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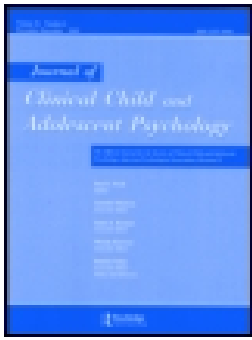


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# In Search of Likes: Longitudinal Associations Between Adolescents' Digital Status Seeking and Health-Risk Behaviors

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This study introduces a new construct—digital status seeking—which reflects a set of behaviors made possible by the social media environment. Digital status seeking is defined as the investment of significant effort into the accumulation of online indicators of peer status and approval. The concurrent validity of this construct was examined, as well as the longitudinal implications of digital status seeking for adolescents' engagement in health-risk behaviors. A school-based sample of 716 participants ( $M_{\text{age}} = 16.01$  at Time 1; 54.2% female) participated at 2 time points, 1 year apart. Sociometric nomination procedures were used to assess digital status seeking and peer status. Participants self-reported indices of social media use, peer importance, and risky behavior engagement (substance use, sexual risk behavior). For a subset of participants, social media pages were observationally coded for status indicators (i.e., likes, followers) and status-seeking behaviors. Adolescents with greater reputations of digital status seeking reported more frequent social media use, desire for popularity, belief in the importance of online status indicators, and use of strategies to obtain these indicators. Multiple group path analyses indicated that for both genders, digital status seekers engaged in higher levels of substance use and sexual risk behavior 1 year later. Moderation of this effect by race/ethnicity and socioeconomic status was explored. This novel, multimethod investigation reveals digital status seeking as an important construct for future study and offers preliminary evidence for the unique role of social media experiences in contributing to adolescent adjustment.

Peer status is of critical importance to adolescents. During this developmental period, young people show increased reliance on peer feedback, heightened biological sensitivity to social rewards, and motivation to secure their position in the peer hierarchy (Harter, Stocker, & Robinson, 1996; Somerville, 2013). Increasingly, adolescents' peer experiences occur within the context of social media, with up to 89% of adolescents belonging to social networking sites (Lenhart, 2015). Research has begun to examine the specific ways that adolescents use social media (e.g., Facebook, Instagram, Twitter). However, the role of social media as a powerful new context for adolescent peer status reputations has been previously overlooked. This study identifies a set of behaviors, referred to here as *digital status seeking*,

which reflects attempts to obtain social-media-based indicators of peer status (e.g., likes, comments), and examines whether these behaviors have implications for longitudinal health-risk behavior engagement.

Prior theoretical and empirical work has highlighted how online environments facilitate processes of reputation and impression management. The hyperpersonal model of computer-mediated communication (Walther, 2007), for example, suggests that users take advantage of computer-mediated communication's technical capacities to engage in selective self-presentation. Affordances such as increased time to carefully construct or edit messages, and the ability to limit unwanted visual or verbal cues, allow individuals to optimize personal impressions given off to others. Within newer social media environments, other technical affordances may increasingly highlight social reputation and encourage new kinds of status-seeking behaviors. For example, content can be posted publicly, creating an audience for whom interactions can be performed, and can be accessed at

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any time of day (boyd, 2010). Social media environments also typically contain built-in mechanisms for quantifiable peer feedback and measurable engagement, such as likes, views, comments, retweets, and number of followers (Chua & Chang, 2016). Prior work suggests that these mechanisms may serve as markers of status within the offline peer group, as 98% of adolescents report being connected on social media to individuals they know from school (Madden et al., 2013). Within this environment of both heightened capacity for impression management and increased salience of peer feedback, adolescents may go to great lengths to increase perceptions of online popularity, such as by filtering or untagging photos (Dhir, Kaur, Lonka, & Nieminen, 2016; Underwood & Faris, 2015).

