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SOCIAL MEDIA

It has only been five years or so that I have noticed that people, and young people in particular, seem to have two faces: a private face that reveals how they really feel, and a public face, which they use to present themselves to the outside world and bring to perfection on YouTube and Facebook. Only it seems like this public face is becoming increasingly important, as if putting it on has become an instinct; almost like an evolutionary development that enables people to survive in today's society.

—Rineke Dijkstra (2010)

Never before have youth had so many opportunities to bring their self-presentation to perfection. They can, for example, endlessly edit their digital profiles and selfies before they post them on the Web or send them to friends. Does this ability make them more self-aware, as the photographer Rineke Dijkstra observes? Or does it turn them into narcissists? In recent years, a great variety of social media has seen the light of day in rapid-fire succession. Even a juggernaut like Facebook must do its utmost to ensure that it does not lose its young users to emerging apps such as Snapchat and Instagram. These developments raise a great many questions. Does the use of social media lead to superficial relationships and loneliness—or does it boost self-esteem and social skills? What effects does extensive media multitasking have on youth? Does it make them lose their ability to concentrate and contemplate? In this chapter, we present the latest scientific research on the role of social media in teens' lives.

The Smartphone Generation

With the increasing affordability of smartphones, we are witnessing a dramatic change in how youth access and use media technologies and content. Nearly 75 percent of American teens ages 13–17 have or had access to a smartphone.¹ Data across seven European countries (the UK, Denmark, Italy, Romania, Ireland, Portugal, and Belgium) have similarly demonstrated the quick penetration of smartphones among teenagers.² And this growth is not limited to the teen audience. In 2011, global smartphone penetration per capita was 10 percent; in 2018, it will reach 37 percent.³ These figures demonstrate that in just ten years, from 2006 to 2016, the smartphone has penetrated virtually all strata of global societies. This speed of penetration by a new technology is unprecedented. The telephone, for example, took nearly seventy years to reach the same rate of penetration, while the Internet took nearly sixteen years.

The breakthrough of the smartphone to the wide public began with the BlackBerry Pearl in 2006, which was followed by the iPhone 2G in 2007—which soon became the fastest-selling gadget in history. Today, smartphones appear in every aspect of daily life. More than any other media device, smartphones are inextricably linked with the use of social media (media with which users share information with one another through text, audio, photos, videos, or blogs). The portability, power, and connectivity of the smartphone have resulted in a generation of youth (and adults) that are truly “phono sapiens.”⁴ Indeed, it seems that Steve Jobs’s hyperbolic statement upon introducing the iPhone in 2007 (“This will change everything”) was not all that hyperbolic.

In Lewis Carroll’s *Through the Looking-Glass*, the Red Queen tells Alice, “Here, you see, it takes all the running *you* can do, to keep in the same place.” The analogy of this statement to today’s social media landscape is compelling. In the world of social media, everything is rapidly new and rapidly old. One of the dangers that this poses is that the usage data in a book are long outdated before it is published. In this chapter, we have included the latest data available. Nevertheless, while writing this chapter, we saw new apps looming on the horizon. Indeed, authors of academic books often try to avoid including social media usage percentages, or they apologize for referring to outdated apps and services, as danah boyd did

in *It's Complicated* (2014): "Social media is a moving landscape; many of the services that I reference throughout this book may or may not survive. But the ability to navigate one's social relationships, communicate asynchronously, and search for information online is here to stay. Don't let my reference to outdated services distract you from the arguments in this book."⁵

Like boyd, we may refer to research on social media that are no longer in existence, or to websites that, by the time this book is published, no longer exist. Nonetheless, the findings of these studies still have relevance. Specific sites and services change continually, but the possibilities for social interactions remain the same. Their transience requires us to discuss social media at a higher, somewhat abstract level. This is what many social media researchers have begun to do by looking not at social media platforms per se, but instead at the more general affordances of social media.

The Seven Affordances of Social Media

Coined in 1979, the concept of affordance is used to describe the possibilities that objects in our environment offer us.⁶ The affordance of a chair, for instance, is that you can sit on it. Of course, you can also use a chair for other purposes, for instance, as a step to get something from a top shelf or as a place to rest your feet. But those are unintended affordances—possibilities observed or selected by a user, but not intended by the designer. In recent years, the affordance concept has turned up in communication research. Here, affordances are the possibilities that (social) media offer their users. An affordance of social media, for example, is that we can be reached at any place and at any time. Affordances are important, since—as we will demonstrate—they help explain the enormous appeal of social media as well as their effects. Social media are characterized by at least seven affordances that are relevant to adolescents' developmentally induced needs. These are summarized in table 13.1.⁷

The appeal of social media for adolescents can, in part, be explained through one or more of these affordances. But to understand how these affordances may explain this appeal, it is important to recall the specific developmental needs of adolescence. As discussed in chapter 6, the key objective in adolescence is the development of autonomy—the capacity to

Table 13.1. Affordances of social media that may enhance teens' perceived control

<i>Affordance</i>	<i>The possibility for users to . . .</i>
Asynchronicity	communicate when it suits them, in real time (synchronously) or delayed (asynchronously)
Identifiability	decide to which degree content is anonymous or linked to their true identity
Cue manageability	show or hide visual or auditory cues about the self while communicating
Accessibility	easily find information and contact other persons
Scalability	choose the size and the nature of their audience
Replicability	copy or share existing online content
Retrievability	store and later retrieve posted content

Source: danah boyd, "Social Network Sites as Networked Publics: Affordances, Dynamics and Implications," in *A Networked Self: Identity, Community, and Culture on Social Network Sites*, ed. Zizi Papacharissi (New York: Routledge, 2010); Jochen Peter and Patti M. Valkenburg, "The Effects of Internet Communication on Adolescents' Psychological Development," in *The International Encyclopedia of Media Studies: Media Psychology / Media Effects*, ed. Erica Scharrer (San Francisco: Wiley-Blackwell, 2013).

independently make decisions and act on the basis of what is deemed personally important or useful. To attain autonomy, adolescents must first form a stable identity (a clear idea of who they are and who they want to become). Additionally, they must develop the ability to experience and share intimacy and, therefore, the skills required to form friendships and relationships. And finally, they must discover who they are sexually; that is, they must learn what their sexual identity is, how to control their sexual desires, and how to maintain healthy sexual relationships.

