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Are You Getting Likes as Anticipated? Untangling the Relationship between Received Likes, Social Support from Friends, and Mental Health via Expectancy Violation Theory

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ABSTRACT

There is a pressing need to understand whether using social media might be linked to mental health and if yes, how. The findings of this study (N = 475) show that individuals who received more Likes on social media posts reported more friend support. However, what matters to mental health is the level of expectancy violation of the number of received Likes. The two dimensions of expectancy violation of receiving Likes (number vs. responder) have different effects on the outcome variables. Theoretical and practical implications about how social media influences friend support and mental health for young adults are discussed.

Today, nearly half (46%) of the population on this planet use social media (Statista, 2020). While online connectedness generates social support and social capital (Cole et al., 2017; Ellison et al., 2007), problematic use of social media such as addiction can lead to mental health concerns (McDougall et al., 2016). It is urgent to understand the effects of social media use on mental health issues among adolescents and young adults. Previous research has pointed to a negative link between frequency of social media use and perceived social support and mental health (Banjanin et al., 2015; Lin et al., 2016), and recent studies found that interaction with other users on social

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media is a key determinant of one's level of anxiety and depression (Seabrook et al., 2016). These concerns have provoked public policy debates over how to hold social media giants accountable (Romo, 2021).

As an everyday social interaction mode, social media could influence how people perceive social support and mental health. Among the various ways in which users can interact with content and each other, the lightweight, one-click engagement affordance, such as the Facebook "like" or a Twitter "favorite" (hereafter Likes), has drawn scholars' attention to how users interpret the meanings of these reactions (Hayes et al., 2016b; Scissors et al., 2016). Individuals generally interpret Likes as a cue of attention and social recognition and receiving Likes signals validation and acceptance from members of one's social network (Marengo et al., 2021). Meanwhile, receiving fewer Likes produces feelings of rejection and distress when compared with the number of Likes others receive (H. Y. Lee et al., 2020).

Despite the important role of Likes as a unique feature providing social validation, there is no consensus on how receiving Likes influences perceptions of social support and mental health (Blight et al., 2015; Marengo et al., 2021; Wohn et al., 2016). The value individuals attach to Likes is contingent on several factors such as characteristics of the interactant (i.e., the person providing the Like; Wohn et al., 2016), relationship closeness (Carr et al., 2016), and personal relevance of the post (Hayes et al., 2016b). Therefore, the number of received Likes might be insufficient when explaining the effect of Likes as it fails to capture the context-specific factors mentioned above.

In this study, I turn to expectancy violation theory (Burgoon, 1978; Burgoon & Le Poire, 1993) to bring clarity to how receiving Likes on social media can influence perceived social support and mental health. According to the theory, people expect or predict certain outcomes from their interactions with others. The confirmation or violation of pre-interaction expectations causes positive or negative interactive and psychological outcomes. Therefore, the effects of receiving Likes might be contingent on an individual's anticipation of what will happen once they publish a post. When formulating these expectations, individuals will consider relational and contextual factors such as network size (French & Bazarova, 2017), which allows them to anticipate how many reactions a post *should* garner based on experience. By focusing on the extent to which this expectation is met or violated, richer, more context-dependent nuances of the effects of Likes can be achieved.

Relying on a survey of college students (N = 475) in Hong Kong, this study examines the effects of receiving social media Likes on perceived social support from friends and mental health from an expectancy violation perspective. Specifically, I distinguish two types of expectations relevant to receiving Likes: (1) expectations pertaining to the number of Likes a post should receive (Expected Number Violation, or ENV), and (2) expectations

pertaining to who provided (or did not provide) those Likes (Expected Responder Violation, or ERV). Results suggest that receiving Likes is a significant predictor of perceived friend support and mental health. More importantly, each type of expectancy violation is correlated with the outcome variables distinctively. ENV, rather than the number of received Likes itself, significantly predicts mental health as indicated by anxiety and depression.

This study seeks to contribute to the literature on social media use and mental health in two ways. First, it introduces the concept of expectancy violation to understand how lightweight responses on social media influence mental health by differentiating the expectation of the number of Likes that one will receive and the expectation of who will provide those Likes (i.e., the responder). Second, the current study does not limit the findings to any specific social media platform; instead, its goal is to investigate the general mechanism of social media effects on mental health across platforms that are popular among young adults.

