3 Digital Media and the Dual Aspect of Adolescent Identity Development

The Effects of Digital Media Use on Adolescents' Commitments and Self-Stories

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Concerns abound about the impact of social media on adolescents as it increasingly becomes an integral part of their social lives. One of the concerns that has received a great deal of attention is the impact of social media on adolescents' mental health (Gordon, 2020). A large number of studies have been conducted to investigate the impact; however, the findings are mixed, showing both positive and negative impact (Baker & Algorta, 2016; Best et al., 2014; Seabrook et al., 2016). What is clear in this growing body of research with seemingly contradictory findings is that the relation between social media use and adolescent mental health is much more complex than originally thought. In line with the recognition of this complexity, more and more researchers examine the mechanism of this relation within the framework of a psychological theory (Keles et al., 2019).

Adolescent Identity Development on Social Media

In a recent theoretical review, Granic et al. (2020) suggested that, in order to understand the impact of digital media on adolescents' mental health, it is essential to consider their core developmental concern: identity development. For decades, developmental psychologists have studied the challenging transition adolescents are expected to make in order to become functional members of society – that is, moving past identifying with the roles and values of others and toward making social commitments that are in accord with their own interests, aptitudes, and values (Erikson, 1968; Kroger, 2004). Whether or not adolescents successfully make this transition has important implications for their mental health (e.g., Azmitia et al., 2013; Kuiper et al., 2016). Since a considerable proportion of identity development processes is now taking place on social media, it is important to examine how the use of social media affects these processes.

A Model of Adolescent Identity Development

To present a model of adolescent identity development, we build on the theoretical framework proposed by Granic et al. (2020). In this framework, progression toward (a) commitment to person–society integrated values and (b) the construction of a coherent life story constitutes adolescent identity development. The framework specifies key factors at intrapersonal, interpersonal, and cultural levels that shape adolescent identity development. Key factors at the intrapersonal level are psychological needs that drive adolescents to uphold and unite personal and social values and form a coherent life story. Key interpersonal factors are the characteristics of narrative partners that affect how adolescents construct and develop stories about themselves. Finally, key cultural factors are cultural values, norms, and narratives that set the boundaries within which adolescents explore and make commitment choices. This chapter focuses on processes at the interpersonal level, where intrapersonal and cultural factors intersect, as these processes are most pertinent to social media. Specifically, we discuss narrative and dialogical processes as an interpersonal mechanism of identity development (Hammack, 2008; McLean & Pasupathi, 2012). Through sharing self-stories with others, individuals encounter various perspectives, reflect on and learn about themselves, and consolidate or change their commitments, values, and narratives. Furthermore, we clearly differentiate between the subjective and objective aspects of identity by drawing on McAdams's (1998) exposition of the self-as-subject (meaning-making process) and the self-as-object (product of the meaning-making process). We explain how the two aspects of identity develop together through narrative and dialogical processes (see Figure 3.1).

