala (OPLIS) [engl. Development and validation of the online privacy literacy scale (OPLIS)]. Diagnostica, 63, 256-268. https://doi.org/10.1026/0012-1924/a000179

Trepte, S. & Teutsch, D. (2016). Das „Privacy Paradox" [engl. The privacy paradox]. In N. Krämer, S. Schwan, D. Unz, M. Suckfüll (Hrsg.), Medienpsychologie. Schlüsselbegriffe und Konzepte. (pp.372-377). Reihe: Lehr- und Studienbücher der Medienpsychologie. Stuttgart: Kohlhammer Verlag.

Teutsch, D. & Niemann, J. (2015). Social network sites as a threat to users' self-determination and security: A framing analysis of German newspapers. The Journal of International Communication. doi: https://doi.org/10.1080/13216597.2015.1111841

Trepte, S., Teutsch, D., Masur, P. K., Eicher, C., Fischer, M., Hennhöfer, A., Lind, F. (2015). Do people know about privacy and data protection strategies? Towards the "Online Privacy Literacy Scale" (OPLIS). In. S. Gutwirth, R. Leenes & P. de Hert (Eds.). Reforming European Data Protection Law. (pp. 333-365). Springer Netherlands. doi: https://doi.org/10.1007/978-94-017-9385-8

Scheufele, B., Kordes, C., Meyer, H., Teutsch, D., Tretter, K., Schieb, C. (2012). Garant oder Gefahr - Ein Medienwirkungsexperiment zur Instrumentalität des Value-Framing [engl. Guarantor or threat – A media effects experiment on the instrumentality of value framing]. In: Medien- und Kommunikationswissenschaft 60(3), 432-451.

PRESENTATIONS

Teutsch, D., Masur, P. K., Trepte, S. (2018). Perceiving the difference. Privacy perceptions in mediated and nonmediated communication settings. Presentation at the Amsterdam Privacy Conference , 5th-8th October, Amsterdam (Netherlands).

Teutsch, D. (2017, September). If my friend thinks that's wrong, I do so, too. The interplay of in-group member's opinion and epistemic trust on opinion about news shared on Facebook.

Presentation the 10th conference of the media psychology division of the German Psychological Association (DGPs), 7th-8th September, Landau (Germany).

Teutsch, D. & Rieper, M. (2017, January). Herausforderung angenommen! – Identifikation und assertives Selbstdarstellungspotential als Mediatoren des Effekts gemeinnütziger Facebook-Challenges auf die Teilnahmebereitschaft [engl. Challenge accepted! - Identification and potential of assertive self-presentation as mediators of the effect of charitable facebook challenges on the willingness to participate]. Presentation at the annual conference of the Media Reception and Effects division of the German communication association (DGPuK), 26th-28th January, Erfurt (Germany).

Teutsch, D.; Masur, P.K. Trepte, S. (2015, September). Talking about private matters online and offline – Insights from a qualitative interview study. Presentation at the 9th conference of the media psychology division of the German Psychological Association (DGPs), 10th-11th September, Tübingen (Germany).

Masur, P. K., Teutsch, D. & Trepte, S. (2015, September). I am concerned about my privacy, but can I protect it? The moderating role of online privacy literacy. Presentation at the 9th conference of the media psychology division of the German Psychological Association (DGPs), 10th-11th September, Tübingen (Germany).

Masur, P. K., Teutsch, D., & Trepte (2015, May). How Skilled Are Internet Users When it Comes to Online Privacy and Data Protection? Development and Validation of the Online Privacy Literacy Scale (OPLIS). Presentation at the 65th annual conference of the International Communication Association, 21st-25th May, San Juan (Puerto Rico).

Teutsch, D., Masur, P. K., & Trepte, S. (2015, May). What Should Users Know About Online Privacy? Towards the Online Privacy Literacy Scale (OPLIS). Presentation at the 65th annual conference of the International Communication Association, 21st-25th May, San Juan (Puerto Rico).

Masur, P., Teutsch, D., & Trepte, S. (2015, May). Wie kompetent sind deutsche Internetnutzer im Umgang mit Privatheit im Internet? Entwicklung und Validierung der Online-Privatheitskompetenz-Skala [engl. How competent are German Internet users with regard to online privacy? Development and validation of the Online Privacy Literacy Scale]. Paper presented at the annual conference of the German Communication Association (DGPuK), 13th-15th May, Darmstadt (Germany).

Masur, P. K., Teutsch, D. & Trepte, S. (October, 2014). Sind Nutzer in der Lage ihre Privatsphäre zu schützen? Eine Analyse der Online-Privatheitskompetenz in Deutschland [engl.Are user able to protect their privacy? An analysis of Online-Privacy-Literacy in Germany]. Presentation at the conference "Räume und Kulturen des Privaten [engl. Spaces and cultures of privacy]" by the DFG-Graduiertenkollegs 1681 "Privatheit", 16th-17th October 2014, Passau (Germany).

Teutsch, D., Masur, P. K. & Trepte, S. (October, 2014). Privacy contexts and reciprocal effects - An empirical validation of Nissenbaum's contextual integrity. Presentation at the conference "Räume und Kulturen des Privaten [engl. Spaces and cultures of privacy]" by the DFG-Graduiertenkollegs 1681 "Privatheit", 16th-17th October 2014, Passau (Germany).

Teutsch, D. & Niemann, J. (September, 2014). Facebook als Bedrohung für die informationelle Selbstbestimmung der Nutzer: Eine Analyse der deutschen Medienberichterstattung über Privatsphäre auf sozialen Netzwerkplattformen. Vortrag auf dem 9. Frankoromanistenkongress, 24th-27th September 2014, Münster (Germany).

Teutsch, D., Masur, P. K. & Trepte, S. (September, 2014). Was wissen Nutzer über Privatsphärestrategien und Datenschutz im Internet? Entwicklung einer Skala zur Erfassung von Online-Privatsphärekompetenz. Presentation at the 49th conference of the German Psychological Association, 21st-25th September, Bochum (Germany).

Teutsch, D., Matzner, T. (July, 2014). Rechnende Räume als Herausforderung für Privatheitskontexte. Vortrag im Workshop Rechnende Räume als verletzliche Erfahrungswelten des Forum Privatheit, 4th July 2014, Berlin (Germany).

Teutsch, D. & Niemann, J. (May ,2014). Social Network Sites as a Threat to Users' Self-determination and Security: A Framing Analysis of German Newspapers. Presentation at the 64th annual conference of the International Communication Association, 22nd-26th May, Seattle (USA).

Trepte, S., Teutsch, D. & Masur, P.K. (January, 2014). Do people know about privacy and data protection strategies? OPLIS: Towards the "Online Privacy Literacy Scale. Presentation at the 7th international conference "Computers, Privacy & Data Protection", 22nd-24th. January, Brussels (Belgium).

Teutsch, D. & Niemann, J. (September, 2013). Facebook as a Threat to Users' Self-Determination: How German Media Frame the Use of SNS. Presentation at the 8th Conference of Media Psychology Division (DGPs), 4th – 6th September, Würzburg (Germany).