This study builds on this prior work by introducing the construct of *digital status seeking*, or the investment of effort into accumulating indicators of online status, such as likes, comments, and activity on one's posts, assessed using a multi-informant, multimethod design. Digital status seeking was assessed using a peer-reported sociometric measure, in which adolescents nominated peers whom they perceive to exert high levels of effort in soliciting online indicators of status (e.g., likes). As preliminary evidence of the construct validity of this new measure, associations were examined with theoretically related self-reported constructs, including desire to be popular among peers, time spent on social media, valuing obtaining likes and followers, and use of specific strategies to obtain status indicators (e.g., posting photos at times of the day when they are likely to receive more likes). In addition, supplementary analyses provided a rare opportunity to examine observational measures from adolescents' own social media profiles through coding the Instagram pages of a subsample of participants. Instagram was examined due to the high potential for status-seeking behavior on this platform, which is photo based, highly visual, and centered on peer feedback in the form of likes. Prior qualitative work suggests that adolescents may post photos with friends publically to prove high levels of social connection (Manago, Graham, Greenfield, & Salimkhan, 2008) and that publicly posted selfies, or photos of the self alone, may serve to elicit positive comments and curate a personal image (Katz & Crocker, 2015). Thus, concurrent validity of digital status seeking also was assessed through associations between digital status seeking and the number of photos participants posted with their same-age peers as well as the number of selfies posted. Associations also were examined between digital status seeking and hypothesized indicators of status on social media: average numbers of likes and "follow ratio," or the ratio of followers to following.

## DIGITAL STATUS SEEKING AND HEALTH-RISK BEHAVIORS

A second aim of this study was to offer a preliminary examination of associations between digital status seeking

and adjustment outcomes. The prototype willingness model (Gibbons, Gerrard, & Lane, 2003) suggests that adolescents are likely to engage in risky behaviors to emulate the type of person, or prototype, presumed to engage in those behaviors. Research suggests that adolescents associate risky behaviors with popular peer prototypes (Gibbons et al., 2003)—perhaps accurately so, given that higher peer popularity may serve as a risk factor for substance use and sexual risk behavior (Choukas-Bradley, Giletta, Neblett, & Prinstein, 2015; Mayeux, Sandstrom, & Cillessen, 2008). Thus, adolescents who desire to be more similar to their popular peers—as digital status seekers likely do—may be more likely to engage in these behaviors.

Indeed, research examining offline processes suggests that adolescents who are more oriented toward or invested in their peer status are at greater risk for a host of negative behaviors, including deviance and rule breaking, substance use, and sexual risk behavior (Allen, Porter, & McFarland, 2006; Fuligni, Eccles, Barber, & Clements, 2001; Prinstein, Brechwald, & Cohen, 2011). Despite these initial findings, remarkably little research has directly examined status seeking, or attempts to increase one's popularity, offline. This may be because such behaviors are simply less deliberate, transparent, or easy to identify outside the social media context, which emphasizes quantifiable status metrics and public postings. Indeed, prior theoretical work suggests that although adolescents construct their digital environments to address the same developmental issues they face offline, online interactions are also shaped by the unique affordances of the digital world (Subrahmanyam, Smahel, & Greenfield, 2006; Underwood & Ehrenreich, 2017). Thus, although offline and online processes may be distinct in certain ways, hypotheses are informed by this limited available theoretical and empirical evidence. As digital status seeking may reflect heightened desire to appear popular to others, it was expected that digital status seekers would be uniquely at risk for engagement in health-risk behaviors that match the prototype of their popular peers. Specifically, it was hypothesized that digital status seeking behaviors would be associated longitudinally with substance use and sexual risk behavior, over and above the effects of adolescents' *actual* offline peer-rated popularity.

Notably, gender, race, and socioeconomic status (SES) were examined as moderators of effects, given prior research indicating that these demographic groups may differ in their technology use, rates of health-risk behavior engagement, and associations between social status and health-risk behaviors. In particular, girls are more likely than boys to use visually oriented social media platforms like Instagram and Snapchat (Lenhart, 2015). In addition, smartphone ownership is higher among higher SES and African American teenagers, and African American teens are more likely to use Instagram (Lenhart, 2015). Gender differences also have been shown in associations between social status and health-risk behaviors, with boys'

engagement in risky behaviors often more highly valued in the peer context (Kreager & Staff, 2009). Furthermore, prior research has found elevated rates of substance use among higher SES adolescents (Luthar & D'Avanzo, 1999), as well as greater associations between substance use and peer popularity among boys from affluent, suburban neighborhoods (Becker & Luthar, 2007; Luthar & D'Avanzo, 1999). Finally, associations between substance use and popularity may be stronger among Caucasian and Latino adolescents (Choukas-Bradley et al., 2015).

