SPECIAL COLLECTION: TECHNOLOGY IN A TIME OF SOCIAL DISTANCING

The Dark at the End of the Tunnel: Doomscrolling on Social Media Newsfeeds

Bhakti Sharma, Susanna S. Lee, and Benjamin K. Johnson
Department of Advertising, College of Journalism and Communications, University of Florida

Doomscrolling refers to a unique media habit where social media users persistently attend to negative information in their newsfeeds about crises, disasters, and tragedies. Given the potential prevalence of this practice and its timely but chronic relevance for user experiences, political perceptions, well-being, and other outcomes, this project aimed to develop and validate a self-report measure of doomscrolling. Participant focus groups and an expert panel contributed to the refinement of an item bank, assessed in two survey studies for item structure, reliability, and construct validity. The item bank was tested with survey panelists across the Organisation for Economic Co-operation and Development; OECD ($N = 401$) to develop a unidimensional, 15-item scale with good reliability. Doomscrolling was less prevalent than anticipated, but variable. Tests of validity with survey panelists ($N = 502$) indicated that doomscrolling can be considered a distinct concept, and that it was closely related to online vigilance, problematic use of the internet and social media, and fear of missing out (FOMO). Doomscrolling was also linked to passive social media use, habitual media use, anxiety, poor self-control, and several personality traits. Men, younger adults, and the political-engaged were more likely to engage in doomscrolling.

Keywords: social media, newsfeed, negative news, media habits, scale development

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The term *doomscrolling* emerged in early 2020 to commonly describe a digital media practice which took on greater life during the coronavirus disease (COVID-19) pandemic and social distancing (Barabak, 2020). Coined in 2018, and later popularized by journalist Karen Ho (Garcia-Navarro, 2020), doomscrolling refers to a state of media use typically characterized as individuals persistently scrolling through their social media newsfeeds with an obsessive focus on distressing, depressing, or otherwise negative information (Slaughter, 2020). In this article, we build upon and move beyond popular descriptions (e.g., Chen, 2020; Garcia-Navarro, 2020; Slaughter, 2020; Watercutter, 2020) to conceptualize doomscrolling as a unique media habit, attempt to measure it, and identify related phenomena.

The COVID-19 pandemic changed people's ways of life by necessitating new measures including social distancing and shutdowns of businesses, schools, and other workplaces (Galea et al., 2020). During emergencies such as pandemics, a wide variety of sources produce and distribute information about the topic, much of which is primarily negative (Sell et al., 2017). In this context, smartphones and social media newsfeeds, which are designed to

Contact Information: Correspondence concerning this article should be addressed to Benjamin K. Johnson, Department of Advertising, College of Journalism and Communications, University of Florida, 1885 Stadium Road, Gainesville, FL 32611, United States. Email: benjaminkjohnson@ufl.edu

encourage frequent or extended engagement, can exacerbate a need to stay informed, and facilitate higher-than-usual amounts of fixation on negative news browsing.

We propose to assess whether doomscrolling is a distinct and empirically detectable phenomenon, which acts as expected, by attempting to develop and validate a scale to measure the concept. If, as anticipated, doomscrolling is prevalent and linked to critical outcomes such as political self-efficacy and psychological well-being, a validated measure will be useful for future research, such as studies that examine media use during crises, individual differences in responses to negative information, and effects of social media on outcomes ranging from emotional well-being to civic engagement.

Doomscrolling, like much passive social media use, has been described as immersive, tending to produce lengthy browsing sessions and lost time awareness, along with concentration and persistence (Nguyen, 2020). However, press accounts and social media users' self-descriptions suggest that doomscrolling is especially characterized by a compulsive, anxious interest in information that is timely and negative (Warzel, 2021; Watercutter, 2020). In these anecdotes, doomscrolling spirals and is self-reinforcing; users scan and approach negative post after negative post, whether from news sources, opinion leaders, or friends (Chen, 2020).

Perhaps due to the nature of social media newsfeeds, there is no terminal point at which a doomscrolling session naturally ends (Nguyen, 2020). Contemporary newsfeeds are typically nonchronological and are tailored to users' past scrolling behavior (Thorson et al., 2021). Feeds are both seemingly linear "scrolls" but also consist of dynamic comments sections, and links to other posts, profiles, and media.

Doomscrolling appears—based on these initial, suggestive descriptions—to be initiated by factors which would typically motivate seeking and attendance to negative news (e.g., vigilance, uncertainty, anxiety) but may be amplified by both individual factors (e.g., loss of self-control), technological affordances (endless newsfeeds and algorithmic recommendations), and social contexts (political upheaval or natural disasters). This reinforcement then (re)produces superficial scanning behaviors (cf. Matthes et al., 2020).

Conceptualization

Given these contours, we propose that doomscrolling is a specific instance of a media habit (Ghersetti & Westlund, 2018; LaRose, 2010), in which initially motivated, goal-driven behavior is incentivized into repetitive, automatic browsing cued by environmental factors (Schnauber-Stockmann & Naab, 2019). It potentially entails attention habits (to newsfeeds and negative information) and behavioral habits (scrolling through newsfeeds; Bayer & LaRose, 2018).

In this manuscript, we develop a self-report measure of doomscrolling, assess its reliability and structure, and validate it against related yet distinct concepts. Formally, we conceptualize doomscrolling as *habitual, immersive scanning for timely negative information on social media newsfeeds*.

Related Concepts

Causes

The doomscrolling phenomenon is not limited to, but became the most visible during, the particular environmental conditions of the COVID-19 pandemic and the 2020 U.S. election. In those contexts, doomscrolling behaviors have been variably described by journalists and commentators as potentially caused by anxiety, uncertainty, low political self-efficacy, high political interest, and the constraints of social distancing (e.g., Chen, 2020; Nguyen, 2020; Watercutter, 2020). A lack of self-control has also been described as central to the doomscrolling experience (or the persistence of doomscrolling sessions) and has been implicated in other media habits (Tokunaga, 2017).

