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Online Social Influence and the Convergence of Mass and Interpersonal Communication

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Mass and interpersonal communication are rapidly converging as people integrate an assortment of Internet-based tools into their communication repertoires. This convergence prompts dramatic changes in the conditions that once were presumed to distinguish mass from interpersonal communication, most notably differences in communication directionality and scale, audience size and identification, and a host of cues that signal source credibility. This article proposes a number of features of technological convergence in this context—including shifts in message control, audience scale, and source, receiver, and temporal ambiguity—and describes illustrative implications for social influence processes. These features highlight areas that traditional mass and interpersonal communication perspectives cannot fully describe alone, and suggest new methods and directions for the examination of online social influence.

Keywords: Social Influence, Mass Communication, Interpersonal Communication, Technological Convergence, Online Social Influence.

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Mass communication has traditionally been conceptualized as the one-way transmission of messages from a central organizational source to a large and largely anonymous audience. Interpersonal communication has typically been conceptualized as the bidirectional and rule-governed transfer of messages between particular communicators. However, mass and interpersonal communication—long divided in the field of communication by a "false dichotomy" (Reardon & Rogers, 1988) that speciously separated one from the other—are rapidly converging as people routinely integrate an extensive and varied assortment of Internet-based tools into their communication repertoires. The result is enhanced attention to a generation-old call to integrate mass and interpersonal perspectives on communication, in order to more accurately reflect the realities of communication in the contemporary media environment.

However, although the technological changes underlying this convergence have been underway for many decades, it is only relatively recently that they have become

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manifest in a form and on a scale that appears to truly compel scholars to accommodate the union of mass and interpersonal communication phenomena in their research. This is the case because Internet-based tools now routinely offer several capabilities and features that disrupt the core distinctions that initially distinguished mass from interpersonal communication. As these disruptions occur, melding perspectives on mass and interpersonal communication — particularly as they implicate online social influence processes — is increasingly timely, natural, and useful. To facilitate this integration, this article first considers recent technological developments that undermine conditions once presumed to distinguish mass from interpersonal communication and proposes important changes that these developments have prompted. Next, these changes are considered in terms of their capacity to affect social influence processes explicitly. Finally, based on this, areas that traditional mass and interpersonal communication perspectives cannot fully describe alone, and new directions for the examination of online social influence, are described.

Critical communicative shifts enhanced by technological developments

Several features of the contemporary media environment suggest that what were for the better part of the last century enduring conditions of message transmission and receipt distinguishing mass from interpersonal communication are no longer uniformly tenable. To take a common example, consider a news story originating from a reputable mass media outlet that appears in print, is posted to the organization's website, and is disseminated initially to individuals through a variety of social media and other venues, either by prearrangement (e.g., subscribers or followers) or other means of selection (e.g., algorithmic selection for targeted communication). Readers and recipients then further disseminate the story within their offline or online networks (often quickly outstripping those personally known to them), and redistribute it on additional sites, venues, and online networks, occasionally reframing, repurposing, or juxtaposing it with additional materials. Along the way the initial story might be stripped of critical context such as its original author or source, intention, or goal; furthermore, it may also accrue robust and perhaps conflicting commentary across multiple venues, indicators of relative popularity (e.g., trending data), or various ratings, testimonials, or other forms of dis/approval. As the news story travels through a complex network of individuals and organizations, propelled and enhanced by representation, annotation, and commentaries of various kinds, it may ultimately bear little resemblance to its original form, though its reach is greatly extended.

As can be seen in this simple example, recent technological developments have prompted dramatic changes in *message control*, *audience scale*, *source ambiguity*, *receiver ambiguity*, and *temporal ambiguity*. These changes demonstrate that the conditions that we once presumed to distinguish mass from interpersonal communication — most notably differences in communication directionality and scale, audience size and identification, and a host of cues that signal source familiarity,

trustworthiness, and expertise—are no longer reliably applicable, due in large part to the affordances of contemporary technological tools.

