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## Review

# Building and breaking social media habits

Joseph B. Bayer<sup>1,2</sup>, Ian A. Anderson<sup>3</sup> and Robert S. Tokunaga<sup>4</sup>**Abstract**

Social media habits represent one of the most common – and controversial – forms of habitual behavior in contemporary society. In this brief article, we summarize the state of research on social media habits, along with their position within the technology habit literature. First, we review the wide range of positive and negative behaviors falling under the umbrella of “social media habits.” Then, we deconstruct how a given social media habit can be viewed from five levels of analysis: platform, device, interface, behavior, and motor. Last, we anticipate how future researchers and designers will have the potential to detect (un)healthy habitual processes via digital tracking. As a whole, the article demonstrates the need to break apart the components of social media habits in order to clarify their implications for well-being.

**Addresses**

<sup>1</sup> School of Communication, The Ohio State University, Columbus, USA

<sup>2</sup> Translational Data Analytics Institute, The Ohio State University, Columbus, USA

<sup>3</sup> Department of Psychology, University of Southern California, Los Angeles, CA, USA

<sup>4</sup> Department of Communication, University of Texas at San Antonio, TX, USA

Corresponding author: Bayer, Joseph B ([Bayer.66@osu.edu](mailto:Bayer.66@osu.edu))

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Research on habit psychology typically defines habits as implicit associations that people learn as they respond in ways that are rewarded [1–4]. Over time, these cognitive associations between contextual cues and responses are processed in an increasingly automatic manner that is independent of overall frequency

[5–7]. Hence, social media users learn to associate specific internal and external *cues* (e.g., notifications, boredom) in performance *contexts* (e.g., locations, screens) with particular *responses* (e.g., reaching, clicking). Once habits have formed, these cues automatically bring the practiced response to mind and trigger relevant behaviors even if rewards are later removed. Habits thus streamline behavior such that users repeat what they have done in the past to save mental energy. Below, we review current trends in the study of social media habits and pinpoint new directions for clarifying their links to well-being.

**Social media use as habit**

Social media habits can be seen as one branch in the evolution of media and technology habits. Contemporary habits replicate and extend the habits learned from past tools, devices, platforms, websites, and apps. Media and tech habits have long been seen as powerful – that is, habits that are common, complex, and compulsive [8–10]. Much of the foundational research on media habits has attempted to assess the relative strength of habit in predicting *usage*, as compared to other factors such as conscious intentions [11,12]. In turn, a growing body of studies has now reinforced the significant role of habit in social media and social network(ing) use [13–20], while increasingly considering how technical features can contribute to habit acquisition and activation [11,21]. Notably, previous work has shown how habit can play a strong role in driving social media likes/reactions – including how they are perceived – thereby influencing social support accrual [22–24]. The sharing and reacting driven by technical cues and social rewards can result in users feeling a greater sense of belonging and access to timely information, which may further reinforce social media habits [25,26,27]. Altogether, social media habits represent a central type of connection habit for many people today [28,29], automatically satisfying social needs and potentially shaping the relationships on one’s mind [30].

Prior media and technology research has investigated how habit acts as precursor to problems occurring in daily life, from distracted driving [7,31] to procrastination [32–34]. Social media habits, for their part, may also conflict with users’ situational goals. For example, individuals with stronger Facebook habits are more

likely to accept friend requests from a phony profile and reveal identifying information, even if they self-reported being concerned about privacy [35]. Social media habits endure by automating responses to technical cues within platform interfaces, thus reducing self-surveillance over one's behavior [21,36]. Other work has shown that habit strength is related to the inability to control social media use [37]. In one study, college students who habitually checked Facebook were more likely to procrastinate on Facebook despite having important things to accomplish [34]. In sum, and in line with media habits more broadly [38], social media use often represents a form of habitual behavior – whether it is serving or stressing users' goals (or both) at a given moment.

### Implications for well-being

The powerful role of habit in social media usage is commonly referenced and satirized in popular culture, even if it is not always described as “habit.” As displayed forcefully in *The Social Dilemma*, the most critical perspectives portray social media habits as toxic behaviors, fueled by monopolies whose cursors are firmly fixated on profit margins [39]. From this standpoint, a user (re) checking for Instagram story reactions can be seen as the habitual pursuit of popularity, reinforced by monetization schemes and algorithmic optimization. This view can even be seen among users with strong social media habits, who may begin to perceive themselves as being “addicted” even without major life disturbances [11,40]. As such, there is a lay perception of social media use as habitual and/or so-called addictive.