Individual Differences. Regarding traits, we propose based on previous personality-and-media findings (e.g., Horwood & Anglim, 2018; Huang, 2019) that doomscrolling is predicted by greater neuroticism, and to a lesser extent, conscientiousness and introversion. Agreeableness and openness are not expected to predict doomscrolling behavior. Given the nature of the content, we expect that cynicism, sensation-seeking, and negativity bias should be positively, and optimism negatively, linked to doomscrolling, but self-esteem should not relate to doomscrolling.

Media Behavior

More time on social media should relate to doomscrolling, as should smartphone reliance for social media, using more platforms, and using news-heavy platforms (Twitter and Facebook). Problematic internet and social media use (Caplan, 2010) should also correlate, as doomscrolling is a potentially disruptive behavior that involves tolerance of increasing doses.

Vigilance. Doomscrolling bears some similarities with online vigilance (Reinecke et al., 2018), which consists of both purposeful and habitual tendencies to think about, monitor, and react to digital communications. The Online Vigilance Scale (OVS) was differentiated from habit strength (for social network sites and smartphones) and fear of missing out (FOMO; Reinecke et al., 2018).

Given its particular focus on negative news, doomscrolling should differentiate from social media and online news habits. Likewise, it is narrower than both online vigilance (which is both active and passive, and attends to a broad range of messages) and a general surveillance motive for online news. Passive users (Frison & Eggermont, 2020) should be more prone to the endless, repetitive nature of doomscrolling.

Doomscrolling likely relates to some perverse form of FOMO (missing out on disaster), but not the typical focus on missing positive social experiences (e.g., not attending a party).

Well-Being

Doomscrolling is frequently described in popular accounts as having negative reciprocal relationships with—and thus correlations with—positive affect and well-being (Watercutter, 2020). Focusing on negative information can be detrimental to a sense of physical and mental well-being, yet may be sought out because of low or threatened states of well-being (Zhao & Zhou, 2020).

Current Approach

Three studies were used to develop and validate the proposed measure. All study materials are available online at https://osf.io/u9f6h/ (Sharma et al., 2020). The studies received ethical approval from the authors' institutional review board.

Study 1: Focus Groups

The 10-step scale development process described by Carpenter (2018) identifies the importance of a strong conceptual definition and iterative qualitative research as initial foundations for designing self-report measurements of communication phenomena. To generate a valid measure of doomscrolling, it was key to engage in an inductive analysis of conversations with social media users.

Participants and Procedure

To that end, we conducted a series of four online focus groups ($N = 10$), from a convenience sample of American university students (70% women, 70% White) who frequent social media.[1] The semi-structured question guide is available at https://osf.io/u9f6h/.

De-identified transcripts were analyzed with a grounded theory approach to map participant's experiences related to social media, negative news, and doomscrolling. Notably, none of the participants were initially familiar with the doomscrolling term, but several felt that the term described behavior by themselves, friends, or family. All three authors engaged in open coding and axial coding, compared themes and discussed as a group, and then further refined and organized subthemes and larger major themes.

Results

Emergent themes were organized into five major themes: (a) scope of concern, (b) what's going on, (c) drivers of use, (d) routines, and (e) experiences during scrolling.

In *scope of concern*, respondents described how their attention and involvement in negative news on social media was informed by its proximity: whether the news was relevant to self, friends, family, and the local environment, or whether it reflected larger national or global trends they wished to monitor. They also indicated that their sharing of content on social media was conditioned on its scope and relevance.

The theme *what's going on* reflected subthemes such as interest in big events, and monitoring and surveillance of important news. Participants frequently indicated that news would find them (cf. Gil de Zúñiga et al., 2017), often through social and nonnewsy routes. As there were often too many events or stories to follow, participants were selective, content to feel generally "updated" on news unless a specific story had greater relevance or was being discussed widely by friends or famous personalities.

Drivers of use was a theme where participants described some of their primary motivations to use social media and consume timely news. They indicated that they were motivated to look for news on social media to stay updated on events that were close to home, such as topics affecting them or people they care about. They were also interested in following the latest trends, such as baking during the pandemic, and used social media to follow influential individuals who acted as secondary disseminators of information. Finally, many participants ascribed their excessive use of social media to the availability of extra time during the lockdown. This was characterized by short, compulsive, and frequent check-ins, as well as long, absorbing sessions.

Routines as a theme encapsulated the change in people's daily lives during the lockdown and its relationship with their news consumption

and social media use. Due to more available unstructured time, participants admitted to developing unhealthy and dysfunctional habits, such as binge-watching and excessive scrolling. However, many also described how they slowly moved away from these habits and adopted a healthier routine, such as working on new hobbies or spending more time with their families. They tried to restructure their relationships with their smartphones as something to check first thing in the morning to catch up on news and avoid using at bedtime to not disrupt sleep time (cf. Eden et al., 2021).

Experiences during scrolling included strategic efforts to ignore or seek bad news, depending on the person and their needs. Participants often described a need to disengage from distressing news, and some indicated a relative disinterest in news. Most participants agreed that negative news was often repetitive, which limited its appeal. Yet, a common theme was excessive social media use in general. Participants described experiences of finding themselves using social media for longer than they felt they should, or that social media had come into conflict with other obligations.

Discussion

Overall, the focus groups provided a deeper insight into people's social media consumption during the COVID-19 pandemic and their relationship to doomscrolling as a phenomenon. Even though most participants initially asserted that they did not doomscroll and had never heard of it, many then described doing it in early stages of lockdown or described acquaintances who continued to doomscroll. This is an important finding that delineates the awareness of the term *doomscrolling* from the actual behavior. As a recent coinage, people may not be familiar with the term, but may engage in the practice.

These insights were applied to revise and rework an initially proposed set of 76 survey items (available at https://osf.io/u9f6h/). After revising this item bank, six domain experts (on digital media, news, and media psychology) were consulted on the content validity of the items, and further scale revision was undertaken.

Study 2: Scale Development

After revising items based on focus group analysis and expert consultations, a revised bank of 80 candidate items was fielded as a survey on the crowdsourced research–participant platform Prolific.co. Its panelists are English-speakers throughout the Organisation for Economic Co-operation and Development (OECD) nations. Following Carpenter's (2018) guidance to use >5 cases per item for scale development exploratory factor analysis (EFA), 400 was set as the target sample size. Doomscrolling items were presented as 7-point Likert scales, across eight randomized pages with 10 randomized items per page.