To successfully complete these huge tasks, adolescents have to learn two communication skills: self-presentation and self-disclosure. Self-presentation is the presenting of aspects of identity within the normative standards of a certain audience. Self-disclosure is the sharing of intimate information, also according to the normative standards within a certain group. Adolescents should, for example, not reveal too much about themselves during initial conversations, but not be tight lipped either. Too much or too little self-disclosure hinders the formation and maintenance of friendships and other social relationships.⁸

Self-presentation and self-disclosure require practice. Through self-presentation, adolescents practice certain roles in front of a varying audience. By using the feedback that they receive on their self-presentation, they are able to validate their beliefs and behavior and to integrate them in their identity. Similarly, practice in self-disclosure helps them determine what is correct and appropriate within contexts and groups. Appropriate self-disclosure enhances the forming of close friendships and romantic relationships. This happens through the norm of reciprocity: if one party tells something personal, the other is inclined to tell something personal in return. This reciprocal, tentative exchange of increasingly personal information forms the basis of intimate friendships and romantic relationships.⁹

While previous generations of teens acquired dexterity in self-presentation and self-disclosure primarily offline, the smartphone generation prefers to rely on social media to help with the development of these skills. In fact, one in three adolescents prefers to talk through social media rather than face-to-face when it comes to love, sexuality, and things that embarrass them.¹⁰ Moreover, recent American data indicate that the vast majority of teens indicate that social media helps them feel more connected with their friends' feelings and daily lives.¹¹

What might explain why adolescents strongly prefer to communicate via social media, even about intimate matters? In short, this preference is due to the affordances of social media, which give adolescents an enhanced sense of control—or, more accurately, the illusion of control.¹² The affordances give them the impression that they are able to determine with whom, how, and when they interact, and whether they should or should not reveal their identity. This sense of control, in turn, makes them feel more secure and self-assured on social media than in offline situations. And this sense of control is particularly important in adolescence, because adolescents, on their way toward autonomy, can feel uncertain about numerous things.

How do the affordances of social media give teens a sense of control and security? This is best explained via theories about privacy. A sense of control and security is central to virtually all definitions of privacy. When we read about social media and privacy in the newspapers, it is mostly about issues such as privacy settings or the misuse of personal information. Such reports, however, deal only with one form of privacy: informational

privacy. Informational privacy describes the extent to which people can control the amount and content of their personal information that is being distributed.¹³ Contrary to what some believe, most teens are well aware of the dangers that social media pose to their informational privacy.¹⁴

Why, then, do teens (and adults) keep posting all sorts of information about themselves on social media that form a threat to their privacy? This contradictory behavior is referred to as the privacy paradox: just like adults, most teens know perfectly well that social media threaten their privacy, and they are often uncomfortable with it, but do not act accordingly. The privacy paradox is best understood when one accepts a broad definition of privacy. In our view, the privacy paradox focuses too much on informational privacy when there is another type of privacy that may better explain teens' (and adults') online behavior. That form of privacy is referred to as psychological privacy—our possibility to control when, what, to whom, and how we share something about ourselves.¹⁵

Although most affordances of social media may decrease informational privacy, they may increase psychological privacy. To a much greater degree than offline communication, social media allow users to control when, what, and how they express themselves, and to whom. And this is particularly relevant to teens, who, more so than adults, define privacy as the control of what, when, and with whom they communicate when they are out of sight of their parents and siblings. Seen in this light, the privacy paradox is less paradoxical than it might seem at first. The affordances of social media may decrease teens' informational privacy, yet provide them with enhanced psychological control over their communication and allow them to demonstrate their autonomy—which helps explain the immense appeal of social media for teens.¹⁶

Each of social media's seven affordances, in its own way, can boost teens' perceived sense of control and, therefore, their sense of psychological privacy. Asynchronicity, for example, offers teens the possibility to choose when they communicate. They can ponder for hours or days exactly which photograph they want to post. They can also do it synchronously, though, and with astonishing speed—for instance, in Snapchat, where they exchange photos that show up for a maximum of ten seconds. This rapid synchronous communication heightens teens' sense of control, in this case, their ability to always stay in direct contact with their friends.

While not a standard affordance of popular social media sites such as Facebook or Instagram, visual anonymity is an important attribute of virtual worlds and certain websites (for example, self-help sites and sites for homosexual teens). On these websites, visual anonymity can provide teens the opportunity to explore their identity by interacting with others. Perceived anonymity enhances their illusion of control and security, which in turn enhances the likelihood that teens will share personal information on these sites. Similarly, adolescents can choose whether they show (or emphasize) certain visual or auditory cues about themselves while communicating. This possibility of cue manageability may enhance their perceived sense of control and, in this case, the way they present themselves online.

The accessibility of information can likewise add to teens' sense of control. Never before have adolescents been capable of finding such a huge amount of information related to the development of identity, intimacy, and sexuality. They can look up information about their idols, make online friends, and find support in self-help groups. Moreover, thanks to the scalability of (most) social media, teens can choose for themselves the audience with which they communicate. And they can do so for each social media tool separately, for instance, by using WhatsApp to communicate with intimate friends, and Facebook and Twitter for group contact.