For example, with the rise of technologies that significantly enhance information sharing across space and time come changes in *message control*, or the degree to which sources are able to manage the placement of messages within the larger flow of interaction in efforts to govern their outcomes. Once presumed in models of mass and interpersonal communication largely to be the purview of the message source, message control is no longer as strictly assured. Interactive and annotative features of social media can augment or redirect traditional mass media messages or, more rarely, mass media can appropriate interpersonal messages stored online. As information is passed through complex online social networks and embellished along the way with individuals' comments, assessments, and other ancillary materials, the ability to control message placement, meaning, and reception is diminished.

In some ways, these contemporary enhancements merely bolster longstanding processes. For instance, there is a rich history of research that considers how traditional mass media messages can serve as the basis for robust individual discussion (e.g., about "media events" or as integral to the diffusion of innovations) and interpersonal message control may in fact be enhanced by recent technological advancements (e.g., through conscious message curation, self-editing, and the careful crafting of digital communication). Yet, downstream message control is also less easily regulated and governed due to the routine use of information sharing tools and techniques wherein messages can be shared, altered, and reinterpreted with only minimal control by the original source. In this manner, the distinctions between mass and interpersonal messages are fewer and less clear, as they coexist and potentially reinforce or contradict one another.

Similarly, *audience scale* (i.e., the number of message recipients), once a distinguishing feature between mass and interpersonal communication, has been altered dramatically in recent decades. Complementing large mass and small personal audiences, technologies have effectively closed the "media gap" between these, where medium-sized groups formerly suffered either from lack of access to resources for wide scale communication or the functional limits to efficient communication among larger groups (Neuman, 1991). Given contemporary tools that overcome these limits (such as listservs, discussion groups, e-mail, and websites) members of medium-size audiences can now communicate with one another with relative ease and only minor time delays. Moreover, recent developments in social and networked media that bring larger and larger audiences into reach by individuals are testing the boundaries between interpersonal, group, and mass communication today.

Finally, increased ambiguity of sources, receivers, and temporality all impact what constitutes mass versus interpersonal communication. *Source ambiguity* arises when information about the originator of a message is unavailable, incomplete, or unclear—for example, from websites, chat partners, blogs, online comments and commentaries, and so on. In other cases, source information is provided, yet hard to interpret, such as when information is coproduced, repurposed from one

site, channel, or application to another, or when aggregators display information from multiple sources in a centralized location that may itself be perceived as the source. These technological features can create a kind of "context deficit" for digital information (Eysenbach, 2008), where one potential outcome is ambiguity about interpersonal versus mass communication sources.

Receiver (i.e., audience) *ambiguity* occurs when message senders lose control to varying degrees of the basic capacity to specify message recipients reliably. Indeed, the ability to stipulate message recipients, even at a broad level, is the cornerstone of both mass communication broadcast models or interpersonal conversation models as traditionally conceived. Yet it is often the case today that specific receivers cannot be identified reliably, especially as messages travel downstream via unpredictable routes.

Temporal ambiguity, or unpredictability regarding the timing of message dispatch and reception, is also now common. In contrast to traditional (mass or interpersonal) models specifying relatively predictable time-ordered message transmission and receipt, messages can often be delayed or retransmitted subsequently and repeatedly. Moreover, there is often a loss of temporal context, where messages produced sequentially can be received simultaneously and possibly out of order (e.g., in search engine results) or at multiple but disjunctive points in time where cumulative changes in opinions, knowledge, or policies are received nonsequentially. Additionally, the relative permanence of digital data through vast, searchable archives can result in the coexistence of multiple versions of iterative information, even if inaccuracies or false claims at one point in time have subsequently been rectified or debunked.

Of course, the effects of these communicative shifts related to technological changes are not mutually exclusive. For example, the temporal ambiguity evident in search engine results for time-ordered phenomena can be confounded by the inclusion of both original and nonoriginal sources, which can be further complicated by embellishments to original messages as information is passed from one person to the next. Overall, though, these significant shifts in the media environment suggest that mass and interpersonal communication are increasingly converging. This convergence stands to have profound effects on critical processes of social influence.

Social influence processes in an environment of mass and interpersonal communication convergence

It is well established that individuals are influenced by the opinions and actions of those around them, and that people respond to social pressures of various kinds (Asch, 1951; Cialdini, 2001; Kelman, 1958; Milgram, 1974). Processes of *social influence* generically describe these pressures, and include a wide range of phenomena, such as socialization (acquisition of normative knowledge and skills), obedience (yielding to orders from an authority), compliance (acquiescence to a request), persuasion (noncoercive attitude or behavioral change in response to appeals from others), and conformity (behavioral change to match others' situational responses), among others.

