

Forrai, M., K., Koban, I., & Matthes, J. (2025). Not so ephemeral after all: Longitudinal associations between emerging adults' engagement with ephemeral social media features, production stress, and social capital. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 19(5), Article 1. <https://doi.org/10.5817/CP2025-5-1>

Not so Ephemeral After All: Longitudinal Associations Between Emerging Adults' Engagement With Ephemeral Social Media Features, Production Stress, and Social Capital

Michaela Forrai*, Kevin Koban*, & Jörg Matthes

Department of Communication, University of Vienna, Vienna, Austria

*Both authors have contributed equally to this work and share the first authorship.

Abstract

Many social media platforms have introduced ephemeral features in recent years, which either limit how often content can be viewed (e.g., Snaps on Snapchat) or how long it remains accessible (e.g., Stories on Instagram). Despite its popularity, costs and benefits of ephemeral feature engagement for (young people's) psychological and social well-being are unclear. Such features may provide benefits like resource-efficient means to cultivate bonding and bridging capital. On the cost side, engagement may involve production-related digital stress as a consequence of posts' limited lifespan, possibly tainting social relationships. Structural equation modeling using data from a two-wave panel survey among youth ($N_{W1} = 978$ & $N_{W2} = 415$; 16–21 years old) suggests ephemeral feature engagement can be predicted by bonding capital and may result in production stress. Production stress, however, was related to reduced bridging capital. These findings point toward an interplay between motivations for engaging ephemeral features, psychological and interpersonal consequences.

Keywords: ephemeral social media; production stress; social capital; bonding; bridging

Editorial Record

First submission received:
April 9, 2024

Revision received:
August 7, 2025

Accepted for publication:
October 16, 2025

Editor in charge:
Alexander P. Schouten

Introduction

Social media has entered almost every aspect of young people's social lives. It is thus hardly surprising that social media use (i.e., creating, sharing, and consuming content through online applications) has been rising across the world (for Germany, see Feierabend et al., 2021). Simultaneously, youth is particularly susceptible to consequences of social media use (e.g., for well-being, Orben et al., 2022; for relationship management, Hall & Baym, 2012). In particular, concerns have been voiced about *ephemeral features* (i.e., social media features where content can be accessed only a limited number of times, such as Snaps on Snapchat, and/or only during a limited time period, such as Stories on Instagram; Choi et al., 2020), which are now prevalent or even the norm across many popular platforms (for Germany, see Feierabend et al., 2021). As a result of this impermanence, ephemeral feature engagement may overaccelerate (young) people's communication (Cavalcanti et al., 2017), which crucially, yet somewhat overlooked so far, also involves sharing content within their networks. Complementing current theorization, we therefore argue that ephemerality may come with a unique facet of digital stress, namely

production stress, understood broadly as inflatedly perceived peer expectations about publishing content on social media. However, despite such potentially stressful experiences, we further argue that young people in particular may nevertheless actively engage ephemeral features because they simultaneously provide efficient means for maintaining or even strengthening different kinds of social relationships as pivotal sources of social capital (Bayer et al., 2016; Ko & Yu, 2019).

Previous research on ephemeral features has primarily been conducted from a marketing (Wakefield & Wakefield, 2018) or privacy perspective (Waddell, 2016), leaving aside how their engagement relates to digital stress and relationship maintenance. Beyond that, digital stress has mainly been investigated from the receivers' end, leading to lacking insights into social pressures to produce content (Winstone, Mars, Haworth, Heron, et al., 2022). Furthermore, recent reviews generally noticed a lack of longitudinal evidence and called for approaches that cover both beneficial and harmful social media effects (Vanden Abeele, 2021; Wolfers & Utz, 2022). This paper helps close these gaps by investigating reciprocal, between-person, over-time relationships of young people's engagement of ephemeral features, production stress, and social capital (differentiating between bonding and bridging capital). By doing so, this research contributes to an understudied field both theoretically (introducing a production-oriented facet of digital stress) and empirically (advancing our understanding of how ephemeral features, digital stress, and relationship maintenance are related over time).

Ephemerality in Social Media

Ephemeral social media features primarily appear in two variants: "Snap" features that require users to deliberately select recipients (e.g., on Snapchat) only allow for messages to be viewed once and for a time frame pre-determined by the sender or system; or "story" features that display posted content to one's list of friends/followers (and, depending on whether one's profile is set to public, other platform users; e.g., on Instagram) make it possible to access posts an indefinite number of times, but only for up to a day (e.g., Stories on Instagram; see Choi et al., 2020; Vranken et al., 2022). While possibilities to circumvent ephemerality exist (such as, for instance, publicly or privately archiving or sharing Instagram Stories; Bainotti et al., 2020), it is important to note that such actions, when performed by anyone other than the initial sender (and for celebrities' posts), are typically frowned upon (Xu et al., 2016).

Extant work on ephemeral features agrees that they are most often used for sharing mundane everyday moments (Bainotti et al., 2020; Bayer et al., 2016). Engaging with trivial details of daily life that might otherwise be considered dull can support relationship maintenance with close friends (Vaterlaus et al., 2016) or distant contacts (Guo, 2020), depending on which features are utilized: One-and-done features usually require users to deliberately send content to designated others, thus primarily facilitating close ties (Cavalcanti et al., 2017), whereas features providing unlimited access during a restricted timeframe are typically used for public sharing (Guo, 2020). Despite their documented value for relationship maintenance, findings on whether people's engagement with ephemeral features positively influences social well-being are scarce. In spite of such potentially beneficial social aspects, ephemeral feature use may also be harmful: They are typically used for sharing photos and videos whose "visualness" has been linked to increased awareness of unfulfilling relationships and perceived stress (Steele et al., 2020). Specifically, Cavalcanti et al. (2017) highlighted that ephemeral content stands out through its instantaneousness, such that it loses meaning as time passes. Furthermore, responses to ephemeral content need to be sent quickly—otherwise, senders and/or receivers may forget what the initial message was even about (Cavalcanti et al., 2017). As a result, people may feel pressured to consistently produce content and respond to other people's ephemeral posts. Elements like "Snapchat streaks" that count how many days in a row individuals have conversed with each other may create an imperative to never stop communicating (Hristova et al., 2022) and have been linked to fear of missing out (van Essen & Van Ouytsel, 2023). Similarly, staying "visible" in others' timelines through time-limited features translates into a constant need to engage as a creator, curator, commentator, and respondent (see Vázquez-Herrero et al., 2019). In other words, ephemeral features' content impermanence intensifies communicative demands beyond mere availability pressure or overburdening information reception.

Production Stress as a Factor of Digital Stress

Although scholarly interest into (non-clinical) stress has a long tradition (Lazarus, 1993), current understanding has been shaped considerably by the transactional model of stress and coping (Lazarus, 1999). Broadly, this model theorizes that people are permanently exposed to environmental stressors that, once perceived, are subject to relevance evaluations and weighted against available coping resources. Stress emerges when stressors are evaluated as (potentially) harmful exceeding what a person (thinks they) can cope with.

Digital stressors have been assigned a prominent position as a modern-day menace in both public; see, e.g., Digital Services Act (European Parliament and Council, 2020) and academic debates; see, e.g., digital detox research (Radtke et al., 2022). Such debates are particularly heated when young people are involved as they are considered more vulnerable to social media stressors (Orben et al., 2022). Previous research has examined numerous constructs related to young people's digital stressors including, for instance, mobile entrapment (Hall & Baym, 2012), online vigilance (Reinecke et al., 2018), and various types of experienced overload (e.g., Karr-Wisniewski & Lu, 2010; Thomas et al., 2022).

Aiming for higher-level conceptualizations of digital stress, Weinstein and Selman (2016) identified relational hostility stressors (e.g., impersonation, attacks, humiliation) and relationship management stressors (e.g., privacy concerns, unsolicited requests, connection demands), which were further distinguished by Winstone, Mars, Haworth, & Kidger (2022) into passive (e.g., guilt, harmful content), private (e.g., requests, expectations), and public social media activities (e.g., self-disclosure, evaluation fears, privacy concerns). Building upon a demand-centered understanding, Steele et al. (2020) conceptualized digital stress as a multifaceted construct involving availability stress, approval anxiety, fear of missing out, and communication overload; a follow-up operationalization study added online vigilance (Hall et al., 2021). Recently, a meta-analysis further highlighted consistent associations with young people's psychological distress across all five subconstructs (Khetawat & Steele, 2023).