Finally, the replicability and retrievability of communication add to adolescents' sense of control. With a single click on the "share" button or a reply to all, they can reach all their "friends." What is more, even after they have been away for weeks, they can still answer their messages—for anything posted online stays there. On Facebook alone, nearly 350 million photos are posted online daily, and they will remain online forever.

Theories of Social Media Effects

Estimates suggest that the majority of teens throughout the Western world spend some time with social media daily, so it is not surprising that scholars have been carefully investigating the effects of social media use on teens' development.¹⁷ These studies are often influenced, in part, by theories of computer-mediated communication (CMC). CMC theories focus on discovering the differences between face-to-face communication

and CMC. They revolve around the question whether, and how, certain CMC characteristics, such as its anonymity or its lack of nonverbal cues, influence the quality of the interpersonal communication. Do these characteristics make CMC more intimate, more uninhibited, or more aggressive than face-to-face communication? Do CMC partners get different impressions from each other than face-to-face partners do? Do they find each other more (or less) attractive?

The first cluster of CMC theories originated in the 1970s, long before the Internet came into our lives. These rather pessimistic theories tried to compare "lean" text-only CMC with the "rich" communication of face-to-face settings. In doing so, they tried to explain, for example, why CMC led to less intimacy and more uninhibited behavior.¹⁸ In the early 1990s, a new cluster of theories emerged that took a more optimistic view of CMC. At that time, e-mail and the Internet became widely available for personal use. Joseph Walther's social information processing theory became particularly influential at the time. It explained how CMC partners could gradually overcome the limitations of CMC by creatively employing strategies to send and understand social and emotional messages. In this way, given enough time and message exchanges, CMC partners could develop intimacy levels comparable to those found in face-to-face communication.¹⁹

In the second half of the 1990s, Walther extended his perspective with an even more optimistic theory, which predicted that CMC messages could lead to greater intimacy than face-to-face communication. According to his hyperpersonal communication model, CMC encourages people to optimally present themselves, for instance, by pretending to be kinder and more beautiful than they 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 even become hyperpersonal—that is, more intimate than offline relationships.²⁰

The focus of early CMC theories on anonymity and limited nonverbal cues fit well in the 1990s and the first half of the 2000s, when CMC was predominantly text-based and typically took place in anonymous chat rooms or newsgroups. By contrast, most Web 2.0 applications, such as Twitter (2006), Facebook (2006), WhatsApp (2009), Instagram (2010), Snapchat (2011), and Vine (2012), rely on both textual and audiovisual

channels. Therefore, it has become less relevant to compare specific CMC applications with one another or with face-to-face communication. In fact, these changes in technologies have led to a new theorization about social media effects.²¹

CMC theories, like many traditional media effects theories, are rooted in a reception model. That is, both types of theories assume that media or technologies have a unidirectional impact on recipients. And in both types of theories, it is too often forgotten that users of social media can simultaneously be *both* recipients and senders of communication.²² With the easy use of cameras, editing software, and distribution channels, everyone can be both a sender and a recipient of digital content. Long before the advent of Web 2.0, it had been observed that consumers of media content were becoming producers of this content, too, a phenomenon for which the now somewhat obsolete term “prosumers” was coined.²³

Another issue that has received too little attention in both types of theories is that the production and distribution of media content may have effects not only on its recipients, but also on the senders. Adolescents might influence their peers by the photos they post on Instagram, but the act of producing and sharing these photos might also affect themselves. This phenomenon, in which our beliefs and behavior exert an influence on ourselves, has been referred to as an expression effect.²⁴ An expression effect occurs when a sender internalizes the behavior that she or he shows or the beliefs that she or he discloses, so that his or her own self-concept or behavior changes. The behavior or message does not have to be publicized; its creation alone may lead to expression effects. By merely writing a blog, for instance, without posting it, we could improve our memory, feel better, or come to terms with an emotional experience.

Expression effects are best explained via Daryl Bem’s self-perception theory, which postulates that people like to be consistent in their beliefs, attitudes, and conduct.²⁵ Faced with inconsistencies, people experience cognitive dissonance, which generates an unpleasant internal tension. Typically, we believe that our behavior is the result of our beliefs and attitudes. For instance, if we believe that strength training is good for us, we are more likely to act accordingly (and thereby go to the gym). But this process may also run the other way: we can alter our beliefs and attitudes by observing our behavior in retrospect. For example, if we fail to go to

the gym for several weeks, we might conclude that strength training is rather boring and may not be so important after all.

Research into expression effects in online environments is surprisingly scarce. The affordances of social media provide users with an opportunity to experiment with forms of behavior that can influence their self-concept. This is rather surprising. After all, consider the selfie phenomenon. Recent estimates suggest that millions of selfies are posted on social media daily, and teens heavily partake in this activity. We know that teens take (and retake) selfies until they find the image that they want to represent themselves in a particular moment. It is reasonable to imagine that, over time, the taking, retaking, and posting of selfies (a social media behavior) may influence not only the recipients of these selfies but also the selfie takers’ self-perception. In other words, the effects of social media use on teens’ social-emotional and cognitive development are likely a two-way street.

Social-Emotional Effects of Social Media

Given the main goals of social media, it makes sense that the vast body of research on the effects of social media has focused on social-emotional consequences. This literature has tried primarily to understand how social media influence teens’ identity, intimacy, and sexuality—in other words, the three pillars needed for the development of their autonomy. When it comes to identity formation, researchers have studied four related constructs: self-concept clarity, self-esteem, self-awareness, and narcissism. Studies of intimacy have focused on the sunny side of intimacy, friendships and connectedness, and on its darker side, cyberbullying. Finally, research on sexuality has focused on sexual self-expression as well as stranger danger.