To appreciate social influence in a media environment in which mass and interpersonal communication processes have converged, the dramatic changes in message control, audience scale, source ambiguity, receiver ambiguity, and temporal ambiguity must be understood in terms of their capacity to affect social influence processes. Doing so emphasizes the shift away from conditions once presumed to clearly distinguish mass from interpersonal communication and focuses attention firmly on novel technological affordances and their corresponding research challenges in the current media environment.

Message control

Social influence under conditions of imprecise message control can occur in a wide variety of ways. Whereas traditionally mass and individual sources for the most part maintained control of the content, form, and presentation of their own messages, they now are routinely subject to augmentation, elaboration, and explicit and implicit reframing. Research has examined a number of relevant factors, including the relocation of information online from one context to another, the juxtaposition of messages such as news stories with nonoriginal contextual frames, and the effects of social endorsement of news information on selective attention and exposure to information. Social influence views are useful in these contexts to demonstrate how people interpret such phenomena.

For example, social influence perspectives suggest differences in cognitive processing of messages based on what points of comparison are salient. When extreme exemplars for comparison are salient (as might occur when news information is juxtaposed with discrepant information online), people engage in cognitive contrast processing that results in greater perceived differences between entities, versus comparison to less extreme exemplars that results in assimilation effects and greater perceived similarity to a comparison standard (Herr, 1986; Mussweiler, 2001; Mussweiler, Ruter, & Epstude, 2004). Using this perspective, Thorson, Vraga, and Ekdale (2010) experimentally examined news stories embedded in a fictitious blogger's site, where the blogger posted accompanying high- or low-credibility commentary, in either a civil or uncivil manner. They discovered that lower-credibility blog commentaries and greater blogger incivility accompanying a news article resulted in higher perceptions of credibility of the original article, suggesting that the notably uncivil tone and noncredible commentary made the news story more credible by comparison. In this case the nature of social influence stems from the (re)framing of the news story via juxtaposition, a form of loss of message control that is a common occurrence online.

Research has also demonstrated social influence effects when considering cues that are emblematic of diminished message control. For example, online news site readers favor popular content that is recommended by others (Yang, 2016) and they spend more time reading online news articles that prior readers rated positively (Knobloch-Westerwick, Sharma, Hansen, & Alter, 2005; see also Lee & Tandoc, 2017). Also, online news articles with greater Facebook "likes" have been

shown to be clicked on more frequently, selected earlier, and read for longer than articles with a low number of likes, particularly when impression motivations are high and people are inspired to appear likeable and develop positive relationships with unknown others (Winter, Metzger, & Flanagin, 2016). Overall, research findings highlight substantial social influence pressures acting on people navigating online messages outside of the traditionally clear control of either organizations or individuals.

Audience scale

Social influence processes are potentially related to changes in communication scale in a variety of ways. The major shift inspired by recent technological changes occurs when the dyads or small groups traditionally represented in interpersonal communication expand, sometimes greatly. Online social networks, discussion groups of various types, and interactive systems ranging from virtual worlds to games all exhibit dramatic changes in scale, while nonetheless maintaining to at least some degree the goal-directed, bidirectional, and rule-governed transfer of messages between communicators.

In this context scholars have examined how self-presentation is altered in an environment of presumed large-scale audiences, such as commonly occurs within social networks online. Larger audiences make self-presentation potentially problematic since not only must users satisfy a diversity of others but personal information people provide about themselves also coexists with information generated and controlled by others that might be inconsistent with self-constructed and self-managed online identities (Ramirez & Walther, 2009; Rui & Stefanone, 2013). Research shows that audience size is positively related to the amount of self-provided information and that the diversity of one's audience is positively related to engaging in protective self-presentation, whereby individuals attempt to manage unwanted information provided by others online (Rui & Stefanone, 2013). In terms of social influence processes, this suggests an underexplored dynamic where the social influence of the presumed (large and diverse) audience compels message senders to tailor their behaviors accordingly in their efforts to persuade others about their character or qualifications.