The above societal concerns can be contrasted with scientific findings. On one hand, social media habits can be viewed as new versions of old social motivations (and vulnerabilities) left on repeat. The temptation of “likes” and “upvotes” can spur a pattern of spiraling checking that conflict with personal goals, especially for individuals who are predisposed to social anxiety or low self-esteem [41]. On the other hand, social media habits can generate clear benefits for some users, such as offering sources of social support and informational awareness [42]. Research on the broader category of Internet behavior, which tends to covary with social media use and online gaming [43], affirms that habits can both support and undermine personal goals [38]. For example, automatically replying to messages from one's partner may help with being an efficient parent, whereas habitually switching to Reddit can interfere with being an efficient student. In fact, a solid foundation of empirical research in psychology has shown how automatic, habitual mechanisms underlie our goal progress [44,45]. In scientific jargon, habitual processes act as moderators in the relationship between social

media use and well-being [46]; that is, they can positively charge and/or negatively challenge the more conscious goals of users.

Nonetheless, similar to many pop-culture critiques, research on technology habits is overwhelmingly focused on problematic (i.e., negative) behaviors, often leading to media habits being equated with ineffective self-regulation. Indeed, one of the central questions tied to social media habits is whether they represent a form of “addiction” [40]. Scientific perspectives on habitual and addictive behavior are often overlapping – and at times confounding. To your average Joe user (i.e., non-psychologist), the theoretical differences between habits and addictions (and compulsions; [47]) may seem esoteric and trivial. Even within the social and clinical sciences, the conceptual and empirical distinctions can become hazy as one reviews the disparate literatures and labels linked to tech habits [11,48–51]. More usefully, “addictive” behavior is sometimes viewed as the upper end of the habit spectrum [43]. Hence, finding the boundaries where technology habits crossover into being clinical problems is an important objective for both theory and practice. Below, we re-engage with the “A” question and suggest that breaking down social media habits into component processes may aid in identifying the lines between healthy and unhealthy habits.

### Deconstructing social media habits

Most habit studies measure broad sets of cues, contexts, and responses under the umbrella of a given tech habit. This general approach to habit definition, and measurement, is perhaps most evident in the established literature on “Internet habits,” a scope that could apply to anything from Web browsing to online gambling to virtual working to browsing Pinterest. Next, following calls to embrace the complexity often ignored in prior work [28,43], we illustrate the potential of viewing habits across multiple levels of analysis to clarify their implications. Whereas past work has distinguished key types of cues that activate habitual scripts (e.g., technical, spatial, and mental cues), here we focus on the dimensions of contexts and responses that underlie the performance of habits. Our perspective builds on what has been referred to as habit “stacking” – i.e., habits that reinforce one another, thus taking advantage of the automaticity learned in neighboring or overlapping contexts [21,52].

The need to distinguish the components of habits is increasingly important given the ever-expanding set of activities occurring on each social media platform [53]. Considering this complexity, we suggest a given social media habit can be defined as a combination of five levels of analysis: platform, device, interface, behavior,

and motor. While social media habits are most commonly viewed (and measured) at the platform level (e.g., Snapchat habit strength), we suggest this parsimonious approach can conflate, and thus obscure, key mechanisms. A Snapchat user may have dozens of actions that are performed automatically, and each of these actions will depend on a unique combination of device, interface, behavior, and motor sub-habits [54]. By disaggregating the five levels, we are able to see the wide spectrum of habitual processes underlying even a simple social media action.

Figure 1 shows how social media habits operate at the ground level and occur across the five levels of analysis. A given social media action — here, liking a funny TikTok (vertical black box) — can be seen as a combination of platform, device, interface, behavior, and motor habitual processes. The former three levels pertain to the habitual context (shown in blue) and the latter two levels refer to the habitual response (shown in green). At the top level of analysis, users develop habits based around specific platforms, which may influence the expectations of other platforms given shared elements (e.g., feeds). In the second level, these platform habits also depend on generalizable habits developed to navigate particular devices (e.g., iPhone 13). TikTok habits thus build on the habits the user has learned to operate their screens and operating systems. However, platform and device differences can beget habit conflict, leading users to apply learned habits in the wrong interface place. Within the online environments of platforms (e.g., TikTok) on devices (e.g., iPhone 13), social media habits can be further deconstructed at the interface level. In other words, each platform-device habit encompasses landscape of interface spaces that operate as the most immediate context in users' minds.

