

Journal Pre-proof

Social Media Use, Stress, and Coping

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PII: S2352-250X(22)00007-0

DOI: <https://doi.org/10.1016/j.copsyc.2022.101305>

Reference: COPSYC 101305

To appear in: *Current Opinion in Psychology*

Received Date: 30 September 2021

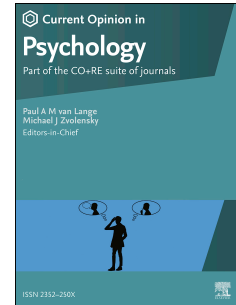
Revised Date: 17 January 2022

Accepted Date: 19 January 2022

Please cite this article as: Wolfers LN, Utz S, Social Media Use, Stress, and Coping, *Current Opinion in Psychology*, <https://doi.org/10.1016/j.copsyc.2022.101305>.

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CRediT author statement:

Lara Wolfers: Writing - original draft, Writing – review & editing **Sonja Utz:** Writing - original draft, Writing – review & editing

Abstract

In this review, we systematize work on the relationship between social media use and stress by providing a functional perspective that distinguishes between three functions that social media can have in the stages of the stress-coping process: as stressors, as resources, and as coping tools. Current research provides evidence that social media can cause stress, serve as resources, and can be used as a tool for various coping strategies, but it remains unclear when social media can successfully mitigate stress. Future research should use more fine-grained research designs that consider the timing of social media use, the situational context, and the encountered content to determine when social media serves which function and when social media reduces or increases stress.

Keywords: social media, stress, coping, coping tool, stressor

Social Media Use, Stress, and Coping

1. Introduction

Empirical studies repeatedly found positive correlations between social media use and stress [1–3]. Such positive relationships could indicate that social media use causes stress or that stress triggers social media use. Researchers have argued for both directions [1,4–6]. We reason, however, that it falls short to only ask about the direction of the effect between social media use and stress. We argue that to fully understand the association between social media use and stress, we need to focus on social media's *functions* in the different stages of the stress-coping process. A positive effect of social media use on stress over time, for instance, could mean that social media causes stress [7]. At the same time, such a positive effect could also indicate that individuals use social media for coping with stress, but in an ineffective way which further increases stress [1]. Looking at the different functions of social media helps clarify these different processes and derive conclusive practical recommendations.

In this paper, we show that social media use can serve three functions in the stress-coping process (i.e., stressor, resource, coping tool). Building on these three functions, we derive four hypotheses to guide future research. In the following, we will first introduce the transactional model of stress and coping and then describe research supporting the four hypotheses. We close by discussing challenges for future research.

2. The Transactional Model of Stress and Coping

Lazarus and Folkman's [8] transactional model of stress and coping and its extension by Wolfers and Schneider [9] provide a useful theoretical framework to identify the functions of social media in the stress-coping process. According to the transactional model of stress and coping, which is depicted in Figure 1, individuals experience stress when the demands

placed on them (= stressors) exceed their resources [8]. This disbalance is symbolized by the seesaw on which stressors and resources are pitted against each other (see Figure 1). The model proposes that individuals assess the (dis)balance between resources and stressors in a first appraisal. In a second appraisal, they evaluate available coping options. Coping options include coping strategies and the coping tools with which coping strategies are implemented [9].

A stressed person may, for instance, engage in social support seeking as a coping strategy, using social media as the coping tool. The coping effectiveness depends on the *goodness of fit* of the chosen combination to the stressful circumstances resulting in beneficial or detrimental short-term (e.g., stress) and long-term effects (e.g., life satisfaction) [9,10]. When an individual cannot control situational circumstances, for instance, distracting oneself may be a good strategy to calm stress-induced negative emotions whereas such self-distraction is a poor coping strategy when one can easily alter the situation, for instance, through better planning [11].

3. The Functions of Social Media in the Stress-coping Process

Social media have three functions in the seesaw of demands and resources. Two concern the first appraisal process, and one concerns the second appraisal process (see Figure 1). In the next sections, we will outline these three functions and the respective state of research on them.

3.1 Social Media as Stressors

Due to the set of features they provide to their users, social media can function as stressors [12,13], an assumption we name the *social-media-use-causes-stress-hypothesis*. First, social media can trigger approval anxiety. They offer many options for an (idealized) self-presentation, such as editing photos and updates [13,14]. The photos and updates can

usually be viewed by a large and diverse audience (e.g., friends, family, colleagues)[15], which may create uncertainty about others' reactions to one's social media appearance [15]. Especially for adolescents [16], the pressure to appear attractive and popular on social media is high [17] and can result in stress. Stress due to approval anxiety may further increase because the number of received likes makes it easy to judge one's popularity [18].