Social Media, Perceived Social Support from Friends, and Mental Health

Young people are vulnerable to mental health problems such as anxiety and depression. According to a recent report by UNICEF (2021), more than 13% of people who are 10 to 19 years old suffer from mental disorders worldwide. Depression and anxiety are not only frequently recurrent but also commonly comorbid. Usually emerging around one's young adulthood, these mental disorders can harm social relationships and cause disability and death (Lin et al., 2016; Primack et al., 2017).

The effects of social media use on mental health, especially among young adults, have sparked abundant scholarly interest and public attention (see, Meier & Reinecke, 2021 for a review). However, the results of these studies have been equivocal (Seabrook et al., 2016). On the one hand, time spent on social media (Lin et al., 2016; McDougall et al., 2016), emotional involvement (Błachnio et al., 2015), and the number of platforms used (Primack et al., 2017) have been found to be inversely associated with mental health. Other studies have found null effects of screen time and network size on mental health (Banjanin et al., 2015) including a longitudinal study with five waves (Schemer et al., 2021). On the other hand, it is also possible that social connectedness and social support through social media alleviate levels of anxiety and depression (Seabrook et al., 2016).

One benefit of social media use is social support, which buffers the effects of mental distress and depression on well-being (Taylor, 2011). Perceived social support is the extent to which an individual feels that their needs for

emotional, informational, and feedback support are met (Procidano & Heller, 1983). Communication practices on social media allow individuals to establish and maintain relationships and gain access to critical resources like social support through those relationships (Ellison et al., 2007, 2014). For people with low self-esteem, social media networks provide even more resources and support (Steinfield et al., 2008).

Young adults can gain social support from different sources such as family members and friends. While they may turn to parents for support on important issues in their life, they gain more support, especially emotional support, from friends in interpersonal relationships (Bokhorst et al., 2010; Youniss & Smollar, 1985). The protection of mental health by friend support among young adults has been widely documented: friend support effectively reduced distress and depression levels (Mak et al., 2021). One study even found that friend support, rather than family support, decreased the suicide attempt risk among homeless youth (Fulginiti et al., 2019). In this study, I focused on the effects of online interaction on social media on offline social support from friends.

The results of studies examining the relationship between social media use and perceived social support have also been mixed. For those who had a low level of in-person social support, spending more time on social media brought increased social support from friends (Cole et al., 2017). Those who disclosed their identities and negative emotions on social media tended to get more support. For instance, depressed adolescents sought social support through consuming entertainment content and connecting with other depressed peers. (K.-T. Lee et al., 2013; Park et al., 2016). Online network size and social media use did not contribute to how supportive one perceived their social network to be (Lönnqvist & Große Deters, 2016; McDougall et al., 2016).

A recent meta-review (Meier & Reinecke, 2021) posited that these mixed findings are the result of different conceptual approaches (channel-centered vs. communication-centered) and operational approaches (technology-centered vs. user-centered). For example, the channel-centered approach treated social media use as a black box while ignoring the communication mechanism. Therefore, a single item about frequency of use (Cole et al., 2017) was often adopted. The communication-centered approach, on the other hand, examined social media use based on whether the interaction and disclosure are positive or negative (Park et al., 2016; Seabrook et al., 2016). At the operational level, focusing on the objective measures of usage (e.g., time and intensity) can neglect the different affordances of various social media platforms (Hayes et al., 2016a). A user-centered approach will ask how users perceptually process social media communication. Following the call of Meier and Reinecke (2021), this study approaches social media use via the common

communication features across platforms and focuses on how users perceive the interactions, two often neglected analytical levels in the previous research.

Getting Likes as Social Approval

Recent studies of the effects of social media on mental health and friend support have turned to the investigation of lightweight communication, or paralinguistic digital affordances (PDAs). PDAs refer to online cues to facilitate communication that only needs a single click (e.g., likes, favorites, upvotes) to convey meanings, without specific language associated with the messages (Hayes et al., 2016b). PDAs, such as Likes, are one of the rare common features of many social media platforms and, thus, a focal point for cross-platform analysis (Hayes et al., 2016a). Given that traditional nonverbal cues that convey attention (e.g., facial expressions, body language) are unavailable on social media, a Like is generally perceived as a cue for inclusion, confirmation, and approval of the posted content (Hayes et al., 2016a). Social media users may judge their value and self-esteem on the basis of received Likes from others (Marengo et al., 2021). Therefore, Likes are important symbols in a reciprocal relationship (Sumner et al., 2018).