Moving to the habitual response, we differentiate two levels of analysis for understanding how individuals respond once cued in interface contexts. The behavioral level refers to the generalizable type of action being performed, thus avoiding a focus on specific features within certain contexts. For instance, past research has differentiated between the key actions of checking, browsing, posting, and messaging [19]. These behaviors, in turn, can be divided into basic motor habits that are required to perform the higher-order behaviors. As such, social media habits represent numerous combinations of smaller habit sequences. For many users, these miniature habits are likely activated so automatically as to operate below the level of habit self-awareness. Nonetheless, the motor habits play an important part in sustaining a frictionless, interactive user experience with quick feedback (and thus rewards) — as well as building habits that generalize to other actions.

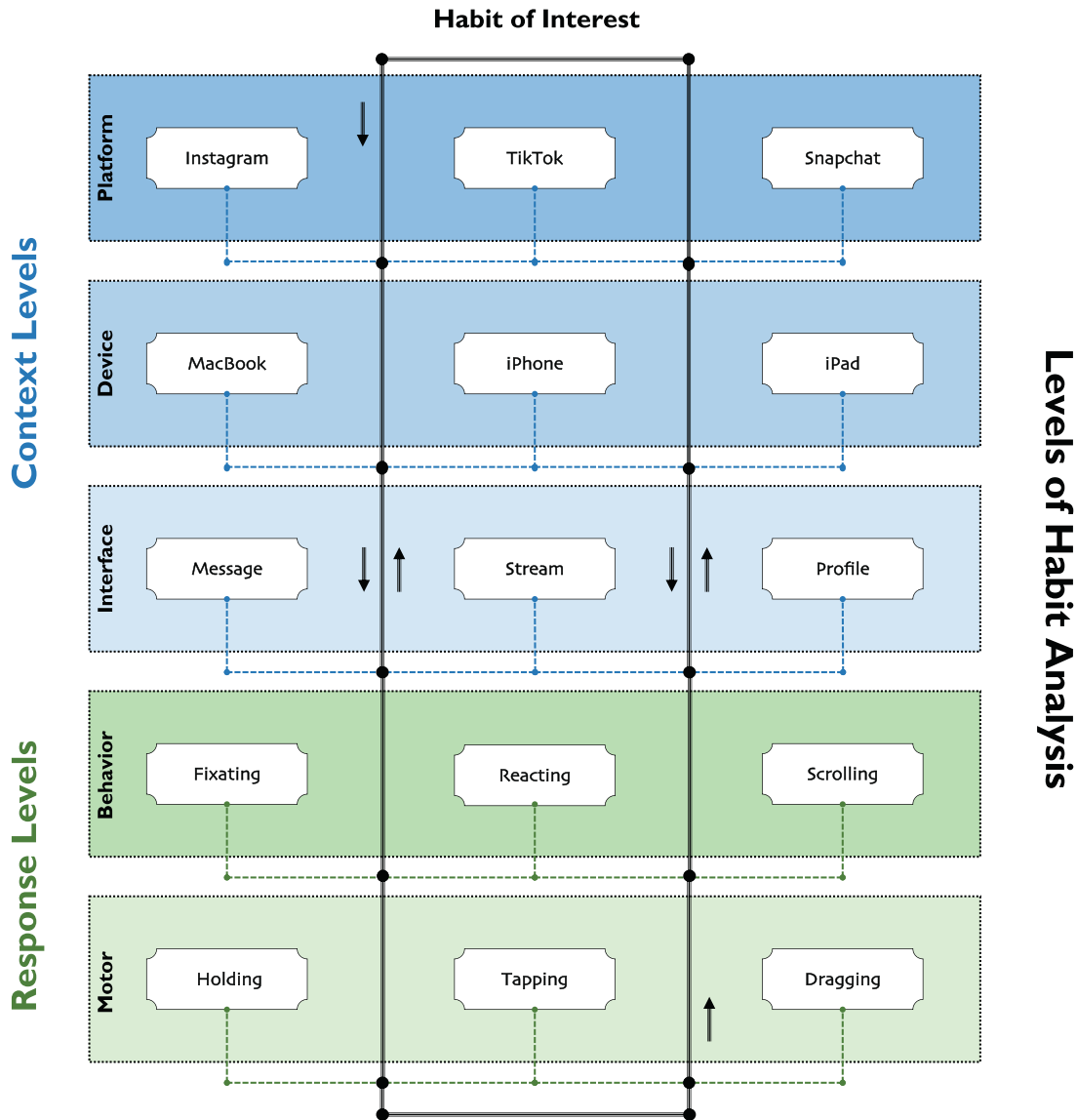
A multilevel perspective on social media habit opens new avenues for clarifying how automatic processes shape user behavior (and well-being). Future work can investigate how sub-habits generalize across platforms or how they are packaged into procedural scripts. For example, a specific WhatsApp group habit can become stacked on other messaging habits, allowing a user to “batch” all their group catch-ups efficiently. Or component habits may become stacked on other habits; Twitter scrolling habits can become linked to non-social habits (e.g., watching Netflix) and non-technical habits (e.g., working out). Studying sub-habit mechanisms allows researchers to test whether specific actions, sequences, and stacks are linked to different well-being outcomes — even if they all occur on one platform. Altogether, unpacking the hidden levels unveils the cognitive complexity hidden within “social media habits”, offering a path to measure real-world habits with greater precision. Next, we suggest that doing so may allow future research to explicate — and design around — how habit mechanisms affect well-being.