Notably, none of these conceptualizations claims to be exhaustive. In comparison to passive and private activities, stressors inherent to public social media activities remain underdeveloped, focusing primarily on hostilities (Weinstein & Selman, 2016; Winstone, Mars, Haworth, & Kidger, 2022), anticipated evaluations (Steele et al., 2020; Winstone, Mars, Haworth, & Kidger, 2022), and unauthorized redistributions (Winstone, Mars, Haworth, & Kidger, 2022). Stressful expectations about public activity have been covered qualitatively by Winstone, Mars, Haworth, Heron, et al. (2022) concerning conforming self-presentations; however, quantitative expectations (i.e., how much someone is supposed to broadcast) have not been considered yet. *Production stress* fills this gap, defined; following Hall et al.' (2021) definition of availability stress) as perceptions of inflated peer expectations that one should permanently broadcast social media content.

Evidence suggests that a large majority of 14-year-olds engage in public broadcasting, with very frequent broadcasters (compared to other users) most likely suffering from poor psychological well-being (Winstone, Mars, Haworth, Heron, et al., 2022). However, it might not necessarily be (solely) public engagement (which may enhance the chance of receiving need-frustrating feedback) that turns broadcasting activity harmful, but also the production stress surrounding it. Such a (possibly imagined) pressure to broadcast could be a threat to needs for autonomy and competence (similar to availability stress; Halfmann & Rieger, 2019). Because of frustrated autonomy and competence, production stress might also bias evaluations of pleasant (Frison & Eggermont, 2020) and unpleasant feedback (Lutz & Schneider, 2021). That is, people who produce content primarily because they feel pressured may relativize positive feedback while negative feedback may echo down to increasing frustration (similar to Jackson & Luchner, 2018). Either way, production stress likely hurts individuals' well-being in a distinctive manner adding to approval anxiety and unpleasant feedback.

Consequences of Ephemeral Feature Engagement

Due to its limited lifespan, individuals are required to consistently publish ephemeral content in order to remain "visible" (Bayer et al., 2016; Cavalcanti et al., 2017): It can sometimes only be accessed once for a few seconds, explaining why individuals so frequently engage in sending it (Bayer et al., 2016) and why they experience peer pressure to respond as quickly as possible (Cavalcanti et al., 2017).

While little effort is needed to produce on-the-go material, this does not necessarily mean relief as shared knowledge about it might fuel (perceived) expectations, and subfeatures (like abovementioned "streaks") might make the constant need for maintenance more tangible (Hristova et al., 2022), as exemplified by BeReal, a recently

launched social media platform based solely on ephemeral features: The entire architecture (users get a random notification daily and have a two-minute window to post, otherwise posts are labeled “late”) is built around regular and immediate content production, materializing the strong link between ephemerality and production stress. Taken together, these findings suggest that increased engagement with ephemeral features may create beliefs regarding a constant demand to create new content:

H1: Ephemeral feature engagement will positively predict production stress over time.

Addressing how relationships provide individuals with social resources, Putnam (2000) distinguished between bonding and bridging capital as indicators of functioning social integration: While bonding capital refers to available emotional support that is typically provided from close ties with whom has substantial informational overlap, bridging capital affords diverse informational exchanges with individuals who are comparatively distant (and dissimilar) from oneself (see Williams, 2006). Importantly, lots of previous research has documented that people also cultivate their bonding and bridging capital via social media (Ellison et al., 2014; Ozimek et al., 2024; see Verduyn et al., 2017 for an overview). Ephemeral feature engagement, in particular, can facilitate relationship maintenance in what Licoppe (2004) called “connected mode”: By repeatedly sharing brief moments, relational partners can achieve a sense of presence in each other’s lives. Extant research has pointed out that ephemerality makes individuals more comfortable with reaching out frequently than other platforms and can bypass concerns related to self-presentation (Bayer et al., 2016).

Concerning bonding capital, ephemeral feature engagement can also facilitate talking about matters that might be too mundane for non-ephemeral social media features (Vaterlaus et al., 2016). Posting ostensibly meaningless and less optimized content can highlight trust and thus foster feelings of closeness between close friends (Bayer et al., 2016). As for more meaningful exchanges, ephemerality can also foster emotional disclosure (Morlok et al., 2015) and relational intimacy (Bazarova, 2012). While “snap” communication involves sharing bonding-oriented content with selected recipients, content can easily be made available to a wider audience via “story” communication as well to cultivate bridging capital (Ko & Yu, 2019). Furthermore, it can be argued that sharing mundane moments can support bridging capital by promoting informational exchanges that might not have occurred otherwise. Thus, we hypothesized:

H2: Ephemeral feature engagement will positively predict **(a)** bonding and **(b)** bridging capital over time.

Consequences of Production Stress

Production stress results from expectations that others think one should broadcast social media content. It can thus be considered a production-oriented manifestation of social pressure (see Giletta et al., 2021). Previous research has also shown links between constructs related to availability stress (e.g., mobile entrapment, mobile maintenance expectations, telepressure) and maladaptive smartphone engagement (Hall & Baym, 2012; van Laethem et al., 2018). Such links are typically explained via self-determination theory (Deci & Ryan, 2000) arguing that social pressure creates need frustration (Halfmann & Rieger, 2019). Especially when relatedness needs are at risk, people may often succumb to demands (Sijtsema & Lindenberg, 2018). In other words, if people are socially pressured to perform specific actions, they may feel threatened by social exclusion, which drives them to engage in said actions. A similar mechanism might be at work for production stress, leading youth to be more active and visible on social media, including increased use of ephemeral features:

H3: Production stress will positively predict ephemeral feature engagement over time.

Kraut et al. (1998) argued (before the advent of social media) that people’s internet engagement reduces social involvement by displacing meaningful relationships with superficial ones. Despite the popularity of the social displacement hypothesis, empirical evidence has repeatedly put it into question. Specifically, research indicated that online communication might not cause a decline in high-quality face-to-face interactions with close ties (Hall et al., 2019), but often reinforces them (Dienlin et al., 2017) or serves as (temporary) compensation (Winstone et al., 2021).

However, as proposed by the differential susceptibility to media effects model (Valkenburg & Peter, 2013), such sample-aggregated trends can obscure subsample vulnerabilities. Holding stressful beliefs implies that individuals feel that resources are taken away from other activities, including meaningful engagements with close and weak ties. In other words, public broadcasting may not inhibit people from maintaining a functioning social life (on average, it may even be beneficial, as argued above); however, feeling stressed about it may. Such impacts may

arguably be more pronounced toward closer friends, given that they are more likely responsible for production stress (Winstone et al., 2021) and that friendship maintenance is more vulnerable to resource conflicts (Eden & Veksler, 2016). On the other hand, it has been argued that people may prioritize bonding over bridging capital when they experience lacking resources (Krämer et al., 2014). Considering both these mechanisms, we hypothesized:

H4: Production stress will negatively predict **(a)** bonding and **(b)** bridging capital over time.

Prediction of Ephemeral Feature Engagement

According to uses and gratifications theory (UGT; Katz et al., 1974), individuals deliberately select media depending on the needs they aim to fulfill. Referring to this theoretical premise, bonding capital may be considered a suitable driver for engagement of ephemeral features. Pointing to the instantaneous (and likely more authentic; Kreling et al., 2022; Yenilmez Kacar, 2024) nature of conventionally shared content, desires to further close relationships constitute a primary reason for ephemeral feature engagement (Bayer et al., 2016; Waddell, 2016), explaining why people's social connectedness drive has been found associated (Grieve, 2017). Besides plausible interindividual variation due to chronically or situationally relevant factors; like, e.g., trait- or state-level fear of missing out (FOMO); see Przybylski et al., (2013), these findings indicate that people who have close ties with whom they share an emotional connection (i.e., lots of bonding capital) may be more likely to utilize ephemeral (snap) features as a means to maintain bonding capital.

Based on the premises of UGT, it could be argued that the combination of the prototypical mundanity of its content and its quick-and-easy production makes ephemeral features also suitable to maintain bridging capital. This assumption is supported by Utz et al. (2015) who found that the desire to hear about other people's lives is another primary motivation for using distinctively ephemeral platforms. Engaging ephemeral features may thus serve as a low-effort means to interact with high numbers of acquaintances without directly addressing them (Ellison et al., 2014). That is, individuals who have numerous connections to distantly related contacts (i.e., lots of bridging capital) may be inclined to exploit ephemeral (story) features to interact with them. Concerning both forms of social capital, we hypothesized:

H5: Bonding (a) and bridging capital (b) will positively predict ephemeral feature engagement over time.