Chapter Overview

We begin by describing the subjective aspect of identity development: changes in *commitments* and *values*.[1] We explain how conventional commitments change to self-evaluated commitments during adolescence and the key role of introspection in this transition. We then describe the objective aspect of identity development: changes in a self-story, or *narrative identity*. We explain the process of constructing a coherent life story during adolescence and the function of narrative partners in this process. After the description of each aspect of adolescent identity development, we discuss how the use of social media may facilitate or hinder the key processes involved. Since the field of identity development is just beginning to incorporate social media in its research, our discussion will consist mainly of hypothetical links between social media use and adolescent identity development. However, the paucity of research in this area also means there are many avenues for future research. Therefore, the chapter concludes with future directions for studying the impact of social media use on adolescent identity development.
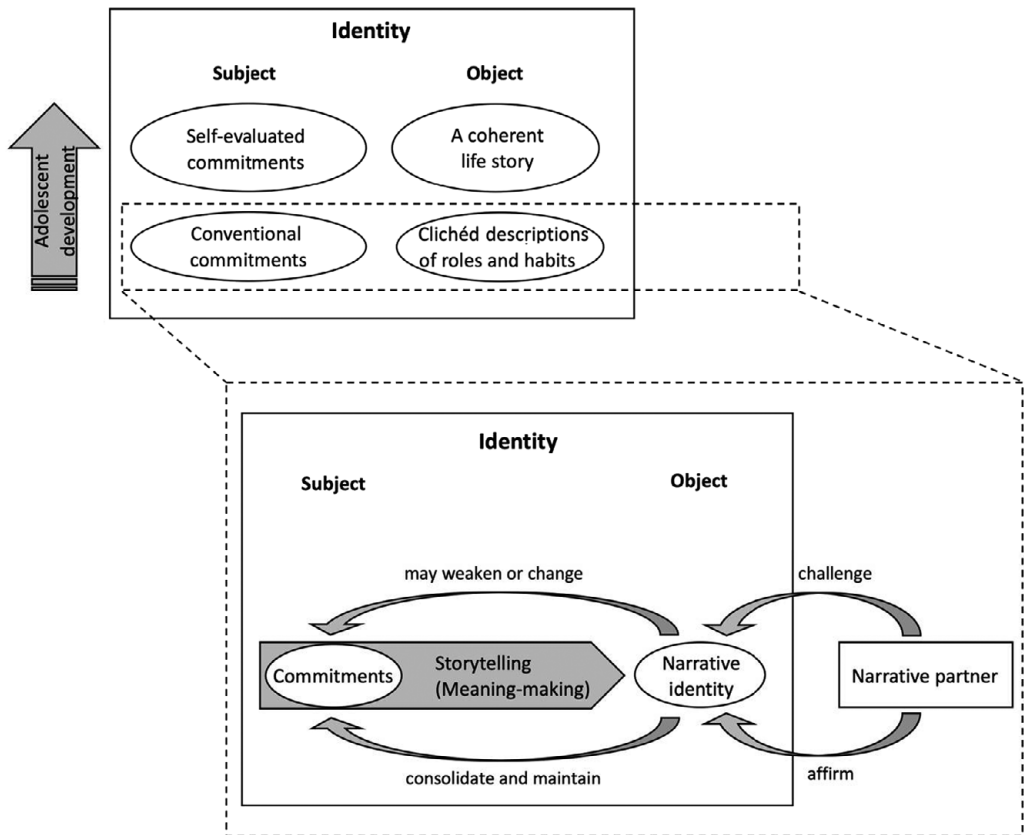
Figure 3.1 *The dual aspect of adolescent identity development and narrative and dialogical processes*

The Subjective Aspect of Identity Development: Changes in Commitments and Values

Identity is first and foremost the self as subject. Although developmental psychologists have taken different approaches to conceptualizing and studying the subjective self and its changes, there are some commonalities in their descriptions (Kroger, 2004). In this chapter we focus on Erikson's (1968) theory of the life cycle and Loevinger's (1976) theory of ego development. Erikson laid out a series of crises that people face in their lifetime and must resolve for proper functioning and development. Although he described all the crises as having some bearing on identity, he characterized the fifth one – which takes place in adolescence – as a major crisis for identity. Erikson conceptualized identity in several different ways. However, later psychologists have focused on his conception of identity as ideological and occupational commitments and expanded it to include interpersonal commitments (e.g., Luyckx et al., 2006; Marcia, 1966).

Loevinger (1976) also developed a theory of changes in the subjective self, namely ego development theory. Unlike Erikson's theory, Loevinger's theory is not built around chronological age, and therefore the ego stages are not tied to age-related challenges and tasks. The theory describes changes in various aspects of the self, such as impulse control, conscious preoccupations, and cognitive and interpersonal styles. At its core, ego development theory is about changes in an individual's frame of reference, the values in accordance with which an individual makes experience meaningful and coherent (Hy & Loevinger, 1996). In short, changes in commitments and values constitute the subjective aspect of identity development.

The Formation of Self-Evaluated Commitments in Adolescence

Identity development is a lifelong process. Throughout life, identity undergoes qualitative changes (Kroger, 2004). However, particular attention has been paid to the type of identity that is thought to mark the entrance to adulthood. According to Erikson's (1968) theory of the life cycle, childhood is a period in which individuals learn the roles of adults around them and focus on becoming skillful at preparatory tasks provided by their family, school, and community. Children are therefore identified with the roles and values of others in the immediate environment. In adolescence, psychological needs and social demands drive individuals to explore different occupations and ideologies in the larger society and commit to occupations and ideologies that match their own interests, aptitudes, and values to find their niche in society. This serves as the foundation for adulthood.

