Applying an affordances approach and a developmental lens to approach adolescent social media use

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Abstract

Social media use among adolescents is nearly ubiquitous. Researchers, educators and parents may find the ever-shifting landscape of social media challenging to understand. In this Educational Piece, we describe an affordances approach. Applying an affordances approach to social media can advance our understanding of social media as a set of functions rather than brand name platforms. We present an affordances approach alongside the critical developmental tasks of adolescence. Our goal is to advance our thinking and standards in communicating about social media and adolescents to inform better research and program design.

Keywords

Adolescent, social media, affordance, development, media

Introduction

Adolescents have been dubbed the “digital generation” or “digital natives” given that they have grown up with access to computers, mobile technology and the internet from an early age.¹² Social media represents a set of Web 2.0 tools that are centered on interaction and sharing of content with others.³ Today over 95% of adolescents have smartphones and 45% report they are online “almost constantly.”⁴ Adolescents typically maintain a “social media portfolio” by using a number of different outlets including social networking sites such as Facebook, photo sharing sites such as Instagram and blogging sites such as Tumblr.⁵ The evolution of social media over the past decade has provided adolescents with numerous benefits, including access to information, social support and far-reaching communication tools.⁶⁻⁹ There are also risks to technology use which include overuse at the expense of offline activities, exposure to inappropriate content and negative social interactions such as cyberbullying.¹⁰¹¹ Researchers have capitalized on these tools for observational research and new directions of work focus on interventions using social media tools. Both the challenges and opportunities from social media have been amplified over the past five years as it has become normative for most adolescents to access these spaces 24/7 from their pocket using mobile devices.⁵

Social media includes an incredible scope of tools, including social media such as Instagram, microblogging sites such as Twitter and texting apps such as WhatsApp. Some of these “brand name” platforms have seen participation surge and decline over the past decade; examples include the blogging site livejournal and the social networking site MySpace that have faded into obscurity. As in the past, when newer media are introduced, adults, and in particular parents, may feel that by the time one understands the

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difference between one platform, they are behind the times with others. While the names change frequently, extant research finds that these platforms serve key developmental tasks. The current focus on platforms and “brand name” social media is important to address for those who work with adolescents, including educators, health providers, parents, researchers and other adult role models. An emphasis on platforms among the dizzying array of possibilities may hamper adults’ sense of efficacy or understanding as they could feel challenged to understand the specifics of any given social media platform, or to keep up with the changing landscape of apps, platforms and profiles. Additionally, the platform-specific approach impacts researchers who design studies centered on a specific platform and face challenges in translation to other sites. As the evolution of social media is likely to continue, a framework for understanding key attributes of social media is needed. This framework would allow advancement in the field beyond the current brand name individual platform approach to understand categories of tools and to quickly understand what new platforms have to offer. Further, this approach may allow researchers to design and test interventions focused on particular affordances rather than platforms. In this Educational Piece we present one framework that may be useful to approach this topic, an affordances framework, and we apply this framework to developmental tasks in adolescence.

Affordances are a concept often used in the fields associated with design, and by those systematically studying the impact of a design of an object. Affordances are typically described as properties of artifacts that can be recognized by users and contribute to their function. Perceived affordances can also be conceptualized as “design aspects of objects that suggest to the user how the object should be used;” a simple example is that the design elements of a chair suggest to a person that the object could be used for sitting. An affordance approach can be useful because while popular social media platforms may change, issues that may arise with use of these platforms can be predicted by considering key concepts such as anonymity that are inherent in the design of the platform.

**Purpose**

Affordances can assist adults in conceptualizing what different social media sites have to offer adolescents from a developmental perspective, and on advising youth on the risks and benefits of individual platforms. Affordances looked at with a developmental lens may assist researchers in determining the best type of platform for a youth intervention based on the tools needed in the intervention, in contrast to the current approach of selecting a popular brand name platform out of hand. While the existing literature provides excellent descriptions of affordances as applied to technology assessment and design, the application of affordances to adolescent digital health remains a gap in the literature.

