

# 2 Theoretical Foundations of Social Media Uses and Effects

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Empirical work into the cognitive, affective, and behavioral effects of media use started in the 1920s under the umbrella concept of mass communication. The term mass communication arose as a response to the new opportunities of reaching audiences via the mass media (e.g., film, radio; McQuail, 2010). In early mass communication theories, the *mass* did not only refer to the “massness” of the audience that media could reach, but also to homogenous media use and powerful media effects, notions that apply increasingly less to the contemporary media landscape (Valkenburg et al., 2016). In the past two decades, media use has undergone a rapid evolution. It has become increasingly individualized, and, with the introduction of social media, undeniably more dynamic and ubiquitous. It is no surprise, therefore, that communication and media effects theories have undergone important adjustments. And it is also no surprise that the mass has turned increasingly obsolete in contemporary media effects theories (Valkenburg & Oliver, 2019).

The aim of this chapter is to discuss the communication and media effects theories that may serve as the foundations for research into the effects of *social* media use on adolescents. To define social media, I follow the definition of Bayer et al. (2020, p. 472): Social media are “computer-mediated communication channels that allow users to engage in social interaction with broad and narrow audiences in real time or asynchronously.” Social media use thus entails the active (e.g., posting) or passive (e.g., browsing), private (one-to-one) or public (e.g., one-to-many), and synchronous or asynchronous usage of social media platforms, such as Instagram, Facebook, Snapchat, TikTok, WeChat, and WhatsApp.

The first section of this chapter focuses on three important paradigms of general media effects theories that may help us understand the effects of social media, namely the selectivity, transactionality, and conditionality paradigms. The second section reviews computer-mediated communication theories, which originated in the 1970s, and are still relevant to understand the effects of social media. The third section introduces a transactional affordance theory of social media uses, which is inspired by transactional theories of development

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(Bronfenbrenner, 2005; Sameroff, 2009), Self-effects theory (Valkenburg, 2017), and affordance theories of social media use (e.g., boyd, 2011; McFarland & Ployhart, 2015). A fourth and final section presents some avenues for future research into the effects of social media on adolescents.

## Media Effects Theories

In this chapter, I define media effects as the deliberate and nondeliberate short- and long-term within-person changes in cognitions, emotions, attitudes, and behavior that result from media use (Valkenburg et al., 2016). And I define a (social) media effects *theory* as a theory that attempts to explain the uses and effects of (social) media use on individuals, groups, or societies as a whole (Valkenburg & Oliver, 2019). To be labeled a (social) media effects theory, a theory at least needs to conceptualize media use, and the potential changes that this use can bring about within individuals, groups, or societies (i.e., the media effect).

Over the past decades, dozens of media effects theories have been developed. These theories differ substantially in how they conceptualize the media effects process. Some theories, particularly the early ones, focus primarily on unidirectional linear relationships between media use and certain outcomes. Other, more comprehensive theories pay more attention to the interactive effects of media use and nonmedia factors (e.g., dispositions, social contexts) on certain outcomes. Valkenburg et al. (2016) argued that media effects theories can be organized along five paradigms that specify the conditions under which media effects can (or cannot) occur. This chapter discusses the three paradigms that are most relevant to our understanding of the effects of social media use, the selectivity, transactionality, and conditionality paradigm. The term “message” in this chapter refers to all textual, auditory, visual, and audiovisual content that is shared on social media.

### The Selectivity Paradigm

The selectivity paradigm of media effects theories states that: (a) individuals can only attend to a limited number of media messages out of the wealth of media messages that can potentially attract their attention, (b) they select these media messages in response to dispositions, needs, and desires that differ from person to person, and (c) only those media messages they select have the potential to influence them. The selectivity paradigm is represented by two different communication theories: uses and gratifications theory (Katz et al., 1973) and selective exposure theory (Zillmann & Bryant, 1985). Both theories argue that a variety of cognitive and psychosocial factors guide and filter one’s selective media use. An important difference between the theories is that uses and gratifications theory conceives of media users as rational and conscious of

their selective media use, whereas selective exposure theory argues that media users are often not aware, or at least not fully aware, of their selection motives.

### The Transactionality Paradigm

The transactionality paradigm is an extension of the selectivity paradigm. Early studies into the selectivity paradigm have predominantly focused on the extent to which the dispositions of media users (e.g., needs, moods, attitudes) predict their tendency to select media. In other words, these studies conceptualized selective media use as the outcome, whereas the effects of this media use received less attention. In more recent transactional media effects theories (e.g., Slater, 2007; Valkenburg & Peter, 2013a), the selectivity paradigm has become an integrated part of the media effects process. Transactional media effect theories argue that (a) the media user, rather than the media, is the starting point of a process that leads to selective media use, (b) this selective media use may bring about a transaction (i.e., change) in the media user, which is the media effect, and (c) this media effect may, in turn, reciprocally influence media use and the antecedents of media use. For example, it has been shown that adolescents high in trait aggressiveness are more likely to selectively expose themselves to violent websites, which may further enhance their trait aggressiveness (Slater, 2003).

The propositions in transactional media effects theories have important implications for theories and research on the effects of *social* media. First, in comparison with mass media, social media have more filters and algorithms to cater to the preferences of adolescent users, which may stimulate their selective exposure to messages that match these preferences. Second, social media platforms typically allow adolescents to make their posts more personal, vivid, and emotional, which may enhance the likelihood of effects. Third, since 2017, adolescents can not only search for messages related to a specific hashtag but can also follow one or more hashtags, after which posts under these hashtags start to show up more prominently in the users' timelines or feeds (Scherr et al., 2020). In comparison with mass media content, such posts may be more effective both in attracting the selective attention of recipients of these posts, and in influencing their cognitions, attitudes, and behavior (e.g., Parmelee & Roman, 2020).

Following transactional theories, social media use may thus result in selective exposure to messages that match with individuals' preexisting dispositions (e.g., needs, moods, attitudes), more so than mass media use. These theories thus imply that social media users may also more than mass media users be able to shape their own media effects via this targeted selective social media use. Hence, if we want to understand the effects of social media use on adolescents, we may need to study the antecedents that shape their selective social media use. Selective exposure theories have mostly focused on dispositional antecedents, such as mood and preexisting attitudes. But according to

Valkenburg & Peter's (2013a) differential susceptibility to media effects model (DSMM), three types of antecedents may predict adolescents' selective (social) media use and, thus, the effects of this use: dispositional, developmental, and social-context factors.