Source ambiguity

Information source is a key component of social influence. The authority of sources, the extent to which others like them, and their similarity to a message receiver, for instance, are all key predictors of successful persuasive attempts (Cialdini, 2001). Therefore, when sources online become unclear, whether by intentional obfuscation or through processes of information transfer that obscure original sources (see Neubaum & Krämer, 2017), information crucial to the formation and change of people's attitudes and behaviors is altered. The result is source assessments based on potentially suboptimal information or reliance on alternatives to traditional source indicators that are conceivably less reliable.

One domain in which source ambiguity has had a considerable impact in recent years is electronic commerce. Where people once relied to a large degree on companies, advertisers, spokespeople, and the like to formulate their product opinions and purchasing decisions—in conjunction of course with interpersonal sources of influence—the rise of tools of interconnectivity has enabled the considerable influence of additional and often less clear sources of influence. Strangers, peers, and others now routinely provide social influences by "electronic word-of-mouth" (eWOM) available through statements and opinions by potential or former customers about a company or product that can influence consumer purchase behaviors and opinions.

The perceived credibility of sources proffering eWOM information is a major focus of research and perceived source credibility generally is positively related to eWOM effects (e.g., purchase intention; Cheung & Thadani, 2012). In addition to direct assessments of a source's general credibility, related source factors include the type of information source (e.g., friend vs. salesperson), attributions of a recommender's motives, and the intensity of social ties or homophily between information sources and receivers. This research posits a variety of underlying social influences, including perceived persuasive intent, similarity, and relational closeness, which are all shown to affect the persuasiveness of information stemming from relatively ambiguous sources.

eWOM research has also identified a wide range of factors proposed to compensate for source ambiguity (see Cheung & Thadani, 2012 for a review), including indicators of argument quality (relevance, timeliness, accuracy, and comprehensiveness), recommendation framing or valence (positivity or negativity of eWOM messages), recommendation sidedness (i.e., the ratio of positive to negative messages), the number or volume of reviews, and recommendation ratings and consistency. Significant social influence pressures are inherent in each of these. For example, ratings information that is consistent among reviewers constitutes a form of informational social influence (Deutsch & Gerard, 1955) stemming from socially available others, which can serve to disambiguate complex or ambiguous information environments. Theoretically, eWOM research relies heavily on social influence theories, most notably dual process theories of information processing, perspectives on source credibility, and a variety of interpersonal influence perspectives (Cheung & Thadani, 2012).

A great deal of research has also considered the complexities of source credibility in the digital age well beyond eWOM applications. Greater source credibility generally results in greater persuasion (Pornpitakpan, 2004) and both institutional and user-generated content is seen as more credible when originating from well-established, authoritative, or reputable sources (Flanagin & Metzger, 2007, 2011). Yet, as traditional gatekeeping functions have been undermined and information resources have proliferated, individuals are increasingly responsible for evaluating information verity without the aid of reliable, authoritative, and vetted sources, as underscored by the recent interest in topics such as "fake news," for example. Source ambiguity is increasingly complex as individuals' information flows are progressively "curated" not by traditional political and media elites but rather

by a variety of sources including journalists, strategic communicators who attempt to bypass conventional methods to reach the mass public directly, individuals or social contacts who filter incoming content (e.g., via the selection of particular channels, recommendations, feeds, or sources), and computer algorithms that select information based on individuals' past preferences and behaviors (Thorson & Wells, 2016).

Regarding social influence, research shows that to a large degree, credibility evaluation has become a highly social process. There is strong evidence for diverse social- and group-based credibility assessment strategies, including social information pooling, social confirmation of personal opinion, enthusiast endorsements, and resource sharing via interpersonal exchange (Metzger, Flanagin, & Medders, 2010). Guiding these processes is the use of cognitive heuristics, grounded in social factors. Indeed, social confirmation (or "social proof," Cialdini, 2001) seems to underpin commonly observed reputation, endorsement, and consistency heuristics used to assess source and information credibility, which are all premised on the notion that credibility can be established from others' actions and beliefs.