Self-Concept Clarity

An important task in adolescence is to form a stable identity. To measure the stability of our identity, researchers often rely on the idea of self-concept clarity. Self-concept clarity is the degree to which our beliefs about our identity are clearly defined and stable.²⁶ There are two contrasting hypotheses about the effects of social media use on self-concept clarity. The fragmentation hypothesis claims that because it is very easy for teens to

experiment with their identity online, they are faced with too many different views online. As a result, they may experience confusion and difficulty in integrating all these new views into their (already fragile) identity. On the other hand, scholars have suggested that social media may improve self-concept clarity because the many different views that teens encounter online can serve as a model and sounding board while they develop and corroborate their identity.

Thus far, research into the influence of social media on self-concept clarity has yielded mixed effects. Some studies have shown that a high degree of Internet use (thus, not exclusively social media) corresponds to lower self-concept clarity.²⁷ But this negative relationship disappears when teens' loneliness and shyness is accounted for—both of which apparently play a larger role in the development of self-concept clarity than Internet use.²⁸ More recently, work by Katie Davis demonstrated the nuances of social media effects. Specifically, Davis found that teens who use the Internet to talk with their friends experience stronger self-concept clarity, whereas teens who use the Internet primarily to experiment with their identity (which occurs far less frequently) experience weaker self-concept clarity. This does not necessarily mean that online experimentation is problematic; instead, it indicates that it can be problematic for teens who use the Internet almost exclusively for experimentation.²⁹ These findings are a good example of an expression effect: adolescents differ in the way they use social media, and these differences predict the effects that they experience.

Self-Esteem

Self-esteem is the degree to which we value ourselves. Human beings, young and old, have a universal need to maintain their self-esteem at the same level or, preferably, to increase it. There are two main predictors of self-esteem: the feeling that we have control of our environment, and the approval that we hope to get from that environment.³⁰ Social media offer teens both, by providing numerous possibilities for control and positive feedback (for example, Facebook's "like" button). These two functions of social media are particularly important in adolescence, since this is the time when self-esteem is most sensitive to environmental influences and most subject to fluctuations.

Studies have looked into the relationship between online communication and self-esteem. Most of these, especially the studies that focused on blogs and profile sites, indicate that online communication increases adolescents' self-esteem. For example, American teens experience a greater sense of control when posting online profiles and blogs. This (perceived) control, in turn, is linked with increased self-esteem.³¹ Similarly, research with Dutch teens revealed that managing one's profile on a social network site leads to increased self-esteem. How? Adolescents who create an online profile seem to use feedback from their peers about these profiles to adjust and optimize their profiles, which leads to even more positive feedback. In this way, through improved feedback and their own communicative behavior, adolescents manage to enhance their self-esteem.³²

But it is not at all roses and sunshine on social media. Indeed, while most teens receive primarily positive feedback online, roughly 7 percent receive mainly negative online feedback.³³ For these teens, unsurprisingly, social media use is linked with a decrease in self-esteem. In the same vein, other research has shown that the positive effects of social media use on self-esteem are limited to "normal" use—not to abnormal or compulsive use.³⁴ Finally, the benefits of social media on self-esteem are most pronounced for those who use social media to connect with their close friends.³⁵ Overall, then, it seems that for most adolescents, social media are conducive to supporting self-esteem, but for a minority, social media are problematic.

Self-Awareness

The chapter epigraph quotes the photographer Rineke Dijkstra, who has noticed that young people are increasingly skilled in putting on a public face. This observation refers to a personality characteristic that we call self-awareness. There are two types of self-awareness, private and public. Private self-awareness is our tendency to pay attention to the inner aspects of our identity. Public self-awareness is our attention to the way we are perceived by others. Individuals with strong public awareness are very good at predicting how others will respond to them and adjusting their self-presentation accordingly.³⁶

Some research backs up Dijkstra's observation. Adolescents who are more active on social media have greater public self-awareness than their

less active counterparts. They have more Facebook friends, post more photos on social media, and have a greater tendency to reply when they receive comments on those photos.³⁷ It is important to recognize, however, that these studies used correlational designs, which do not allow for cause-and-effect inferences: social media may increase public self-awareness, but it may also be the case that teens with greater public self-awareness use social media more extensively. In truth, the relationship is likely a circular one—as is often the case with media use and personality characteristics. Personality characteristics lead to certain types of media use, which subsequently enhance these personality characteristics.

Narcissism

A high degree of public self-awareness is an important characteristic of narcissism. Narcissists are excessively preoccupied by others' opinion of them, and they will go to great lengths to be positively assessed. Narcissism is a personality trait that all people have to some degree. At its extreme, it is a psychiatric disorder that occurs in 1–2 percent of the population.³⁸ Narcissists have a complex range of symptoms. They have an inflated self-image and overblown self-confidence. They are vain, they overestimate their talents and feats, and they expect these to be admired. They have little empathy, they can exploit their environment, and they become arrogant or aggressive if they do not get their way.

Freud coined the term “narcissism.” It is derived from the Greek myth of Narcissus, a handsome youth who fell in love with his reflection in a pool of water and eventually starved to death because he could not tear himself away from gazing at his image. Freud's concept of narcissism took on a highly negative connotation in the late 1970s after the appearance of Christopher Lasch's best seller *The Culture of Narcissism*. Today, in part thanks to the new symbol of narcissism, the selfie, narcissism is receiving renewed attention in both scholarly debate and the popular press.