It is now widely recognized that identity exploration and commitment are iterative processes (Bosma & Kunnen, 2001; Grotevant, 1987; Kerpelman et al., 1997; Luyckx et al., 2006). For example, Luyckx et al. (2006, 2013) suggested that identity formation involves two cycles. The first one consists of exploration in breadth and commitment-making. In this cycle, individuals explore various values and goals and make initial commitments. The second cycle consists of exploration in depth and identification with commitment. Specifically, current commitments are continually re-evaluated through self-reflection and interpersonal dialogue, and if individuals feel confident about their commitments, they identify with them.

A similar developmental sequence can be found in Loevinger's (1976) ego development theory: progression from the Conformist stage to the Conscientious stage via the Self-Aware stage. At the Conformist stage, social belonging is of paramount importance, and most effort is put into gaining acceptance by a social group. Individuals at this stage conform to the norms and values of their social groups, which are based on external characteristics (e.g., physical appearance, outward behavior). Thus, they seek social acceptance and recognition by trying to look or behave in a socially desirable

manner. At the next, Self-Aware stage, individuals begin to explore inner aspects of themselves, and conformity starts to become less rigid. When the next, Conscientious stage is reached, individuals have gained a rich understanding of their motives and personality traits. Individuals at this stage therefore evaluate and commit to social values based on their internal characteristics (i.e., the formation of self-evaluated commitments; Loevinger, 1987). Although ego development was conceptualized independently of chronological age, research has shown that the progression from the Conformist stage toward the Conscientious stage commonly takes place during adolescence (Syed & Seiffge-Krende, 2015; Westenberg & Gjerde, 1999).

In sum, the transition from conventional commitments to self-evaluated commitments constitutes the subjective aspect of adolescent identity development. This transition is marked by changes in the mode of commitment – from conformity to self-evaluated commitment – and the nature of commitments – from external to internal characteristics.

Identity Exploration and Introspection

Exploration to gain an understanding of one's environment and oneself is considered a key mechanism of identity development (Grotevant, 1987). Erikson (1968) emphasized the importance of psychosocial moratorium, the period during which adolescents explore different ideologies and occupations in society and find suitable ones. Such exploration entails introspection to find out one's own interests, values, and aptitudes. In Loevinger's (1976) ego development, we have seen that progression from the Conformist stage to the Conscientious stage goes through the Self-Aware stage, where individuals begin introspection to gain a deeper understanding of their internal characteristics. In order to move on from rigid conformity, individuals must shift their focus from external to internal aspects of themselves to understand their own interests and values, which they can then use to evaluate and choose social values to commit to. Indeed, introspection was found to be the most common factor in identity development (Kroger & Green, 1996).

The capacity for introspection begins to develop in adolescence (Sebastian et al., 2008), making it a sensitive period for cultivating the capacity. Counseling, psychotherapy, and educational programs have been used to aid adolescents' identity exploration (Kroger, 2004). Marcia (1989) suggested that it is important to create an open and safe environment that encourages free exploration and serves as a safety net if adolescents' choices go awry. Indeed, it has long been noted that open and accepting relationships are crucial in facilitating self-exploration (Rogers, 1961). As we discuss later in the chapter, identity exploration and introspection often happen during or following interpersonal dialogue, and the characteristics of conversational partners greatly affect the extent to which individuals engage in self-exploration and gain insights into themselves.

Social Media and the Adolescent Development of Commitments and Values

We have explained the adolescent development of commitments and values: the transition from conventional to self-evaluated commitments. We now discuss how the use of social media may affect this transition. To reiterate, identity exploration and introspection inherent in the exploration are a key mechanism through which adolescents move on from conformity and preoccupation with external characteristics and form self-evaluated commitments. Therefore, the use of social media would facilitate the transition if it supports identity exploration and introspection. Conversely, the use of social media would hinder the transition if it prevents identity exploration and introspection, increases conformity, and makes adolescents fixated on appearance.