Receiving Likes is often associated with emotional and social gratifications on social media (Hayes et al., 2016a). Given that Like counts are visible to everyone in a user's social media network, the number of Likes could be used for social comparison as a metric of one's social status (Carr et al., 2016). Studies have shown that people feel pressure to get more Likes (Sherman et al., 2016) and feel dispirited if they do not receive "enough" Likes (Scissors et al., 2016). On Facebook, teenagers even deleted posts with too few Likes to maintain their social status (Madden et al., 2013).

Experimental studies provided causal links between getting fewer Likes than others and feelings of rejection and negative self-referent cognition (H. Y. Lee et al., 2020; Poon & Jiang, 2020). More relevant to the current study, Marengo et al. (2021) found that the number of received Likes was positively linked to happiness, while Wohn et al. (2016) showed that receiving Likes significantly enhanced perceived social support from friends. Based on the previous discussion, it is reasonable to assume that the number of received Likes matters:

H1: The number of received Likes is associated with a higher level of perceived social support from friends (H1a) and mental health (H1b).

More than Just Numbers: Dual Dimension of Expectancy Violation of Receiving Likes

Some studies suggest that the effect of receiving Likes on users' psychological outcomes might be conditional on a series of individual and relational factors. Those who are more sensitive about others' opinions perceive higher friend support from Likes (Wohn et al., 2016). As for relational closeness, Likes from close ties offer more social support (Sumner et al., 2020, 2018). These findings help explain why the relationship between the number of received Likes and perceived support is sometimes absent (Blight et al., 2015).

I argue that how individuals evaluate the reception of Likes is more sophisticated than simply comparing the number of Likes with others. First, the meaning of a Like is a function of the dyadic relationship between the Like provider and receiver. While Likes are generally perceived positively, individuals can still distinguish an ironic use of Like from genuine approval from certain users (Hayes et al., 2016b; Scissors et al., 2016). Second, the effect of Likes is also contingent on the posted content, which varies according to personal relevance. For example, a post sharing a news article might be less personally relevant and involve less emotion than a post of selfies at a graduation ceremony. The feedback of the latter post should exert more emotional impact (Błachnio et al., 2015). To sum, individuals might not necessarily feel rejected or disapproved of when receiving fewer Likes than others under certain circumstances.

Expectancy violation theory (Burgoon, 1978; Burgoon & Le Poire, 1993) offers an appropriate theoretical framework for these contingencies. The theory explains that an individual's evaluation of an interpersonal interaction relies on their expectations for the interaction based on the communicator, relational, and contextual factors. Communication outcomes thus depend on to what extent one's expectation is fulfilled or violated (Burgoon, 1978; Burgoon & Le Poire, 1993). As in face-to-face communication, individuals hold various expectations about responses from social media interactions based on posted content and the "imagined audience" (French & Bazarova, 2017). Once expectations for how people will respond to a post have been formed (e.g., expectations of who will provide Likes and how many Likes the post will receive), the violation of such expectations may lead to negative perceptions of the social media interaction.

In a focus group study, Hayes et al. (2018) showed that participants only felt excluded when they did not receive Likes from those they anticipated would respond. Grinberg et al., (2017) showed that Facebook users who had their expectations on feedback fulfilled tended to report higher levels of

connectedness. However, they did not distinguish Likes from comments when measuring expectation fulfillment. In the only study that specifically examined expectancy violations of received Likes (Carr et al., 2018), the results suggested that ENV was unrelated to the level of engagement that one perceives a successful post should receive, lending credibility to the idea that expectancy violations are context-dependent. It remains a puzzle, however, whether expectancy violations regarding post-engagement would influence higher-stakes outcomes such as social support from friends and mental health.

This study focuses on the relationship between received Likes, from a perspective of expectancy violation, and perceived friend support and mental health. Although previous studies (French & Bazarova, 2017; Hayes et al., 2016a) have emphasized the role of expectancy violation in social media communication outcomes, its effect has yet to be empirically examined. Therefore, I propose the following hypothesis:

H2: The degree of ENV is negatively associated with perceived social support from friends (H2a) and mental health (H2b).