Prediction of Production Stress

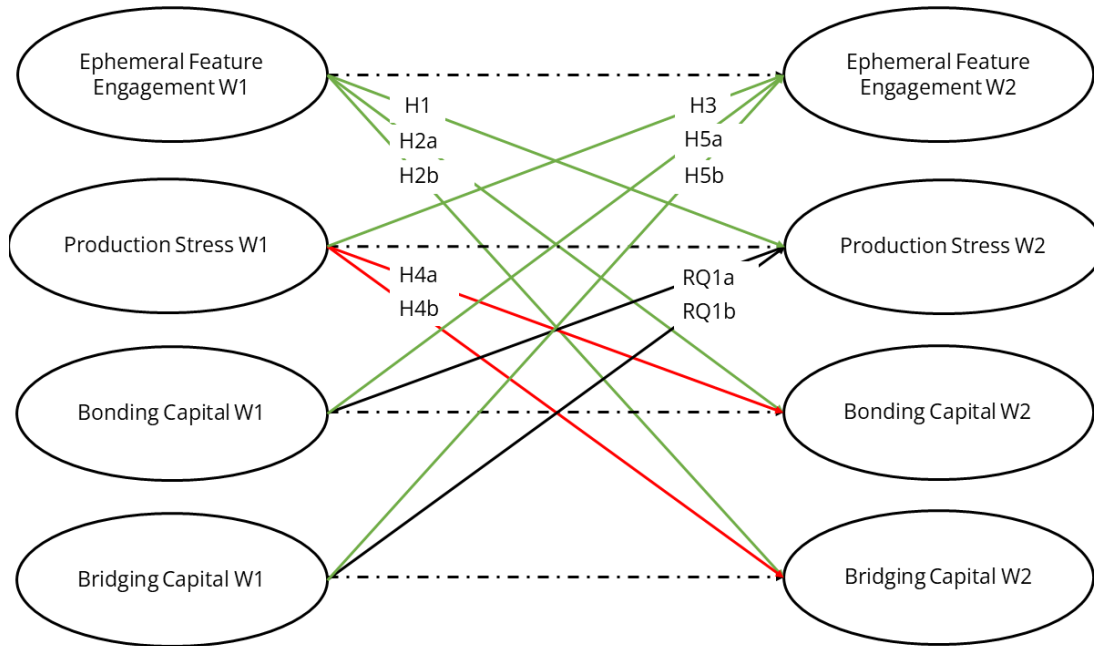
Generally, since bonding capital is defined via available emotional support from close friends, it can be assumed that more of it should come with lower stress levels (X. Chen et al., 2015). However, an inverse influence is also plausible considering that production stress (amongst non-influencers) may be caused considerably by expectations supposedly held by close peers. Accordingly, even if strong bonding capital with close friends is typically considered beneficial, it might also up the stakes for relationship maintenance.

On a similar note, bridging capital with weak ties, even if people typically do not value it as much, has also been found to be associated with better social well-being (Sandstrom & Dunn, 2014). Generally, diverse informational connections to more distant peers (without insight into what happens behind the curtain; Goffman, 1959) may quickly create biased norms of how visible one should be on social media that might be perceived as stressful. Accounting for these opposing mechanisms (and lacking prior research), we formulated a research question:

RQ1: How will (a) bonding and (b) bridging capital predict production stress over time?

The full theoretical model is displayed in Figure 1.

Figure 1. Theoretical Model of the Longitudinal Study.



Note. W1 = Wave 1, W2 = Wave 2; dashed lines indicate autoregressive paths, solid lines indicate prediction paths. Green-colored lines indicate positively hypothesized paths, red-colored lines indicate negatively hypothesized paths.

Method

We conducted a two-wave panel survey with a four-month interval focusing more comprehensively on young people's social media use and well-being. Data collections lasted from March to April 2021 for wave 1 (W1) and from August to October 2021 for wave 2 (W2; $M = 132.78$ days between waves, $SD = 15.02$, range: 115–190). The project was evaluated as minimal risk by the Institutional Review Board (IRB) of the Department of Communication at the University of Vienna (IRB_COM 20210315_019). Detailed information (including data files, scripts, outputs, and item-level descriptive statistics) is available at <https://osf.io/rdq8e>.

Sampling and Participants

Youth (16–21 years old) from Germany were recruited by a polling company. Quota-based sampling was not feasible; instead, we pursued a heterogeneous sample concerning age, gender, and education. Participants who had never been active on social media were screened out. After W1, we additionally excluded (a) speeders (i.e., completion time below a third of the sample's median; $n = 77$), and (b) self-identified unreliable respondents ($n = 6$) and three hidden infrequency attention checks (Beach, 1989; Dunn et al., 2018) from which at least one needed to be passed ($n = 37$).

The final sample of W1 included $N = 978$ participants (age: $M = 19.08$, $SD = 1.57$; self-identified gender: 54.81% female, 44.48% male, 0.72% non-binary). Education was coded as lower-level (completed lower secondary education or less; 28.53%), medium-level (incomplete upper secondary education or completed advanced lower secondary education; 40.80%), and high-level (completed upper secondary or post-secondary education; 30.67%). As for different facets of general social media use (following Gerson et al., 2017 and using 5-point Likert scales; 1 = never, 5 = all the time), participants on average exhibited moderate-to-high active social engagement (e.g., semi-private conversations with friends; $M = 3.87$, $SD = 0.91$, McDonald's $\omega = .79$), moderate active non-social engagement (e.g., public posts; $M = 2.52$, $SD = 1.01$, $\omega = .85$), and moderate-to-high passive engagement (e.g., merely consuming others' content; $M = 3.72$, $SD = 0.91$, $\omega = .82$).

Recontact resulted in $N = 415$ participants for W2 (age: $M = 18.91$, $SD = 1.55$; 58.31% female, 41.69% male; 26.51% lower-level, 42.41% medium-level, 31.08% high-level education). General social media use again showed moderate-to-high active social engagement ($M = 3.79$, $SD = 0.94$, $\omega = .79$), moderate active non-social engagement ($M = 2.51$, $SD = 1.05$, $\omega = .86$), and moderate-to-high passive engagement ($M = 3.74$, $SD = 0.91$, $\omega = .82$). Except for small differences in gender, $\chi^2(2) = 8.04$, $p = .018$, Cramér's $V = .09$ (indicating lower dropout among female

participants), and age, $t(900.18) = -2.79, p = .005$, Cohen's $d = -.18$ (indicating higher dropout for older participants), no significant imbalance was found when comparing participants who completed only W1 ($n = 563$) and those who completed both waves ($n = 415$; see OSF for details).

Measures

The analyzed data was part of a more extensive two-wave panel survey. Given the risk of response fatigue, we opted for short scales that included high-loading items from established scales (for social capital) or, in absence of such measures, face-valid items for narrow constructs (ephemeral feature engagement and production stress). We only report measures relevant to this study. Measures were presented in different blocks presented in randomized order. Within scales, item order was also randomized. Complete item wordings and item-level descriptive information are detailed on OSF.

Ephemeral Feature Engagement

Drawing from Gerson et al.' (2017) measure of social media feature use, we formulated three items covering active social engagement in ephemeral features on social media platforms. More specifically, participants were first provided with a brief definition of ephemeral features; i.e., *features that allow recipients to watch content only a limited number of times (e.g., snaps on Snapchat) or for a limited time (e.g., stories on Instagram)* and then asked to indicate on 5-point Likert scales how often (1 = never, 5 = all the time) they, at present, typically engage content that fits that description; *I have (posted/ shared/commented on) content (e.g., photos, videos, text) that can only be viewed during a limited time frame or a limited number of times*. Reliability was acceptable for W1, $\omega = .73$, and W2, $\omega = .72$. Unit-weighted sums indicated moderate engagement (W1: $M = 2.69, SD = 1.03$; W2: $M = 2.68, SD = 1.02$).

To further explore how ephemeral feature engagement relates to the original three dimensions of Gerson et al.' (2017) generalized scale (i.e., active social, active non-social, and passive engagement), we conducted for W1 a confirmatory factor analysis (CFA) with a four-factor solution, revealing not only an acceptable global model fit, $\chi^2(48) = 226.553, p < .001$, RMSEA = .062; 90% CI [.054; .070], CFI = .955, SRMR = .058, but also sufficient factor loadings for the ephemeral feature engagement indicators ($> .575$) and only moderate correlations of the latent variable with the other dimensions ($r_s = .335-.475$), thus indicating relevance of each item and no conceptual redundancy; see OSF for more details, including a corresponding exploratory factor analysis (EFA).

Production Stress

Inspired by Hall and Baym (2012), we constructed three items to measure perceptions of inflated production pressure by peers (closely adapting wordings from how Hall et al. (2021) operationalized availability stress). We asked participants to indicate on 5-point Likert scales how much (1 = not at all, 5 = completely) statements currently apply to them (*My peers expect me to post something on my social media profiles all the time; My peers expect me to share something about my life on social media on daily basis; My peers expect me to always publish novel social media content.*). Reliability was excellent for W1, $\omega = .91$, and W2, $\omega = .90$. Unit-weighted sums suggested low levels of production stress (W1: $M = 1.72, SD = 0.99$; W2: $M = 1.79, SD = 1.02$). Results from an EFA substantiating reliability are included on OSF.