## METHODS

### Participants

This study included 716 participants (ages 15–18 at Time 1;  $M_{\text{age}} = 16.01$ ) recruited from three rural, lower-middle-class schools in the southeastern United States, assessed at two time points, 1 year apart. Participants self-reported their gender identity (54.2% female) and ethnicity (46.5% White/Caucasian, 20.4% African American/Black, 24.9% Hispanic/Latino, 8.2% other ethnicities). This study was part of a larger study examining adolescent peer relationships and health-risk behaviors. For the larger study, all seventh- and eighth-grade students in the school district were recruited ( $n = 1,463$ ). Out of 1,205 families (82.4% who returned consent forms), 900 of them (74.7%; 61.5% of the total population) consented to participation. Measures for the current study were available only at the fourth (Time 1) and fifth (Time 2) waves of data collection. Of the 900 students who originally consented to participate, 79.6% ( $n = 716$ ) participated at Time 1, and of these, 88.0% ( $n = 630$ ) were retained at Time 2. Participants who did not complete Time 2 measures reported higher levels of Time 1 substance use,  $t(711) = 2.05, p = .041$ .

### Procedure

A total of 716 adolescents participated at Time 1. All self-report and sociometric measures were administered on computers in classrooms during the school day. Measures were collected during a 2-week period in March 2015. Participants were compensated with \$10 gift cards. Observationally coded measures of social media use were available for a subset of participants. To collect these measures, information regarding participants' Instagram accounts (i.e., user names) was solicited from participants over the course of 1 year, beginning at the Time 1 data collection period (March 2015) and finishing at the Time 2 data collection period (March 2016). Over the course of this year, 287 participants provided a valid user name and consented to be followed by an account created for the purposes of the study; 251 of these 287 participants also provided self-report data at Time 2. A total of 560 participants reported having Instagram accounts at Time 1, and thus these 287 participants represent 51.3% of Instagram users in the sample

at Time 1. Compared to the remaining 273 participants, the 287 who provided access to their Instagram profiles were more likely to endorse the importance of online status indicators,  $t(554) = -2.03, p = 0.043$ , and to report greater desire to be popular,  $t(555) = -1.97, p = 0.05$ . Those who provided access to their Instagram profiles were also more likely to be white,  $\chi^2(3) = 27.99, p < .001$ , and female  $\chi^2(1) = 4.53, p = .03$ . They did not differ on any other demographic or other study variables.

## Measures

### Digital Status Seeking

Sociometric procedures (Coie, Dodge, & Coppotelli, 1982) were used to obtain a measure of adolescents' digital status-seeking behavior, based on the perceptions of their peers. All participants were presented with an alphabetized roster of their grademates and asked to nominate an unlimited number of grademates in response to the question, "Who tries hard to get more activity (i.e., likes, comments, etc.) on their social media profiles (e.g., Facebook, Twitter, Instagram)?" A sum of nominations was calculated for each participant. These sums were then standardized within each school grade, yielding a global index of the level of effort each adolescent was perceived to invest in accumulating online indicators of status. The range of nominations participants received was between zero and 25, and 75.5% of the sample received at least one nomination.

### Peer Status

Standard sociometric procedures also were used to measure adolescents' peer-perceived popularity at Time 1. Participants were given two separate rosters of their grademates and selected those whom they believed to be "most popular" and "least popular." After summing and standardizing nominations for each participant, a difference score was taken between most and least popular standardized scores. These difference scores were restandardized to create a reputation-based measure of popularity, with higher scores indicating higher levels of status.

### Socioeconomic Status

An estimate of students' SES was obtained through calculating the mean household income for each student's home address using U.S. Census tract data. Values were divided by 10,000 to obtain values ranging from 1.26 to 8.91.

### Validity Measures

All validity measures were assessed at Time 1, with mean scores calculated for all variables with multiple items.

**Frequency of Social Media Use.** A single item assessed participant's average daily frequencies of social media use on a 7-point scale from 0 (*I don't use this*) to 6 (*5 or more hours*). "Social media" was defined as "any

website/app that involves social interaction, i.e. texting, Facebook, Instagram, Tumblr, Snapchat.”

**Importance of Online Status Indicators.** Two items assessed the importance that participants ascribe to receiving status indicators, such as likes, comments, and followers, on social media, on a 5-point scale from 1 (*not at all true*) to 5 (*extremely true*). Items were (a) “I think it’s important to have a lot of followers or friends on social media” and (b) “I think it’s important to have people ‘like’ or comment on the things I post” ( $\alpha = .83$ ).