In this paper we will consider five kinds of affordances: functional, social, identity, cognitive and emotional. For each affordance, we also illustrate its connection to adolescent development. We hope this paper will serve as a launching point for a new way of communicating about social media and in moving adults away from the focus on the brand name and towards the features of the platform that impact youth health and development.

**Functional affordances**

Functional affordances are principle functions that affect how social media messages are transmitted or saved. While many of these affordances describe most social media sites, an understanding of these affordances may be helpful for those interacting with adolescents to frame the key design elements of the tools that social media provide.

Most social media sites allow for replicability of messages, meaning that content can be re-used by others. An example is the ability to “retweet” content on Twitter. Social media also allows messages to be highly scalable; there are numerous examples in the popular media of social media posts going “viral” and reaching far beyond the initial intended audience. Social media is also searchable; users can find specific content or people using a variety of online means such as hashtags. Social media also provides permanence to messages by placing them in online conversations or on profiles. Even on sites that are intended to be ephemeral, such as Snapchat, content is generally stored or could be captured and saved by others. Social media allows for unlimited composition time before posting a message, in contrast with the back and forth of a typical face-to-face conversation. Some sites allow for removal or editing of content easily; Facebook allows for revising or deleting posts. However, the speed of Twitter can lead to challenges with removing or editing content once it has been retweeted by others.

It is important to consider that adolescents’ cognitive and emotional development may impact their utilization of these affordances. Realizing that what is posted is scalable, replicable and searchable requires abstract thinking and perspective taking, which typically develop later in adolescence. While the unlimited composition time afforded by social media could be of benefit to adolescents, it is unclear how often they take
advantage of this in carefully considering what they post. Indeed, adolescents are still learning key executive functioning skills such as self-regulation and emotion regulation, which may mean they post without reflection. Risks of this affordance are that a digital footprint can follow an adolescent into the future and have both present and future effects. For example, an embarrassing or inappropriate post, such as a post including nudity or describing a drinking episode, may be regretted but irretrievable if it goes viral. Having this type of post be searchable in the future may hinder future educational or employment opportunities.²

Social affordances: social development

Given the interactive nature of social media, it is no surprise that most social media sites offer many social affordances. Social affordances include a sense of belonging to a group, such as a group focused on a particular interest, experience, social group or religion.¹⁹ The feeling of belonging begins with the log-in via a username and password, letting each user know they are entering a space in which they are members. Within most social media sites, the user can also create links between their profile and other users, creating a network of relationships that indicate belonging. Many social media sites also provide specific tools which allow the user to identify members of their group and enhance a feeling of belonging, such as “tagging.”²⁰ For example, hashtags (i.e. content labeled with a # sign) are commonly used on Twitter and Instagram and enhance belonging. When content is labeled with a hashtag, it is connected to all other content on that site that has also been labeled in that way. Thus, a hashtag can allow the creation of a community of users across different social networks who are connected by use of a particular topic or term. Further, social media may promote network-informed associations, such as when Facebook suggests friends for a user based on their friends’ friends. This allows users to see how friends are connected to other people and their interests.²¹ Finally, peer-to-peer social networks such as Snapchat allow one to deepen a connection without the group looking on, while the ephemeral communication allows for a more authentic exchange without the social pressure of waiting for likes and comments.

Adolescents learn within the social media setting how much personal information is appropriate to share. A previous study found that intimate disclosures shared publicly can be judged as inappropriate.¹⁷ Social media should promote the user to engage in audience management, such as by being able to suggest that other users should be removed for bad behavior, learning who is reading the messages being posted, and learning about how those reading the message are reacting to them. Finally, social media allows teens to experience and participate in metavoicing. This term refers to how a social media user who posts anything in social media is engaging in a larger context including other people’s presence, profiles, content and activities. Thus, an adolescent posting on Twitter is not merely voicing a single opinion, but contributing to content that is already in that space and connected to others.