### Designing social media habits

There is an increasingly common view expressed that modern media are not only seductive but *designed* to be addictive [39,51,55]. To be sure, social media platforms, often operated as publicly traded companies, benefit from building a habitual userbase [56]. In this sense, users' automatic behavior is monetized and critical to their financial models (e.g., tracking and targeting active monthly users). The concerns about “addictive” design dimensions reflect the ways social media habit formation (i.e., how habits are acquired and learned) and execution (i.e., how habits are activated and performed) can be influenced by the specific cues, contexts, responses, and rewards underlying a given habit [57]. For instance, social rewards (e.g., likes, upvotes, badges) are especially powerful in habitual learning [11], contributing to the ability of social media to reel users back automatically [25]. The natural frequency, reciprocity, and variability of human communication — including social media notifications — can create an almost infinite source of potential rewards. Habits tied to these rewards can operate similarly to the infamous casino-like “loot boxes” featured in some games [55,58], with strong variable reinforcement of *social* rewards instead of virtual rewards.

Aside from their sociality, the precise features of social platforms may directly or indirectly shape habit activation and reinforcement. The interactive, frictionless nature of mobile and online platforms — including nearly instant, phatic feedback — facilitates micro-rewards with each click and drag [21,59]. In doing so, social platform habits may be inflated by the countless sub-habits described above, as the ease and repetition of common

Figure 1

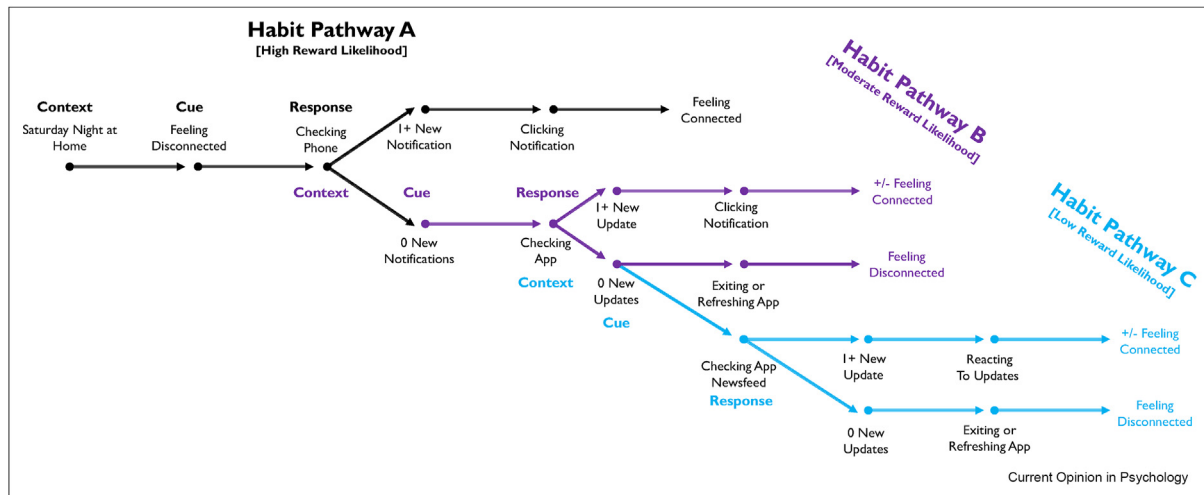


Shows how social media habits can be seen from five levels of analysis. Specifically, a given social media action – such as liking a funny TikTok (vertical black box) – represents a combination of platform, device, interface, behavior, and motor habits. At the top level, users develop habits based around specific social media platforms. In the second level, the action requires on habits learned to navigate certain devices (e.g., iPhone 13). Within online environments, social media habits can be deconstructed in terms of specific interface spaces (e.g., feeds). Once cued in interface contexts, habitual responses can be divided basic motor habits (bottom level) that are required to perform the higher-order behaviors. Altogether, a “TikTok habit” is built on top of a plethora of component actions (columns) and sub-habit processes (rows).

