Advancing our understanding of the associations between social media use and well-being

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Introduction

The effect of social media use on well-being is among the hottest debates in academia and society at large. Adults and adolescents alike spend around 2–3 h per day on social media [1], and they typically use five to seven different platforms in a complementary way, to chat with their friends, to browse others' posts, and present themselves to their friends and followers [2,3]. In parallel with this surging social media use, research into its impact on well-being has accumulated rapidly. In the past three years, at least 50 meta-analyses and reviews on social media have appeared, which together cover hundreds of empirical studies [4,5]. Moreover, in the same period, several umbrella reviews (i.e., reviews of reviews and meta-analyses) have been published [4,6,7], of which one is included in this special issue [5]. These umbrella reviews reveal that the reported associations of social media use with well-being are inconclusive [4–7], which begets the question how research should advance to bring greater agreement and nuance to this field of research.

The aim of this special issue is to address this question and to inform researchers about the rapidly expanding volume of studies into social media use and well-being. Each of the 26 invited reviews zooms in on the central theories and latest evidence on the relationship between social media use and well-being. The special issue is organized in four sections. A first section includes reviews that provide theoretical and/or methodological *meta-perspectives*. A second section focuses on different *types of social media use*, such as online dating, social gaming, and cyberbullying. The third section reviews the effects of social media use on *risk and resilience factors* of well-being, such as self-esteem, social comparison, and body image. And a final section pays attention to the uses and effects of social media in special *groups* (older people, youth) and special *contexts* (the workplace, the Global South).

In the remainder of this editorial introduction, we first provide definitions of social media use and well-being. Then we reflect on the 26 reviews, grouped into the four sections. We end with several overarching

media use makes some adolescents feel happy, while leaving others feeling blue.

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conclusions, in hopes that we can provide readers with some important suggestions for how future research can tackle existing challenges in the literature.

Definitions of social media use and well-being

In this special issue, we define *social media use* broadly, as "computer-mediated communication channels that allow users to engage in social interaction with broad and narrow audiences in real time or asynchronously." [[8], p. 316]. Social media channels can be used with a multitude of aims and in different contexts, such as social gaming [9], online dating [10], and networking in the workplace [11]. Social media can include all kinds of general audience apps, such as Facebook, Instagram, Snapchat, or TikTok, but also specialized ones, such as dating (e.g., Tinder), professional (e.g., LinkedIn), or social gaming apps (e.g., Discord).

We also define *well-being* broadly. Prior to the 1950s, well-being was predominantly understood as the absence of psychopathology [e.g., depression, anxiety [12]]. With the rise of positive psychology in the 1980s [e.g., 13] came an emphasis on more positive indicators of well-being, such as hedonic and eudaimonic well-being. Hedonic well-being (or simply well-being) is defined as how frequently people experience positive affect, negative affect, and how satisfying they experience their lives [13]. Eudaimonic well-being is concerned with actualizing one's potentials [14,15].

Meta-perspectives on social media use and well-being

The first six reviews deal with theoretical or methodological meta-perspectives on social media use and well-being. Valkenburg starts with an umbrella review of 27 meta-analyses and reviews on social media use and well-being that appeared in the past 2.5 years to take stock of what we know and what we still need to know [5], whereas Parry et al. present a methodological perspective on the same topic [16]. Both reviews observe that early work predominantly relied on cross-sectional designs and self-reported measures of social media use. And both reviews see promising developments in the field to overcome these shortcomings, such as a focus on more advanced study designs (experience sampling), analytical methods (machine learning), more nuanced social media use measures, and a focus on person-specific susceptibilities to the effects of social media use on well-being. Oliver adds to these reviews by focusing on eudaimonic well-being [17], and how this type of well-being may be elicited through the sharing and consuming of specific content, such as heart-warming video clips. Despite the potential of social media use to enhance eudaimonic well-being, factors such as perceived inauthenticity and dark triad personality characteristics may counteract these positive outcomes.