An important developmental task of adolescence is development of and engagement with a peer group.⁷² Adolescence is a time in which teens move away from their family as a primary source of support and towards a network of peers. Social media provides opportunities to support belonging by helping teens find peers who share common interests within online communities. Through social media, adolescents who live far away from friends or family can also stay in touch with them and share updates and life events. Adolescents can also use metavoicing to engage in larger communities, such as civic or political engagement in a larger online community. A positive example of belonging is teen cancer survivors who use a particular hashtag to connect to other teen survivors nationally to provide support and share similar experiences. Previous work has also identified risks of engaging in certain online communities, such as engaging in the “pro-ana” social media community (#proana) for those with eating disorders.²³,²⁴

Social media provides ample opportunities to develop social skills.²⁵ Through posting, liking and commenting, adolescents learn the norms of online social behavior. However, a 24/7 access to peer groups, and a superficial understanding of audience management, can sometimes lead to cyberbullying, which has been shown to be as much or more harmful to mental health than in person bullying. While the risks of “stranger danger” have been proven to be overblown, the ability to communicate with people adolescents do not know can encourage a wider, and possibly riskier, social network.²⁶

Identity affordances: identity development

A next category of affordances of social media is identity affordances. Many social media sites provide platforms with affordances for identity development and portrayal. An example is Instagram, a social photo sharing app in which users upload pictures, and followers can comment and like what they post. A user profile on Instagram, as opposed to Facebook, is dominated by carefully curated photos, often edited and adjusted through the use of filters²⁷ and other photo editing features. Identity is further emphasized by the expectation on Instagram to use one’s real name (or a
version of it). Some adolescents choose to develop separate profiles secretly or with discoverable pseudonyms to represent particular aspects of their identity that are either very focused, for example an Instagram account focused on K-beauty products, or are experimental, for example a Twitter account focused on an emerging LGBTQ identity. However, some users choose to interact with social media with low identity affordances, such as Reddit, in which users are only known by their username. Some platforms, such as AskFm, offer complete anonymity, thus eliminating any identity affordance. During the preteen and early teen years, this particular feature of anonymity can be popular. However, anonymity can lead to disinhibition or a lack of personal responsibility, which can contribute to negative behavior such as cyberbullying.

A key developmental task of adolescence is identity development. This task includes developing a sense of one’s appearance and body image, and developing a vision of one’s present and future self. Sites that support identity development present benefits to adolescents who can explore and experiment with their identities, a critical step in adolescence development. By posting pictures and seeing the reaction of others, adolescents practice impression management and self-presentation. An interesting distinction can be found between identity development, a key task of adolescence, and impression management, which involves managing how others perceive one’s identity. Social media offers opportunities for identity development, but it can be argued that this is usually through the lens of impression management in that adolescents have to make decisions about what information about themselves to share online. Certain aspects of identity development are not appropriate or conducive to sharing, and some adolescents learn these lessons through missteps. However, this process of identity development and impression management also takes place as adolescents navigate complex social interactions in the offline world. In the realm of social media, feedback is often more concrete through likes and comments, and content can be taken down or revised. It can be argued that the self-editing process can be more challenging in the offline world.

**Cognitive affordances: cognitive development**

Cognitive affordances may include using social media tools to expand one’s learning. Examples include increasing awareness of news events using Twitter, seeking out homework-related information on Wikipedia or learning how to play a piano piece using YouTube. These affordances may be particularly useful for adolescents who may not traditionally get exposed to this information offline. However, as the information available on the internet has variable quality and accuracy, adolescents must develop new skills in triangulating information across various sources and media literacy. While not all adolescents (or adults) engage in triangulating information across sources, it is a unique cognitive affordance and opportunity provided by the digital sphere of information.