### Dispositional Factors

Dispositions that may lead to selective social media use range from more stable factors (e.g., temperament, personality) to more transient and situational ones (e.g., needs, desires, moods). Both types of antecedents have received some support. For example, fear of missing out (FOMO, a more stable anxiety of missing out on rewarding experiences that others are having) has been linked to adolescents' (problematic) social media use (Franchina et al., 2018). Furthermore, some (but not all) adolescents experiencing low mood turn to social media to look for funny clips or supportive feedback (Rideout & Fox, 2018).

### Developmental Factors

As for development, research has shown that children and adolescents typically prefer media messages that are only moderately discrepant from their age-related comprehension schemata and level of psychosocial development (Valkenburg & Cantor, 2000). If they encounter media content that is too discrepant, they will allocate less attention to it or avoid it. This moderate-discrepancy hypothesis explains, for example: (a) why toddlers are typically attracted to audiovisual material with a slow pace, simple characters, and familiar contexts, and why they can be mesmerized by buttons on tablets; (b) why preschoolers typically like to attend to faster-paced, more adventurous contexts, and more sophisticated fantasy characters; (c) why children in middle childhood typically enjoy computer games and virtual worlds that allow collecting and saving, and identify with real-life idols; and (d) why adolescents are the most avid users of social media for interacting with their friends, and seek online entertainment that presents irreverent humor or risky behavior (for a more elaborate review of developmentally related media preferences, see Valkenburg and Piotrowski (2017).

### Social Context Factors

Social context refers to the surroundings within which individuals or groups act or interact, and whose norms and affordances may influence the cognitions, emotions, attitudes, and behaviors that occur within it. On the macro level, structural aspects of the media system (e.g., platform availability) can affect media choices (e.g., Webster, 2009), whereas on the micro level, parents and schools can forbid adolescents from spending time on social media during

dinner or in the classroom (Valkenburg & Piotrowski, 2017). In addition, especially in adolescence, peer groups can exert a strong influence on certain preferences and behaviors (Brechtwald & Prinstein, 2011), including media preferences (Valkenburg & Cantor, 2000). Members of a peer group share norms that they have created themselves. Adolescents typically form strong social antennas for these norms, including those pertaining to social media use. Environmental influences on social media use can thus occur overtly (e.g., by parental restriction or monitoring) or more covertly, for example through adolescents' sensitivity to the prevailing norms in their peer group.

## **The Conditionality Paradigm**

The conditionality paradigm is closely linked with the selectivity and transactionality paradigms. After all, in both paradigms it is argued that only the messages that individuals select in response to person-specific antecedents have the potential to influence them. Theories that propose conditional media effects share the notion that media effects (a) do not equally hold for all media users, and (b) can be enhanced or reduced by dispositional, developmental, and social-context factors (Valkenburg & Peter, 2013a). In line with earlier media effects theories (e.g., Bandura, 2009), Valkenburg and Peter's DSMM postulates that dispositional, developmental, and social-context factors may have a double role in the media effects process: They not only predict media use, but they also influence the way in which media messages are processed and subsequent distal media outcomes. This twofold influence results in three types of differential susceptibility to media effects: dispositional, developmental, and social-context susceptibility.

### **Dispositional Susceptibility**

Dispositional susceptibility refers to the degree to which certain dispositions influence media processing and media outcomes. It has been shown, for example, that trait aggressiveness can increase the effects of media violence on cognitive and emotional processing of violent media content (Schultz et al., 2004), which may, in turn, result in enhanced aggression (Krcmar, 2009). As for social media, it has been shown that Facebook users who scored high on FOMO, experience more hurtful comments, and more stalking and harassment (Buglass et al., 2017). In addition, sensation seeking is an important predictor of risky behavior on social media, whereas a lack of inhibitory control can result in more negative feedback on these media (Koutamanis et al., 2015). Finally, specific affordances of social media may particularly stimulate online disinhibition among self-conscious and socially anxious adolescents (e.g., Schouten et al., 2007). This online disinhibition has been shown to result in positive (e.g., friendship closeness; Valkenburg & Peter, 2009) or negative effects of social media use (e.g., cyberbullying; Nesi et al., 2018b).

### Developmental Susceptibility

Developmental susceptibility refers to the degree to which developmental level influences media processing and media outcomes. Evidence for developmental susceptibility is relatively scarce. It has been shown that younger children react with stronger physiological arousal to violent and frightening audiovisual content than adolescents, even if this content is unrealistic, which may enhance the effects of such content (Cantor, 2009). In addition, online sexual risk behavior seems to reach a peak in middle adolescence, after which it levels off again (Baumgartner et al., 2012). This developmentally induced inverted U-shaped trajectory is often explained by dual-system theories of brain development (e.g., Steinberg, 2010), which argue that the parts of the adolescent brain that are responsible for reward sensitivity to social stimuli may develop more quickly than the parts that are responsible for regulation of this reward sensitivity.

### Social-Context Susceptibility

Social-context susceptibility refers to the degree to which social context factors influence media processing and media outcomes. Evidence for social-context susceptibility comes from studies showing that when physical violence is normative in families, children may learn to interpret media violence differently (Schultz et al., 2004), making them more susceptible to media effects on aggression (Fikkers et al., 2013). Social-context susceptibility can be explained by the context-convergence hypothesis (Valkenburg & Peter, 2013a), which posits that individuals are more susceptible to media messages if these messages converge with the values and norms in their social context. In cultivation theory (Gerbner et al., 1980, p. 15), an early media effects theory, this phenomenon has been named resonance: When something experienced in the media is similar to the norms that prevail in one's social environment, it creates a "double dose" of the message, which enhances the likelihood of media effects.

### Social Media as a Social Context in Its Own Right

As discussed earlier on in the chapter, social context refers to the environment within which individuals or groups act or interact, and whose norms and affordances may influence the cognitions, emotions, attitudes, and behaviors that occur within it. An important theoretical question is whether we need to conceptualize social media as a social context in its own right that may shape both social media uses and their effects. Authors differ in their conceptions of whether social media should be seen as a social context in itself. Some scholars adhere to a "Mirroring Framework" (Nesi et al., 2018a, p. 268), that is, the notion that adolescents' experiences on social media simply mirror their offline experiences.

Several other scholars, including the author of this chapter, believe that social media is not merely a technology, but a social context, whose norms and

affordances may influence social media use, as well as the changes among users that result from this use. These scholars do acknowledge that the social media context overlaps with other contexts, such as the family, peer, and school context. But such overlap also applies to other social contexts (e.g., family with school; peer group with school). Coconstruction theory (Subrahmanyam et al., 2006) and the transformation framework (Nesi et al., 2018a, 2018b) both discuss how the social media context differs from equivalent offline interaction contexts. Coconstruction theory proposes that even though adolescents construct the same developmental issues online as they do offline, they use specific affordances of social media that do not exist in offline situations (e.g., cue manageability and scalability) to construct and coconstruct their identity, intimacy, and sexuality. Finally, following affordance theories of social media (e.g., boyd, 2011; McFarland & Ployhart, 2015; Peter & Valkenburg, 2013), the transformation framework considers social media as a context that differs in important ways from face-to-face and earlier digital interactions (e.g., email). As a result, this context may affect social media uses and their effects in different ways than face-to-face and earlier digital interactions (Nesi et al., 2018a, 2018b).