Participants and Procedure

A total of $N = 401$ complete cases were collected. Participants hailed from 23 countries across five continents, with the largest representation from Poland (29.7%), Portugal (20.2%), U.K. (13.0%), and Italy (10.0%). The sample was 60.3% men, 39.2% women, and 0.5% nonbinary/neither. The mean age was 25.38 ($SD =$

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[1] A target of $N = 20$ was sought for focus group participants, but low response rate yielded smaller focus groups than expected.

8.01, range 18–69) and the mean years of formal education was 15.78 (*SD* = 2.75, range 11–25). The questionnaire was fielded on March 16, 2021 around 11:30 UTC.

Results

A planned EFA was conducted, using maximum likelihood extraction, direct oblimin rotation, and 100 iterations, to analyze the internal structure of the scale. Parallel analysis (O'Connor, 2000) was also planned to identify factors. Data met assumptions for sphericity with Bartlett's test, χ^2 = 16,708.01, *df* = 3,160, *p* < .001, and sampling adequacy with the Kaiser–Meyer–Olkin test = .934.

Sixteen factors with eigenvalues >1 emerged, explaining 61.83% of the variance. Individual item loading on factors (25 items >.50, excluding two items with cross loading >.30) was poor, with (a) only two items on the first factor, (b) only three factors with three items or more, (c) reversed items on their own factor, (d) five factors with no items, and (e) three factors with negative loadings. Parallel analysis using 100 simulated datasets and a 95th percentile threshold for retaining factors found that the first eight factors yielded eigenvalues greater than those generated from random data.

Based on the parallel analysis, a new and unplanned EFA was conducted to identify an optimal set of items and their factors. The EFA was constrained to eight factors. Total variance explained was 44.68%. In this analysis, 29 items loaded >.50 on the first factor (Eigenvalue = 25.94), with no cross-loadings, and 20 of those items >.60. Four reversed items loaded on a second factor (Eigenvalue = 5.90), and the remaining six factors (Eigenvalues <5) were characterized by cross-loadings and negative loadings, such they were not meaningful or defensible. These results tentatively suggested a two-factor solution.

Reliability analysis was conducted on the item sets described above. The reliability for the full bank of 80 items was α = .941. The 25 items with loadings >.50 from the initial factor analysis were reliable, α = .865, despite an unclear factor structure. From the unplanned factor analysis based on parallel analysis results (constrained to eight factors), the 29 items that loaded >.50 on the first factor were reliable, α = .954,

as were the 20 items with loadings >.60, α = .951. The four reversed items from the second factor were not reliable, α = .665. Moreover, the second factor correlated weakly with the first factor, *r* = .114, *p* = .02, so it was dropped, leaving a single-factor solution of 20 items.

Discussion

The findings from Study 2 suggest that doomscrolling is a coherent concept with a single dimension. Factor analysis allowed us to identify the most central items in our scale. A reduced 20-item scale (those items loading >.60) was then reassessed by four of the domain experts, again scrutinizing the content validity of items and their unidimensionality. Consensus identified five items that were either redundant or peripheral to the conceptual definition. Table 1 presents factor loadings and item-total correlations of 15 final scale items, α = .935, *M* = 2.80, *SD* = 1.18. This measure then proceeded to validation.

Study 3: Scale Validation

In the last step, a survey was conducted with Prolific panelists to confirm the final scale's structure and validate it against other concepts and measures. A target sample size of *N* = 500 was planned, to provide 80% power to detect *r* = .125 in correlational tests.

Participants and Procedure

A total of *N* = 502 complete cases were collected. Participants' residency resembled Study 2; they came from 27 countries across six continents, with the largest representation from Poland (29.1%), Portugal (18.3%), U.K. (12.2%), and Italy (7.4%). The sample was 58.2% men, 41.4% women, and 0.4% nonbinary. The mean age was 26.53 (*SD* = 8.91, range 18–73) and the mean years of formal education were 15.79 (*SD* = 2.84, range 5–29). The questionnaire was fielded on March 31, 2021 around 12:00 UTC.

Table 1
Selected Items' Factor Loadings and Item-Total Correlations, Study 2

Item	Factor loading	Item-total correlation (all items)	Item-total correlation (final scale)
1. I feel an urge to seek bad news on social media, more and more often[a]	.756	.708	.798
2. I lose track of time when I read bad news on social media[a]	.694	.699	.698
3. I constantly refresh my newsfeeds to see if something bad happened	.721	.674	.739
4. I stay up late at night trying to find more negative news	.706	.644	.723
5. Reading negative news on social media is more of a habit now	.664	.693	.710
6. When I am online, I feel tense as if something bad is going to happen soon	.653	.587	.661
7. I constantly feel panicked while scrolling on my device	.689	.611	.686
8. I unconsciously check my newsfeeds for bad news	.757	.731	.771
9. Even if my newsfeed says I am all caught up, I just keep scrolling for negative news	.774	.739	.813
10. I find myself continuously browsing negative news[a]	.760	.742	.788
11. I check social media in the morning to see what bad things have happened	.638	.633	.687
12. I feel like I am addicted to negative news[a]	.751	.680	.770
13. My social media searches probably make my newsfeeds more negative	.648	.637	.680
14. I am terrified by what I see on social media but I cannot look away	.683	.693	.707
15. It's difficult to stop reading negative news on social media	.627	.655	.666

Note.   *N* = 401. Loadings are from the first factor of a modified exploratory factor analysis (EFA) with all 80 items constrained to eight factors, maximum likelihood extraction, and direct oblim rotation. Five additional items yielded loadings >.60 but were cut from the final scale due to duplication or relatively weaker content validity. Likert items, 1 = *Strongly disagree*, 7 = *Strongly agree*.
[a] Short-form items.

Analytic Approach

Following Bowman and Goodboy (2020), we examined construct validity with regard to internal structure (global fit and residuals), convergent and discriminant validity, content validity (discussed above in Study 1 and Study 2), and assessed how the measure may be responded to and applied (which was also assessed by Study 1 and Study 2).