A Playground for Identity Exploration

Social media provides the opportunity for people to try out different versions of themselves and see what feels right (Casserly, 2011). When asked about who they are on social media, people often report that they have different personas depending on the platform (Zhong et al., 2017). This may be because different platforms tend to attract different audiences by virtue of their design and functionality. For example, Instagram may be well suited to expressing people's artistic side and therefore popular among artists, while Reddit may cater to their contemplative, intellectual side and attract curious minds and experts. The beauty of social media is therefore that all platforms taken together serve as a playground in which individuals can explore different aspects of themselves. However, there is also the downside of a plethora of options: Too many options can create paralysis and lead to ruminative exploration, keeping adolescents from completing the cycle of identity formation (Beyers & Luyckx, 2016). As we have discussed, successful adolescent identity development requires not only exploration of commitment options but also introspection to evaluate whether these options fit one's personality. Therefore, social media platforms that provide space for identity exploration as well as self-reflection may be more conducive to identity development than those that provide space for the former only.

Potent Social Norms and Values

While social media offers plenty of opportunities for identity exploration, the large scale of social media also enables potent social norms and values, potentially making it more difficult for adolescents to move on from conformity. Most adolescents in the pre–social media era are likely to have negotiated with trends and conventions that manifested themselves in a relatively small

social group, at most on a national scale. With social media, however, adolescents now have the possibility to observe trends on a much larger global scale, likely experiencing greater pressure to conform to these trends. Indeed, norms and values on social media may have stronger influence than those offline because they are more widely shared and more readily accessed (Nesi et al., 2018).

Social attitudes that currently prevail in Western cultures and may be magnified by social media are anti-mainstream sentiments (Vinh, 2021). Those who follow counterculture movements are usually called hippies or hipsters, going against what – in their eyes – everyone else is doing. One reflection of this trend is the popularity of prank videos on social media, in which people violate social conventions and norms for entertainment. The anti-mainstream sentiments have appealed to so many people that they themselves have become the norm and the source of conformity. Thus, social media can spread and magnify trends rapidly to create potent social norms and values, including those that espouse anti-mainstream sentiments.

Inescapable Past Selves

An essential condition for identity development is the freedom to leave behind old identities and explore new ones. Unfortunately, such freedom is not always guaranteed on the Internet. What people say and do on the Internet is permanently recorded and often remains on the Internet for future generations to unearth (Eichhorn, 2019; Nesi et al., 2020). This permanence of information on the Internet, especially on social media, can be problematic for identity development (see Davis & Weinstein, 2017). Traces of old identities on social media can mislead others into thinking that the old identities still hold true and make it difficult for individuals to change or to fully embrace the change. There is the increasing occurrence of people being criticized or getting fired for what they said or did on the Internet in the past even though these views or deeds no longer reflect them (e.g., Arora, 2021). Accordingly, there are signs of adolescents and young adults erasing their social media posts for fear of repercussions (Davis & Weinstein, 2017; Jargon, 2020; Smith, 2013). These privacy issues therefore seem to be making it difficult for individuals to free themselves from the past and move forward.

However, reminders of one's past selves may also benefit identity development. In adolescent years, individuals may go through many different phases. For example, an adolescent may experience the "goth" phase from age 15 to 16 years, reflected in a series of photos of a black-clothed self with plaid skirts and chains. From age 17 to 18 years, this adolescent may be absorbed in environmentalism, reflected in posts and photos depicting community efforts and environmental protests. Transition between such phases may sometimes feel fluent and smooth and may be easily forgotten. Snippets of social media

content and interactions in the past can help individuals recall parts of their past selves that they may otherwise have forgotten. Being reminded of past selves can also help individuals reflect on the development they have gone through and understand that identity is never permanent and continues to change over time (Pasupathi et al., 2007). It is nonetheless important that the right to social media data belong to users so that they can access their past data when they want to and they can erase them if they deem them harmful to their current identity.

A Tool for Distraction or Introspection?

One of the concerns that social media has generated is that it may act as a distraction from oneself (The School of Life, n.d.). Social media is filled with information about people's lives and world events, and passive usage of social media (e.g., reading news feeds) is more common than active usage (e.g., posting status updates; Verduyn et al., 2015). The implication is that people are focused mainly on other people's lives on social media, leaving little room to reflect on their own lives and gain insights into themselves. Furthermore, information overload on social media, which has been shown to lead to "social media fatigue" in some (Bright et al., 2015; Dhir et al., 2019), may deplete cognitive resources necessary for digesting information and integrating it into a sense of self. Indeed, Misra and Stokols (2012) found that individuals who experienced an overload of digital information spent less time on contemplative activities such as self-reflection.