Second, social media can trigger fear of missing out (FoMO), the fear "that others might be having rewarding experiences from which one is absent" (p. 1841) [19]. Even though people also experience FoMO offline, on social media, friends' activities are directly pushed into one's news feed. Additionally, people tend to share mainly the positive moments in their lives [20–22]. Thus, social media users can easily gain the impression that their friends have more rewarding experiences. Several studies found direct or indirect positive relationships between FoMO and stress [4,23]. A reduction in FoMO might also explain why some studies, in which participants were asked to abstain from social media for a few days found a stress decrease [24,25].

Social media can trigger stress in several other ways. More recently, work has identified exposure to (mis)information about COVID-19 as an additional stressor [26,27]. This misinformation refers to threatening information (e.g., increasing numbers of cases or deaths, also among social media friends), misinformation, fake news, and conspiracy theories. Other stressors include availability stress (the demand to be permanently available), connection overload (the perception of not being able to process all information), or online vigilance (the cognitive salience of the online world) [28,29]. The latter three stressors can be provoked by social media notifications, but also by push notifications from news apps or work emails. These stressors are, thus, rather due to the fact that social media are frequently accessed via mobile media (vs. desktop computers) and should not be equated with stressors

stemming mostly from the social media's characteristics (e.g., positivity norm, visibility of posts to a large audience).

In summary, studies show that social media can trigger stressors. These stressors can shift the (im)balance between stressors and resources in the direction of stressors (see Figure 1) and increase stress. However, social media can also weigh down the other side of the seesaw – as resources.

3.2 Social Media as Resources

Social media can provide resources that buffer stress. We name this assumption the *social-media-use-buffers-stress-hypothesis*. This function of social media could occur during the first appraisal process and causes a shift in the balance between resources and stressors, which as a result, prevents or mitigate stress.

Social media may help to build and maintain social capital and thus provide access to resources [30,31]. Social capital stems from the networks people maintain; like money, it forms a resource that can be used when needed [32]. Even without using it, knowing that one has social capital, can function as a stress buffer [33]. Qualitative studies suggest that such a stress-buffering effect can occur when people face stigma in their offline lives, such as when they belong to a stigmatized sexual minority group [34,35]. Through social media, stigmatized individuals are able to find similar others and role models who provide support and guidance. Individuals can remember this guidance when they face a potentially stressful situation [34,35]. There is some experimental evidence supporting the stress-buffering function [36–38]: In an experiment, Rus and Tiesmensma [36] found, for example, that using social media (vs. reading online magazines) *before* being confronted with a stressor led to lower stress levels in the following stress induction implying that being reminded of social media resources (e.g., social capital) buffers stress.

3.3 Social Media as Coping Tools

Aside from the fact that they can shift the balance between resources and stressors and thus mitigate or amplify stress evocation, social media can also be used as coping tools *after* stress has been evoked. This represents the third function of social media in the stress-coping process. In what follows, we will first outline the evidence for the use of social media as coping tools and then review the state of research on the effectiveness of social media use for coping with stress.

3.3.1 The Use of Social Media as Coping Tools

In the second appraisal of the stress-coping process, people typically evaluate the available coping options. It is imaginable that social media are chosen as coping tools, a process that we call the *stress-triggers-social-media-use-hypothesis*. There is ample evidence that stress triggers social media use in general [39,40], but also more specifically during the COVID-19 pandemic [41–43]. Social media can be used for three main coping strategies. First, several studies show that stress triggers social support seeking on social media [29,39,40]. Second, people can also use social media to improve stress-induced negative emotions (emotion-focused coping) [8]: Social media were in particular used for distracting oneself from a stressful encounter [46,47] and for venting emotions [48]. Thirdly, social media were used to solve the stress-evoking problem (problem-focused coping) [40,49,50].

3.3.2 The Effectiveness of Social Media as Coping Tools

When social media are used for coping, the question arises if this use effectively reduces stress. According to Lazarus and Folkman's transactional model of stress and coping [8], the effectiveness of social media use depends on how well this use and the chosen coping strategy fits situational circumstances. For instance, using social media to seek support from a large audience could be effective if a solution for a rare problem must be found while such

social support seeking might be less effective in situations in which only sensitive emotional support can mitigate feelings of stress. We have termed this assumption of situational fit *effectiveness-of-coping-with-social-media-depends-on-fit-hypothesis*. Unfortunately, the fit between coping strategies and circumstances is barely investigated. Most studies only look at the cross-situational effectiveness of coping using social media and investigate person-level correlations between stress and social media use. This has led to inconsistent findings for the three coping strategies for which social media can be used (social support, emotion-focused coping, problem-focused coping).