The internal structure of the doomscrolling scale was assessed with a planned confirmatory factor analysis using maximum likelihood extraction and specifying the dimensions (i.e., just one) seen in Study 2's EFA. Our model fit criteria for this novel scale were RMSEA ≤ .08, CFI ≥ .90, SRMR ≤ .08, item loadings should be >.60, and item residuals were examined for ±2.58 (cf. Bowman & Goodboy, 2020). If fit criteria were not met, we planned to proceed with correlational analyses of both the proposed—and a post hoc revised—version of the scale and subscales. If fit criteria were met, the proposed scale and sub-scales would be used.

Then, correlational analysis compared doomscrolling to other variables for convergent validity, expected r = .50–.70 (time on social media, number of social media platforms, problematic internet/social use, online vigilance, passive use, social media habit, online news habit, news surveillance motive); and discriminant validity, expected $|r|$ = .00–.30 (big-five traits beside neuroticism, self-esteem, FOMO); and criterion validity with causes or outcomes, expected $|r|$ = .30–.50, (self-control, anxiety, uncertainty, political self-efficacy, political interest, social distancing, smartphone reliance, neuroticism, optimism, cynicism, sensation-seeking, negativity bias, affect, well-being). The questionnaire is available at https://osf.io/u9f6h/.

Given limitations around media use self-reports, especially for mobile devices (Naab et al., 2019), validation with behavioral measures of the same latent concept is important. We included an in-survey behavioral measure of doomscrolling, embedding the website https://endlessdoomscroller.com (Grosser, 2021) and tracking how long participants engaged. Task duration should correlate with the doomscrolling scale, demonstrating concurrent validity.

Measures

Related concepts for tests of convergent validity are summarized in Table 2. They included self-reported daily hours spent on social media, the number of social media platforms used (checklist adapted from a list of most globally popular platforms; Kemp, 2020), and use of news-centric platforms (i.e., Twitter and Facebook). Scales included the Generalized Problematic Internet Use Scale (GPIUS2; Caplan, 2010), Bergen Social Media Addiction Scale (BSMAS; Andreassen et al., 2012), and OVS (Reinecke et al., 2018). We adapted three items to measure passive social media use (Frison & Eggermont, 2020). The Self-Reported Behavioural Automaticity Index (SRBAI; Gardner et al., 2012) was adapted to measure habitual social media use and habitual online news use. News surveillance motive was measured with a scale from Eveland et al. (2003).

Theoretically relevant variables for tests of criterion validity are summarized in Table 3. Original single items measured uncertainty, social distancing, and smartphone reliance. Scales included the Brief Self-Control Scale (BSCS; Tangney et al., 2004), Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006), Life Orientation Test-Revised (LOT-R; Scheier et al., 1994), Sensation Seeking 2 scale (SS2; Slater, 2003), Brief Risk-resilience Index for SCreening (BRISC; Williams et al., 2012), Scale of Positive and Negative Experience (SPANE; Diener et al., 2010), and World Health Organization-5 Well-Being Index (WHO-5; Topp et al., 2015). We measured political self-efficacy with two items, and political interest with one item, in a larger five-item measure from Lane et al. (2019; it also has knowledge and participation items). We measured cynicism with three items from Miller et al. (1995), and neuroticism with the BFI-2-XS (Soto & John, 2017).

The BFI-2-XS was also used for the tests of discriminant validity, to measure openness, conscientiousness, extroversion,

Table 2
Convergent Validity Measures and Test Results, Study 3

Variable	Items	Range	M	SD	α	Correlation with doomscrolling	
						r	p
Social media daily hours	1	0–16	3.82	2.80	—	.143	.001
Social media platforms used	1	1–13	6.44	2.20	—	.099	.026
Twitter use (dichotomous)	1	0–1	.49	.50	—	.029[a]	.517
Facebook use (dichotomous)	1	0–1	.79	.41	—	.072[a]	.106
Generalized Problematic Internet Use Scale (GPIUS2)	15	1–7	3.35	1.13	.900	.482	<.001
Bergen Social Media Addiction Scale (BSMAS)	18	1–5	2.25	0.83	.938	.550	<.001
Online Vigilance Scale (OVS)	12	1–5	2.58	0.83	.914	.529	<.001
Passive social media use	3	1–7	3.97	1.21	.662	.302	<.001
Self-Reported Behavioural Automaticity Index (SRBAI) for social media	4	1–7	4.83	1.54	.921	.165	<.001
Self-Reported Behavioural Automaticity Index (SRBAI) for online news	4	1–7	3.87	1.69	.939	.311	<.001
News surveillance motive	5	1–5	3.59	0.79	.819	.114	.011

Note. N = 502.
[a] Point-biserial correlation.

Table 3

Criterion Validity Measures and Test Results, Study 3

Variable	Items	Range	M	SD	α	Correlation with doomscrolling r	p
Brief Self-Control Scale (BSCS)	13	1–5	2.91	0.70	.850	−.181	<.001
Generalized Anxiety Disorder-7 (GAD-7)	7	0–3	1.18	0.75	.892	.307	<.001
Uncertainty	1	1–5	2.62	1.23	—	−.038	.390
Political self-efficacy	2	1–7	4.41	1.72	.790[a]	.031	.494
Political interest	1	1–7	4.01	1.93	—	.121	.007
Social distancing	1	1–5	3.72	0.99	—	.001	.987
Smartphone reliance	1	0–100	63.63	28.07	—	−.029	.520
Neuroticism	3	1–5	3.34	1.01	.756	.120	.007
Life Orientation Test-Revised (LOT-R)	6	1–5	3.03	0.78	.806	−.052	.246
Cynicism	3	1–4	2.38	0.58	.597	.209	<.001
Sensation Seeking 2 scale (SS2)	2	1–5	2.38	0.93	.888[a]	.224	<.001
Brief Risk-resilience Index for SCreening (BRISC)	5	1–5	3.11	1.14	.900	.154	<.001
Scale of Positive and Negative Experience (SPANE)	12	1–5	3.40	0.69	.889	−.185	<.001
World Health Organization-5 Well-Being Index (WHO-5)	5	0–5	2.19	1.03	.875	−.005	.909

Note. $N = 502$.
[a] Spearman–Brown coefficient for split-half reliability.

and agreeableness (Soto & John, 2017). We included the Single-Item Self-Esteem scale (SISE; Robins et al., 2001) and the FOMO scale (Przybylski et al., 2013), all presented in Table 4.