Nevertheless, social media has some functionalities that could help people gain insights into themselves. For example, Facebook's "Year in Review" posts provide users with a chance to reflect on their life experiences in the past year. Such reflection may bring people insights into what kind of things they value and are interested in and what they are good at. Furthermore, as we discuss later, social media significantly increases the chance to receive feedback about oneself from others (e.g., boyd & Heer, 2006), thereby deepening self-understanding.

Emphasis on Appearance

Another important issue to consider is the extent to which social media promotes preoccupation with appearance. Although social media can be used for a variety of purposes, posting pictures of one's physical appearance (i.e., selfies) is popular among adolescents, and many adolescents are preoccupied with how others perceive their physical appearance on social media (Boursier & Manna, 2018; Choukas-Bradley et al., 2020). The increasing use of clickbaits to attract followers on social media may also be contributing to their perceived importance of appearance and superficial impressions. Preoccupation with appearance on social media is associated with a number

of negative mental health indices among adolescents (Choukas-Bradley et al., 2020). While having a healthy body image is important, adolescent identity development entails a shift in the source of self-esteem from external to internal attributes. Therefore, social media is likely to be harmful to adolescents to the extent that it makes them fixated on appearance.

The design and affordances of social media platforms may affect the degree to which adolescents focus on external aspects of themselves. For example, photo-based social media platforms such as Instagram may attract those who are concerned with physical appearance, and consequently social values and norms that revolve around physical appearance may be more prevalent on these platforms. Therefore, the use of photo-based platforms may put adolescents at higher risk of being influenced by appearance-based values and norms. Furthermore, given that individuals can explore and express their internal characteristics more easily using concepts and words rather than images, text-based platforms such as Reddit and Tumblr might be more conducive to introspection and the expression of inner qualities. It is nonetheless important to note that the nonverbal expression of internal characteristics is possible (e.g., an expression of creativity in dancing), and photo-based platforms can also serve as a place for more mature expressions of identity.

The Objective Aspect of Identity Development: Changes in a Narrative Identity

Thus far, we have discussed the subjective aspect of identity development: changes in commitments and values. We now turn to the objective aspect, manifestations of the changes. Commitments and values manifest themselves in several ways. For example, people strive to fulfill their commitments and values; therefore, commitments and values are manifested in goal-striving (Maslow, 1970; Schwartz, 1996). Moreover, values act as a frame of reference in perception to create "coherent meanings in experience" (Hy & Loevinger, 1996, p. 4). Thus, they are reflected in the meanings that individuals assign to objects and events. When this meaning-making process is applied to past experiences, it often takes the form of storytelling. A story about the self that an individual creates based on their past experiences has been termed "narrative identity" (McAdams, 2018; Singer, 2004). In storytelling, individuals make sense of and organize their past experiences by relating them to important aspects of themselves (Pasupathi et al., 2007). In other words, past experiences that are relevant to one's goals and values (i.e., *self-defining memories*) make up the main contents of a narrative identity (Blagov & Singer, 2004; Singer et al., 2013). In short, commitments and values (identity-as-subject) act as the guiding principles of storytelling to make sense of and organize past experiences into a narrative identity (identity-as-object; see Figure 3.1).

The Construction of a Coherent Life Story in Adolescence

As adolescents' commitments change from conventional to self-evaluated commitments, corresponding changes likely occur in their narrative identities. During adolescence, a narrative identity changes from relatively disjointed descriptions of roles and habits to an autobiographical narrative, which demonstrates more complex reflective thinking and a causal understanding of one's life experiences (Habermas & de Silveira, 2008; McAdams, 1998). Specifically, adolescents' narrative identities increasingly take the form of a life story, which tells how the past self has grown into the present self, which may then become an envisioned future self (McAdams, 2018; McAdams & McLean, 2013). Their past, present, and future become clearly differentiated and yet causally connected to form a temporally coherent life story (Habermas & Bluck, 2000; Pasupathi et al., 2007). In addition to temporal coherence, there is another type of coherence that likely emerges in adolescents' narrative identities: person–society coherence (Syed & McLean, 2016). This type of coherence shows alignment between individuals' personal attributes and their social contexts. As discussed earlier, adolescent identity development is progression toward commitment to social values that match personal interests, values, and talents. Therefore, narrative identities likely exhibit temporal and person–society coherence toward the end of adolescent development, weaving together the past self that was identified with the roles and values of others, the present self that commits to person–society integrated values, and the future self that will fulfill these values.