A telling example of a defining norm of the social media context is its positivity bias, which refers to the observation that public social media interactions (e.g., Instagram, Facebook) are typically more positive than equivalent offline interactions (e.g., Reinecke & Trepte, 2014; Waterloo et al., 2017). This positivity bias may influence both message recipients and message senders positively or negatively. Message recipients can be exposed to positively biased messages of happy, successful, and popular peers. Among some recipients this exposure may result in envy and negative psychosocial effects (e.g., Vogel et al., 2014). And among other recipients it may lead to inspiration, and positive psychosocial effects (e.g., Meier et al., 2020).

The positivity bias may also influence message senders in opposite ways. Firstly, their positively biased self-presentations may increase their own psychological well-being (Burnell et al., 2020), a phenomenon that has been named a self-effect (Valkenburg, 2017). But when these self-presentations are exaggerated (e.g., too emotional) they may create embarrassment and guilt, and decrease psychological well-being (Stern, 2015). Apparently, the perceptions and consequences of the positivity bias on social media differ from adolescent to adolescent, an idea that will be elaborated upon when discussing affordance theories of social media.

## Computer-Mediated Communication Theories

Studies into the cognitive, affective, and behavioral effects of social media have often been inspired by theories of computer-mediated communication (CMC). CMC theories and research emerged in the 1970s, long before

the Internet became widespread. Unlike media effects research, which evolved from the study of mass communication, CMC research originated from a mixture of interpersonal communication, teleconferencing, and organizational behavior. In addition, whereas media effects research is more survey-oriented, the approach of CMC research is mostly experimental. CMC research has typically focused on comparing the cognitive, affective, and behavioral effects of face-to-face communication to those of CMC. It has often centered on questions such as whether and how certain CMC properties, such as anonymity or the lack of audiovisual cues, influence the quality of social interaction among dyads or group members, and the impressions these dyads or group members form of one another.

In the 1970s, some early, rather pessimistic CMC theories compared the “lean” text-only CMC with the “rich” communication in face-to-face settings. In doing so, they tried to explain, for example, why CMC leads to less intimacy and more disinhibited behavior (Walther, 2011). In the early 1990s, a new cluster of theories emerged, with a more optimistic view on CMC. That was the time that individuals started emailing, and the Internet became available for personal use. During this time, Walther’s social information processing theory became influential. This theory explains how CMC partners can gradually overcome the presumed limitations of CMC by creatively employing strategies to exchange and understand social and emotional messages in CMC. In this way, with sufficient time and message exchanges, CMC partners could develop intimacy levels comparable to those in face-to-face communication (Walther, 1992).

In the second half of the 1990s, Walther extended his theory with an even more optimistic perspective, which predicted that CMC messages could lead to greater intimacy than face-to-face communication. According to his hyperpersonal communication model (Walther, 1996), the relative anonymity and reduced audiovisual cues in CMC encourage individuals to optimally present themselves, for instance, by pretending to be kinder and more beautiful than they actually are. Meanwhile, the recipients of these optimized self-presentations are free to fill in the blanks in their impressions of their partners, which may encourage them to idealize these partners. In doing so, CMC relationships could become “hyperpersonal,” that is, more intimate than offline relationships (Walther, 1996). In the same period, another influential CMC theory emerged, the social identity model of deindividuation effects, whose major focus was to explain how the anonymity in CMC groups affects normative and anti-normative behavior among their members (Postmes et al., 2000).

The focus of early CMC theories on anonymity and limited audiovisual cues fitted well in the 1990s and the first half of the 2000s, when CMC was predominantly text-based and typically took place in anonymous chatrooms or newsgroups (Valkenburg et al., 2016). However, most current CMC technologies popular among adolescents, such as Instagram and Snapchat, are

much less anonymous than their predecessors, and rely heavily on a range of audiovisual cues. Therefore, it has become less relevant to experimentally compare their specific CMC properties with face-to-face communication (Scott & Fullwood, 2020). Moreover, the “computer” part of CMC applications has become more portable and ubiquitous, and has diluted into a multitude of mobile devices and apps (Xu & Liao, 2020, p. 32). Indeed, the devices with which we communicate have gotten closer and closer to our bodies. They moved from our desks (desktop), to our bags (laptop), to our pockets (smartphone), and to our wrists (Valkenburg & Piotrowski, 2017). It is no surprise that these rapid developments provide contemporary CMC theorists with many new conceptual, theoretical, and empirical challenges (Carr, 2020).

An important strength of CMC theories and research, certainly when compared with media effects theories, has been their strong focus on the dynamic give-and-take interactions between message senders and recipients. CMC theories are, by definition, transactional theories that acknowledge that message exchanges are shaped by both message senders and receivers (Valkenburg, 2017). However, possibly due to its experimental orientation, CMC research has often focused on the unidirectional, across-the-board effects of CMC properties (i.e., anonymity, reduced audiovisual cues) on the recipients of these properties. Although both media effects and CMC theories like to describe recipients as active in the sense that they have autonomy over the way they interpret media or CMC characteristics, the empirically investigated influence in both research traditions is still all too often unidirectional: from the media or technology to the recipients.

However, if we accept that the current generation of social media are not merely technologies, but a social context whose norms and affordances differ from offline social contexts, such as the peer group or the neighborhood (Sameroff, 2009), we may need an updated theorization on the uses and effects of social media. Such an update needs to address the transactional relationships between social media users and the social media context, as well as the interactions between the social media context and other, offline, contexts. In the next section, I will make a preliminary start on such an update, by introducing a transactional affordance theory of social media uses. I deliberately use the term “uses” to refer to the many possible uses of social media.

Three types of theories might offer inspiration to such an updated theorization: transactional theories of development (e.g., Bronfenbrenner, 2005; Sameroff, 2009), Gibson’s (1979) affordance theory, which later evolved into affordance theories of social media (e.g., boyd, 2011; Treem & Leonardi, 2013), and self-effects theory (Valkenburg, 2017). Transactional theories of development propose that change within an adolescent is a product of their continuous dynamic interactions with their experienced social contexts (Bronfenbrenner, 2005; Sameroff, 2009). Gibson’s affordance theory is a learning theory that explains how different perceptions of an object or environment

can result in different actions toward or uses of this object or environment. Finally, self-effects are the effects of messages on message senders themselves. As will be clear, social media use cannot only result in transactions (i.e., changes) within message *recipients*, but also within the senders of these messages.