The notion that we need to focus on the user who interacts with social media is emphasized in Ellison et al. They argue for a sociotechnical approach that takes the mutual shaping process between technology and the user (motivations, psychological dispositions) into account when investigating the well-being implications of social media use [18]. A sociotechnical approach could help us understand how social media users creatively adapt objective features of social media to suit their own needs, thereby partly shaping their own well-being implications.

That these well-being implications can vary, is further explained by Bayer et al. and Vanden Abeele et al., who both develop meta-perspectives on social media overuse [19,20], beyond common social media "addiction"

research combines intensive longitudinal, experimental, and systematic review methods.

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narratives. Bayer et al. argue that a great deal of social media use is habitual, which can affect one's well-being for better or worse [19], for instance when automatic social media checking enhances social support or, alternatively, when it conflicts with personal goals. Vanden Abeele et al. take habitual (over)use of social media one step further by connecting it to digital well-being, defined as the experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity. By using three metaphors—social media as a Drug, Demon, and Donut—they conceptualize when, for whom, and why digital disconnection may (and may not) work.

In conclusion, all six meta-perspectives highlight that social media use does not have an unambiguously good or bad impact on well-being, but rather that associations are inherently complex and nuanced—a reality that is further unpacked in the remainder of the special issue.

Types of social media use and well-being

Seven reviews focus on the well-being implications of different types of social media use, ranging from online dating and social gaming to dark social media use and cyberbullying. Toma's review on online dating reveals that even though individuals with psycho-social vulnerabilities generally prefer online dating to offline dating, the well-being implications for these online daters have hardly been investigated [10]. Such implications have been better addressed for social gaming, the playing of games with other members of the same online group, while communicating via social media [9], which can stimulate a sense of community and well-being in the short term.

The review by Hoffner and Bond adds to this literature by revealing that social media do not only afford connections among friends or acquaintances, but also offer ample opportunities for parasocial relationships, the social-emotional connections that social media users feel with media figures such as influencers or celebrities. Parasocial connections have been shown to beneficially influence well-being, although adverse outcomes have also been observed [21]. Adverse outcomes are also addressed in the next four reviews [22−25]. Xu et al. focus on the cognitive demands of social media multitasking [22]. Although such multitasking could lead to short-term positive effects on well-being, for example when work tasks are alternated with interactions with friends or family members, the weight of evidence shows that frequent social media multitasking is associated with lower levels of well-being.

Three other reviews focus on the "dark" sides of social media use: Walther reconceptualizes online hate [24], Giumetti and Kowalski discuss cyberbullying [23], and Quandt et al. explore dark social media participation [25], which includes incivility, hate speech, fake news, and conspiracy theories. Evidently, cyberbullying, online hate, and dark social media participation may have severe effects on victims and society at large. But what is often overlooked are its positive well-being implications for perpetrators [24,25]. Knowledge of the mechanisms experienced by perpetrators, such as positive emotions (e.g., schadenfreude) and social approval, may not only enhance our understanding of the development and effects of dark social media activities, but may also help us design strategies to prevent or counteract such activities.

Social media use and risk and resilience factors of well-being

Eight reviews synthesize what we know about the associations of social media use with key risks and resilience factors of well-being, such as body image, social displacement, self-esteem, and self-regulation. Two out of these eight reviews reveal rather consistent effects of social media use: Vandenbosch et al. find consistent negative effects of idealized appearance-related content on body image, and rather consistent positive effects of body-positive content on body image [26]. Hall and Dong reveal that social media use predominantly displaces other types of media use, while there is little evidence that it displaces face-to-face interactions [27]. Social media are regularly used to reach out to close others when they are not physically available. In such cases, social media use can be a boon to social relationship maintenance and social support.