**Online Status-seeking Strategy Use.** Two items assessed participants’ use of strategies to manage their online presence and accumulate online status indicators, on a 5-point scale from 1 (*not at all true*) to 5 (*extremely true*). Items were (a) “I purposefully post on social media during ‘high traffic’ times (i.e., times that I know most people will see it) so that my posts/photos get more likes and comments” and (b) “If something I post does not get a lot of likes or comments, I might take it down” ( $\alpha = .80$ ).

**Peer Importance.** The four-item Peer Importance Scale measured adolescents’ desire to attain acceptance and popularity among peers (Prinstein & Aikins, 2004;  $\alpha = .86$ ). Participants rated items on a 5-point scale from 1 (*not at all true*) to 5 (*very true*). The original scale includes five items, with three reverse-coded items. For the current sample, only one item was worded conversely, and this item was dropped due to low factor loading.

#### Supplemental Observationally Coded Measures

An observational coding system was developed to assess measures of interest on participants’ Instagram pages, using procedures for coding social networking sites outlined by Moreno, Egan, and Brockman (2011). Training of coders took place over a period of 6 weeks, followed by weekly meetings for continued training and discussion of coding decisions. Ongoing reliability between coders was established through double-coding 44 randomly selected participants (15% of the sample; 263 photos total). In the event of discrepancies between coders, decisions were made by the coding coordinator (lead author of this study). A total of 287 participants’ Instagram profiles were coded. Photos selected for coding reflected the 3-month period during which all baseline data were collected, February through March 2015. A total of 233 participants (81.2% of the 287) posted at least one photo during this period, with 2,673 photos coded across all participants.

**Observational Measures of Online Status Seeking.** Two observational measures assessed potential online status seeking behaviors, based on prior research and

information from focus groups with recent high school graduates. These included photos posted with peers, in which both the participant and same-age peers were depicted, and selfies, or photos of the participant alone. For each photo posted by a participant during the 3-month coding period, coders indicated whether (a) the participant was in the photo ( $\kappa = .97$ ), (b) whether any of the participants’ same-age peers were in the photo or tagged in the photo ( $\kappa = .95$ ), and (c) whether the participant was alone in the photo ( $\kappa = .95$ ). Photos that contained both the participant and peers were considered photos with peers. Photos that contained the participant alone were considered selfies. Sums of the number of photos with peers and number of selfies posted during the 3-month coding period were taken. In addition, proportions of the number of photos with peers and selfies to the total number of photos posted during the 3-month period were taken. Note that two participants posted selfies with unusual frequency (i.e., 5.44 and 10.15 standard deviations above the mean). A winsorising approach was used, with these values set equal to the next closest value.

**Observational Measures of Status.** Two observational measures assessed actual online status indicators: participants’ number of likes and follow ratio. Number of likes was assessed by taking a mean across likes received on all photos posted during the 3-month coding period. Users’ follow ratios were also assessed as a measure of status, with the number of followers (those whom users have granted permission to view their profile) divided by the number following (those whom users have received permission to view).

#### Health-risk Behavior Measures

Health-risk behaviors were assessed at Times 1 and 2.

**Substance Use.** Four substance use outcomes were assessed using items adapted from the Youth Risk Behavior Surveillance System (Centers for Disease Control and Prevention, 2015). Two items assessed alcohol use and were rated on a 5-point Likert scale from 1 (*0 days*) to 5 (*10 or more days*). Participants reported on the frequencies that they had “at least one drink of alcohol” and five or more alcohol drinks within a few hours. One item assessed the number of cigarettes participants smoked per day in the past year, from 1 (*0 cigarettes*) to 6 (*more than a pack per day*). One item assessed the number of times participants used “marijuana (weed/pot)” in the past year, from 1 (*0 times*) to 5 (*10 or more times*). To create a composite substance use score, responses to each substance use item were standardized, and a mean of these scores was taken (Time 1  $\alpha = .77$ ; Time 2  $\alpha = .78$ ).

**Number of Sex Partners.** Based on expected ranges of sexual risk behaviors in a high school sample (i.e., Centers for Disease Control and Prevention, 2015), participants were asked to report on the number of people with whom they had sex in the previous year, ranging from 1 (*0*)



people) to 5 (5 or more people). “Sex” was defined for participants as “sexual intercourse.”