### **A Transactional Affordance Theory of Social Media Uses**

A transactional affordance theory of social media uses elaborates on three related propositions raised in transactional theories and/or affordance theories and/or self-effects theory: These propositions are: (1) social media users (co)create their own social media context, and this (co)created context shapes their experienced effects; (2) just like the family, school, and peer context, the social media context is a micro-level social context, in which transactional effects are more likely than in the mass media context; (3) the experiences with the social media context differ from adolescent to adolescent; thus, the unique way in which an adolescent experiences the norms, affordances, and messages in this context is the driving force of social media effects on this adolescent.

#### **Social Media Users Shape Their Own Effects**

The first proposition is that (1) social media users can individually (or collectively) shape their social media context, and (2) their experiences within this social media context can shape the effects of this context. The first part of this proposition is in line with transactional theories of development and Gibson's (1979) affordance theory. Transactional theories of development agree that children can shape and be shaped by their experienced social contexts (Bronfenbrenner, 2005; Sameroff, 2009). Likewise, Gibson argued that individuals tend to alter their environment by adjusting its affordances to better suit their needs and desires. In other words, an individual's perceptions of the affordances of a context may lead to specific uses of this context, which in turn shape the experienced effects of this context. A similar proposition has been raised in self-effects theory (Valkenburg, 2017), which proposes that social media users carefully craft their messages (e.g., social media posts), which may influence the recipients of these messages (i.e., the social environment) but also the message senders themselves, directly via internalization of overt behavior (Bem, 1972), or indirectly, via the feedback that their messages elicit.

The first part of this proposition, that social media users can individually (or collectively) shape their social media context, has received support. Adolescents can (co)create both the affordances and norms of the social media contexts in which they participate. It has been found, for example, that the sharing of intimate, self-related information is more accepted in the social

media context than in equivalent offline contexts (Christofides et al., 2009). Another (co)created norm is that the sharing of negative emotions is more accepted in private (e.g., WhatsApp) than public social media contexts (e.g., Instagram; Waterloo et al., 2017). And if adolescents do want to share intimate, self-related information on a public social medium like Instagram, they sometimes turn to a Finsta (a Fake Instagram account where they can be honest and show their true self) in addition to a Rinsta (a Real Instagram account used to post their positive experiences). Finally, overly emotional expressions on in public social media are considered norm violations (Waterloo et al., 2017).

The second part of this proposition, that adolescents' *unique* experiences within their (co) created social media context can shape the effects of this context, has also received support. For example, message recipients can selectively and autonomously expose themselves to uplifting or depressing social media messages, which may subsequently affect their well-being in unique ways. In a qualitative study of Rideout and Fox (2018), one adolescent reported: "If I'm feeling depressed, getting on Twitter and seeing funny tweets or watching funny videos on YouTube can really brighten my mood" (p. 20). In this example, a transient dispositional variable (low mood) shaped this adolescent's selective exposure, which in turn positively shaped their experienced effect (i.e., a brightened mood). In the same study, another adolescent's preexisting low mood resulted in an opposite effect of social media browsing (i.e., a worsened low mood): "Social media makes me feel worse when I'm scrolling through feeds and seeing news headlines and posts about how terrible something is" (Rideout & Fox, 2018, p. 19). And yet another adolescent with a preexisting low mood reacted with selective avoidance: "Usually friends post happy things – getting together with others, accomplishments, bragging. I don't always want to see it when I'm feeling down about myself so I stay off social media" (p. 20).

These qualitative findings illustrate the complex nature of the associations between preexisting disposition (i.e., low mood), selective exposure to social media messages, and postexposure mood. Mood-induced selective exposure to social media messages can enhance mood (adolescent 1), worsen mood (adolescent 2), and it can lead to selective avoidance (adolescent 3). Such unique differences have also been reported in two recent experience sampling studies by Beyens et al. (2020, 2021), who found considerable differences in experienced effects of social media use. In one study, they found that 46% of the participating adolescents felt better after social media browsing in the past hour, while 44% did not feel better or worse, and 10% felt worse after such use (Beyens et al., 2020).

Such uniquely experienced social media effects also seem to hold for message senders. Several studies have shown that message sending (e.g., posting) can improve the well-being of message senders (Verduyn et al., 2017), a result that has often been explained by the positive feedback that message senders

receive (Verduyn et al., 2017). However, social media–induced improvements in well-being can also occur without any involvement of fellow users (Pingree, 2007; Valkenburg, 2017). Self-expressions on social media, especially when their intended audience is sizeable, may lead to internalization of these self-expressions, for example, via self-perception. Self-perception theory (Bem, 1972) argues that individuals infer their internal self-concept from retrospectively observing their own overt behavior. If these individuals share positive self-expressions induced by the positivity norm in public social media, these individuals may, due to a desire for a consistency between their overt behavior and their self-concept, adjust their self-concept to match their behavior. For a discussion of self-effects in social media, and the mechanisms that may explain such effects, such as cognitive reframing, biased scanning, and public commitment, see Valkenburg (2017).

### **Social Media as a Micro- and Mesosystem**

A second proposition of a transactional affordance theory of social media uses is that the social media context is a micro-level context, in which effects on participants are more likely than in the mass media context. Bronfenbrenner was one of the first to conceptualize the relationship between individuals and their social contexts. He distinguished between four types of contexts: the micro-, meso-, macro-, and exosystem (Bronfenbrenner, 1979, 2005). The microsystem involves direct interactions of the child with their most proximal circle, such as the family, peer group, or neighborhood. The mesosystem represents the possible interactions among these microsystems (e.g., between the family and peer group), whereas the macrosystem refers to the overarching culture or subculture of children. Bronfenbrenner's fourth context, the exosystem, refers to social contexts that do not allow the child as an active participant but that have the potential to affect the child. An example of an exosystem is the work context of one of the parents of the child. A child cannot actively participate in this context but can in many ways be influenced by it.

At the time of the development of his theory, Bronfenbrenner identified the mass media as an exosystem because it did not allow for active involvement of adolescents, even though it could shape their experiences. Although valid at the time, Bronfenbrenner (1917–2005) could not have foreseen the rapid developments within the media landscape. If he could have, he would probably have categorized the social media context as a microsystem rather than an exosystem. After all, unlike before, the media landscape now does allow for, and even stimulates, direct interactions among participants. For example, idols, an important source of identity formation in adolescence, have been transferred from the exosystem to the microsystem: Whereas movie stars or pop singers used to be celebrities that adolescents could admire from an unsurmountable distance, social media now provide them with ample opportunity for direct communication with their idols. In fact, many of their

contemporary idols *are* YouTubers or Instagram influencers with whom they can directly interact.