First, longitudinal studies have found mixed effects concerning the effectiveness of social media use for social support [5,51–53]. Overall, the effectiveness of social support received through social media was rather demonstrated by studies using shorter timeframes (i.e., days, weeks) [5,52] than studies using longer timeframes [51,53] (i.e. months). Second, results for social media use for self-distraction as a form of emotion-focused coping were also mixed. Distracting oneself from stress by using social media was found to be effective in qualitative studies [46,47] and one experience sampling study [52], but ineffective in another [54]. Third, for problem-focused coping, qualitative studies support the stress-relieving function of using topic-centered social media groups [49,55–57]. A survey conducted during the pandemic [58] found a negative relationship between social media use for informational search, a form of problem-focused coping, and stress levels, indicating successful coping. However, misleading information or negative and inappropriate responses were described to lead to ineffective coping [57].

4. Challenges for Future Research

For each of the three functions social media can have in the stress-coping process (as a source of stress, as a resource to buffer stress, and as a means to cope with stress, see Figure

1), theoretical and methodological challenges remain. The biggest challenge for research on the first function (*social-media-use-causes-stress-hypothesis*) is that work on stress triggered by social media use often confounds stress coming from the use of social media and stress coming from mobile media use in general. Here, further conceptual and methodological work is necessary to disentangle stress evoked by a high frequency of notifications from stress stemming from the specific set of features provided by social media.

Research on the second function (*social-media-use-buffers-stress-hypothesis*), has received limited attention, and effects of social media use on stress have often been confounded with social media as coping tools. A challenge for future research is to distinguish processes from the first and second appraisal, which can be done by determining the timing of social media use (before vs. after the stress evocation).

Research on the third function (*stress-triggers-social-media-use-hypothesis*, *effectiveness-of-coping-with-social-media-depends-on-fit-hypothesis*) has benefited from the emergence of longitudinal and experience sampling studies [5,51–54]. However, situational circumstances have rarely been assessed so that research has only tested cross-situational relationships and not the fit of coping using social media to a situation. Looking at situational characteristics such as the controllability of situations is a promising avenue for future research. This affords to identify stressful situations and measure associated coping behaviors that could take place at different time intervals from the stress-triggering situation [59]. Using continuous physiological stress measurements from devices as fitness trackers might open new possibilities to study dynamic stress responses.

Finally, a methodological problem that concerns all three social media functions in the stress-coping process is that most studies have only focused on the amount of social media use, whereas the content seen or posted on social media as well as the communication

partners are rarely considered. Likely, different social media content (e.g., positive or negative) and different social media communication partners (e.g., family or strangers) lead to varying effects on stress levels. Therefore, measuring social media content and communication partners, and connecting these data with subjective or objective stress indicators might be one of the most valuable avenues for future research.

5. Conclusion

To conclude, social media can have three functions in the stages of the stress-coping process. They can serve as stressors, resources, or coping tools. Research has yet to determine under what circumstances social media serve rather as resources or as stressors and rather as an effective or ineffective coping tool. More fine-grained research designs that consider the timing of social media use, the situational context, the coping strategies for which social media are used, the communication partners, and the encountered content are needed. We believe that conducting research from a functional perspective allows us to give differentiated advice on how to design and use social media in a way that helps to prevent and reduce stress.

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One of the few longitudinal studies in this area. The authors examine whether people are more likely to use Facebook in periods of stress. Only passive Facebook use was related to stress, and only for the younger participants: more passive Facebook use was related to more stress half a year later. Experiencing more stress was, however, negatively related to passive Facebook use half a year later, indicating self-regulation.

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In this six-wave longitudinal study, adolescents were followed through the period of their university admissions tests and asked about experienced stress, online and face-to-face social support. The study design allows to compare different time lags and differentiated between within-person and between-person effects. For the shorter time lag of a few days, the study found that online support is associated with decreased stress on the within-person level.

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Wolfers & Schneider review the literature on media use and coping. While they do not focus on social media, they provide an overview of the theoretical approaches, which have been used to study media use for coping and propose advancements for the literature. They suggest differentiating between coping strategies and coping tools as a way to locate media use in the coping process.

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The study by Braasch et al. is one of the few studies which uses a theoretical framework other than the transactional stress model. Building on models of communal coping (coping within a social group), Braasch et al. conducted a qualitative interview study, identified types of communal coping in Facebook groups, and described different resources which are available in these groups.

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Rus & Tiesmensma present the results of a well-designed experiment, which shows the effect social media can have when used before stress induction. Participants were assigned to either use Facebook or read electronic magazines before they were confronted with a social stressor. Participants in the Facebook condition experienced less self-reported and physiological stress after the stress induction.

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In a survey study, de Wit et al. studied how Twitch users used the platform during a difficult period in their lives. The study provides interesting results concerning a platform other than Facebook, which is important for a particular subgroup of online users. Participants described using Twitch as a source of distraction and entertainment. They also described finding a sense of community through Twitch.