Finally, for concurrent validity, the "Endless Doomscroller" webpage (https://endlessdoomscroller.com) was embedded into a questionnaire page, coupled with a page timer. The webpage presents an unending list of ominous but vague headlines. Presumably, those predisposed to doomscrolling would be interested in scanning these headlines and take longer to proceed to the next page, providing a behavioral measure of doomscrolling. The seconds spent reading this page (range 3.92–1051.54, $M = 72.69$, $SD = 95.90$) were not normally distributed (Skew = 5.97, Kurtosis = 47.89), so an exploratory log base 10 transformation was also applied to the variable (range 0.59–3.02, $M = 1.71$, $SD = 0.34$). Both the raw and transformed variables are tested.

Results

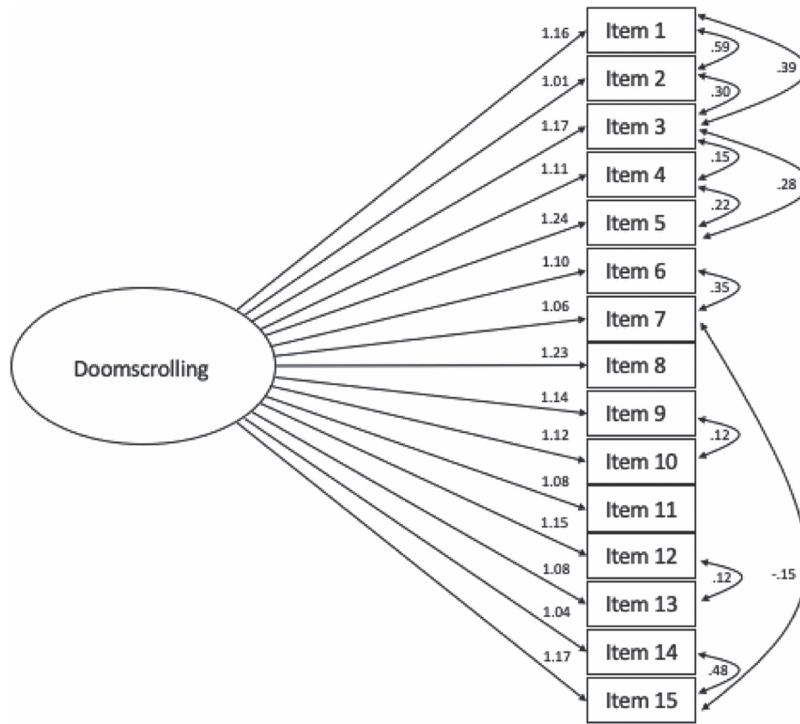The model fit of the 15-item doomscrolling scale was assessed with confirmatory factor analysis using maximum likelihood estimation in Jamovi 1.6.18. The items were fitted to a single factor, and the model showed modest fit which fell short of most of our thresholds, $\chi^2(df = 90) = 932$, $p < .001$; RMSEA = .137, 90% CI [.129, .145]; CFI = .879; and SRMR = .048. Item loadings ranged from 1.05 to 1.26 and item covariance residuals ranged from 0.37 to 1.77. Omitting items did not improve fit. Examining modification indices, and adding 11 residual covariances to the model (between Items 1 and 2, 1 and 3, 2 and 3, 3 and 4, 3 and 5, 4 and 5, 6 and 7, 7 and 15, 9 and 10, 12 and 13, 14 and 15) improved fit to $\chi^2(df = 78) = 325$, $p < .001$; RMSEA = .0796, 90% CI [.071, .089]; CFI = .964; and SRMR = .030. This confirmatory factor analysis (CFA) is presented in Figure 1. Given that the corrective residual covariances were mostly for adjacent items, the covariances were likely due to presentation order rather than unincorporated multidimensionality.

As in Study 2, the 15-item doomscrolling scale was reliable, $\alpha = .960$, $\omega = .962$. The mean value of the scale items was computed to produce doomscrolling scores for each participant, $M = 2.10$, $SD = 1.16$. The distribution of scores, presented in Figure 2, is slightly right-skewed, Skewness = 1.25, Kurtosis = 0.91, with many

Table 4

Discriminant Validity Measures and Test Results, Study 3

Variable	Items	Range	M	SD	α	Correlation with doom-scrolling r	p
Openness	3	1–5	3.68	0.72	.400	−.057	.203
Conscientiousness	3	1–5	3.16	0.80	.518	−.178	<.001
Extroversion	3	1–5	2.73	0.85	.573	.066	.138
Agreeableness	3	1–5	3.48	0.80	.517	−.036	.416
Single-Item Self-Esteem scale (SISE)	1	1–5	2.94	1.16	—	.015	.740
Fear of missing out (FOMO)	10	1–5	2.56	0.79	.848	.438	<.001

Note. $N = 502$.

Figure 1

Modified Confirmatory Factor Analysis for Doomscrolling Scale, Study 3

Note. Item residuals omitted for space. They range from 0.37 to 1.85 (*Mdn* = 0.80).

participants scoring relatively low on the measure. Item descriptives appear in Table 5.
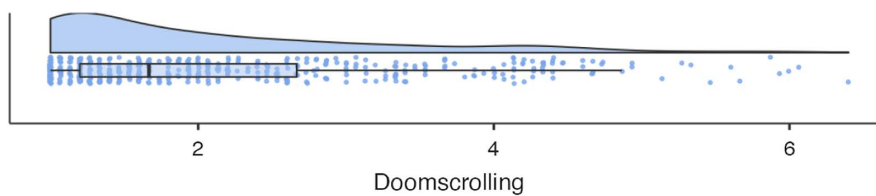
We explored relationships between doomscrolling and demographics. Doomscrolling was slightly more common among men (*M* = 2.19, *SD* = 1.24) than women (*M* = 1.97, *SD* = 1.05), Welch's $t(483.873) = 2.21, p = .028, d = .195$, and doomscrolling was negatively associated with age, $r = -.147, p < .001$, and education, $r = -.131 \ p = .003$. There were not significant differences in left–right ideology among doomscrollers, $r = -.051, p = .079$, but doomscrolling was positively associated with political knowledge, $r = .103, p = .021$, and political participation, $r = .134, p = .003$. Familiarity with the term "doomscrolling" had a small positive association with scores, $F(2, 499) = 5.59, p = .016, \eta_p^2 = .016$, where scores were higher among those 13% who knew the term (*M* = 2.41, *SD* = 1.22) than

those 12% who were unsure (*M* = 2.29, *SD* = 1.13) and those 75% who did not know it (*M* = 2.01, *SD* = 1.15).