Receiver ambiguity

Mass and interpersonal communication typically presume at least nominal knowledge of message audiences. Traditionally in mass communication this implied a relatively large and anonymous audience, and broadcast models recognized this in their strategies to appeal to information consumers broadly. In interpersonal communication the implication was that message recipients were often personally familiar or at least not entirely unknown and messages were therefore tailored dependent on one's situated and specific knowledge of others. Social influence processes like persuasion leveraged knowledge of the receiver in both cases, for example by generating wide-scale appeals to a mass audience or by appealing idiosyncratically to particular individuals. Receiver ambiguity occurs when message senders no longer clearly control the basic capacity to specify message recipients reliably, as for example when institutional media messages are reinterpreted, annotated, and spread within social networks online or when personal messages are shared widely with unknown others through social media.

Under such circumstances interpersonal social influence might proliferate not through traditional channels of influence such as longstanding personal relationships where information receivers are well known but rather via more readily available network features such as perceived homophily or similarity between sources and receivers previously unfamiliar with one another (e.g., Flanagin, Hocevar, & Samahito, 2014; Wang, Walther, Pingree, & Hawkins, 2008). Research has shown, for instance, that shared group identification demonstrated by mutual demographic cues enhances motivation and in turn contribution of information to online information repositories (e.g., online databases such as question and answer or product review sites; Flanagin et al., 2014), suggesting that even rather impersonal cues can substitute for personally identifying information as the mechanism of social influence. Such impersonal, semi-identifying cues are increasingly available via

indicators such as those publicized in one's stated demographics, location, preferences, or opinions in social networks, forums, and other interactive venues online.

From the perspective of mass media, receiver ambiguity is not altogether new, although some specific responses to it are. Tools of increasing sophistication have replicated small group or interpersonal communication features in order to enhance persuasion, by means of narrowcasting content to particular others for whom it is individually tailored or by emulating features of personal communication on a mass scale (Beniger, 1987). Additionally, the use of predictive analytics, whereby data mining techniques are used to forecast individual behaviors, are now routinely invoked to harvest individuals' data and exploit specific user characteristics, often by using algorithmically derived mass appeals to attract individuals on a seemingly personal level (Siegel, 2013). In each instance basic processes of social influence, including tactics such as invoking similarity as a mechanism to enhance liking or social proof through indicators of false consensus, signal efforts to capitalize on ambiguities between mass and interpersonal features online today.

Temporal ambiguity

Research has demonstrated that even shortly after online searches are performed information critical for accurate interpretation—including the specific entity or the general category (e.g., institution, private individual, or support group) responsible for information—is often rapidly disassociated from the information itself (Eysenbach & Köhler, 2002). This type of shortcoming in people's temporal processing of online information might be exacerbated as technological tools progressively disrupt time-ordered message transmission and receipt. For example, "sleeper effects" (see Kumkale & Albarracín, 2004), where favorable attitudes about messages may increase over time despite accompanying information that refutes or denigrates an initial message (e.g., "discounting" cues), can take new forms online. Critical issues in studies of the sleeper effect are the relative availability of discounting information and the presentation order of the initial message and its associated discounting cue. Because discounting cues are readily available online (and often displayed in conjunction with original messages), and presentation order is undermined by the concurrent arrangement of multiple messages, persuasion processes via so-called sleeper effects might experience a simultaneous renaissance in importance and a new complexity in enactment. Future work, for example, might consider the persuasive impact of online messages that coexist with discounting cues from a mix of interpersonal and mass sources, as embedded in individuals' information flows over time. Relatedly, as the pace and interactivity of digital media undermine people's media use recollections, research that links media content available at specific points in time to covariation in people's attitudes and behaviors can offer insight into media effects in the digital media environment (Niederdeppe, 2016).

Future research and conclusions: The study of social influence in an age of convergence

To study contemporary social influence researchers must generate and test theories about how people are influenced by the opinions and actions of those around them that reflect the features of a technological environment where mass and interpersonal communication processes are not clearly or cleanly distinct. Toward this end, this article proposes a number of features of technological convergence in this context (i.e., changes in message control, audience scale, and source, receiver, and temporal ambiguity), and describes illustrative implications for social influence processes. These features highlight areas that traditional mass and interpersonal communication perspectives cannot fully describe alone, and suggest new directions for the examination of online social influence.