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In this paper, computational methods are used to classify minority stress experiences in an LGBTQ+ subreddit. Qualitative analyses of selected posts show that LGBTQ+ individuals experience the subreddit as a safe space to share their experiences. The paper represents an interesting approach to study coping on social media at a large scale and to reflect on potential design and platform changes.

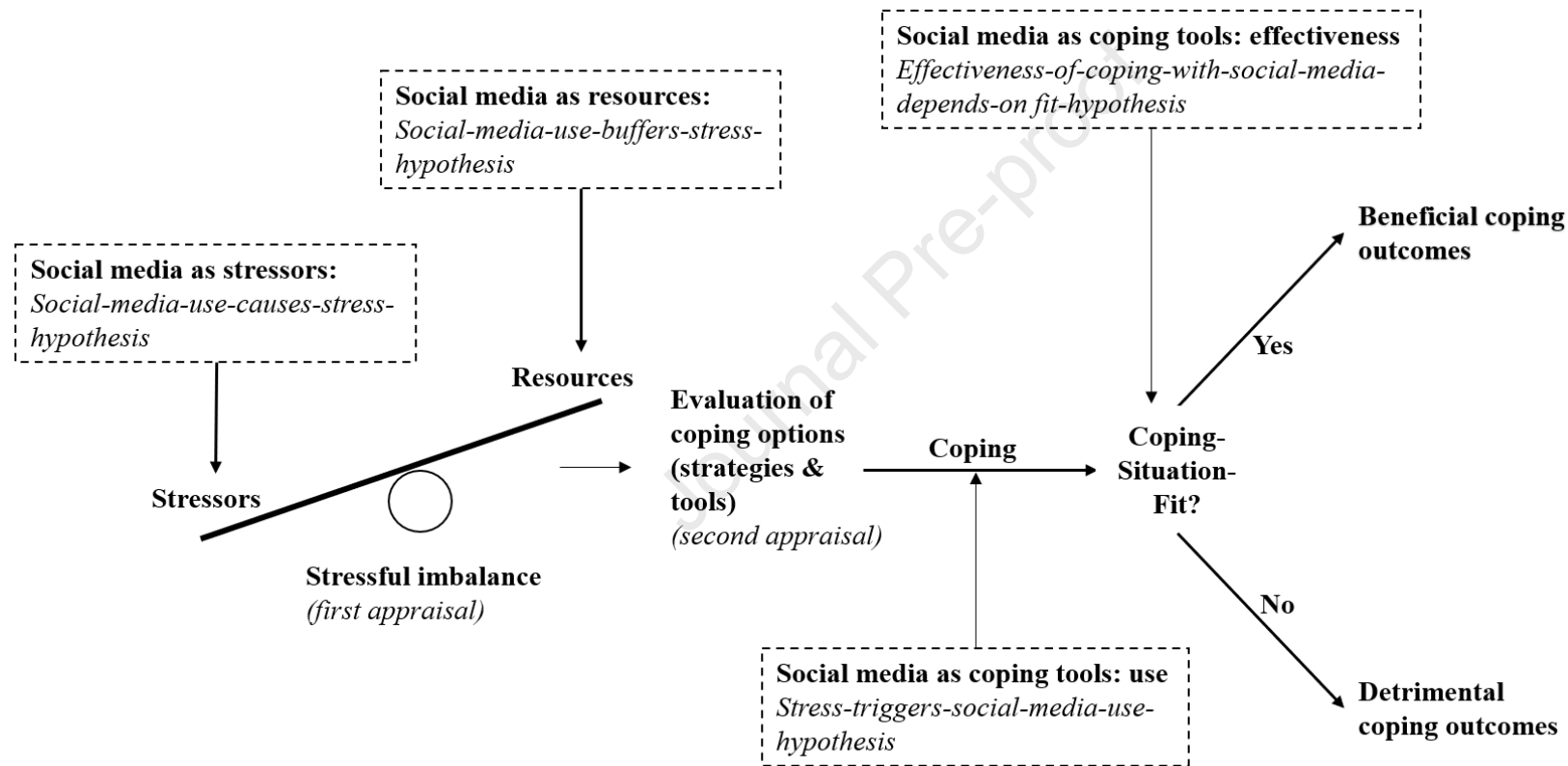
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Although not focused on social media, this paper presents an experience sampling study of adolescents and looks at online coping for self-distraction, emotional support seeking, and information seeking. Moderate amounts (compared to no or high amounts) of online self-distraction and emotional support seeking were associated with several positive emotional outcomes such as increased happiness.

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Although it does not focus on the role of social media use, this paper provides a very valuable guide for issues to consider when planning experience sampling/ambulatory assessment studies on stress and coping, such as the advantages and disadvantages of different time-frames or operationalizations of coping strategies and outcomes.

Figure 1*Social Media in the Stress-coping Process*

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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