Bonding and Bridging Capital

Bonding and bridging capital were assessed using adapted items from Williams (2006). Given that youth are said to live in hybrid realities where differentiations between offline and online are blurry (Granic et al., 2020), we omitted any distinction between online or offline capital. Participants were asked to indicate their current agreement to, respectively, two statements describing bonding capital (*I can contact several people I trust to help solve my problems; I can contact several people to talk about my personal issues.*) and bridging capital (*Interacting with other people makes me want to try new things; Interacting with people makes me curious about other places in the world.*) on 5-point Likert scales (1 = not at all, 5 = completely). CFAs revealed an acceptable fit for the proposed two-factor solution for both W1, $\chi^2(1) = 0.17, p = .684$, RMSEA $< .001$; 90% CI [$< .001$; .049], CFI = 1, SRMR = .002, and W2, $\chi^2(1) = 2.14, p = .143$, RMSEA = .054; 90% CI [$< .001$; .142], CFI = .997, SRMR = .009. Importantly, both two-factor solutions had a better fit than alternative one-factor solutions (W1: $\Delta\chi^2(1) = 159.54, p < .001$; W2:

$\Delta\chi^2(1) = 44.46, p < .001$). Reliability was good for bonding capital, Spearman-Brown's $\rho = .87$ for W1, and $\rho = .86$ for W2; it was acceptable for bridging capital, $\rho = .72$ for W1, and $\rho = .71$ for W2. Unit-weighted sums showed moderate bonding (W1: $M = 3.14, SD = 1.14$; W2: $M = 3.19, SD = 1.07$) and bridging capital (W1: $M = 3.64, SD = 0.93$; W2: $M = 3.59, SD = 0.93$).

Control Variables

Given that research emphasized the influence of demographics on media effects, we included age (Orben et al., 2022), gender (Twenge & Martin, 2020), and education (Feng et al., 2019) as covariates. Notably, self-identified gender (measured via a closed-ended item) was recoded into a dichotomous variable (male and non-binary = 0, female = 1) as the number of non-binary participants was not sufficient for analysis. Education (measured via a closed-ended item) was also recoded into two dichotomous variables contrasting (a) participants with lower (0 = medium- and high-level, 1 = low-level) and (b) higher education (0 = low- and medium-level, 1 = high-level).

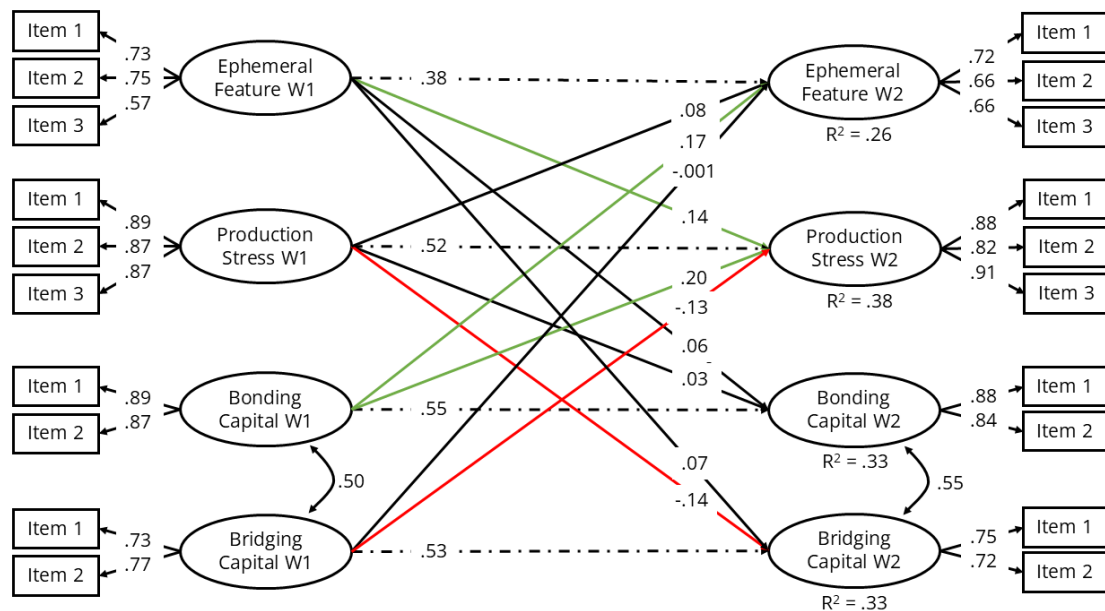
Statistical Analysis

We conducted structural equation modeling (SEM) with robust full information maximum likelihood (FIML) estimation, including sociodemographics (i.e., age, gender, education) and autoregressive paths for control. Global fit was estimated via Satorra-Bentler scaled chi-square difference test, root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean square residual (SRMR). Robust indices were used where possible. Based on standard thresholds for both alpha and beta error (i.e., 5% and 20%, respectively), as well as realistic item factor loadings (in this case, i.e., .7 and .75), we conducted post-hoc sensitivity simulations adapting code provided by Masur (2020) to estimate effect sizes with sufficient test power. Depending on the number of indicators, we have sufficient power for $|bs| \geq .11-.15$.

Results

Figure 2 presents standardized factor loadings, standardized path coefficients of the primary variables, explained variance of the endogenous variables, and correlations between bonding and bridging capital within waves. Table 1 displays SEM main results. Complete outputs (as well as item-level descriptives, including the original wordings in German, and zero-order correlation tables) are available at OSF.

Figure 2. Results from the Structural Equation Modeling.



Note. W1 = Wave 1, W2 = Wave 2; factor loadings and path coefficients are standardized; dashed lines indicate autoregressive paths, solid lines indicate prediction paths. Green-colored lines indicate significant positive paths, red-colored lines indicate significant negative paths; correlations between bonding and bridging capital are descriptive.

Model Fit and Measurement Invariance Testing

Our model had a good-to-great global fit to the observed data, $\chi^2(198) = 364.74$, $p < .001$, RMSEA = .029; 90% CI [.025; .034], CFI = .969, SRMR = .050. To test for metric measurement invariance, we constrained each indicator pair's factor loadings to be equal across waves. Fit did not differ significantly, $\Delta\chi^2(6) = 6.62$, $p = .357$, indicating metric measurement invariance.

Table 1. Results of the Structural Equation Model.

Predictors	Production Stress (W2)		Bonding Capital (W2)		Bridging Capital (W2)		Ephemeral Feature Engagement (W2)	
	<i>b</i> [95% CIs] (SE)	β	<i>b</i> [95% CIs] (SE)	β	<i>b</i> [95% CIs] (SE)	β	<i>b</i> [95% CIs] (SE)	β
Ephemeral Feature Engagement (W1)	.15 [.04, .26] (.05)	.14**	.06 [-.06, .19] (.06)	.06	.06 [-.05, .16] (.05)	.07	.39 [.22, .56] (.08)	.38***
Production Stress (W1)	.55 [.42, .69] (.07)	.52***	.03 [-.10, .15] (.06)	.03	-.11 [-.21, -.01] (.05)	-.14*	.08 [-.07, .23] (.07)	.08
Bonding Capital (W1)	.19 [.08, .30] (.05)	.20***	.52 [.41, .63] (.06)	.55***			.16 [.01, .32] (.07)	.17*
Bridging Capital (W1)	-.17 [-.34, -.003] (.08)	-.13*			.52 [.36, .69] (.08)	.53***	-.002 [-.23, .22] (.11)	-.001
Age	.02 [-.04, .09] (.03)	.04	.05 [-.03, .12] (.04)	.07	.02 [-.05, .08] (.03)	.03	.03 [-.05, .12] (.04)	.05
Gender	-.07 [-.26, .11] (.09)	-.04	-.09 [-.28, .11] (.10)	-.05	-.04 [-.23, .13] (.09)	-.03	.46 [.24, .70] (.12)	.23***
Lower Education	-.05 [-.29, .19] (.12)	-.02	-.14 [-.40, .11] (.13)	-.07	-.16 [-.37, .05] (.11)	-.09	-.09 [-.38, .18] (.14)	-.04
Higher Education	-.17 [-.44, .08] (.13)	-.08	.03 [-.22, .28] (.13)	.01	.05 [-.17, .27] (.11)	.03	.004 [-.32, .31] (.16)	.002

Note. W1 = Wave 1, W2 = Wave 2; NW1 = 978, NW2 = 415; * $p < .05$, ** $p < .01$, *** $p < .001$. Gender: 0 = male and non-binary, 1 = female; lower education: medium- and high-level = 0, low-level = 1; higher education: low- and medium-level = 0 vs. high-level = 1. 95% confidence intervals of unstandardized beta coefficients are based on 5,000 bootstrap samples.