Most other reviews emphasize the duality of social media use in its influence on risk/resilience factors: Reinecke et al. discuss self-regulation [28], Wolfers and Utz explore stress [29], Cingel et al. summarize evidence on self-esteem [30], Meier and Johnson critically engage with social comparison [31], Scherr with self-injurious thoughts and behaviors [32], and Taylor et al. with close relationships [33]. For example, social media use is pre-eminently suited to maintain close relationships, but it is just as suited to hinder relationship maintenance (e.g., through surveillance or phubbing) [33]. Likewise, social media use can be a severe risk for self-injurious thoughts and behaviors [32], but in some cases it may be used as a coping mechanism [29] to protect against such thoughts and behaviors [32,34]. And finally, browsing social media can lead to upward comparison and envy, but it can also lead to inspiration and enjoyment [31].

Social media use and well-being among certain groups and contexts

The final collection of five reviews focuses on the effects of social media use on well-being in certain groups, including adolescents [35,36], older people [37], and socially poor versus rich individuals [38], and in certain contexts, such as the workplace [11] and the Global South [35]. The main conclusions of these reviews are rather consistent: Due to the mainly cross-sectional designs, there is not enough evidence to draw nuanced conclusions about the well-being implications of social media use within these groups or contexts.

Another common conclusion of these reviews is that social media use is neither inherently good nor bad. Cotten et al. show that this duality applies to social media use and well-being among older people [37], Gai et al. among younger people in both the Global South and North [35], Pouwels et al. among the socially poor and socially rich [38], Beyens et al. within the family [39], and van Zoonen et al. in the workplace [11]. Importantly, these reviews agree that there is not enough attention to the heterogeneity in social media use and its effects on well-being *within* these groups and contexts. For example, it is time to move beyond overly generalized Global North vs. Global South differences and instead investigate the various micro-level individual variables that might change how social media influences well-being [35]. Likewise, it makes sense to move beyond comparing the well-being implications of social media use among socially rich vs. poor, because the within-group differences seem larger than the differences between these groups [38]. Finally, the nature of well-being outcomes associated with workplace social media use is shaped by the type (work-vs. social-related), intensity, and context of social media use, as well as the personal circumstances of users [11].

General conclusions and suggestions for future research

Together, the 26 reviews in this special issue provide an indispensable overview of the uses and effects of social media use on well-being. As most of these reviews reveal, the social media-well-being field is a bag of mixed findings. While common in related fields, these mixed results may run the risk that researchers draw inaccurate or one-sided conclusions, for example because they are only aware of a limited set of studies or fall prey to alarming headlines highlighting individual study findings. Our collection of accessible and inclusive reviews provides interested readers—researchers and practitioners alike—with the conceptual tools and empirical knowledge to assess the state of research. In the remainder of this introductory article, we discuss our overarching conclusions on the status quo and future directions in this field.

Most of the included reviews agree that the social media use-well-being evidence base is largely cross-sectional [5,9,11,16,20,23,30,37,39]. But, at the same time, many observe a trend in recent studies to employ more sophisticated within-person designs, including intensive short-term (e.g., experience sampling) or more long-term panel surveys with wider measurement intervals. These longitudinal within-person designs have several benefits. They are of course better attuned than cross-sectional studies to assess the causal direction of the social media use-well-being association. But they are also theoretically more suited to investigate media effects [20,38]. After all, a (social) media effect is a *within-person* effect, an intra-individual change due to media use [40,41]. Within-person designs also allow researchers to better assess whether the effects of social media on well-being operate in the short term, long term, or both. Pouwels et al., for example, recently showed that the short-term effects of social media use

accumulated into longer-term effects, but only for a minority of participants [42]. The question to what extent short-term effects of social media use accumulate to longer-term effects is an important and highly relevant open question [38].