Social media can also allow **reallocating of cognitive resources** by allowing a user to focus on one aspect of a person’s presentation at a time, versus the many cognitive cues that emerge during a face-to-face conversation with a person. For example, when meeting a new acquaintance, face-to-face communication requires an adolescent to be cognizant of the complex interplay of words, tone, facial expression and body language. All of this is occurring while the adolescent is processing what the new acquaintance is saying, and perhaps thinking through how to respond or what the adolescent has in common with this new person. On social media, connecting to a new acquaintance can allow an adolescent to focus on one element of a new acquaintance at a time, such as their interest in soccer, or a message they posted, or their style of dress. Adolescents can take in these cues one at a time in the virtual environment, and plan a communication strategy for the face-to-face meeting. For adolescents who are navigating building a peer group as well as learning complex communication strategies, social media can provide tools to help gather information or plan communication.

Another cognitive affordance of many social media sites is **triggered attending**. Triggered attending involves rejoining an online conversation or responding to content when an automated alert informs the user to do so. Examples include setting mobile phone alerts to trigger when specific users or friends post content. Finally, some sites encourage sharing of information more than connecting to one’s identity. For example, Reddit is a social media site in which users are typically identified by a chosen username and the emphasis is more on what content they contribute to group conversations rather than the personal identity of who posts. Cognitive affordances may include the opportunity for enhanced creativity, such as on sites that allow multimedia or customizable platforms to **create multimedia content**. Information seeking is a common part of this developmental stage; social media can provide multimedia tools for creative learning as well as a fountain of information. In addition, many adolescents will also use online tools to seek health information. A risk is that triggered attending may be disruptive to adolescents who are engaged in other activities, such as homework or driving, or when these alerts sound while an adolescent is sleeping. Previous studies have documented disturbances in sleep patterns with nighttime online activities and mobile phones.
In addition, many studies have documented how triggered attending and multitasking distract from adolescent focus both in and outside a classroom setting.

**Emotional affordances: emotional development**

Emotional affordances include attributes of social media that can trigger or stimulate users’ emotional reactions. For example, many sites allow users to like or dislike content, such as the “heart” function on Instagram, or “upvoting” or “downvoting” on Reddit. Some sites allow users to “follow” others whose content they like, even without knowing that person, such as on Twitter where users can follow celebrities or politicians. This feature could encourage parasocial relationships, a one-sided emotional connection that can be particularly strong in adolescence.

Emotional affordances can also include generating empathy by seeing personal photographs or names alongside messages or news stories. It is common to see fund-raising efforts on social media that capitalize on emotional affordances by providing photos and personal stories. In contrast, another emotional affordance of social media is social comparison. Social media provides rich data about individuals, allowing adolescents to size themselves up using a variety of data points including images, text and social endorsement of content.

Comparison with others is a normal part of the developmental processes of adolescence. As adolescents experience physical changes as with puberty, it is normal to look at peers and consider whether they have had similar experiences. Adolescents also undergo emotional development during adolescence as they learn to regulate emotions and process information that may be disturbing.

Adolescence is also a time to learn more sophisticated communication skills, and these tools may both help and hinder an adolescent’s journey. Because communication via media does not often include cues such as facial expressions or vocal tone, it can also lead to the potential for misinterpretation of information. For example, a text message using sarcasm may be misinterpreted without voice cues. This kind of communication can undermine emotional understanding and peer relationships.

Social media also presents risks in the area of emotional development, including in the area of social comparison. Documented risks of online social comparison for some adolescents include fear of missing out (FOMO), depression and anxiety. Previous studies have illustrated that by examining other people’s social media profiles users are at risk of feeling inadequate or envious. Adolescents may compare themselves to unrealistic role models such as celebrities and experience frustration or a sense of failure. Social media can also expose teens to content that is emotionally disturbing or inappropriate, such as real-time posts of suicides or bullying. It is critical that adolescents have an offline support network to discuss and process experiences they have on social media.

In summary, the ever-changing landscape of social media sites can hinder adults’ and adolescents’ understandings of the purpose and functions of these sites in adolescents’ lives. An affordance approach can be applied to understand functions of sites that tie in to developmental tasks. Keeping up with the speedily shifting digital landscape is unlikely to be an easy chore, but understanding key design concepts and how they are used in conjunction with how adolescents grow and learn can assist adults in understanding and providing support to teens. Further, this approach can help media researchers consider affordances in the design of studies of adolescent health and social media.

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