Hypotheses and Research Question Tests

Concerning whether ephemeral feature engagement at W1 will positively predict production stress (H1), bonding capital (H2a), and bridging capital at W2 (H2b), SEM showed a significant path for production stress, $b = .15$, $SE = 0.05$, $\beta = .14$, $p = .005$, but neither for bonding capital, $b = .06$, $SE = 0.06$, $\beta = .06$, $p = .297$, nor for bridging capital, $b = .06$, $SE = 0.05$, $\beta = .07$, $p = .297$. In line with H1, stronger engagement with ephemeral features was linked to more severe production stress. We found no support for H2a and H2b.

We further hypothesized that production stress at W1 will positively predict ephemeral feature engagement (H3) and negatively predict both bonding (H4a) and bridging capital at W2 (H4b). Indeed, findings documented a negative path for bridging capital, $b = -.11$, $SE = 0.05$, $\beta = -.14$, $p = .029$. No significant paths were found for ephemeral feature engagement, $b = .08$, $SE = 0.07$, $\beta = .08$, $p = .261$, or bonding capital, $b = .03$, $SE = 0.06$, $\beta = .03$, $p = .637$. Accordingly, more severe production stress was connected with lower bridging capital, but not with changes in participants' engagement of ephemeral features or bonding capital. While our data supported H4b, it did not support H3 and H4a. We also assumed that both bonding (H5a) and bridging capital at W1 (H5a) will positively predict ephemeral feature engagement at W2. Results revealed a positive path for bonding capital, $b = .16$, $SE = 0.07$, $\beta = .17$, $p = .032$, but not for bridging capital, $b = -.002$, $SE = 0.11$, $\beta = -.001$, $p = .987$. In line with H5a, stronger bonding capital was associated with stronger engagement with ephemeral features over time. H5b was not supported.

Lastly, concerning whether bonding (RQ1a) and bridging capital at W1 (RQ1b) will predict production stress at W2, we found that both did, yet in opposing directions. More specifically, SEM demonstrated a positive path for bonding capital, $b = .19$, $SE = 0.05$, $\beta = .20$, $p < .001$, and a negative path for bridging capital, $b = -.17$, $SE = 0.08$, $\beta = -.13$, $p = .046$. This suggests that more bonding capital and less bridging capital were related to more severe production stress. Exploratory analysis further demonstrated that all path coefficients are largely robust to when general active and passive social media use was additionally included in the model (see OSF for detailed information).

Discussion

Social media platforms have continuously introduced features with novel affordances over the past decade, some of which have radically altered how social media is used today. A primary example are ephemeral features (i.e., features that limit content permanence), which are said to have increased communicative demands (Cavalcanti et al., 2017). Ephemeral features are also emblematic of general concerns about digital stress (i.e., overwhelming stressors related to digital technology use). However, compared with stressors related to standard features (e.g., chats, video/photo uploads) or mobility affordances, content impermanence draws greater attention to potentially stressful expectations about social media visibility—a somewhat overlooked phenomenon we coined production stress.

Aside from this theoretical contribution, the present paper reports findings from a two-wave panel survey where we examined longitudinal associations between young people's ephemeral feature engagement, production stress, and social capital. Results revealed (a) that greater engagement of ephemeral features at W1 was related to more production stress at W2 (but not to bonding or bridging capital) and (b) that more production stress at W1 was associated with weaker bridging capital at W2 (but not with ephemeral feature engagement nor bonding capital). When considering reversed effects, we found that (c) bonding capital at W1 was positively linked to both ephemeral feature engagement and production stress at W2 while (d) bridging capital at W1 was negatively associated only with production stress at W2.

As expected, participants who engaged ephemeral features more frequently subsequently experienced a higher degree of production stress. This can be explained by these features' content impermanence triggering a need to stay visible (Bayer et al., 2016). This may be most meaningful when it comes to self-presentation, where producing ephemeral content can come with intensified concerns (e.g., self-enhancement and self-verification; Bayer et al., 2016) as it is often quickly forgotten due to said impermanence (Cavalcanti et al., 2017). Accordingly, more content is required to achieve self-presentation goals.

While ephemeral feature engagement may come with this downside, no temporal association was found with bonding or bridging capital. That is, irrespective of whether participants were more or less frequently engaging ephemeral features, it had no cultivating influence on emotional or informational relationships later on. Since previous research has linked ephemeral feature engagement to both bonding (Bayer et al., 2016; Piwek & Joinson, 2016) and bridging (Ko & Yu, 2019), these results are unexpected and may be explained by ephemeral features being but one possibility social media offers to cultivate social capital (Haythornthwaite, 2005). Ephemeral feature engagement's unique influence may thus be limited.

Our assumption that production stress might impair social capital was partially supported for bridging but not for bonding capital. In other words, participants who stated their peers expect them to produce social media content permanently were less likely to maintain informational connections four months later, whereas emotionally supporting close relationships were unaffected. These findings may give valuable insights into how youth deal with resource conflicts, especially since social capital has been linked to various other well-being indicators (Trepte & Scharkow, 2016). More precisely, our results align with established findings that individuals hardly appreciate bridging capital (Epley & Schroeder, 2014), at least not as much as bonding capital. Presuming that production stress implies that some resources are displaced from their original purpose, this means that young people may be more likely to let go of weak ties in favor of maintaining strong ones. While some have argued that people should indeed prioritize bonding over bridging (Krämer et al., 2014), others have documented considerable benefits of weak ties (Sandstrom & Dunn, 2014). However, whether these benefits can outweigh those of bonding capital is unclear and may be contingent upon specific circumstances (Gee et al., 2017).

Together, these findings can also suggest that ephemeral feature engagement might indirectly affect bridging capital via production stress, further explaining the lack of impact discussed above. Said differently: Greater engagement in ephemeral features may not impact bridging capital per se; however, it may lead to production stress, which then may lower bridging capital. By controlling for production stress, a direct effect may have been partialled out. However, since such a model cannot be tested with two-wave panel data, it is up to future research to disentangle these complex over-time relationships and, while doing so, expand beyond social capital toward physical, psychological, and social well-being, ideally while incorporating competing (or perhaps interacting) processes like perceived feedback.

We further assumed that production stress constitutes social pressure that motivates individuals to engage in producing ephemeral content. Results did not support this assumption. Aside from the possibility that there might indeed be no relationship to be uncovered, the primary reason for this lacking empirical support may lie in a combination of methodological decisions. Specifically, it is noteworthy that we did find small-to-moderate associations between latent variables within both waves. Within a conservative autoregressive longitudinal model where a considerable amount of variance is explained by past behavior, these cross-sectional associations may have ended up insignificant because of advanced statistical control. Another possible explanation for our null findings could be the four-month time measurement interval. Here, it could be argued that the assumed social pressure-conformity mechanism is likely most relevant during shorter timeframes. Yet another reason might be that we recruited a relatively heterogeneous youth sample. While such a sampling is typically considered fairly advanced, it can also obscure associations that only emerge within subsamples (Valkenburg, 2022). In the present case, production stress was positively skewed, suggesting that it only rarely occurs in a heterogeneous sample. Whether the same is true for vulnerable subsamples might be worth further investigation.

Concerning reversed paths, we first found that ephemeral feature engagement was differentially predicted by bonding and bridging capital: While having more emotionally supportive close ties brought individuals to use ephemeral features more frequently, informational exchanges with weak ties did not affect feature employment. Although existing research has highlighted both social and informational exchanges as motivations for engaging ephemeral features (Lu & Lin, 2022), these findings might be traced back to functionalities of prominent ephemeral features (e.g., Instagram Stories) where it is easily possible to limit recipients to a pre-assembled list of “close friends” and, thus, exclude informational contacts (S. S. Chen et al., 2022). Such options further highlight that ephemeral content can be used to maintain bonding capital, perhaps particularly among young people who are chronically or situationally more vulnerable to social uncertainties (e.g., with an anxious attachment style or when feeling FOMO), and may even constitute a reinforcing loop among close friends. Concerning bridging capital, on the other side, producing ephemeral content may just not be seen as a relevant option for further maintaining meaningful informational exchange with others (in addition to passive information-seeking; Utz et al., 2015), perhaps due to its prototypical mundanity.