Convergent Validity

Correlational analyses were then used to assess how strongly doomscrolling was associated with similar concepts. Large correlations of .50–.70 were expected. A correlation greater than .70 would indicate that measures assessed the same, or overlapping, concepts. A correlation below .50 would indicate that the concepts were not as closely aligned as theorized.

Results are presented on the right side of Table 2. Two concepts showed the expected relationships with doomscrolling: online vigilance and social media addiction. Problematic internet use fell just short of the "large correlation" threshold. So, while doomscrolling

Figure 2

Distribution of Doomscrolling Scores, Study 3

Doomscrolling

Note. Potential values range from 1 to 7.

Table 5
Item Descriptives, Studies 2 and 3

	Study 2			Study 3		
Item	*M* (*SD*)	Skew	Kurtosis	*M* (*SD*)	Skew	Kurtosis
1. I feel an urge …	2.59 (1.55)	0.84	−0.30	2.48 (1.60)	0.89	−0.27
2. I lose track of time …	3.35 (1.77)	0.23	−1.15	2.89 (1.69)	0.46	−1.00
3. I constantly refresh …	2.56 (1.67)	0.85	−0.46	2.39 (1.59)	0.99	−0.08
4. I stay up late …	2.06 (1.42)	1.46	1.38	1.89 (1.35)	1.64	1.91
5. Reading negative news …	3.29 (1.74)	0.15	−1.25	2.10 (1.53)	1.31	0.67
6. When I am online …	2.54 (1.62)	0.94	−0.15	2.14 (1.44)	1.36	1.29
7. I constantly feel …	2.16 (1.36)	1.31	1.16	1.85 (1.34)	1.68	2.02
8. I unconsciously check …	2.81 (1.67)	0.70	−0.62	1.93 (1.38)	1.56	1.55
9. Even if my newsfeed …	2.75 (1.65)	0.67	−0.65	1.84 (1.30)	1.67	2.15
10. I find myself …	2.78 (1.63)	0.72	−0.56	1.81 (1.30)	1.69	1.96
11. I check social media …	3.18 (1.78)	0.39	−1.04	2.27 (1.57)	1.11	0.14
12. I feel like I …	2.25 (1.51)	1.14	0.34	1.75 (1.33)	1.93	2.84
13. My social media …	3.09 (1.65)	0.42	−0.90	1.86 (1.30)	1.51	1.33
14. I am terrified by …	2.95 (1.63)	0.57	−0.57	2.07 (1.45)	1.31	0.74
15. It's difficult to …	3.60 (1.77)	0.13	−1.18	2.22 (1.58)	1.11	0.04

Note. Full item wordings appear in Table 1. Items are scaled 1–7.

resembles a broader motive to be vigilant in monitoring online media, as well as problematic patterns of excessive online media, it is a distinct concept. We should point out that the strongest correlations in our dataset were for online vigilance with problematic internet use (.690) and social media addiction (.643), and between problematic internet use and social media addiction (.620). Falling under the .70 threshold, our data show those validated measures reflect distinct concepts, yet they are more highly correlated with each other than with doomscrolling.

We observed moderate correlations of doomscrolling with passive social media use and habitual online news use. We also observed small correlations of doomscrolling with social media daily hours, number of social media platforms used, habitual social media use, and news surveillance motive. These links were smaller than expected. And, surprisingly, we saw no association between doomscrolling and use (vs. no use) of news-centric platforms Twitter and Facebook.

Criterion Validity

The next set of validation tests assessed how doomscrolling related to concepts that we expected to influence or be influenced by doomscrolling. Moderate correlations of |.30–.50| were anticipated, and results appear in the right side of Table 3. Only one correlation fell in the expected range, for anxiety. Individuals reporting more generalized anxiety in the previous 2 weeks had higher doomscrolling scores.

Small positive correlations were seen between doomscrolling and political interest, neuroticism, cynicism, sensation-seeking, and negativity bias. Self-control and positive affect were negatively correlated with doomscrolling, as expected (albeit to a less degree).

Unexpectedly, no links were seen between doomscrolling and uncertainty, political self-efficacy, social distancing, smartphone reliance, optimism, or well-being.

Discriminant Validity

Small to no correlations were expected between doomscrolling and the variables in Table 4. This was supported, with one

exception: A moderately sized positive correlation was seen with FOMO. A small negative association with conscientiousness was evident. Otherwise, no ties were seen with openness, extroversion, agreeableness, or self-esteem.

Concurrent Validity

The doomscrolling scale was not associated with seconds spent on the behavioral task (time spent reading headlines), neither the raw scores $r = -.007$, $p = .874$, nor the transformed scores, $r = -.058$, $p = .193$. Exploratory correlations tested whether the behavioral measure was predicted by any of the most similar concepts to doomscrolling (i.e., the variables from the convergent validity tests). Only news surveillance motives predicted browsing time, for raw scores $r = .123$, $p = .006$, and transformed scores, $r = .091$, $p = .042$.

Short Form

An exploratory set of analyses were also conducted to identify a short-form version of the doomscrolling scale. The 15 items in the doomscrolling scale were assessed for (a) highest factor loadings, (b) highest content validity, and (c) least skew and kurtosis (Table 5). Items ranking in the top third of items in two or more of those criteria were selected. This yielded a four-item doomscrolling scale short-form, $\alpha = .846$, $M = 2.23$, $SD = 1.05$, Skew = 1.05, Kurtosis = 0.48, which performed very similarly to the long form in validity tests.