If Bronfenbrenner could, he may now also have identified the social media context as part of the mesosystem because it allows for, or even stimulates, interactions with other microsystems (e.g., the family or the peer contexts). Although every traditional microsystem is in part “permeable” to the influences from other microsystems (e.g., family to peers and vice versa; family to school and vice versa), the social media context might be much more permeable to such influences. Conversely, the social media context seems to have penetrated all other microsystems in which adolescents participate, ranging from the family and peer context to the school.

However, if we accept the social media context as a microsystem, we must acknowledge that this context may, due to its proximity, dynamic, and ubiquitous nature, enhance the likelihood of effects on its participants, certainly when compared to the traditional mass media context. And if we accept the social media context as a part of the mesosystem (interactions among microsystems), we need to acknowledge that it may interact with the norms and affordances of other microsystems, such as parents or the school. And such interactions do occur. For example, preventing or counteracting possible negative consequences of social media interactions, and explaining to adolescents that the social media context may not be as perfect as it often appears, are important ingredients of today’s media-specific parenting and school-based prevention and intervention programs (Valkenburg & Piotrowski, 2017).

### **It Is the Subjective Experience That Counts**

A third and final proposition of a transactional affordance theory of social media uses is that the unique way in which individuals *experience* the norms and affordances of the social media context is the driving force of transactional effects between individuals and this context. This proposition is consistent with both transactional theories of development (Bronfenbrenner, 2005; Sameroff, 2009) and Gibson’s affordance theory (Gibson, 1979). Affordances, according to Gibson, are the unique ways in which individuals experience the utility of objects. For example, distinct individuals may all perceive another utility of a bottle (e.g., as a water container, a vase, a candle holder, or a weapon). However, to understand such individual differences in experiences of the affordances of social media, I first specify some of these affordances and argue how and why these affordances differ from other micro-level social contexts, such as the family or peer contexts.

A growing number of social media scholars have ventured to identify specific affordances of social media (boyd, 2011; McFarland & Ployhart, 2015; Nesi et al., 2018a, 2018b; Sundar et al., 2015; Treem & Leonardi, 2013; Valkenburg & Peter, 2011; Valkenburg & Piotrowski, 2017). Some of these scholars have identified four affordances (Treem & Leonardi, 2013),

others have focused on seven (Nesi et al., 2018a; Valkenburg & Piotrowski, 2017) or even eight affordances (McFarland & Ployhart, 2015). Many comparable affordances appear in different studies but sometimes under different names (e.g., identifiability vs. cue absence; scalability vs. publicness). In this chapter, the focus is on three affordances that have been mostly identified in earlier literature. For each affordance, I discuss the scarce evidence of individual differences in the perceptions of its utility, as well as its potential consequences for both senders and recipients of social media messages. A more elaborate discussion of these consequences can be found in Nesi et al. (2018a, 2018b)

### Asynchronicity

Most social media are asynchronous, that is, they afford their users the possibility to edit and reflect on their messages and pictures before uploading them. Even in more synchronous apps, such as WhatsApp, users must press the send button before they can transmit their message or photo to partners or group members. Asynchronous communication allows message senders to carefully craft, refine, and optimize their self-presentations. Adolescents differ significantly in the importance they attach to this affordance. In one of our survey studies, we asked (pre)adolescents (10–17-year-olds) how much importance they attached to the idea that they have more time to think about what they share on social media than in face-to-face encounters (this part of data not published). Thirty-seven percent of them attached importance or high importance to this affordance, 25% did not attach any importance to this affordance, and a remaining 38% reported that they did not care. The asynchronicity affordance seemed particularly valuable for early and middle adolescents (12–15-year-olds), socially anxious, and lonely adolescents, who apparently benefit most from the extra time to optimize their self-presentations (Peter & Valkenburg, 2006).

The asynchronicity affordance may influence both senders and recipients of social media messages. The optimized self-presentations of senders could lead to self-effects through internalization of these self-presentations (Valkenburg, 2017). Such optimized self-presentations can also influence message recipients in both positive and negative ways. They can evoke empathy, laughter, or a positive mood, but in case they are optimized to hurt recipients, they can also lead to painful experiences among recipients (Rideout & Fox, 2018; Valkenburg & Peter, 2013a).

### Cue Manageability

Most social media offer their users the possibility to show or hide visual or auditory cues about the self. Social media users can decide whether they present themselves only through textual descriptions or whether they add

more cues, such as pictures or video clips. Moreover, by means of specific software, they can edit, manipulate, and optimize these cues. Adolescents differ greatly in the importance they attach to the cue-manageability affordance. For example, in one of our studies, 8% of adolescents deemed it important or very important that others cannot see them while communicating on social media, whereas 55% deemed it as unimportant, and 37% reported that they did not care (this part of the data not published). The cue-manageability affordance seems particularly valuable for female adolescents, socially anxious adolescents, and adolescents high in private self-consciousness (e.g., I am generally attentive to my inner feelings), and public self-consciousness (e.g., I usually worry about making a good impression; Schouten et al., 2007).

Like the asynchronicity affordance, cue management affords adolescents possibilities to optimize their online self-presentations, which can lead to positive self-effects, for example via self-perception (Bem, 1972) or to cognitive reframing (an intra-individual change in how previous experiences are viewed). However, when the self-presentations are exaggerated (e.g., too intimate or childish), they can violate the norms of the social media context, and they may trap adolescents in uncomfortable situations, in which they may become ridiculed or socially rejected (Peter & Valkenburg, 2013).

### Scalability

Scalability offers social media participants the ability to articulate self-related messages and photos to any size and nature of audiences. It thus provides message senders with ample forums to commit themselves to realistic or imagined social media audiences. This may be preeminently attractive to adolescents, whose egocentrism (i.e., their inability to distinguish between their perception of what others think and what others actually think of them) may result in their perception of an imaginary audience that is constantly observing their actions (Elkind, 1967).

To my knowledge, no research has demonstrated individual differences in the value attached to the scalability affordance, and this may, therefore, be an interesting question for future research. The scalability affordance may enhance self-effects through public commitment. When individuals believe that their self-presentations are public, the likelihood of internalization enhances (Kelly & Rodriguez, 2006), not only because other people can see their presentations, but also because individuals do not like to appear inconsistent in their public self-presentations (Tice, 1992).