For instance, research might profitably focus on specific features of the contemporary media environment that are linked to social influence, including various mechanisms for indicating social endorsement and opinion (e.g., volume, consistency, positivity, balance, and sources of endorsement through the vehicles of online recommendations, ratings, and testimonials), indicators of relative similarity between sources and receivers (e.g., homophily or connectedness via indicators of similarity online), and dimensions of information rearrangement and association (e.g., cognitive contrast processing or message interpretation differences based on online information placement or juxtaposition), to name only a few possibilities. These and other phenomena endemic of a mediated environment that supports convergence of mass and interpersonal communication processes present genuinely fresh opportunities for social influence and its outcomes. Particularly in times of swift technological change, opportunities might exist to identify, isolate, and explain phenomena that are of both critical theoretical interest and tremendous social importance. To identify, appreciate, and explore these perspectives fully is likely to require theoretical combination and creativity, methodological facility and variety, and interdisciplinary collaboration reflective of the blended richness of mass and interpersonal perspectives that have to date too often been treated as distinct.

To provide lasting contributions, research must both consider the technologies of convergence in a manner that ensures that findings outlast any particular tool, and also examine the psychological, social, and behavioral mechanisms underlying online social influence in a fashion that reflects today's tremendously fertile communication environment. Research approaches that emphasize the technological features supporting convergence can provide important insights. Variable-centered (Nass & Mason, 1990) or mix of attributes (Eveland, 2003) perspectives, for example, emphasize focusing on the features that span multiple technologies in order to isolate their influence, regardless of the specific technology in which such features are manifest. In this manner, technologies can be decomposed into their component pieces in order to isolate their relation with other variables of interest. Sundar's (2008) MAIN model, for instance, posits broad affordances (e.g., interactivity) that are triggered by technological cues or features (e.g., degree of customization) that result in cognitive heuristics

(e.g., responsiveness) central to people's credibility evaluations online. Advantages of such approaches in the context of contemporary social influence include a clear focus on the enduring technological features that span technologies (rather than a focus on any particular and likely fleeting technology), clarification of proposed media (versus content) effects, an appreciation of the commonalities between existing and emergent technologies, and, most importantly, a strategy that is agnostic to whether a particular tool is or has been deemed "mass" or "interpersonal."

Research must also focus appropriate attention on the underlying attitudinal and behavioral indicators of social influence processes that explain their emergence, interpretation, and effects. In this pursuit, time-tested theories of social influence can be profitably migrated online to understand how such processes operate there. Indeed, the fact that many such perspectives apply relatively seamlessly to the online environment is testament to their robustness and capacity to capture fundamental aspects of human behavior. Nonetheless, existing models will require adjustment in view of the structural characteristics of current media and audiences, and researchers must also accommodate the interplay of online and offline venues by considering the degrees and ways in which they are (in)distinct or interrelated.

Thus, theories not traditionally applied to convergent media processes can provide compelling explanations for online social influence, either by their application with fidelity to online contexts or by updating them or combining them with perspectives more germane to online communication. For instance, theories of informational social influence (Deutsch & Gerard, 1955) and the warranting perspective (Walther & Parks, 2002) have been used together to frame the conditions under which people might privilege information with high "experiential credibility" (i.e., authority based on individuals' firsthand knowledge) versus information originating from traditional experts online (Flanagin & Metzger, 2013). Theories of informational social influence and warranting independently specify the underlying means by which people may be influenced socially (i.e., via the disambiguating influence of information available from others or via trust developed from consistent observations that are difficult to falsify, respectively). Yet, whereas informational social influence theories have only been recently migrated to online environments, the warranting perspective is remarkably well positioned to capture particular facets of communication online given the considerable latitude in the nature and number of observations and opinions provided by others within this domain.

Many theoretical perspectives, of course, are similarly poised to make contributions in the context of technological convergence today. And, although many phenomena are explained well by traditional and hybrid theoretical perspectives, many are not, and novel theoretical mechanisms will therefore be required to understand them. In this endeavor, it is imperative to maintain a dual focus on the particular features of the media environment that have led to convergence and to also attend to the critical communication-based mechanisms that will ultimately provide the necessary theoretical traction over time, particularly as technologies and users naturally coevolve.

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