Discussion

Study 3 assessed the dimensionality of the 15-item scale developed in Study 2. It confirmed the measure's unidimensional structure, and showed generally good fit. Correlational tests indicated that doomscrolling was a unique concept, and that it was consistently (with a few exceptions) associated with other concepts as expected, providing support for its validity. Finally, a four-item short-form scale was developed and tested.

General Discussion

Doomscrolling is a particular concept, characterized by compulsive browsing on social media newsfeeds with an obsessive focus on negative and timely news. Based on our three studies, doomscrolling emerges as a result of wanting to stay updated with the latest news, especially negative news, and evolves into a compulsive, excessive scrolling through newsfeeds. Users are motivated to stay on top of news that would potentially impact themselves and people close to them, and they subsequently become drawn into compulsive scrolling on online media platforms for negative information.

The development of our scale is initial evidence that doomscrolling is a distinctive phenomenon, an unusual but important media habit. Our three studies ultimately developed a 15-item scale to measure doomscrolling. The scale shows excellent reliability, has good validity, and is easy to use. The doomscrolling concept, as measured by our scale, is distinct from related concepts, and has small to moderate relationships with a variety of relevant trait, state, media use, political, and demographic variables.

Regarding the scale's validity, Study 3 provided partial evidence of convergent validity, criterion, and discriminant validity of the doomscrolling scale. Doomscrolling resembles online vigilance, problematic internet/social media use, and FOMO, with moderate to high associations. It had small to moderate positive links to the extent of social media use in general, as well as more specific tendencies such as passive use, habitual use, and news surveillance. Doomscrolling had a moderate, positive relationship with anxiety, and it had small, positive relationships with political interest, neuroticism, cynicism, sensation-seeking, and negativity bias. Moreover, doomscrolling had small, negative relationships with conscientiousness, self-control, and positive affect. On the other hand, there was no connection with optimism or political self-efficacy, uncertainty, self-esteem, social distancing, or smartphone reliance. Although doomscrolling had a small, negative relationship with positive emotion, it was unrelated to a broader measure of psychological well-being. Concurrent validity could not be established with a behavioral measure, but a lack of correlations with other concepts suggest that the behavioral measure (rather than the scale) was lacking in validity.

Doomscrolling was relatively uncommon (Study 2, $M = 2.80$, $SD = 1.18$, range 1.00–6.53; Study 3, $M = 2.10$, $SD = 1.16$, range 1.00–6.40) compared to other media habits or problems, as it had a lower standardized mean than other measures and its right-skewed distribution is not normal. This is in contrast to reasonably normal distributions (Skew < |1|, Kurtosis < |1|) for online vigilance, social media addiction, problematic internet use, FOMO, habits, and passive use. The news surveillance motive scale, however, was left-skewed and leptokurtic (Skew = -1.108, Kurtosis = 1.73). Men and younger adults showed slightly more doomscrolling than women and older adults, but there were not ideological differences.

Theoretical and Practical Implications

The relationships documented in this research, as well as the empirical documentation of the doomscrolling experience, potentially contribute to several bodies of knowledge on how social media users engage with continuous streams of content, including: media habits (Bayer & LaRose, 2018; Schnauber-Stockmann & Naab, 2019), the permanently online, permanently connected paradigm (Freytag et al., 2021), news-seeking and scanning (Lewis, 2017), user responses to algorithmically curated feeds (Swart, 2021; Thorson et al., 2021), problematic forms of online media use (Cheng et al., 2021; Harris et al., 2020), self-control of digital media use (Du et al., 2019), and effects on well-being (Erfani & Abedin, 2018; Harris et al., 2020). Our validation tests indicate that doomscrolling is a habitual pattern of media use, connected to motives for news surveillance and online vigilance, but that it is a unique pattern (and mindset) of scanning social media newsfeeds. Like other habits, it has origins in motivated behaviors (e.g., seeking out information during a crisis) but becomes automatic and unintentional over time (e.g., repetitive scanning of newsfeeds). Indeed, lower levels of self-control are implicated in the doomscrolling experience. Although likely motivated by anxiety, it may also produce more anxiety (but this dynamic remains untested).

Doomscrolling may not be an artifact of the COVID-19 era (as it was unrelated to social distancing or uncertainty), but rather a habit developed in response to how global and local crises unfold on unending and targeted newsfeeds. The strong connection to social media addiction and generalized problematic internet use suggests that doomscrolling is certainly an excessive behavior, and likely dysfunctional. It is tied to less positive, and more negative, levels of emotional experience, yet our cross-sectional data show no ties to psychological well-being (as measured by the WHO-5). Similarly, a test of self-reported online vigilance and logged smartphone behavior found little to no effects of vigilant use on well-being indicators (Johannes et al., 2021). Our study places doomscrolling as another piece of the puzzle in the overall permanently online, permanently connected experience (Vorderer et al., 2017), as research continues to paint a more complete picture of how humans experience digital media (as these media and their contents constantly evolve).

This study also has practical implications. First, the findings from this study show that doomscrolling appears to be a concrete experience that afflicts some users of multiple social media platforms. Our measure allows researchers (but also users and practitioners) to take inventory of an individual's doomscrolling behavior. More awareness of the doomscrolling phenomenon may benefit users by bringing awareness to self-regulation strategies or other ways to mitigate excessive use of negatively valenced media, such as consuming mobile news in intentionally smaller portions (Molyneux, 2018). Understanding one's media habits can help people to better manage their mental health and overall well-being (Jöckel & Wilhelm, 2018).

Second, the study findings suggest those who manage news organizations and social media news algorithms should spend more time thinking about how to balance negative with positive news, especially for those individuals who fixate and become immersed in distressing or depressing content. As reported in our Study 1, users are often aware of excessive social media use and may take proactive measures to limit it. Users also find the repetitive nature of negative news to be unappealing and wish to limit consumption of distressing news. As awareness around doomscrolling grows, users might become wary of news outlets and social media accounts that post disproportionately negative content. Individuals who experience negative outcomes from doomscrolling may then develop news avoidance techniques to protect their well-being, a finding echoed by recent surveys on COVID-19 information overload, well-being, and avoidance (de Bruin et al., 2021; Jain, 2021).