Besides these structural changes, adolescent identity development is likely to be accompanied by related changes in the theme of a narrative identity. Granic et al. (2020) suggested that the dynamics of the needs for agency and communion shift during adolescence and that this shift may be reflected in the relative prominence on agency versus communion themes in a narrative identity. Specifically, as adolescents start to engage in self-exploration and gain better insight into their own interests and values, a predominance of communion themes may give way to a predominance of agency themes (see Van Doeselaar et al., 2020, for some indirect support for this). Toward the end of adolescent identity development, when the needs for agency and communion become more balanced, agency and communion themes may become relatively equalized and united in a narrative identity.

Another theme that is relevant to adolescent identity development is external versus internal focus. As discussed earlier, the nature of commitments changes from external to internal characteristics during adolescence. Therefore, the theme of adolescents' narrative identities is likely to change from that of trying to look good and behave properly to that of cultivating their inner traits.

Dialogue and the Function of Narrative Partners

Storytelling is inherently a social activity and therefore usually involves dialogue (Hammack, 2008; Hermans, 2004). A narrative identity expressed in

storytelling can be affirmed or challenged, which may in turn consolidate, weaken, or change commitments and values (McLean & Pasupathi, 2012; Thorne, 2000; see Figure 3.1). Thus, storytelling and dialogue are an important mechanism of identity development. Whether storytelling and dialogue contribute meaningfully to identity development depends heavily on the characteristics of their narrative partners (McLean et al., 2007; Pasupathi & Hoyt, 2009). There are three essential functions that narrative partners serve: (a) elaboration, (b) grappling, and (c) attention and validation (Granic et al., 2020).

First, narrative partners help people elaborate on their stories (Fivush et al., 2006; Pasupathi et al., 2007). To construct a meaningful and coherent life story from past experiences, you must derive meaning from these experiences, and a simple recounting of past experiences is often insufficient (Blagov & Singer, 2004; Singer et al., 2013). Therefore, narrative partners' requests for elaboration are essential. Blagov and Singer (2004) specified four dimensions of self-defining memories, which have implications for elaboration requests. Specifically, elaboration requests are likely to be especially helpful if they use a time frame most conducive to meaning-making in a given situation (e.g., "Tell me exactly what happened in that moment"; "How did you change during your college years?") and ask about affect, or more specifically, emotional valence and intensity (e.g., "How did the experience make you feel?"; "How much impact did the experience have on you?"), content, or the relevance to values and goals (e.g., "Why is the experience important to you?"; "How does the experience help you achieve your goals?"), and meaning, or learning and growth (e.g., "What did you learn from the experience?"; "How did the experience change you as a person?").

The second important function of narrative partners is "grappling", which is an act of supporting identity exploration in a dialogue while maintaining an attitude of open-mindedness and patience (Granic et al., 2020). Engaging in dialogue with others is essentially identity exploration because different people uphold different values and you are encouraged to take others' perspectives in dialogue (Hermans, 2004). Your values and narratives may sometimes be challenged in the process, and listening to alternative views may bring new insights and weaken or change your values and commitments. However, such a challenge is likely most fruitful when it is done in an open and accepting relationship (Rogers, 1961). Moreover, it is important that narrative partners remain patient despite unexpected perspective changes and contradictions, which are due to occur during identity exploration (Granic et al., 2020).

Finally, narrative partners provide attention and affirmation. When narrative partners listen attentively and affirm your life story, your values and goal endeavors are reflected back to you and become consolidated (McLean & Pasupathi, 2012; Pasupathi & Rich, 2005). Those who show interest and give you affirmation are usually the ones who share your values and commitments. As discussed earlier, adolescent identity development is considered complete

when they find their niche in society, where like-minded others share the interests and values that adolescents have discovered through self-exploration (Erikson, 1968). Therefore, finding narrative partners who share personal values and aspirations is important especially toward the end of adolescent identity development.

Social Media and the Adolescent Development of a Narrative Identity

We have discussed how commitments and a narrative identity develop together through storytelling and dialogue in adolescence. In this section we explore different ways in which social media can support or obstruct storytelling and dialogue, thereby facilitating or hindering the adolescent development of a narrative identity.