### Analysis Plan

First, to examine the construct validity of digital status seeking, Pearson correlations were conducted between digital status seeking and measures of popularity and status seeking. Second, to examine longitudinal associations between digital status and health-risk behaviors, analyses were conducted using path analyses in MPlus 7.0 (Muthén & Muthén, 1998–2016), with full information maximum likelihood estimation used to handle missing data. Given that the relationships among digital status seeking, popularity, and health-risk behavior outcomes were expected to differ by gender, a multiple group path analysis approach was used. A path model was examined with digital status seeking, Time 1 health-risk behaviors (substance use and number of sexual partners), and popularity entered as exogenous variables. Exogenous variables also included race and SES, as well as the interaction term of digital status seeking and SES. Interactions between digital status seeking and race were tested but did not significantly predict risk outcomes, and thus were excluded. Endogenous variables were the Time 2 health-risk behavior outcomes (see Figure 1). An initial path model was run with all paths constrained to equality across groups (i.e., fully constrained model). Paths were then systematically freed to vary

across genders, with significant improvements in model fit indicating that these paths were moderated by gender (Bollen & Curran, 2006).

## RESULTS

### Descriptive Statistics and Construct Validity

Descriptive statistics were conducted to examine the means and standard deviations, as well as mean-level gender differences, of all study variables (see Table 1). For digital status seeking, independent sample *t* tests revealed that girls were significantly more likely to be nominated as digital status seekers compared to boys. In addition, levels of digital status seeking differed significantly by race,  $F(713) = 8.67, p < .001$ , with White students showing the highest levels of digital status seeking ( $M = 0.30, SD = 1.30$ ), followed by African American ( $M = 0.11, SD = 0.83$ ) and Hispanic students ( $M = -0.20, SD = 0.69$ ); however, only the difference between White and Hispanic students remained after controlling for socioeconomic status. In addition, the construct validity of digital status seeking was examined through bivariate associations with self-reported, peer-reported, and observationally coded variables. See Table 2 for a summary of these associations.