Second, findings indicated that having more emotionally supportive close ties increased individuals’ production stress, while more informational contacts did the opposite. The link between close friendships and enhanced expectations to enact relational maintenance via social media is well-documented (e.g., Hall & Baym, 2012), while the link between casual acquaintances and digital stress has received less attention. A partial explanation may be that even a higher number of distant contacts typically does not come with more resource commitment (Ellison et al., 2014); contrariwise, it could even be that strong bridging capital is related to even less stressful expectation beliefs given that individuals may receive heterogeneous information that such beliefs are just imagined (Trieu et al., 2019). However, more fine-grained approaches detailing youth’s experiences are needed to substantiate this or other explanations.

Limitations

Several limitations need to be highlighted. First, the survey methodology can be criticized for using (a) shortened scales (which may reduce construct validity) including (b) self-report items (which are vulnerable to various answering biases) where (c) participants are required to remember or estimate current or past behaviors or states (which may be subject to false memories and estimation biases). It also needs to be highlighted that some measures, namely those for ephemeral feature engagement and production stress, have not been subjected to a proper validation, making them potentially vulnerable to validity issues, albeit we adapted existing validated scales when constructing them. In addition, we note that only between-person associations were examined (which only informs about average sample-level effects). While we attempted to minimize well-known shortcomings (e.g., selecting high-loading items from established scales and not asking for long-past experiences), others are inherent to the methodology, weakening the generalizability of this initial evidence. We also note that our measures did not differ between ephemeral snap and story features. While both share content impermanence as the distinctive affordance and also other key characteristics (e.g., mundane content) that may determine how their engagement relates to production stress and social capital, we also acknowledge idiosyncrasies. Differentiating engagements could thus be a promising research path.

Second, although we hired a polling company, recruiting a representative sample of 16-to-21-year-olds in Germany turned out unfeasible, forcing us to settle for a demographically heterogeneous sample. While such a sample is

superior to convenience sampling, it can still bias results to an unclear extent. Other sampling decisions, for instance the targeted age group and participants' country of residence, also limit generalizability. Considering that Orben et al. (2022) recently highlighted developmental sensitivities and given the general lack of cross-cultural media research (Kim & Eom, 2019), broader and multi-culture sampling strategies are called for.

Lastly, two-wave panel data have limits as to what can be suggested by the results and what must be speculated about. Specifically, this study solely provides preliminary evidence that needs to be substantiated by multi-wave (and other) methodologies. Furthermore, a four-month interval between waves was determined as a fitting timeframe for media effects (that are likely less influenced by time-varying confounds) to emerge. Naturally, this interval is inherently constraining, such that it does not provide insights into transient event-based (Marciano et al., 2022) or long-term trends (Coyne et al., 2020). Considering that each longitudinal design comes with limitations, timeframe combinations (e.g., via measurement burst designs; Sliwinski, 2008) should be pursued in future research.

Conclusion

Social media still (or perhaps more rapidly than ever) evolves with a tendency to accelerate communication dynamics and making content production without special equipment or expert skills easier. The introduction of ephemeral features is emblematic of this development; yet, research has not investigated links to stressful peer expectations (particularly not from a production angle) and yielded inconclusive findings about their value for social integration. Our results suggest that ephemeral feature engagement may primarily be driven by young people's desire to maintain emotionally supportive relationships, but can lead to production stress over time, which might be related to loss of informational exchanges. While follow-up studies are needed to substantiate our findings, these insights invite for reflection on ephemeral feature engagement and pressure to stay visible on social media.

Conflict of Interest

The authors do not have any conflicts of interest to report.

Use of AI Services

The authors declare they have not used any AI services to generate any part of the manuscript or data.

Authors' Contribution

Michaela Forrai: conceptualization, methodology, writing—original draft, writing—review & editing. **Kevin Koban:** conceptualization, methodology, formal analysis, investigation, data curation, project administration, writing—original draft, writing—review & editing. **Jörg Matthes:** conceptualization, methodology, writing—review & editing, supervision, funding acquisition. All authors read and approved the final manuscript.

Acknowledgement

This research was supported by the Austrian Science Fund (FWF) as part of the project "Social Media Use and Adolescents' Well-Being" (P 33413-G).

Michaela Forrai and Kevin Koban share first authorship of this paper.

References

Bainotti, L., Caliandro, A., & Gandini, A. (2020). From archive cultures to ephemeral content, and back: Studying Instagram Stories with digital methods. *New Media & Society*, 23(12), 3656–3676.
<https://doi.org/10.1177/1461444820960071>

- Bayer, J. B., Ellison, N. B., Schoenebeck, S. Y., & Falk, E. B. (2016). Sharing the small moments: Ephemeral social interaction on Snapchat. *Information, Communication & Society*, 19(7), 956–977. <https://doi.org/10.1080/1369118X.2015.1084349>
- Bazarova, N. N. (2012). Public intimacy: Disclosure interpretation and social judgments on Facebook. *Journal of Communication*, 62(5), 815–832. <https://doi.org/10.1111/j.1460-2466.2012.01664.x>
- Beach, D. A. (1989). Identifying the random responder. *The Journal of Psychology*, 123(1), 101–103. <https://doi.org/10.1080/00223980.1989.10542966>
- Cavalcanti, L. H. C., Pinto, A., Brubaker, J. R., & Dombrowski, L. S. (2017). Media, meaning, and context loss in ephemeral communication platforms: A qualitative investigation on Snapchat. In *Proceedings of the 2017 ACM conference on computer supported cooperative work and social computing* (pp. 1934–1945). ACM. <https://doi.org/10.1145/2998181.2998266>
- Chen, S. S., Lam, T. P., Lam, K. F., Lo, T. L., Chao, D. V. K., Mak, K. Y., Lam, E. W. W., Tang, W. S., Chan, H. Y., & Yip, P. S. F. (2022). The use of close friends on Instagram, help-seeking willingness, and suicidality among Hong Kong youth: Exploratory sequential mixed methods study. *Journal of Medical Internet Research*, 24(10), Article e37695. <https://doi.org/10.2196/37695>
- Chen, X., Wang, P., Wegner, R., Gong, J., Fang, X., & Kaljee, L. (2015). Measuring social capital investment: Scale development and examination of links to social capital and perceived stress. *Social Indicators Research*, 120(3), 669–687. <https://doi.org/10.1007/s11205-014-0611-0>
- Choi, S., Williams, D., & Kim, H. (2020). A snap of your true self: How self-presentation and temporal affordance influence self-concept on social media. *New Media & Society*. <https://doi.org/10.1177/1461444820977199>
- Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health? An eight year longitudinal study. *Computers in Human Behavior*, 104, Article 106160. <https://doi.org/10.1016/j.chb.2019.106160>
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- Dienlin, T., Masur, P. K., & Trepte, S. (2017). Reinforcement or displacement? The reciprocity of FtF, IM, and SNS communication and their effects on loneliness and life satisfaction. *Journal of Computer-Mediated Communication*, 22(2), 71–87. <https://doi.org/10.1111/jcc4.12183>
- Dunn, A. M., Heggestad, E. D., Shanock, L. R., & Theilgard, N. (2018). Intra-individual response variability as an indicator of insufficient effort responding: Comparison to other indicators and relationships with individual differences. *Journal of Business and Psychology*, 33(1), 105–121. <https://doi.org/10.1007/s10869-016-9479-0>
- Eden, J., & Veksler, A. E. (2016). Relational maintenance in the digital age: Implicit rules and multiple modalities. *Communication Quarterly*, 64(2), 119–144. <https://doi.org/10.1080/01463373.2015.1103279>
- Ellison, N. B., Vitak, J., Gray, R., & Lampe, C. (2014). Cultivating social resources on social network sites: Facebook relationship maintenance behaviors and their role in social capital processes. *Journal of Computer-Mediated Communication*, 19(4), 855–870. <https://doi.org/10.1111/jcc4.12078>
- Epley, N., & Schroeder, J. (2014). Mistakenly seeking solitude. *Journal of Experimental Psychology: General*, 143(5), 1980–1999. <https://doi.org/10.1037/a0037323>
- European Parliament and Council. (2020). Digital services act. *Official Journal of the European Union*, 277, 1–102. <http://data.europa.eu/eli/reg/2022/2065/oj>
- Feng, G. C., Zhang, Y., & Lin, Z. (2019). A meta-analysis of the effects of sociodemographic factors on social media adoption. *International Journal of Communication*, 13, 1996–2025. <https://ijoc.org/index.php/ijoc/article/view/10088>
- Feierabend, S., Rathgeb, T., Kheredmand, H., & Glöckler, S. (2021). *JIM-Studie 2021: Jugend, Information, Medien* [JIM Study 2021: Youth, Information, Media]. Medienpädagogischer Forschungsverbund Südwest [Media Education Research Association Southwest]. https://mpfs.de/app/uploads/2021/10/JIM-Studie_2021_barrierefrei_230418_neu.pdf