In addition, as the discussion above suggested, expectation regarding who will react to a post is also part of the calculus of how individuals evaluate post-level interactions on social media. I propose the following hypothesis focusing on the expectation of the dimension of responders:

H3: The degree of ERV is negatively associated with perceived friend support (H3a) and mental health (H3b).

Lastly, the previous hypotheses test whether the actual number of received Likes and the expectation of how many Likes a post should receive are associated with perceived friend support and mental health. However, each variable points to a distinctive mechanism (social comparison and expectancy violation, respectively). A more nuanced understanding of how these different mechanisms compete or complement one another in their impact on mental health and friend support would be gained when they are modeled in combination with one another. Therefore, I ask the following question:

RQ1: Will the effects of the expectancy violation of receiving Likes (both ENV and ERV) hold in predicting friend support (RQ1a) and mental health (RQ1b) if the number of received Likes is accounted for?

Method

Data

Data for this study were collected by the researcher via a survey conducted in March 2018. Participants were asked to check their latest social media posts to recall their then-expectations of receiving Likes and to report the actual Likes they received. To reduce the possible technical burden of having to switch between an online survey and the social media applications on their mobile phones or laptops, a paper questionnaire was used. In addition, as the survey was distributed in person during a class break, a paper questionnaire ensures that participants could have access to the survey without having to bring a mobile phone or laptop to the class. See Supplemental Materials for the sampling details.

Measurement

Dependent Variables

Mental Health. Measures of mental health included anxiety and depression, which were measured using eight questions from the Patient-Reported Outcomes Measurement Information System (PROMIS; (Cella et al., 2010). The PROMIS anxiety and depression scales have been correlated and validated with other commonly used mental health measurements. Respondents were asked to use a 5-point Likert scale (1 = always, 2 = often, 3 = sometimes, 4 = rarely, 5 = never) to rate items such as "I am always worried too much," "I feel like I am a loser," and "I am unhappy." The responses were first reverse coded and then averaged to create a scale of mental health (M = 3.06, SD = .73, Cronbach's α = .91).

Perceived Friend Support. Questions were adapted from Procidano and Heller's (1983) validated scale measuring perceived social support from family and friends. I used four items of the subscale measuring social support from friends: (a) "My friends really try to help me"; (b) "I can count on my friends when things go wrong"; (c) "I have friends with whom I can share my joys and sorrows"; and (d) "I can talk about my problems with my friends." The items measure two dimensions of perceived social support: emotional and instrumental support. Likes, as a lightweight cue for social approval and confirmation, should provide emotional and instrumental support rather than informational support. Respondents were asked to rate a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) to indicate to what extent they agree with the four statements. Responses were averaged to measure perceived social support (M = 4.03, SD = .70, Cronbach's α = .88).

Independent Variables

Number of Received Likes. Respondents reported the number of Likes they received for the latest three posts on their most frequently used social media platform they had indicated earlier in the survey. Four respondents reported that they had received more than 5,000 Likes on at least one of the three latest posts on Facebook. These four observations were removed from the dataset as the self-reported number of received Likes exceeded the maximum number one can receive on Facebook. The numbers of received Likes on the three posts were then averaged (M = 71.38, SD = 64.64). Figure S1 shows the standard deviation of the number of received Likes across the three posts for each participant. The power-law distribution suggests that most of the participants received a similar number of Likes across the three posts.

Expected Number Violation (ENV). Respondents also reported how many Likes they expected to receive for each of the latest three posts on their most frequently used social media platform using a measure similar to that used by Grinberg et al. (2017). The power-law distribution suggests that most of the participants expected a similar number of Likes across the three posts as shown in Figure S1. Following Carr et al. (2018), I calculated the difference between the expected and actual number of received Likes on each post so that a positive value would suggest that the expectation was violated while a negative value would suggest that the expectation was met or exceeded. The differences for the three posts were averaged (M = −10.97, SD = 30.00) to measure the level of expectancy violation of the number of received Likes. As participants were asked to recall their expectations before they made the posts, it is possible that they would underestimate their expectations due to social desirability. Therefore, I plot the distribution of the variable in Figure S2 and found that the distribution is generally symmetrical about the zero value, with slightly more participants reporting that the posts did not meet their expectations. The plot suggests that there is no systematic measurement error pattern for this variable.