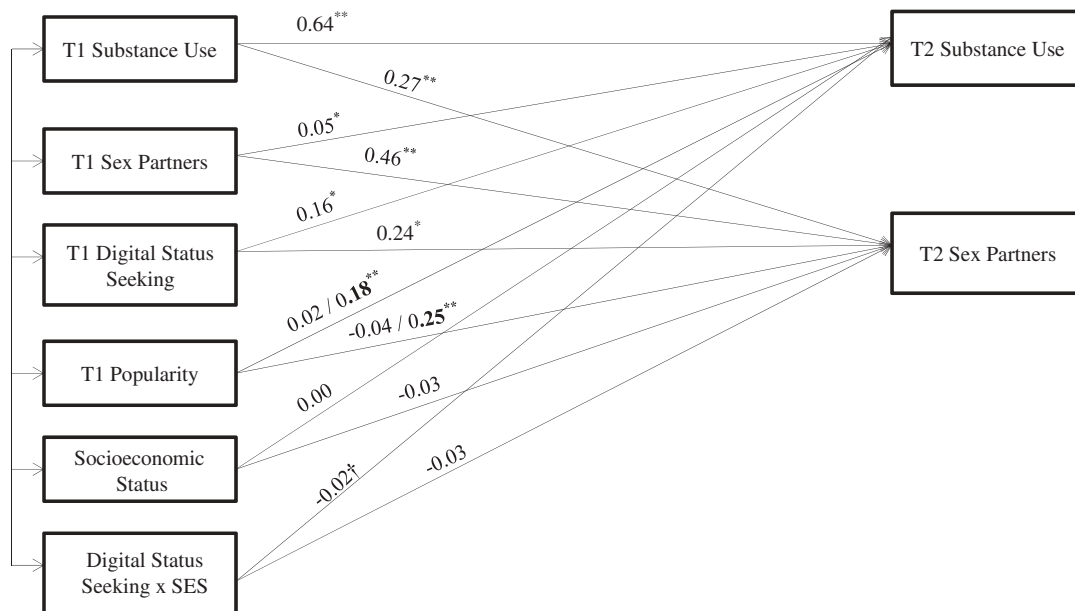


FIGURE 1 Final multiple group path model predicting Time 2 health-risk behavior outcomes from Time 1 digital status seeking, controlling for Time 1 peer status. *Note:* For paths moderated by gender, coefficients for boys are presented in bold. Note that all models also controlled for race. Correlations between error terms for Time 2 variables not shown. Standard errors for effects of Time 1 digital status seeking on Time 2 substance use and number of sexual partners were .06 and .12, respectively. Of the 716 participants at Time 1, 49 reported that they did not use social media and 6 did not answer any survey questions related to social media. These participants were retained in analyses, with participants who do not use *any* social media considered to represent the lowest levels of the construct of digital status seeking. Analyses were also reconducted with these participants excluded, and patterns of significant and nonsignificant results remained the same. \* $p < .05$ ; \*\* $p < .001$ ; † $p < .06$ .

TABLE 1  
Means and Standard Deviations of Study Variables With Gender Comparisons

	<i>Full Sample</i>	<i>Girls</i>	<i>Boys</i>	t (df)
	M (SD)	M (SD)	M (SD)	
Digital Status Seeking	0.14 (1.10)	0.36 (1.25)	-0.13 (0.84)	6.35 (677.12)**
Peer-Perceived Popularity	0.01 (0.99)	0.02 (0.96)	-0.01 (1.02)	0.32 (712)
Socioeconomic Status	4.11 (1.57)	4.00 (1.57)	4.25 (1.57)	-2.07 (691)*
<i>Validity Measures</i>				
Frequency of Social Media Use	3.54 (2.14)	4.19 (2.01)	2.78 (2.05)	9.17 (703)**
Importance of Online Status Indicators	1.64 (0.91)	1.71 (0.97)	1.55 (0.82)	2.43 (702.93)*
Online Status Seeking Strategy Use	1.82 (1.11)	1.96 (1.17)	1.65 (1.01)	3.74 (703.81)**
Peer Importance	1.69 (0.83)	1.64 (0.82)	1.76 (0.83)	-1.96 (708)*
<i>Health-Risk Behaviors</i>				
Time 1 Substance Use	0.00 (0.78)	0.01 (0.73)	-0.01 (0.82)	0.36 (711)
Time 1 No. of Sex Partners	1.63 (1.09)	1.57 (0.92)	1.70 (1.26)	-1.54 (567.58)
Time 2 Substance Use	-0.00 (0.78)	0.00 (0.72)	-0.01 (0.84)	0.18 (574.96)
Time 2 No. of Sex Partners	1.86 (1.25)	1.81 (1.13)	1.93 (1.38)	-1.20 (561.85)
<i>Observationally Coded Measures of Online Status and Status Seeking</i>				
Photos With Peers	2.65 (4.56)	3.13 (5.28)	1.79 (2.69)	2.58 (229.10)*
Likes ( <i>M</i> )	90.75 (88.00)	88.03 (66.35)	95.56 (117.31)	-0.63 (231)
Follow Ratio	1.19 (0.77)	1.20 (0.73)	1.19 (0.83)	0.10 (285)
Selfies	3.47 (5.18)	4.16 (5.65)	2.24 (3.96)	3.04 (220.14)*

Note: Socioeconomic status was calculated by obtaining mean household income from U.S. Census data and dividing values by 10,000.

\* $p < .05$ . \*\* $p < .001$ .

### Longitudinal Associations Between Digital Status Seeking and Health-Risk Behaviors

Fit of the fully constrained model was moderate,  $\chi^2(18) = 44.00$ ,  $p < .001$ ; comparative fit index = .97, Tucker–Lewis index = 0.93, root mean square error of approximation = 0.06, standardized root mean square residual = 0.03. Paths were systematically freed to vary across gender groups, with models tested for significant improvements in fit. Model fit improved significantly by freeing the paths from popularity to substance use,  $\Delta\chi^2(1) = 6.20$ ,  $p = .01$ , and number of sexual partners,  $\Delta\chi^2(1) = 11.61$ ,  $p < .001$ , thus indicating that these paths are moderated by gender. Freeing paths to the two health-risk behavior outcomes from each of digital status seeking, race, SES, and the interaction term did not improve model fit, indicating that these paths should remain constrained to equality across groups. Final model fit was good,  $\chi^2(16) = 26.18$ ,  $p = .052$ ; comparative fit index = .99, Tucker–Lewis index = 0.97, root mean square error of approximation = 0.04, standardized root mean square residual = 0.02. To ensure that results were not affected by non-normality of any study variables, the model was then rerun using robust maximum likelihood estimation, which provides standard errors that are robust to non-normality of observations (Finney & DiStefano, 2006). The pattern of significant and nonsignificant results remained the same using this estimator. Notably, the path from the interaction term to substance use was marginally significant ( $p = .056$ ). Probing this interaction revealed that the association between digital status seeking and substance use was *not* significant for adolescents higher in SES (i.e., values greater than 4.46, or .22 standard deviations above the mean).