The three affordances of social media are all important in their own right but they have an important overarching affordance in common: They offer social media users greater controllability of their self-presentations than face-to-face interactions or older technologies do (Valkenburg & Peter, 2011). This controllability means that social media users can choose not only what, but also how, when, and to whom in the global village they can present

themselves. This controllability may offer social media users a sense (or an illusion) of security, which makes some of them feel freer in their interpersonal interactions than they can experience in other micro-level social contexts. This sense (or illusion) of security and freedom is particularly important for adolescents, who typically experience enhanced uncertainty about their identity (i.e., how to define who they are and will become), intimacy (i.e., how to form and maintain meaningful relationships), and sexuality (e.g., how to cope with sexual desire and define their sexual orientation; Steinberg, 2011). This enhanced controllability of self-presentations may, therefore, be a major explanation of adolescents' attraction to social media (Valkenburg & Peter, 2011).

### Conclusions and Avenues for Future Research

In this chapter, I conceptualized social media as a social context in its own right, and borrowing from Bronfenbrenner's (1979) typology, as a social context that frequently interacts with other micro-level contexts, such as the family, peer group, and school. I also explained how the social media context differs from the traditional mass media context and why it can lead to stronger effects on both message senders and recipients. The social media context is not only more proximal and ubiquitous than the mass media context, but it is also more dynamic in the sense that everyone can actively participate in and contribute to it. Whereas the "effects" of mass media have mostly been conceptualized as recipient effects in earlier research, social media inherently point our attention to self-effects: the messages produced by the sender on themselves. The emphasis on self-effects is important for future social media research because it implies a focus on theories accounting for intra-individual transactions as a result of one's own affordance-induced behavior, next to theories explaining intra-individual transactions among recipients that occur as a result of selective attention and perception of messages sent by others.

Consistent with Gibson's (1979) affordance theory, this chapter revealed that adolescents differ greatly in their perceptions of some of the affordances of social media. Preliminary work also suggest that they also differ greatly in the effects they experience in the social media context (Pouwels et al., 2021; Valkenburg et al., 2021). Unfortunately, social media effects research still all too often focuses on universal effects. This may in part be due to the experimental focus of the CMC research tradition, in which individual differences are typically disregarded, because they are assumed to be canceled out by random assignment (Bolger et al., 2019). If such individual differences are measured at all, they are often included as covariates rather than as factors that may interact with the experimental condition (Valkenburg & Peter, 2013b).

There is a need for future research focusing on transactional and person-specific effects of social media use. Qualitative studies have repeatedly demonstrated that adolescents can differ substantially in their media use, their experiences on social media, and the effects of social media use (e.g., Rideout & Fox, 2018). However, most *quantitative* studies into the psychosocial effects of social media still adopt a group-differential approach, in which potential differences in susceptibility are conceptualized by group-level moderators, such as gender or age (Beyens et al., 2020; Howard & Hoffman, 2017). However, due to technological advancements, it has become feasible to collect masses of intensive longitudinal data from masses of individuals on the uses and effects of social media (e.g., through experience sampling or tracking). Moreover, rapid developments in data mining and statistical methods now also enable researchers to analyze highly complex  $N = 1$  time series data, and by doing so, to develop and investigate media effects and other communication theories bottom up (i.e., from the individual adolescent to the population or subpopulation) rather than top down (i.e., from the population to the adolescent; Lerner et al., 2019).

In our recent and current experience sampling studies, we have adopted such a person-specific,  $N = 1$  time series approach (McNeish & Hamaker, 2020). Up to now, our results show striking differences in adolescents' susceptibility to the momentary effects of social media on well-being (Beyens et al., 2020), self-esteem (Valkenburg et al., 2021), and friendship closeness (Pouwels et al., 2021). In all these studies, the effect sizes of social media use on outcomes ranged from moderately or strongly negative to moderately or strongly positive. For example, the within-person effect sizes of social media browsing on well-being ranged from  $\beta = -0.24$  to  $\beta = +0.68$  across adolescents. Likewise, the effects of Instagram use on friendship closeness ranged from  $\beta = -0.57$  to  $\beta = +0.45$ . And the effects of social media use on self-esteem led to lagged effect sizes ranging from  $\beta = -0.21$  to  $\beta = +0.17$ .

Unfortunately, we still do not know how these short-term effects of social media use accumulate into longer-term effects, and this is an important avenue for future research. Moreover, up to now we do not know whether the person-specific effects that we found can be attributed to (stable or transient) dispositional, developmental, and/or (situational or structural) social-context factors. An important avenue for future research is to explain why social media use can lead to “positive susceptibles” (i.e., adolescents who mainly experience positive effects of social media use), “negative susceptibles” (adolescents who mainly experience negative effects of social media use), and “nonsusceptibles” (adolescent who are predominantly unaffected by social media use). After all, only if we know which, when, how, and why adolescents may be influenced by certain types of social media use will we be able to adequately target prevention and intervention strategies to these adolescents.

## References

- Bandura, A. (2009). Social cognitive theory of mass communication. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and research* (pp. 94–124). Routledge.
- Baumgartner, S. E., Sumter, S. R., Peter, J., & Valkenburg, P. M. (2012). Identifying teens at risk: Developmental pathways of online and offline sexual risk behavior. *Pediatrics*, *130*(6), E1489–E1496. <https://doi.org/10.1542/peds.2012-0842>
- Bayer, J. B., Triêu, P., & Ellison, N. B. (2020). Social media elements, ecologies, and effects. *Annual Review of Psychology*, *71*, 471–497. <https://doi.org/10.1146/annurev-psych-010419-050944>
- Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6; pp. 1–62). Academic Press.
- Beyens, I., Pouwels, J. L., van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2020). The effect of social media on well-being differs from adolescent to adolescent. *Scientific Reports*, *10*, Article 10763. <https://doi.org/10.1038/s41598-020-67727-7>
- Beyens, I., Pouwels, J. L., van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2021). Social media use and adolescents' well-being: Developing a typology of person-specific effect patterns. *PsyArXiv*. <https://doi.org/10.31234/osf.io/ftygp>
- Bolger, N., Zee, K., Rossignac-Milon, M., & Hassin, R. (2019). Causal processes in psychology are heterogeneous. *Journal of Experimental Psychology: General*, *148*(4), 601–618. <https://doi.org/10.1037/xge0000558>
- boyd, d. (2011). Social network sites as networked publics: Affordances, dynamics and implications. In Z. Papacharissi (Ed.), *A networked self: Identity, community, and culture on social network sites* (pp. 39–58). Routledge.
- Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, *21*(1), 166–179. <https://doi.org/10.1111/j.1532-7795.2010.00721.x>
- Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard University Press.
- Bronfenbrenner, U. (2005). The bioecological theory of human development. In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspectives on human development* (pp. 3–15). Sage.
- Buglass, S. L., Binder, J. F., Betts, L. R., & Underwood, J. D. M. (2017). Motivators of online vulnerability: The impact of social network site use and FOMO. *Computers in Human Behavior*, *66*, 248–255. <https://doi.org/10.1016/j.chb.2016.09.055>
- Burnell, K., George, M. J., & Underwood, M. K. (2020). Browsing different Instagram profiles and associations with psychological well-being. *Frontiers in Human Dynamics*, *2*, Article 6. <https://doi.org/10.3389/fhumd.2020.585518>
- Cantor, J. (2009). Fright reactions to mass media. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 287–303). Erlbaum.
- Carr, C. T. (2020). CMC is dead, Long live CMC!: Situating computer-mediated communication scholarship beyond the digital age. *Journal of Computer-Mediated Communication*, *25*(1), 9–22. <https://doi.org/10.1093/jcmc/zmz018>
- Christofides, E., Muise, A., & Desmarais, S. (2009). Information disclosure and control on Facebook: Are they two sides of the same coin or two different