There have been indications that youth today are more narcissistic than earlier generations, as claimed in alarming publications such as *The Narcissism Epidemic* by Jean Twenge and Keith Campbell.³⁹ Like public self-awareness, the increase in narcissism has often been linked to social media use.⁴⁰ But there is an important caveat for the interpretation of these findings. Perhaps most importantly, we should ask ourselves whether (and

when) narcissism is a negative trait. Some psychologists argue that narcissism, on a modest scale, is conducive to self-development. Indeed, research among adults suggests that narcissism goes together with many positive characteristics, including self-esteem, assertiveness, and extraversion, and our own research on teens indicates a positive relationship between narcissism and self-esteem.⁴¹

These relationships between narcissism and positive personality traits highlight why we should interpret research into the relationship between social media use and narcissism with care. Healthy doses of self-esteem, assertiveness, and extraversion, after all, are regarded as positive traits, whereas narcissism is not. A modest dose of narcissism is probably adaptive, functional, and beneficial to social well-being. Too much, on the other hand, leans toward pathology and is harmful. Thus, before we decide whether social media use is cause for concern when it comes to narcissism, it is important for the research field to make a distinction between normal and pathological narcissism.⁴²

Friendships and Connectedness

In 1998, newspaper headlines around the world were quick to highlight the results of one of the first studies on Internet use and friendships. The study, conducted by Robert Kraut and colleagues, indicated that Internet users (teens and adults) had fewer social bonds and were lonelier than nonusers. To explain their results, the researchers suggested that the time spent communicating online was displacing time that would have otherwise been spent with friends offline. As a result, the quality of offline friendships decreased and Internet users became lonelier.⁴³ The negative findings by Kraut and colleagues were replicated in several other studies in the late nineties.⁴⁴

These first negative results fit well with the state of Internet access at the time. In those days, it was impossible to maintain existing contacts through the Internet, because very few of those contacts were online. In one of the studies, only 11 percent of the adolescents had Internet access. This meant that their online contacts were for the most part separate from their offline contacts. Online communication in those days was limited to chatting in anonymous chat rooms or newsgroups. It is therefore not surprising that Kraut and colleagues found negative effects of loneliness,

since online communication at the time was mostly with strangers, appealing to people who lacked something in their offline environment.

Today, that situation is completely different. Since the rise of Web 2.0, virtually everyone is online. Displacement effects are less likely to occur, because adolescents have significantly more opportunities than before to maintain their existing relationships through social media. Moreover, newer social media applications encourage users to communicate with their existing friends, and that is what teens most typically use them for. Unsurprisingly, recent studies into the effects of online communication have found that online communication leads to increased (rather than decreased) social involvement.⁴⁵

What might explain these positive results? Why might social media be linked with improved social relationships? Longitudinal research suggests that social media invite adolescents to share intimate feelings with their offline friends, for instance, about love, sex, and things they would be somewhat embarrassed to discuss offline. This is due to the affordances of social media, which, as discussed, foster teens' perception of social and psychological privacy. Just like offline self-disclosure, online self-disclosure between friends engenders closeness and intimacy, and eventually strengthens friendships. By disclosing something personal to a friend, we invite the friend to share something personal with us. This mutual and gradually more intimate self-disclosure is how friendships and romantic relationships are formed and maintained. It seems that especially for teens, this norm of reciprocity takes place online as well as offline.⁴⁶

Cyberbullying

While it seems that social media use can play a healthy role in teens' social and emotional development, there are some important caveats to these findings. One particular problem is cyberbullying. Cyberbullying takes place when online applications are used to insult, exclude, or in any other way hurt others. As with offline bullying, cyberbullying is not an incidental, one-time attack, but comprises purposeful and repeated aggressive actions by individuals or groups, against which the victims cannot easily defend themselves.

There are numerous estimates of the proportion of adolescents who have been cyberbullied; figures range from 1 percent to 53 percent. This

wide variation is mainly due to differences in the definitions of cyberbullying. When adolescents are asked whether they have "ever" received a nasty message, the researchers (unsurprisingly) find a higher prevalence than when adolescents are asked whether they have received such a message in the past month. Cyberbullying is about repeated forms of online aggression against victims who are unable to defend themselves. If we base our estimates on this definition, cyberbullying is found far less frequently. In a large-scale study by Sonia Livingstone and colleagues, which included participants from twenty-five EU countries, 6 percent of the nine- to sixteen-year-olds reported that they had been bullied on the computer, and 3 percent on their mobile phone, whereas 13 percent stated that they had been bullied offline (see figure 13.1).⁴⁷

Cyberbullying occurs particularly often between the ages of thirteen and fifteen, and although boys, in general, bully more than girls do offline, boys and girls seem to have an equal share in online bullying. If differences are found, it is the girls who cyberbully the most. And despite worries that cyberbullying has increased with the mass use of smartphones, its prevalence

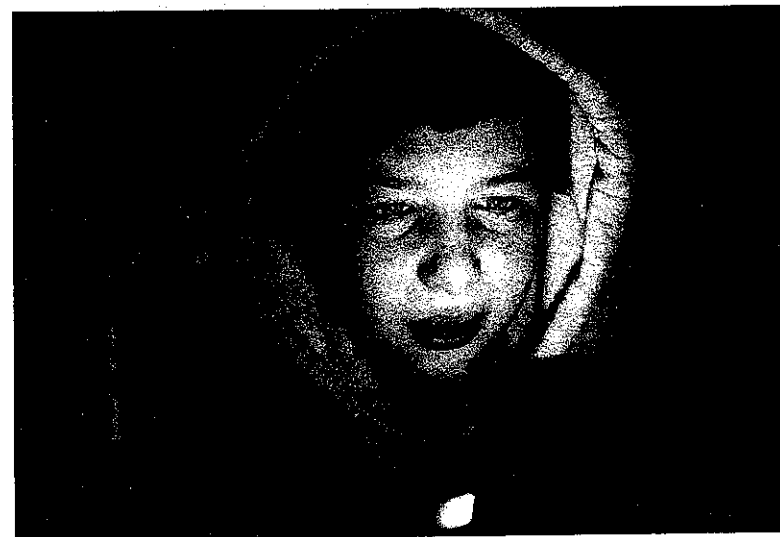


Figure 13.1. About 9 percent of teens, boys and girls, report having been bullied online in the past year. (ClarkandCompany/iStock)

seems to have remained relatively stable—continuing to occur less frequently than offline bullying.⁴⁸