Investigating within-person effects of social media use on well-being has additional relevance. Several reviews have observed that social media use can lead to positive and negative effects on well-being [17,19,21,22,31], suggesting that such opposite effects are found *across* individuals. However, based on the seesaw metaphor introduced by Dodge et al. [43], and adopted by Weinstein [44], such opposite effects may also be found *within* individuals [33]. As Dodge et al. argue, humans all have a person-specific set point for well-being, which reflects their individual state of equilibrium. Their well-being goes down in response to challenges (e.g., social media use-induced envy) and goes up in response to resources (e.g., social media use-induced inspiration). But like a seesaw, their well-being always returns to their personal set point. And, indeed, preliminary evidence suggests that even within a period of three weeks, the effects of social media use on self-esteem can be both positive and negative within single persons [45]. Such situational within-person changes have not been investigated and provide an important avenue for future research.

Some reviews point at the agency of users in their choice of social media activities and their experience of effects [18,31,36]. For example, as Ellison et al. observe, technology matters—but it does not solely determine effects. And as Beyens et al. observe, adolescents are not passive recipients of social media messages and media-specific parenting. They are active agents, who shape their own social media use and influence their parents' media-specific parenting [39]. Such agency attribution to media users aligns with a longstanding tradition of dynamic transactional theories of development [46,47], which ascribe considerable agency to individuals to shape their own social environment. But it also echoes dynamic transactional media effects theories, such as Slater's reinforcing spiral model [48] and Valkenburg and Peter's differential susceptibility to media effects model [40], which conceptualize that the media *user*—rather than the media—is the starting point in a process that leads to selective (social) media use and that may or may not bring about a change in behavior, attitudes, or cognitions—the media effect.

Media effects theories, which were evidently developed long before theories of social media and computer-mediated communication [49], propose that individuals, by shaping their own selective media use (deliberately or not), also partly create their own media effects [41]. The collection of articles in this special issue shows that the effects of social media on people's well-being and its risk and resilience factors depend in part on individual (e.g., gender, self-regulation), socio-cultural (e.g., cultural values, parenting), and situational factors (e.g., availability norms) [20,22,30,35,36]. As such, these reviews makes visible what media effects theorists have long been advocating for: There is no such thing as a one-directional, uniform effect of social media use on well-being. Instead, we need to account for agency-based differences in selective social media use, agency-based differences in the mechanisms leading to outcomes, and agency-based differences in susceptibility to the outcomes of social media use.

Many of the included reviews also pointed at the need to abandon time-based measures of social media use and substitute these with activity- or content-based measures [5,16,22,33]. As for activity-based measures, most studies have focused on the presumed positive effects of active social media use (i.e., posting) versus the presumed negative effects of passive social media use (i.e., browsing) on well-being. However, two included reviews conclude that it is time to abandon this dichotomy for empirical and theoretical reasons [5,31]. Valkenburg convincingly shows that the three meta-analyses that have addressed the differential effects of active and passive social media use on well-being yielded markedly inconclusive effect sizes [5]. Meier and Johnson show that passive social media use can just as likely result in positive rather than negative effects on well-being [31]. Moreover, as many of the other reviews convincingly show, it is the content of passive social media use that counts. Browsing supportive content [33], content that creates a sense of community [9], and body-positive content [26], may lead to diametrically opposed effects on well-being than unsupportive content [33], unrealistic appearance ideals [26], online hate [24], cyberbullying [23], and other dark social media activities [25].

Finally, a considerable number of reviews have pointed at an effects heterogeneity approach as an important avenue of future research [5,11,16,20,30,31,38]. As Parry et al. argue, "research into social media use and well-being relations needs to acknowledge the variation around average relations and embrace heterogeneity as a core characteristic of social media use effects." Indeed, several recent studies have adopted person-specific methodologies, such as dynamic structural equation modeling (DSEM) [50] to investigate and explain how the effects of social media use differ from person to person. These studies reveal striking person-specific effects of social media use on well-being, ranging from strongly positive to strongly negative. Person-specific methods to investigate the effects of social media use hold high promise, not only because they may improve our understanding of why some individuals are more susceptible to the effects of social media use than others, but also because they may resolve the inconsistent aggregate findings that have been observed in most reviews included in this special issue.

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