Dialogue with Diverse Groups of People

Social media emerged with the advent of the Web 2.0, a dramatic change of the Internet from a place for passive consumption to active participation, interaction, and collaboration (Peters, 2020). Anyone who has access to the Internet can express and share their views and stories on social media, and there are usually others – sometimes hundreds and thousands of people – who validate or reject their views and stories. Storytelling and dialogue in such a large, interconnected social environment have never existed before. Social media has made it easy to have dialogue with people who come from different cultures and backgrounds, thus significantly increasing the chance of encountering different perspectives. Since taking different perspectives during social interaction is essential for identity development (Hermans, 2004; Kroger, 2004), social media can be a great tool for adolescents' identity development. While there is some concern about the increasing frequency of conflicts resulting from the increased contact with diverse groups of people, conflicts can be meaningful experiences and contribute to identity development, especially if they are managed with understanding (Rogers, 1961). Therefore, the presence of moderators who are discerning but also empathetic would be valuable.

Censorship

There has been growing concern and controversy surrounding censorship on social media (Heins, 2014). Social media platforms such as Twitter and YouTube recently came under fire after deleting posts or banning users and channels that express certain ideological views (e.g., BBC News, 2020; Zaru, 2021). Social media companies have long suggested that their platforms

provide a space for the free exchange of views and ideas. However, it has become apparent that these platforms are not neutral public platforms, but rather, just like traditional media, they promote certain content and suppress others according to their interests and ideologies (Lewis, 2021). Although social media companies began to acknowledge such editorial actions, it remains largely unclear how they are curating content. As we have just discussed, dialogue with diverse groups of people plays an essential role in identity development. Therefore, if social media platforms exercise editorial power, it is important that they make their decisions transparent so that people can make informed decisions about which platforms to use for a meaningful dialogue.

Narrative Elaboration on Social Media

Social media platforms generally support the elaboration of narratives as they provide comment sections and encourage dialogue between users. However, the unique affordances of social media platforms may affect the extent to which users elaborate on their stories. For example, Twitter sets a strict character limit for posts and comments and may therefore hinder the elaboration of narratives and deep dialogue compared to platforms like Facebook, Reddit, and Tumblr. Indeed, in an in-depth interview with activists, Comunello et al. (2016) found that the activists perceived platform affordances as having a significant impact on their ability to express themselves, with one of them reporting that the possibility to write longer texts allowed him to better articulate his opinions. Misunderstandings between users may be more common on platforms that restrict the length of posts and comments because short posts and comments do not easily allow clarification of meaning. Such platforms might predispose users to insult each other instead of asking each other questions to elaborate on their self-stories.

Attention and Validation on Social Media

Social media offers unprecedented opportunities to be listened to and validated by others. Before social media, individuals whose values and beliefs deviated from the norm had difficulty finding someone who would listen to or affirm their views (e.g., Gray, 2009). It is now much easier to find like-minded others because social media platforms such as Facebook and Reddit enable people to search for various communities. This is, for example, reflected in online activism by various groups of people (Bennett, 2014; Buell Hirsch, 2014; Sandoval-Almazan & Gil-Gracia, 2014). However, the downside of such diverse and specific communities is that they can create echo chambers and shun interaction outside the communities (Singer, 2020). An optimal social media environment may therefore be that which makes it easy to find like-minded people while encouraging communication and interaction between diverse groups.

Attention and validation are most effective if they come from close people (Carr et al., 2016). Hayes et al. (2016) found that people experienced more personal support on platforms that allowed them to easily narrow their audience and share posts with close friends (e.g., Snapchat). Therefore, adolescents who are in the phase of identity consolidation may benefit more by using platforms that make it easy to target posts to close friends.