- Frison, E., & Eggermont, S. (2020). Toward an integrated and differential approach to the relationships between loneliness, different types of Facebook use, and adolescents' depressed mood. *Communication Research*, 47(5), 701–728. <https://doi.org/10.1177/0093650215617506>
- Gee, L. K., Jones, J. J., Fariss, C. J., Burke, M., & Fowler, J. H. (2017). The paradox of weak ties in 55 countries. *Journal of Economic Behavior & Organization*, 133, 362–372. <https://doi.org/10.1016/j.jebo.2016.12.004>
- Gerson, J., Plagnol, A. C., & Corr, P. J. (2017). Passive and Active Facebook Use Measure (PAUM): Validation and relationship to the reinforcement sensitivity theory. *Personality and Individual Differences*, 117, 81–90. <https://doi.org/10.1016/j.paid.2017.05.034>
- Giletta, M., Choukas-Bradley, S., Maes, M., Linthicum, K. P., Card, N. A., & Prinstein, M. J. (2021). A meta-analysis of longitudinal peer influence effects in childhood and adolescence. *Psychological Bulletin*, 147(7), 719–747. <https://doi.org/10.1037/bul0000329>
- Goffman, E. (1959). *The presentation of self in everyday life*. Anchor Books.
- Granic, I., Morita, H., & Scholten, H. (2020). Beyond screen time: Identity development in the digital age. *Psychological Inquiry*, 31(3), 195–223. <https://doi.org/10.1080/1047840X.2020.1820214>
- Grieve, R. (2017). Unpacking the characteristics of Snapchat users: A preliminary investigation and an agenda for future research. *Computers in Human Behavior*, 74, 130–138. <https://doi.org/10.1016/j.chb.2017.04.032>
- Guo, K. (2020). A short-living video: Self-presentation via the Instagram story and its implications. In *2020 4th International Seminar on Education, Management and Social Sciences (ISEMSS 2020)* (pp. 704–708). Atlantis Press. <https://doi.org/10.2991/assehr.k.200826.142>
- Halfmann, A., & Rieger, D. (2019). Permanently on call: The effects of social pressure on smartphone users' self-control, need satisfaction, and well-being. *Journal of Computer-Mediated Communication*, 24(4), 165–181. <https://doi.org/10.1093/jcmc/zmz008>
- Hall, J. A., & Baym, N. K. (2012). Calling and texting (too much): Mobile maintenance expectations, (over)dependence, entrapment, and friendship satisfaction. *New Media & Society*, 14(2), 316–331. <https://doi.org/10.1177/1461444811415047>
- Hall, J. A., Kearney, M. W., & Xing, C. (2019). Two tests of social displacement through social media use. *Information, Communication & Society*, 22(10), 1396–1413. <https://doi.org/10.1080/1369118X.2018.1430162>
- Hall, J. A., Steele, R. G., Christofferson, J. L., & Mihailova, T. (2021). Development and initial evaluation of a Multidimensional Digital Stress Scale. *Psychological Assessment*, 33(3), 230–242. <https://doi.org/10.1037/pas0000979>
- Haythornthwaite, C. (2005). Social networks and internet connectivity effects. *Information, Communication & Society*, 8(2), 125–147. <https://doi.org/10.1080/13691180500146185>
- Hristova, D., Jovicic, S., Göbl, B., de Freitas, S., & Slunecko, T. (2022). "Why did we lose our snapchat streak?". Social media gamification and metacommunication. *Computers in Human Behavior Reports*, 5, Article 100172. <https://doi.org/10.1016/j.chbr.2022.100172>
- Jackson, C. A., & Luchner, A. F. (2018). Self-presentation mediates the relationship between self-criticism and emotional response to Instagram feedback. *Personality and Individual Differences*, 133, 1–6. <https://doi.org/10.1016/j.paid.2017.04.052>
- Karr-Wisniewski, P., & Lu, Y. (2010). When more is too much: Operationalizing technology overload and exploring its impact on knowledge worker productivity. *Computers in Human Behavior*, 26(5), 1061–1072. <https://doi.org/10.1016/j.chb.2010.03.008>
- Katz, E., Blumer, J. G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. G. Blumler & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 19–34). SAGE.
- Khetawat, D., & Steele, R. G. (2023). Examining the association between digital stress components and psychological wellbeing: A meta-analysis. *Clinical Child and Family Psychology Review*, 26(4), 957–974. <https://doi.org/10.1007/s10567-023-00440-9>

- Kim, J., & Eom, K. (2019). Cross-cultural media effects research. In M. B. Oliver, A. A. Raney, & J. Bryant (Eds.), *Media effects: Advances in theory and research* (pp. 419–434). Routledge.
- Ko, H. C., & Yu, D. H. (2019). Understanding continuance intention to view Instagram stories: A perspective of uses and gratifications theory. In *Proceedings of the 2nd International Conference on Control and Computer Vision* (pp. 127–132). <https://doi.org/10.1145/3341016.3341039>
- Krämer, N., Rösner, L., Eimler, S., Winter, S., & Neubaum, G. (2014). Let the weakest link go! Empirical explorations on the relative importance of weak and strong ties on social networking sites. *Societies*, 4(4), 785–809. <https://doi.org/10.3390/soc4040785>
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53(9), 1017–1031. <https://doi.org/10.1037/0003-066X.53.9.1017>
- Kreling, R., Meier, A., & Reinecke, L. (2022). Feeling authentic on social media: Subjective authenticity across Instagram stories and posts. *Social Media + Society*, 8(1). <https://doi.org/10.1177/20563051221086235>
- Lazarus, R. S. (1993). From psychological stress to the emotions: A history of changing outlooks. *Annual Review of Psychology*, 44(1), 1–22. <https://doi.org/10.1146/annurev.ps.44.020193.000245>
- Lazarus, R. S. (1999). *Stress and emotion: A new synthesis*. Springer.
- Licoppe, C. (2004). 'Connected' presence: The emergence of a new repertoire for managing social relationships in a changing communication technoscape. *Environment and Planning D: Society and Space*, 22(1), 135–156. <https://doi.org/10.1068/d323t>
- Lu, J.-D. (E.), & Lin, J.-S. (E.) (2022). Exploring uses and gratifications and psychological outcomes of engagement with Instagram Stories. *Computers in Human Behavior Reports*, 6, Article 100198. <https://doi.org/10.1016/j.chbr.2022.100198>
- Lutz, S., & Schneider, F. M. (2021). Is receiving dislikes in social media still better than being ignored? The effects of ostracism and rejection on need threat and coping responses online. *Media Psychology*, 24(6), 741–765. <https://doi.org/10.1080/15213269.2020.1799409>
- Marciano, L., Driver, C. C., Schulz, P. J., & Camerini, A.-L. (2022). Dynamics of adolescents' smartphone use and well-being are positive but ephemeral. *Scientific Reports*, 12, Article 1316. <https://doi.org/10.1038/s41598-022-05291-y>
- Masur, P. K. (2020, March 11). *How to do power simulations for structural equation models in R*. <https://philippmasur.de/2020/03/11/how-to-estimate-power-for-structural-equation-models-simulations-in-r/>
- Morlok, T., Schneider, K., Matt, C., & Hess, T. (2015). Snap. Share. (Don't) care? Ephemerality, privacy concerns, and the use of ephemeral social network sites. In *Proceedings of the 23rd Americas Conference on Information Systems* (Article 4). <http://aisel.aisnet.org/amcis2017/Virtual/Presentations/14/>
- Orben, A., Przybylski, A. K., Blakemore, S.-J., & Kievit, R. A. (2022). Windows of developmental sensitivity to social media. *Nature Communications*, 13(1), Article 1649. <https://doi.org/10.1038/s41467-022-29296-3>
- Ozimek, P., Reimann, L. E., Brailovskaia, J., Bierhoff, H. W., & Rohmann, E. (2024). More social media friends, more life satisfaction?—Why fear of missing out leads to contrary effects. *Current Psychology*, 43(41), 32388–32398. <https://doi.org/10.1007/s12144-024-06778-9>
- Piwek, L., & Joinson, A. (2016). "What do they snapchat about?" Patterns of use in time-limited instant messaging service. *Computers in Human Behavior*, 54, 358–367. <https://doi.org/10.1016/j.chb.2015.08.026>
- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848. <https://doi.org/10.1016/j.chb.2013.02.014>
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Radtke, T., Apel, T., Schenkel, K., Keller, J., & von Lindern, E. (2022). Digital detox: An effective solution in the smartphone era? A systematic literature review. *Mobile Media & Communication*, 10(2), 190–215. <https://doi.org/10.1177/20501579211028647>