Cyberbullying is a troubling and undesired side effect of the affordances of the social media. The affordances lead to an increased chance of engaging in uninhibited behavior, and of the impact of that behavior being less visible. They afford greater ease in distributing bullying communications and enhance their visibility among a wider audience. And they enhance the permanence and indelibility of such communications.⁴⁹ Perhaps not surprisingly, online and offline bullying are correlated. This means that children and teens who are bullied online more often become victims of offline bullying. Both types of bullying go together with the same problems, such as social anxiety and depression. Efforts to help prevent cyberbullying and counter its effects continue to be an important area for research and public policy.

Sexual Self-Exploration

Besides influencing the development of identity and intimacy, the affordances of social media affect adolescents' sexuality. As we saw in chapter 10, adolescents routinely use the Internet to learn about sex and sexual identity. In addition, they routinely use social media to obtain advice about sexual issues or to discuss the moral, emotional, and social aspects of sex. This applies in particular to gay and bisexual adolescents. Homosexuality still cannot be freely discussed in some circles.⁵⁰ But it is not just gay and bisexual adolescents who are relying on social media to explore their sexuality. More than ever before, increasing numbers of teens are turning to social media as a means of expressing their sexuality. This is particularly evident through two related phenomena: sexting and the sexy selfie.

Along with the rise of smartphone-based social media, sexting has gained wide interest. "Sexting," a portmanteau word formed from "sex" and "texting," refers to the sending or posting of sexual messages, photos, or videos via a smartphone or any other electronic device. Studies investigating the prevalence of sexting among teens have yielded mixed results; some suggest prevalence limits as low as 2 percent, and other estimates are closer to 10 percent.⁵¹ In general, it seems that sexting occurs more frequently among older adolescents. And while the public often perceives that girls sext more often than boys, this pattern seems to be country dependent, with several studies reporting equal sexting rates for boys and girls.⁵²

Sexting seems primarily motivated by self-presentation. Adolescents sext in order to be found sexy, to get attention, to flirt, and also because they think it is funny.⁵³ There is a consensus that the exchange of sexual information between young couples in love is part of normal sexual development. If, however, this exchange happens online, where it is easily accessible, scalable, replicable, and retrievable, it can become risk behavior. But is it as problematic as is often suggested in popular media? On the one hand, longitudinal research suggests that sexting may precede sexual intercourse in some teens, but it does not predict sexual risk behavior such as having sex with multiple partners or having sex without a condom.⁵⁴ On the other hand, the negative peer perceptions that can result from sexting warrant concern because such perceptions may subsequently harm teens' social-emotional health. In particular, girls are judged harshly whether they sext ("slut") or not ("prude"), while boys typically do not experience such criticism.⁵⁵

Related to sexting is the more specific phenomenon of the sexy selfie. The sexy selfie typically consists of sexy poses rather than nude or seminude body displays, which are more typical of sexting (see figure 13.2). Interestingly, sexy selfies have consequences not necessarily for the sender of the pictures but rather for their recipients. Specifically, teens who are exposed to sexy selfies via social media are more likely than teens who are less exposed to such selfies to subsequently initiate sexual behavior.⁵⁶ The researchers suggest that as a result of repeatedly seeing sexy selfies via social media, teens may start to believe that sexual activity is common in their peer group and may feel increased pressure to engage in sexual activities. Given the relative newness of sexting and the sexy selfie, however, it may take some time before we can conclude whether these phenomena represent normal parts of teens' sexual development or, instead, indicate maladaptive sexual development and warrant concern.

Stranger Danger

The same social media that provide teens with an opportunity to express their sexuality via sexting and sexy selfies makes them vulnerable to sexual grooming and offline sexual abuse. Sexual grooming occurs when someone approaches a child or a teen with the intent of eventually initiating offline sexual contact. A groomer usually starts by striking up an online friendship,



Figure 13.2. Repeated exposure to “sexy selfies” can stimulate sexual initiation among teens. (Corbis)

which he (it is generally a man) slowly steers toward offline sexual abuse. Whenever there is a case of grooming, the press covers it extensively. Nonetheless, although grooming is among the most highly reported online sexual allegations, research in several countries has demonstrated that its prevalence in these countries is low.⁵⁷ Sexual abuse is still committed more often by offline acquaintances than online strangers.

The teens who are the most vulnerable to grooming are girls and gay boys. Furthermore, teens who are uncertain about their sexual identity, who were abused as children, and who have already demonstrated offline risk behavior are also particularly vulnerable. Although estimates vary by country, an EU Kids Online report found that 30 percent of children and adolescents have made contact “in the past twelve months” with a person whom they knew only from the Internet.⁵⁸ Nine percent of these respondents arranged a face-to-face meeting with these “strangers,” who, in most cases, turned out not to be strangers, but friends of friends. One percent

of them looked back on the offline meeting with an unknown person as an unpleasant experience. Although 1 percent is a small proportion, we of course should take it very seriously. Such experiences may have very painful or even tragic consequences for children and teens. It is also important to recognize that it can be very difficult for children and teens to properly gauge when online contacts pose a threat, because groomers generally use extremely complex and sophisticated tactics. Here is an important task for educators—identifying ways to make youth aware of these dangers and ensuring that they are sufficiently “social media literate” when it comes to interacting with unknown others.