### DISCUSSION

As the adolescent social hierarchy increasingly plays out on social media, it is critical to identify specific online behaviors that may contribute to adolescent adjustment. This study introduces one such set of behaviors through the construct of digital status seeking, or the investment of effort into the accumulation of social-media-based status indicators, such as likes, comments, and activity on one's posts. Results suggest that digital status seeking is an important new construct that may be longitudinally associated with higher levels of engagement in health-risk behaviors, including substance use and sexual risk behavior.

#### Strengths and Limitations

This study represents the first investigation of digital status seeking, and thus further work will be needed to replicate and expand on findings. It offers a novel, multimethod investigation of this new construct and draws from a large sample of lower middle class, rural youth—a population often neglected in prior work on adolescent social media behavior. However, the study is unable to examine whether digital status-seeking behaviors, which are aimed at gaining attention and visibility *online*, reflect efforts to obtain peer status that carry over offline. It is possible that the analyzed behaviors are specific to obtaining online notoriety rather than popularity more broadly.



TABLE 2  
Bivariate Associations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Digital Status Seeking	—															
2. Peer-Perceived Popularity	.51**	—														
3. Socioeconomic Status	.17**	.13**	—													
<i>Validity Measures</i>																
4. Frequency of Social Media Use	.19**	.14**	-.08*	—												
5. Importance of Online Status Indicators	.17**	.17**	.05	.23**	—											
6. Online Status Seeking Strategy Use	.19**	.22**	.02	.28**	.76**	—										
7. Peer Importance	.10*	.10*	.10*	.06	.43**	.37**	—									
<i>Health-Risk Behaviors</i>																
8. T1 Substance Use	.18**	.12*	.04	.12*	.13*	.12*	.14**	—								
9. T1 No. of Sex Partners	.18**	.12*	.03	.06	.08*	.12*	.07†	.48**	—							
10. T2 Substance Use	.26**	.25**	.09*	.15**	.19**	.15**	.14**	.71**	.42**	—						
11. T2 No. of Sex Partners	.22**	.19**	.03	.16**	.11*	.09*	.03	.40**	.49**	.56**	—					
<i>Observationally Coded Measures</i>																
12. Likes (M)	.34**	.38**	.15*	.05	.07	.06	.02	-.02	.00	-.06	.06	—				
13. Follow Ratio	.21**	.29**	.04	-.02	.00	.01	.01	.07	.09	-.01	.12†	.56**	—			
14. Photos with Peers (sum)	.20*	.24**	.12	-.03	.04	.06	.06	.00	-.07	.07	.01	.05	.09	—		
15. Photos with Peers (Proportion)	.13*	.29**	.20**	-.10	.17*	.20*	.11	-.06	-.10	.05	-.07	.14*	.22*	.42**	—	
16. Selfies (Sum)	.14*	-.06	-.08	.14*	-.08	-.09	-.13*	.11†	.05	.06	.03	-.08	-.11	.35**	-.19*	—
17. Selfies (Proportion)	.01	-.10	-.26**	.05	-.04	-.02	-.11	-.03	.09	-.11	.03	.16*	.00	-.23**	-.44**	.23**

Note: For observationally coded measures, follow ratio refers to the ratio of number of users participants follow to number they are followed by. Correlations with follow ratio were calculated using all participants with observational data ( $n = 287$ ). Correlations with remaining observational measures were calculated using only participants who had posted at least one photo ( $n = 233$ ). T1 = Time 1; T2 = Time 2; Proportion = proportion of photos posted in a given category out of total photos posted; Sum = total number of photos posted in a given category during 3-month coding period, which ranged from 0 to 166.