- processes? *CyberPsychology & Behavior*, 12(3), 341–345. <https://doi.org/10.1089/cpb.2008.0226>
- Elkind, D. (1967). Egocentrism in adolescence. *Child Development*, 38(4), 1025–1034. <https://doi.org/10.2307/1127100>
- Fikkers, K. M., Piotrowski, J. T., Weeda, W. D., Vossen, H. G. M., & Valkenburg, P. M. (2013). Double dose: High family conflict enhances the effect of media violence exposure on adolescents' aggression. *Societies*, 3(3), 280–292. <https://doi.org/10.3390/soc3030280>
- Franchina, V., Vanden Abeele, M., van Rooij, A. J., Lo Coco, G., & De Marez, L. (2018). Fear of missing out as a predictor of problematic social media use and phubbing behavior among Flemish adolescents. *International Journal of Environmental Research and Public Health*, 15(10), 1–18. <https://doi.org/10.3390/ijerph15102319>
- Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1980). The “mainstreaming” of America: Violence profile no. 11. *Journal of Communication*, 30(3), 10–29. <https://doi.org/10.1111/j.1460-2466.1980.tb01987.x>
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton-Mifflin.
- Howard, M. C., & Hoffman, M. E. (2017). Variable-centered, person-centered, and person-specific approaches. *Organizational Research Methods*, 21(4), 846–876. <https://doi.org/10.1177/1094428117744021>
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly*, 37(4), 509–523. <http://www.jstor.org/stable/2747854>
- Kelly, A. E., & Rodriguez, R. R. (2006). Publicly committing oneself to an identity. *Basic and Applied Social Psychology*, 28(2), 185–191. [https://doi.org/10.1207/s15324834basp2802\\_8](https://doi.org/10.1207/s15324834basp2802_8)
- Koutamanis, M., Vossen, H. G. M., & Valkenburg, P. M. (2015). Adolescents' comments in social media: Why do adolescents receive negative feedback and who is most at risk? *Computers in Human Behavior*, 53, 486–494. <https://doi.org/10.1016/j.chb.2015.07.016>
- Kremer, M. (2009). Individual differences in media effects. In R. L. Nabi & M. B. Oliver (Eds.), *The SAGE handbook of media processes and effects* (pp. 237–250). Sage.
- Lerner, R. M., Lerner, J. V., & Chase, P. A. (2019). Toward enhancing the role of idiographic-based analyses in describing, explaining, and optimizing the study of human development: The sample case of adolescent ↔ family relationships. *Journal of Family Theory & Review*, 11(4), 495–509. <https://doi.org/10.1111/jftr.12347>
- McFarland, L. A., & Ployhart, R. E. (2015). Social media: A contextual framework to guide research and practice. *Journal of Applied Psychology*, 100(6), 1653–1677. <https://doi.org/10.1037/a0039244>
- McNeish, D., & Hamaker, E. L. (2020). A primer on two-level dynamic structural equation models for intensive longitudinal data in Mplus. *Psychological Methods*, 25(5), 610–635. <https://doi.org/10.1037/met0000250>
- McQuail, D. (2010). *McQuail's mass communication theory*. Sage.
- Meier, A., Gilbert, A., Börner, S., & Possler, D. (2020). Instagram inspiration: How upward comparison on social network sites can contribute to

- well-being. *Journal of Communication*, 70(5), 721–743. <https://doi.org/10.1093/joc/jqaa025>
- Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2018a). Transformation of adolescent peer relations in the social media context: Part 1 – A theoretical framework and application to dyadic peer relationships. *Clinical Child and Family Psychology Review*, 21(3), 267–294. <https://doi.org/10.1007/s10567-018-0261-x>
- Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2018b). Transformation of adolescent peer relations in the social media context: Part 2 – Application to peer group processes and future directions for research. *Clinical Child and Family Psychology Review*, 21(3), 295–319. <https://doi.org/10.1007/s10567-018-0262-9>
- Parmelee, J. H., & Roman, N. (2020). Insta-echoes: Selective exposure and selective avoidance on Instagram. *Telematics and Informatics*, 52, Article 101432. <https://doi.org/10.1016/j.tele.2020.101432>
- Peter, J., & Valkenburg, P. M. (2006). Research note: Individual differences in perceptions of internet communication. *European Journal of Communication*, 21(2), 213–226. <https://doi.org/10.1177/0267323105064046>
- Peter, J., & Valkenburg, P. M. (2013). The effects of internet communication on adolescents' psychological development. In E. Scharrer (Ed.), *The international encyclopedia of media studies: Media psychology/media effects* (pp. 686–697). Wiley-Blackwell. <https://doi.org/10.1002/9781444361506.wbiems136>
- Pingree, R. J. (2007). How messages affect their senders: A more general model of message effects and implications for deliberation. *Communication Theory*, 17(4), 439–461. <https://doi.org/10.1111/j.1468-2885.2007.00306.x>
- Postmes, T., Lea, M., Spears, R., & Reicher, S. D. (2000). *SIDE issues centre stage: Recent developments in studies of de-individuation in groups*. KNAW.
- Pouwels, J. L., Valkenburg, P. M., Beyens, I., van Driel, I. I., & Keijsers, L. (2021). Social media use and friendship closeness in adolescents' daily lives: An experience sampling study. *Developmental Psychology*, 57(2), 309–323. <https://doi.org/10.1037/dev0001148>
- Reinecke, L., & Trepte, S. (2014). Authenticity and well-being on social network sites: A two-wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behavior*, 30, 95–102. <https://doi.org/10.1016/j.chb.2013.07.030>
- Rideout, V., & Fox, S. (2018). *Digital health practices, social media use, and mental well-being among teens and young adults in the US*. <https://www.commonsensemedia.org/>
- Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of child development: How children and contexts shape each other* (pp. 3–22). American Psychological Association. <https://doi.org/10.1037/11877-001>
- Scherr, S., Arendt, F., Frissen, T., & Oramas M. J. (2020). Detecting intentional self-harm on Instagram: Development, testing, and validation of an automatic image-recognition algorithm to discover cutting-related posts. *Social Science Computer Review*, 38(6), 673–685. <https://doi.org/10.1177/0894439319836389>
- Schouten, A. P., Valkenburg, P. M., & Peter, J. (2007). Precursors and underlying processes of adolescents' online self-disclosure: Developing and testing an “internet-attribute-perception” model. *Media Psychology*, 10(2), 292–314. <https://doi.org/10.1080/15213260701375686>