motor habits (e.g., dragging thumbs) reinforce the higher-level habits (e.g., browsing feeds). Additionally, platforms rely on algorithms that automatically identify the most persuasive cues and immersive contexts for each user (and similar users based on their databanks). All told, the design of social media platforms is built on habit learning – whether or not their researchers and designers have studied the psychology of habit (and many have).

Consequently, a more mechanistic, design-centric approach to the study of social media habits may help to resolve some of the conflicting narratives tied to well-being [11,21]. If only certain subsets of cues, contexts, and responses are associated with negative outcomes for particular users, then feedback and interventions can be tailored accordingly. From this lens, social media habits become problematic when specific habit sequences consistently undercut users’ goals. In other words, it is

Figure 2



Illustrates how social media habits stack on each other and how problematic habits could be identified through tracking digital logs of user behavior. The first habitual response (**black path**) cues the second habitual response (**purple path**), which then cues a habit with a low likelihood of reward (**blue path**). Future tools can track the extent to which users are (re)checking for updates even in the absence of new information – thus quantifying the proportion of responses in which a user is actively over-checking social media. Further, digital data can provide contextual information about when these “over-habit” metrics are spiking. In Figure 2, a hypothetical user engages in habitual Instagram checking after feeling lonely on a night home alone. Initially, the user starts by checking their phone’s notification center after a period away from the device, creating a high potential of social information and connection (**Pathway A in black**). Next, in cases of no notifications, the user may proceed to double check for new updates within the app itself, with moderate potential for connection (**Pathway B in purple**). Finally, after finding no updates in app notification center, the user resorts to refreshing the feed of the app itself in a spiraling pattern of checking with low likelihood of reward (**Pathway C in blue**).

not that social media is inherently “addictive” so much as there are certain habitual scripts that run counter to users’ situational aims if left unchecked. These habit sequences, however, can make the overall technology seem addictive by both clinicians and users alike.

The potency of habit-driven design can also be viewed as potential; there is the opportunity to help users reflect upon and rewire their social media habits vis-à-vis design [60]. For instance, recent research has shown that *batching*, in which notifications are delivered at more predictable intervals throughout the day [61], can be beneficial for smartphone user well-being. By providing a sense of agency and reducing the intermittency (i.e., variable reinforcement) of distractions, batching may allow users to set mental locks on their social loot boxes. The promise of habit-driven design can be seen in emerging human–computer interaction (HCI) studies, as well as the increased availability of digital logs capturing habitual use [62–68].

Building on recent design trends toward screen time tracking, one future direction is to empower users with digital toolboxes to better assess and adjust their habits (or carry on unabated; [69]). As illustrated in Figure 2, advances in user behavior modeling may make it possible to isolate specific markers of problematic habits that spiral out of control for individual users. For example, data logs of screen touches, behavioral responses, and

notification patterns could be used to measure indicators of habit strength (e.g., cue automaticity, reward sensitivity) for specific actions. Importantly, habit-driven design should be approached cautiously without pathologizing user/human choices [51], especially given the problematic history of self-help and societal efforts at “engineering well-being” unequally [39,70]. In this way, future habit-tracking studies and tools can help users self-reflect on – but not condemn – the habitual loops that challenge personal goals.

## Conclusions

The controversies that repeatedly swirl around worldwide platforms, such as the addictive appeal of TikTok, reinforce the need for habit perspectives to clarify the relationship between social media and well-being. What is not controversial is the idea that social media use relies on habits. Our review of key studies and themes highlighted how habitual processes underpin a wide range of common uses and problems among users (as well as corporate margins). Moreover, we illustrated the need to unpack social media habits into their component parts (Figure 1) and cognitive pathways (Figure 2), opening an avenue to help users reflect on and rewire bad habits via digital tracking. This multilevel approach recognizes that users can have both prosocial (e.g., retweeting marginalized voices) and problematic (e.g., rechecking follower counts) habits under the same

social media umbrella (e.g., Twitter). In the process, social media habits have the potential to reveal fundamental insights into the psychology of habit and well-being.

### Conflict of interest statement

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: J.B.B. has received research funding from Facebook and WhatsApp (owned by Meta, Inc.).

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