Future Research Directions

Now that we have presented a theoretical model of adolescent identity development and discussed how the use of social media may facilitate or hinder the development, we suggest a few directions for future research. First, it is important to study how narrative identities typically develop during adolescence. Since many adolescents currently use social media for identity expressions (i.e., narrative identities), it is possible to examine the adolescent development of a narrative identity on social media (Granic et al., 2020). Although social media platforms have tightened restrictions on data access over the past few years (e.g., Facebook Business, 2018; Hemsley, 2019), private data download options and application programming interfaces remain a viable avenue for collecting social media data for research (Lomborg & Bechmann, 2014; Taylor & Pagliari, 2018). Adolescents' social media posts can be analyzed with research methods that have been developed to study narrative identities (Adler et al., 2017). The narrative research framework specifies how to code narrative identities in terms of structure (e.g., coherence) and theme (e.g., agency, communion). New coding manuals need to be developed for themes that are relevant to adolescent identity development but not included in the framework (e.g., external versus internal focus). It is important to note, however, that people are not given narrative prompts to elicit detailed information on social media. Therefore, it may be necessary to use an additional method such as an interview to fully understand what is being expressed in social media posts. Alternatively, researchers may develop an application to add narrative prompts to social media posts. Once the methods are developed, researchers can conduct longitudinal studies to examine how the structure and theme of narrative identities change during adolescence.

Another important direction for future research is to study how the design and affordances of social media platforms affect key processes of identity development (introspection, elaboration, grappling, attention, and validation). For this line of research, it is important to first examine the unique affordances and features of different social media platforms. For example, researchers may assess the diversity of communities on social media platforms (see, e.g., Bisgin et al., 2012; De Salve et al., 2018, for the methods). To assess the processes of identity development, researchers can code adolescents' posts

as well as others' comments and reactions by using or adapting existing methods for studying these processes (e.g., Pasupathi & Hoyt, 2009; Pasupathi & Rich, 2005) or developing new ones.

However, like the analysis of narrative identities, the study of identity development processes may require more than social media data (especially introspection, which does not easily manifest itself). It would therefore be best to combine the coding of social media content with other methods that probe individuals' experiences on social media (e.g., interviews). One useful approach is the stimulated recall method, in which interviews are conducted around objective data to aid the recollection of experiences associated with the data (Bloom, 1953). Using social media data as memory cues can facilitate the recollection of thoughts and feelings that occurred during the use of social media (Griffioen et al., 2020).

Finally, a worthwhile research direction is to develop applications that support key identity development processes and examine whether they facilitate adolescents' identity development. For example, researchers may design an application based on the four dimensions of self-defining memories (Blagov & Singer, 2004) to help the meaning-making and organization of past experiences:

- Affect: Users can rate the emotional valence and intensity of social media posts so that they can gain insights into what kind of events have an impact on them and the nature and degree of the impact.
- Content: Users can assign value and commitment tags to their social media posts so that they can make explicit connections between their values and commitments and their life experiences.
- Meaning: Social media posts are accompanied by narrative prompts so as to help users derive meaning from their experiences and construct a meaningful and coherent narrative identity.[2]
- Time specificity: Users' social media posts can be displayed in different time frames (e.g., a given moment in time, day, week, month, year, and life stage) so that users can create narratives in these different time frames and later integrate these narratives into a life story.

After applications are developed, researchers can conduct studies (e.g., randomized control trials) to evaluate their efficacy in facilitating adolescent identity development. It is recommended that researchers take person-specific effects into account when evaluating the effects of social media (e.g., see Valkenburg et al., 2021).

Conclusion

In this chapter we have suggested that it is important to study how the use of social media affects adolescent identity development in order to understand the mechanism of the impact of social media on adolescent mental

health. We presented a model of the dual aspect of adolescent identity development – progression toward the formation of self-evaluated commitments and values and the construction of a coherent life story – and discussed how the use of social media may facilitate or hinder the key processes involved, namely introspection, storytelling, and dialogue. It was suggested that future research should devise methods for studying narratives on social media and discover how narrative identities develop during adolescence. We also suggested examining the design and affordances of social media platforms and how they affect the key processes of identity development. We hope that this chapter will provide a useful framework for future research on the impact of social media on adolescents and encourage media developers to design social media environments that support identity development.

Notes

[1] Although values are generally more abstract than commitments, we use these terms interchangeably for our current purposes.
[2] Although Blagov and Singer (2004) discussed meaning primarily in terms of personal growth, individuals can also create meaning by linking life experiences to current goal aspirations and values without the growth element (which is discussed by the authors as "content"). Therefore, narrative prompts asking about the implications of the life experience for personal growth (value change) and those asking about the relevance to current goals and values would both be helpful in facilitating meaning-making.

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