- Reinecke, L., Klimmt, C., Meier, A., Reich, S., Hefner, D., Knop-Huelss, K., Rieger, D., & Vorderer, P. (2018). Permanently online and permanently connected: Development and validation of the Online Vigilance Scale. *PLoS ONE*, 13(10), Article e0205384. <https://doi.org/10.1371/journal.pone.0205384>
- Sandstrom, G. M., & Dunn, E. W. (2014). Social interactions and well-being: The surprising power of weak ties. *Personality and Social Psychology Bulletin*, 40(7), 910–922. <https://doi.org/10.1177/0146167214529799>
- Sijtsema, J. J., & Lindenberg, S. M. (2018). Peer influence in the development of adolescent antisocial behavior: Advances from dynamic social network studies. *Developmental Review*, 50(Part B), 140–154. <https://doi.org/10.1016/j.dr.2018.08.002>
- Sliwinski, M. J. (2008). Measurement-burst designs for social health research: Longitudinal measurement-burst design. *Social and Personality Psychology Compass*, 2(1), 245–261. <https://doi.org/10.1111/j.1751-9004.2007.00043.x>
- Steele, R. G., Hall, J. A., & Christofferson, J. L. (2020). Conceptualizing digital stress in adolescents and young adults: Toward the development of an empirically based model. *Clinical Child and Family Psychology Review*, 23(1), 15–26. <https://doi.org/10.1007/s10567-019-00300-5>
- Thomas, M. F., Binder, A., & Matthes, J. (2022). The agony of partner choice: The effect of excessive partner availability on fear of being single, self-esteem, and partner choice overload. *Computers in Human Behavior*, 126, Article 106977. <https://doi.org/10.1016/j.chb.2021.106977>
- Trepte, S., & Scharkow, M. (2016). Friends and lifesavers: How social capital and social support received in media environments contribute to well-being. In L. Reinecke & M. B. Oliver (Eds.), *The Routledge handbook of media use and well-being: International perspectives on theory and research on positive media effects* (pp. 304–316). Routledge.
- Trieu, P., Bayer, J. B., Ellison, N. B., Schoenebeck, S., & Falk, E. (2019). Who likes to be reachable? Availability preferences, weak ties, and bridging social capital. *Information, Communication & Society*, 22(8), 1096–1111. <https://doi.org/10.1080/1369118X.2017.1405060>
- Twenge, J. M., & Martin, G. N. (2020). Gender differences in associations between digital media use and psychological well-being: Evidence from three large datasets. *Journal of Adolescence*, 79(1), 91–102. <https://doi.org/10.1016/j.adolescence.2019.12.018>
- Utz, S., Muscanell, N., & Khalid, C. (2015). Snapchat elicits more jealousy than Facebook: A comparison of Snapchat and Facebook use. *Cyberpsychology, Behavior, and Social Networking*, 18(3), 141–146. <https://doi.org/10.1089/cyber.2014.0479>
- Valkenburg, P. M. (2022). Social media use and well-being: What we know and what we need to know. *Current Opinion in Psychology*, 45, Article 101294. <https://doi.org/10.1016/j.copsyc.2021.12.006>
- Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication*, 63(2), 221–243. <https://doi.org/10.1111/jcom.12024>
- Van Essen, C. M., & Van Ouytsel, J. (2023). Snapchat streaks—How are these forms of gamified interactions associated with problematic smartphone use and fear of missing out among early adolescents? *Telematics and Informatics Reports*, 11, Article 100087. <https://doi.org/10.1016/j.teler.2023.100087>
- van Laethem, M., van Vianen, A. E. M., & Derks, D. (2018). Daily fluctuations in smartphone use, psychological detachment, and work engagement: The role of workplace telepressure. *Frontiers in Psychology*, 9, Article 1808. <https://doi.org/10.3389/fpsyg.2018.01808>
- Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory*, 31(4), 932–955. <https://doi.org/10.1093/ct/qtaa024>
- Vaterlaus, J. M., Barnett, K., Roche, C., & Young, J. A. (2016). “Snapchat is more personal”: An exploratory study on Snapchat behaviors and young adult interpersonal relationships. *Computers in Human Behavior*, 62, 594–601. <https://doi.org/10.1016/j.chb.2016.04.029>
- Vázquez-Herrero, J., Direito-Rebollal, S., & López-García, X. (2019). Ephemeral journalism: News distribution through Instagram stories. *Social Media + Society*, 5(4). <https://doi.org/10.1177/2056305119888657>

- Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review*, 11(1), 274–302. <https://doi.org/10.1111/sipr.12033>
- Vranken, S., Kurten, S., & Beullens, K. (2022). The temporality and accessibility of message types (TAMT) model: Examining social media message types and the associations between exposure to alcohol and binge drinking. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 16(5), Article 4. <https://doi.org/10.5817/CP2022-5-4>
- Waddell, T. F. (2016). The allure of privacy or the desire for self-expression? Identifying users' gratifications for ephemeral, photograph-based communication. *Cyberpsychology, Behavior, and Social Networking*, 19(7), 441–445. <https://doi.org/10.1089/cyber.2015.0677>
- Wakefield, L. T., & Wakefield, R. L. (2018). Anxiety and ephemeral social media use in negative eWOM creation. *Journal of Interactive Marketing*, 41(1), 44–59. <https://doi.org/10.1016/j.intmar.2017.09.005>
- Weinstein, E. C., & Selman, R. L. (2016). Digital stress: Adolescents' personal accounts. *New Media & Society*, 18(3), 391–409. <https://doi.org/10.1177/1461444814543989>
- Williams, D. (2006). On and off the 'Net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11(2), 593–628. <https://doi.org/10.1111/j.1083-6101.2006.00029.x>
- Winstone, L., Mars, B., Haworth, C. M. A., & Kidger, J. (2021). Social media use and social connectedness among adolescents in the United Kingdom: A qualitative exploration of displacement and stimulation. *BMC Public Health*, 21(1), Article 1736. <https://doi.org/10.1186/s12889-021-11802-9>
- Winstone, L., Mars, B., Haworth, C. M. A., & Kidger, J. (2022a). Types of social media use and digital stress in early adolescence. *The Journal of Early Adolescence*, 43(3), 294–319. <https://doi.org/10.1177/02724316221105560>
- Winstone, L., Mars, B., Haworth, C. M. A., Heron, J., & Kidger, J. (2022b). Adolescent social media user types and their mental health and well-being: Results from a longitudinal survey of 13–14-year-olds in the United Kingdom. *JCPP Advances*, 2(2), Article e12071. <https://doi.org/10.1002/jcv2.12071>
- Wolfers, L. N., & Utz, S. (2022). Social media use, stress, and coping. *Current Opinion in Psychology*, 45, Article 101305. <https://doi.org/10.1016/j.copsyc.2022.101305>
- Xu, B., Chang, P., Welker, C. L., Bazarova, N. N., & Cosley, D. (2016). Automatic archiving versus default deletion: What snapchat tells us about ephemerality in design. In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* (pp. 1662–1675). ACM. <https://doi.org/10.1145/2818048.2819948>
- Yenilmez Kacar, G. (2024). Instagram as one tool, two stages: Self-presentational differences between main feed and story on Instagram. *Atlantic Journal of Communication*, 32(1), 108–123. <https://doi.org/10.1080/15456870.2023.2202401>

About Authors

Michaela Forrai is a PhD candidate in the Department of Communication at the University of Vienna. Her research interests generally concern the areas of media change and media innovation, media psychology, and health communication, such as (social) media use and well-being/mental health/suicide prevention.

<https://orcid.org/0000-0003-2498-1969>

Kevin Koban (PhD, Chemnitz University of Technology) is a postdoctoral researcher in the Department of Communication at the University of Vienna. His current research focuses on the science of well-being and individuals' interaction with digital systems.

<https://orcid.org/0000-0002-9275-9270>

Jörg Matthes (PhD, University of Zurich) is professor of communication science in the Department of Communication at the University of Vienna, where he chairs the division of advertising research and media psychology. His research focuses on advertising effects, the process of public opinion formation, news framing, and empirical methods.

<https://orcid.org/0000-0001-9408-955X>

Correspondence to

Kevin Koban, Department of Communication, Währinger Straße 29, AT-1090 Vienna, Austria,
kevin.koban@univie.ac.at

© Author(s). The articles in Cyberpsychology: Journal of Psychosocial Research on Cyberspace are open access articles licensed under the terms of the [Creative Commons BY-SA 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/) which permits unrestricted use, distribution and reproduction in any medium, provided the work is properly cited and that any derivatives are shared under the same license.