Cognitive Effects of Social Media

While researchers initially paid attention mainly to the social-emotional consequences of social media for teens, there has been a recent influx of research on their cognitive consequences. The affordances of Web 2.0 services—particularly their ever-extending accessibility—has led researchers to ask about the potential effects of social-media-driven media multitasking on adolescents’ cognitive skills. Along with these concerns have come heated debates about whether youth (and adults) are becoming dumber and experiencing “digital dementia” as a result of a world that increasingly relies on bite-size chunks of information.

Media Multitasking

A deluge of studies since 2010 have looked at the impact of media multitasking—using multiple media at the same time. Media multitasking has increased markedly since the advent of Web 2.0. In the 1990s, 16 percent of adolescents used different media at the same time. The percentage today is almost double.⁵⁹ With media literally in the palms of many teenagers, these estimates are hardly shocking. Although most media multitasking occurs when teens read and simultaneously listen to music, the combination of watching television and using social media plays a close second. It has become quite common for teens (and adults) to watch television on one screen while simultaneously using social media to comment on the program, dodge the commercials, or stay in touch with friends and other viewers.

There are two main explanations for the dramatic uptick in media multitasking. First, changes in the traditional media landscape increasingly call on media consumers to be able to multitask while consuming the content. Take, for example, gaming. For most of today's games, successful gameplay requires the gamer to multitask—to keep an eye on all sorts of visual information at the same time. Similarly, many of today's television programs assume some level of multitasking. On news programs, banners carrying headlines or summaries scroll at the bottom or on the side of the screen as the announcer gives information about a separate, often unrelated story. More than ever before, designers are creating products that challenge us to divide our attention.

Related to this is the second, more important explanation for the meteoric rise in media multitasking: the smartphone. Smartphones accustom us to ingest what *Wired* magazine calls “fast entertainment”—the continuous stream of bite-size entertainment that comes our way through Twitter, Instagram, and YouTube. This steady flow of images, videos, music, and words, particularly when delivered to our palms instantaneously, is said to capitalize on our collective need to quickly consume great quantities of entertainment and information.⁶⁰

One of the growing concerns about this “fast entertainment” world is that as youth become acculturated to the continual switching of activities and attention, they will eventually lose the ability to concentrate. Research on this topic has usually focused on whether media multitasking can alter our cognitive control. “Cognitive control” is an umbrella term for the mental processes that relate to result-focused behavior, such as paying sustained attention to relevant information, ignoring irrelevant information while concentrating (response inhibition), efficiently switching between tasks (task switching), and storing task-relevant information in working memory. We need cognitive control for virtually any task that requires focus and concentration, and so the threat of decreased cognitive control is worrisome.

Several studies on the relationship between youths' (and young adults') media multitasking and cognitive control have looked at different aspects of cognitive control. Meta-analytic research by Winneke van der Schuur and colleagues reveals that media multitasking is negatively related to sustained attention, which implies that teens who more often engage in media multitasking are less able to concentrate on relevant tasks.⁶¹ Media

multitasking was unrelated to other aspects of cognitive control, including response inhibition, task switching, and working-memory capacity. In fact, one study found that fervid media multitaskers switch between tasks more efficiently than their less ardent counterparts.⁶² This result makes sense. Media multitaskers continually switch between tasks when they multitask, so they have the opportunity to practice task switching.

There are, however, important limitations to most of the research published thus far in this area. The meta-analysis of van der Schuur and colleagues noted that the majority of work to date has relied on a correlational design. This means that it cannot rule out the reverse explanation, namely, that teens who are less able to concentrate are inclined to multitask more often. As is often the case in media effects research, a reciprocal relationship may be at work: adolescents who cannot focus properly on certain tasks are more likely to increase their media multitasking, which in turn worsens their ability to focus.

It is also important to note that the relationships that have been found are statistically small—suggesting that they do not hold true for all adolescents. It remains unclear, however, for whom these findings are most applicable. None of the existing studies have established which adolescents media-multitask more (or less), or which adolescents are more (or less) susceptible to the negative effects of media multitasking. There are great individual differences in this respect, and sorting them out should be a priority—an undeveloped land for follow-up research.

“Shallow” Thinking and Digital Dementia

Popular books such as *The Shallows: What the Internet Is Doing to Our Brain* (2011), by Nicholas Carr, have increased interest in whether social media can harm our capacity for concentration and contemplation as well as our ability to store and recall information. Such books often argue that by continually reading snack news and being distracted by the pop-ups and alerts of smartphone apps (for example, a like on Facebook, a retweet on Twitter), we are losing our capacity to focus and think deeply. As Carr noted:

What the Net seems to be doing is chipping away my capacity for concentration and contemplation. Whether I'm online or not, my

mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski.

... When I mention my troubles with reading to friends, many say they're suffering from similar afflictions. The more they use the Web, the more they have to fight to stay focused on long pieces of writing. Some worry they're becoming chronic scatterbrains.⁶³

Another assumption in books such as Carr's is that the great accessibility of digital information is making us mentally lazy. In an increasingly Googleable world, we no longer need make an effort to store information in our memories. The Internet has, as it were, become our external memory, and thus we no longer need to train our own. As a result, our own memory functions will decline over time. This process of memory deterioration has been termed "digital dementia" by the German psychiatrist Manfred Spitzer: "The brain shrivels up because it is no longer tapped. Stress destroys brain cells, and newly grown brain cells do not survive, as they are not being used. Digital dementia is, in essence, an increasing inability to fully use, and control, intellectual performance."⁶⁴

To substantiate claims of digital dementia, authors such as Spitzer provide examples of behavior change. For example, none of us are likely to memorize telephone numbers any longer, since they are stored on our smartphones. Similarly, we have become less skilled at arithmetic, for we have calculators readily at our disposal. These examples appeal to us, since many of us do indeed not know any telephone numbers by heart, not even our own sometimes. We also have to acknowledge that we are not as good in mental arithmetic as we used to be, because if we need to add or multiply a string of numbers, we grab a calculator. But do these new habits lead to shallow thinking? Is Google making us stupid, as Carr and others assume?⁶⁵