- Schultz, D., Izard, C. E., & Bear, G. (2004). Children's emotion processing: Relations to emotionality and aggression. *Development and Psychopathology*, *16*(2), 371–387. <https://doi.org/10.1017/S0954579404044566>
- Scott, G. G., & Fullwood, C. (2020). Does recent research evidence support the hyperpersonal model of online impression management? *Current Opinion in Psychology*, *36*, 106–111. <https://doi.org/10.1016/j.copsyc.2020.05.005>
- Slater, M. D. (2003). Alienation, aggression, and sensation seeking as predictors of adolescent use of violent film, computer, and website content. *Journal of Communication*, *53*(1), 105–121. <https://doi.org/10.1093/joc/53.1.105>
- Slater, M. D. (2007). Reinforcing spirals: The mutual influence of media selectivity and media effects and their impact on individual behavior and social identity. *Communication Theory*, *17*(3), 281–303. <https://doi.org/10.1111/j.1468-2885.2007.00296.x>
- Steinberg, L. (2010). A dual systems model of adolescent risk-taking. *Developmental Psychobiology*, *52*(3), 216–224. <https://doi.org/doi.org/10.1002/dev.20445>
- Steinberg, L. (2011). *Adolescence* (Vol. 9). McGraw-Hill.
- Stern, S. (2015). Regretted online self-presentations: U.S. college students' recollections and reflections. *Journal of Children and Media*, *9*(2), 248–265. <https://doi.org/10.1080/17482798.2015.1024000>
- Subrahmanyam, K., Smahel, D., & Greenfield, P. (2006). Connecting developmental constructions to the internet: Identity presentation and sexual exploration in online teen chat rooms. *Developmental Psychology*, *42*(3), 395–406. <https://doi.org/10.1037/0012-1649.42.3.395>
- Sundar, S. S., Jia, H., Waddell, T. F., & Huang, Y. (2015). Toward a theory of interactive media effects (TIME). In S. S. Sundar (Ed.), *The handbook of the psychology of communication technology* (pp. 47–86). Wiley. <https://doi.org/10.1002/9781118426456.ch3>
- Tice, D. M. (1992). Self-concept change and self-presentation: The looking glass self is also a magnifying glass. *Journal of Personality and Social Psychology*, *63*(3), 435–451. <https://doi.org/10.1037//0022-3514.63.3.435>
- Treem, J. W., & Leonardi, P. M. (2013). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Annals of the International Communication Association*, *36*(1), 143–189. <https://doi.org/10.1080/23808985.2013.11679130>
- Valkenburg, P. M. (2017). Understanding self-effects in social media. *Human Communication Research*, *43*(4), 477–490. <https://doi.org/10.1111/hcre.12113>
- Valkenburg, P. M., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2021). Social media and adolescents' self-esteem: Heading for a person-specific media effects paradigm. *Journal of Communication*, *71*(1), 56–78. <https://doi.org/10.1093/joc/jqaa/039>
- Valkenburg, P. M., & Cantor, J. (2000). Children's likes and dislikes of entertainment programs. In D. Zillmann & P. Vorderer (Eds.), *Media entertainment: The psychology of its appeal* (Vol. 11; pp. 135–152). Lawrence Erlbaum Associates.
- Valkenburg, P. M., & Oliver, M. B. (2019). Media effects theories: An overview. In *Media effects: Advances in theory and research: Fourth Edition* (4th ed.; pp. 16–35). Routledge.

- Valkenburg, P. M., & Peter, J. (2009). The effects of instant messaging on the quality of adolescents' existing friendships: A longitudinal study. *Journal of Communication*, 59(1), 79–97. <https://doi.org/10.1111/j.1460-2466.2008.01405.x>
- Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health*, 48(2), 121–127. <https://doi.org/10.1016/j.jadohealth.2010.08.020>
- Valkenburg, P. M., & Peter, J. (2013a). The differential susceptibility to media effects model. *Journal of Communication*, 63(2), 221–243. <https://doi.org/10.1111/jcom.12024>
- Valkenburg, P. M., & Peter, J. (2013b). Five challenges for the future of media-effects research. *International Journal of Communication*, 7, 197–215.
- Valkenburg, P. M., Peter, J., & Walther, J. B. (2016). Media effects: Theory and research. *Annual Review of Psychology*, 67, 315–338. <https://doi.org/10.1146/annurev-psych-122414-033608>
- Valkenburg, P. M., & Piotrowski, J. T. (2017). *Plugged in: How media attract and affect youth*. Yale University Press.
- Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review*, 11(1), 274–302. <https://doi.org/10.1111/sipr.12033>
- Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, 3(4), 206–222. <https://doi.org/10.1037/ppm0000047>
- Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, 19(1), 52–90. <https://doi.org/10.1177/009365092019001003>
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23(1), 3–43. <https://doi.org/10.1177/009365096023001001>
- Walther, J. B. (2011). Theories of computer-mediated communication and interpersonal relations. In M. L. Knapp & J. A. Daly (Eds.), *The handbook of interpersonal communication* (pp. 443–479). Sage.
- Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2017). Norms of online expressions of emotion: Comparing Facebook, Twitter, Instagram, and WhatsApp. *New Media & Society*, 20(5), 1813–1831. <https://doi.org/10.1177/1461444817707349>
- Webster, J. G. (2009). The role of structure in media choice. In T. Hartmann (Ed.), *Media choice: A theoretical and empirical overview* (pp. 221–233). Routledge.
- Xu, K., & Liao, T. (2020). Explicating cues: A typology for understanding emerging media technologies. *Journal of Computer-Mediated Communication*, 25(1), 32–43. <https://doi.org/10.1093/jcmc/zmz023>
- Zillmann, D., & Bryant, J. (1985). Affect, mood, and emotion as determinants of selective exposure. In D. Zillmann & J. Bryant (Eds.), *Selective exposure to communication* (pp. 157–190). Erlbaum.