Newsroom and platform routines and guidelines for covering breaking news and high-casualty events are also consequential for preventing the in-the-moment spread of misinformation or distortion in coverage (Kaufman et al., 2020; Levin & Wiest, 2018; WNYC, 2013) that could exacerbate doomscrolling (cf. Jones et al., 2017). Moreover, social media platforms may help users to monitor and adjust their doomscrolling behavior by actively encouraging users to access quantifiable data that track their online activity.

Limitations and Future Directions

This study, like any other, has its limitations. First of all, doomscrolling may be conditioned on social situations, such the COVID-19 pandemic and its social distancing. We originally hoped to collect data in the aftermath of the U.S presidential election. Precise moments of crisis can be hard to predict (e.g., the January 6, 2021 attack on the U.S. Capitol) for fielding data collection. Instead, our plan to collect data on the Prolific platform did allow us to survey mostly Europeans during a period of time (March 2021) when news about shutdowns and vaccine rollouts or pauses were especially salient for those populations. There may be cross-cultural differences in doomscrolling, not only in specific contexts such as COVID-19 but more persistently over time. A strength of the present project and resulting measure is that they are not as U.S.-centric as are so many scale development projects in media and technology research. However, a more systematic comparison of cultural, social, and political contexts would be needed to allow any initial assessment of cross-cultural differences. These investigations should also examine issues of social power, oppression, risk, and stigma. For example, within the U.S. context, data from the COVID-19 pandemic show that people with disabilities were more actively engaged with coronavirus-related news (Dobransky & Hargittai, 2021), and Asian Americans experienced a negative effect of media use on subjective well-being whereas White Americans did not (Quintero Johnson et al., 2021).

For Study 1, the size of focus groups was smaller than planned. Although we were able to capture nuances of social media use and news consumption in a way that informed our item bank, the limited number and diversity of participants may have inhibited a more multifaceted conceptualization of doomscrolling. Future works can employ more extensive qualitative methods to collect rich data about doomscrolling experiences across people and social groups. For example, a recently published article reports a large-scale qualitative study of Norwegian media users in 2020 (Ytre-Arne & Moe, 2021). Their findings echo the importance of news avoidance, alongside feelings of exhaustion, anxiety, and monitoring in relation to news.

Next, self-reporting of media habits is often complicated and may not fully capture the real-world experience. For instance, many participants in the Study 1 focus groups claimed to be "addicted" to their phones or certain social media platforms. However, when asked about doomscrolling specifically, they were not aware of the expression. Doomscrolling is a recently coined term, and the language and frames used by publics may play a role in how they think and talk about their own experiences online, but also how they are able to accurately self-report their experiences to researchers. As addiction to smartphones or a particular social media platform is often used as a lay metaphor for any excessive use (Essig, 2012), social media users might latch onto a term such as doomscrolling to explain experiences that actually reflect other

concepts such as vigilance or fatigue. However, we did find in Study 3 that familiarity with the term doomscrolling only had a modest link to self-reported scores on our scale. Doomscrollers may not have a word to label their behavior, or those familiar with the concept may never experience it themselves. Future work can also assess how the subjective experience of doomscrolling relates to behavioral data extracted from smartphones or applications (cf. Johannes et al., 2021).

Our scale only identified a single factor of doomscrolling. This could reflect the reality of the concept, or could be influenced by the lack of a priori ideas about dimensions in our item bank. Further testing, and comparisons to other doomscrolling studies currently being fielded or reviewed (e.g., Price et al., 2021) may provide more information about the dimensionality (or unidimensionality) of doomscrolling. At 15 items, our scale is slightly long for a unidimensional measure, yet it has good content validity. We also recommend our four-item short form scale to researchers with limited questionnaire space.

Overall, our novel doomscrolling scale can be used in future studies to see its effects on well-being and coping in different environmental contexts. To date, a peer-reviewed commentary has speculated (without data) about the causes and effects of doomscrolling, including anxiety, stress, uncertainty, confirmation bias, and self-control (Anand et al., 2020). An autoethnography of COVID-19 lockdown reflected on the repetition of doomscrolling, the persistence to keep scanning for more tragedy, and the effort required to stop (Markham, 2021). Price et al. (2021) purported to look at the negative association between doomscrolling and depressive symptoms during the COVID-19 pandemic, and how they might be stronger for individuals with clinically significant past traumatic experiences. However, a proxy measure was used, of daily exposure to pandemic-related social media (dichotomous for each day, summed over 30 days). Not only does that measure not assess the duration and quality of exposure, but also it neglects the actual subjective state of doomscrolling. In contrast, we believe that the scale developed in our study can prove beneficial in future studies such as these by distinguishing doomscrolling as a concept from broader media exposure or other online media habits. Furthermore, our valid doomscrolling scale will allow researchers to investigate the effects of—and on—mental health variables as well as interactions with existing individual differences and conditions.

Future studies should also explore the relationships between a platform's algorithmic recommendations, affordances, user's algorithmic awareness, and doomscrolling. Previous research has argued that people's awareness of algorithmic curation used by social media is limited, but that experience with and literacy about algorithmic filtering can affect user attitudes and usage of the platform (Beer, 2017; Swart, 2021). Hence, it is worth exploring how algorithmic awareness (Zarouali et al., 2021) can have a mitigating effect on doomscrolling.

Finally, social media are broadly operationalized in the study, and the scale as applied here did not differentiate one platform from another. Each platform has different affordances and differs in the representation of content, differences which are not addressed in this study. It would be beneficial to see how doomscrolling varies across social media platforms and if it is more prevalent (or takes different forms) on any one kind of social media site. Likewise, multitasking versus monotasking may factor into doomscrolling and its effects (Freytag et al., 2021).

Conclusion

The three studies reported here provide evidence that doomscrolling, although not as prevalent as some media reports would suggest, is a distinct concept. Our reliable and valid measure is useful for assessing situations where people develop the habit of persistently seeking out negative information. We believe that this scale may be included either as a moderator, mediator, or dependent variable to help to explain people's social media news selections, psychological experiences during crises, and the effects of news and social media on an array of outcomes. In conclusion, the doomscrolling scale provides a robust foundation for future studies that aim to make sense of people's obsessive focus on negative online news.

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