†  $p < .10$ . \*  $p < .05$ . \*\*  $p < .001$ .

The study is one of the first to apply sociometric procedures to the study of social media behavior and, in combination with observationally coded measures, provides a critical improvement over traditional self-report measures. However, future work should aim to develop sociometric procedures that better capture students' online networks beyond their classmates, as well as frequencies of digital status seeking. Observational measures of status (follow ratio, likes) and status seeking (photos with peers, selfies), though innovative, were based on qualitative research and theory rather than empirically validated measures. In addition, this approach yielded only a small subsample for coding ( $n = 287$ ). Future work should examine a larger sample to limit selection bias and should control for psychological and behavioral processes for which digital status seeking may serve as a proxy—such as narcissism, low self-esteem, or tendency toward *offline* status-seeking behavior. Finally, future coding systems should incorporate more online platforms, specify *who* adolescents engaged with online, and examine other potential markers of status seeking (e.g., public vs. private posts, responding to others' comments on posts).

Despite its limitations, this study provides preliminary evidence for the validity of the digital status-seeking construct. Adolescents who were perceived by their peers to be digital status seekers reported using social media more frequently, having greater belief in the importance of online status indicators (e.g., likes and followers) and desire to be popular among their peers, and using strategies to obtain such status indicators. In addition, digital status seeking was associated with observationally coded measures hypothesized to indicate online status seeking: selfies and photos with peers.

### Associations Between Digital Status Seeking and Health-Risk Behaviors

In addition to providing initial evidence for the validity of this new construct, this study suggests that digital status seeking may have implications for adolescents' engagement in health-risk behaviors. Digital status seeking was longitudinally associated with substance use and number of sexual partners, independent of the effects of offline social status. Although findings are preliminary, digital status seeking may be reflective of adolescents' need or desire for popularity, with digital status seekers placing greater value on peer perceptions of their social status. In line with the prototype willingness model (Gibbons et al., 2003), digital status seekers may thus be uniquely at risk for engagement in risky offline behaviors that match the prototype of their popular peers in an effort to increase their status. Social media may provide a powerful new context for heightened awareness of the peer status hierarchy and the behaviors sanctioned within it. This same

context may create possibilities for status-seeking behaviors that appear more obvious or attention seeking to adolescents' peers, potentially contributing to social difficulties and, ironically, further need for peer approval.

Findings also offer a preliminary investigation of individual and cultural factors that may be relevant to digital status seeking and its association with health-risk behaviors. Girls, White students, and adolescents of higher SES were more likely to be nominated as digital status seekers; however, no gender or racial/ethnic differences in associations between digital status seeking and health-risk behaviors were revealed. The effect of SES as a moderator of associations between digital status seeking and substance use was only marginally significant. Given prior research reflecting the diverse social implications of substance use among various demographic groups (e.g., Luthar & D'Avanzo, 1999), future work will be needed to disentangle differential effects by gender, race, SES, and geographic environment. Furthermore, future work should examine developmental differences in digital status seeking and associated outcomes. Although this study focuses primarily on older adolescents (ages 15–17), digital status seeking may have greater relevance to younger adolescents, among whom peer hierarchies and social identity are still developing, and less relevance among adults.

### Conclusions

This study captures a set of online behaviors—digital status seeking—that may be common and readily identified by adolescents yet has not been previously examined. Findings are preliminary but contribute to a growing body of literature highlighting areas of practical application within clinical and school-based settings. For example, clinical care may be strengthened by thoroughly assessing adolescents' social media use, and in particular the various functions of that use (i.e., to communicate with close friends versus to increase one's appearance of social status). Furthermore, educational efforts targeting adolescents can acknowledge the heightened focus on status that may develop in the social media context, and work with youth to develop strategies for effectively navigating this new environment. Results of this study suggest that digital status seeking has implications for adolescent adjustment and highlight the need for ongoing investigation into adolescents' social media use.

### ACKNOWLEDGMENTS

We wish to sincerely thank the project staff and research participants who made this study possible. *Disclaimer:* Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Institutes of Health or National Science Foundation.

## FUNDING

This work was supported in part by funding from the National Institutes of Health (R01-MH85505, R01-HD055342) awarded to Mitchell J. Prinstein. This work was also supported in part by the National Science Foundation Graduate Research Fellowship (DGE-1144081) awarded to Jacqueline Nesi.

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