In truth, the scientific evidence presented by authors of these popular texts is meager, relying on a handful of brain-based studies. For example, they often cite a study by Eleanor Maguire and colleagues in which researchers found that the hippocampi of experienced London taxi drivers contained more gray matter than those of a control group without driving

experience.⁶⁶ They also often rely on a study by Gary Small and colleagues to support the shallow-thinking assumption. Observing fifty-five adults, these researchers showed that compared with inexperienced Internet users, experienced users exhibit significantly more brain activity when conducting an online search task.⁶⁷ Both studies reveal that learning goes hand in hand with structural or functional changes in brain areas. But they do not establish that these changes are related to a shallow information processing or to a deteriorating working memory. In other words, interesting and valuable as these findings might be, they are not evidence that the Internet is turning its users into shallow thinkers suffering from digital dementia.

Thus, although popular assumptions claim that today's socially mediated world is creating a population of shallow thinkers, there is insufficient scientific evidence to back up this assertion. It is true that social media have led to an increase in media multitasking. It is also true that ardent media multitasking is linked, among adolescents and young adults, with a decreased ability to focus.⁶⁸ This deficit, however, is an effect not of social media *per se*, but instead of a specific form of social media use. Incidentally, it would be strange if no relationship whatsoever had been found between media multitasking and the ability to focus. After all, taken in combination, media multitasking and focusing are a contradiction in terms. They are as incompatible as water and oil, or light and darkness.

Similarly, despite the headlines, there is no scientific evidence that today's socially mediated world is making teens less intelligent and more apt to experience digital dementia. If there are any indications for a relationship between media usage and intelligence, it is a positive rather than negative one. As mentioned earlier in the book (chapters 2 and 12), several authors have attributed the Flynn effect (the rise in measures of fluid intelligence) to our quick and complex media environment.

And although many of us do not invest effort in memorizing phone numbers or other information, there is no reason to suggest that this is due to decreasing intelligence. When people are asked to type trivial information, such as "The eye of an ostrich is bigger than its brain," and they are told that they can retrieve the exact information later, they no longer make an effort to remember that information.⁶⁹ This is not because their working memory has deteriorated, but because they do not want to memorize things if they see no reason to do so. We no longer memorize telephone

numbers not because we are getting dumber, but because we no longer see the relevance of it. And by not doing so, we reserve time and space for more important or complex things. As Clive Thompson noted, "Our ancestors learned how to remember; we'll learn how to forget."⁷⁰

Conclusion

Virtually all teens use some form of social media today. While these social media continue to change—yesterday's MySpace becomes today's Instagram—their enduring appeal is that they provide teens (and adults) with an easy means of communicating with known and unknown others. The research discussed in this chapter is limited to the teen audience. This is primarily due to the fact that social media use by children is typically not legally permitted, although the social media landscape is quickly changing. Within the next few years, as technologies advance and legal policies change, it is likely that we will see an uptick in social media use among children—and a related increase in research on the topic.

As highlighted in this chapter, the affordances of social media are what make social media so appealing. These affordances appeal to a strong, developmentally induced need for control and autonomy among adolescents, allowing them to determine what, with whom, when, and how they communicate. The affordances offer an important explanation of the positive role that social media play in the social-emotional development of teens. They may foster teens' self-concept clarity, self-esteem, and self-awareness. They may provide teens with important opportunities for developing friendships, and offer them a space for experimenting with their sexuality and sexual self-presentation.

But as with other media, there is a dark side of social media use, which warrants attention. In particular, social media use is associated with the risk of cyberbullying and sexual grooming. Although, thankfully, these behaviors occur very infrequently, they remain important areas for continued concern and investigation. Similar worries about sexting and sexy selfies call for more scholarly attention to helping teens identify how to manage social media in a healthy and safe way.

In general, the negative effects of social media use on social-emotional development seem to depend on how teens use social media. If teens use

social media to maintain existing contacts, which is what most of them do, overall effects seem positive. But if they use social media primarily to communicate with strangers, or if they create unusual profiles and thereby evoke negative responses, the effects are negative. This implies that to a certain extent, adolescents shape their own social media use and its effects. Until now, such so-called expression effects have not received much attention in the social media literature, yet they are likely the best way to understand the social-emotional effects of social media use.

And while social media use has most often been studied in conjunction with social-emotional development, there is growing anxiety that today's mediated world of bite-size information and multitasking may be hindering teens' cognitive development. The scientific evidence suggests that alarm bells may be premature. Fervid media multitasking, which frequently accompanies social media use, is indeed associated with poorer concentration. Yet no scientific evidence to date supports the claim that the causal direction runs from media multitasking to concentration problems. It is possible that teens with concentration problems are more inclined to media-multitask. In addition, no convincing evidence supports the claim that media multitasking is problematic for other cognitive outcomes, or that today's young people are becoming dumber or suffering from digital dementia. If anything, it seems that teens may be displaying improved intelligence when compared with previous generations.

Accessibility, scalability, and retrievability are important affordances of the Internet and social media. Without any effort, we can find a former classmate online or Google the name of an actor that is on the tip of our tongue. Thanks to the smartphone, we can easily call for help if we feel unwell on the road or if the car breaks down. And it is reassuring to know that our children and loved ones can reach us when they need to. The same affordances, however, come with caveats. In the smartphone era, it is more difficult—for everyone—to focus and to resist temptations. The affordances of social media require users to practice a certain agency so that they reap the benefits and avoid the risks of social media use. For youth, and especially young teens, parents, caregivers, and practitioners come into play here. With their help, today's youth can benefit from these affordances in a healthy and safe way.