Expected Responder Violation (ERV). This variable focuses on the expectancy violation of the responders who gave the Likes to the posts on their most frequently used social media platform. The participants were asked to report to what extent the people who Liked the posts met their expectations on a 5-point Likert scale (1 = strongly agree to 5 = strongly disagree): "People who Liked my post match my expectation (i.e., overall, who will Like this and who will not Like this post)." The responses for the three posts were averaged (M = 2.29, SD = .66, Cronbach's α = .86) so that higher values indicate more violation of this level of expectancy of receiving Likes.

Controls

Demographic characteristics such as age M = 19.8, SD = 1.55), gender (male = 32.4%),[1] and social class (M = 2.64, SD = .93; 1 = lower class, 5 = upper class) were measured. Respondents were asked to rate their social class based on their family income given the fact that many of the students may not know the specific range of the household income.

Social media-related variables that are known to be correlated with perceived social support and mental health (Błachnio et al., 2015; Cole et al., 2017; Lin et al., 2016; Primack et al., 2017; Seabrook et al., 2016) were also included as controls. Further, Facebook dominated as the social platform being examined in prior studies (Meng et al., 2017; Seabrook et al., 2016). The inclusion of multiple social media platforms helps researchers to reach more generalizable conclusions (Hayes et al., 2016a). Specifically, I asked respondents to report their most frequently used social media platform, time spent on social media, network size, and personal relevance of social media. See the Supplemental Materials for the exact wordings and descriptive analysis of these control variables.

Data Analysis

First, I conducted a zero-order correlation analysis for all analytical variables to probe the bivariate relationship. Then, to test the proposed hypotheses and to answer the research question, I performed a series of Ordinary Least Squares (OLS) regression models. To test H1, I regressed the two outcome variables on the number of received Likes while adjusting for covariates about social media use and demographics (Table 1 Model 1 and Model 4). For the model predicting mental health, I also controlled for perceived friend support, a known strong predictor of mental health (Taylor, 2011). As both ENV and ERV are derived from the expectancy violation theory, I included both variables in predicting the dependent variables in Table 1 Model 2 and Model 5. To answer RQ1, I included all three independent variables in each OLS model (Table 1 Model 3 and Model 6), adjusted for the same covariates used in previous models. All continuous predictors in the OLS models are mean-centered and scaled for better interpretation.

[1]According to statistics provided by the Hong Kong University Grants Committee (UGC, 2018), in the academic year 2016–2017, 46.3% of the students enrolled in UGC-funded programs are male. The classrooms sampled have 34.05% male students, on average. See Supplemental Materials for the sampling details.

Table 1. OLS regression models of effects of expectancy violation of receiving Likes on perceived friend support and mental health.

	Friend Support			Mental Health		
Predictors	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Intercept)	−.325+	−.224	−.286	.228	.222	.224
	(.186)	(.183)	(.183)	(.179)	(.175)	(.177)
Number of received Likes	.188**		.183**	.068		−.006
	(.057)		(.067)	(.055)		(.065)
Expected responder violation (ERV)		−.240***	−.230***		.070	.070
		(.052)	(.052)		(.051)	(.051)
Expected number violation (ENV)		−.059	.020		−.131**	−.134*
		(.049)	(.056)		(.046)	(.054)
Friend support				.247***	.264***	.265***
				(.050)	(.050)	(.051)
Controls for SNSs use						
Facebook	.281	.117	.206	−.308	−.304	−.307
	(.202)	(.199)	(.200)	(.194)	(.190)	(.193)
Instagram	.252	.203	.187	−.094	−.050	−.050
	(.185)	(.184)	(.183)	(.178)	(.176)	(.176)
WeChat	.598**	.375+	.522*	.063	.103	.098
	(.214)	(.207)	(.212)	(.207)	(.198)	(.206)
SNSs usage	−.005	.025	.009	−.037	−.049	−.049
	(.057)	(.057)	(.057)	(.055)	(.055)	(.055)
SNSs relevance	.121*	.083	.077	−.170**	−.144**	−.144**
	(.055)	(.056)	(.056)	(.053)	(.054)	(.054)
Number of SNSs	.042	.054	.048	.071	.074	.074
	(.054)	(.055)	(.054)	(.052)	(.052)	(.052)
Network size	.000	.048	.006	−.030	−.023	−.022
	(.056)	(.053)	(.055)	(.054)	(.051)	(.053)
Demographics						
Age	−.082	−.080	−.073	.059	.056	.056
	(.054)	(.053)	(.053)	(.052)	(.051)	(.051)
Female	.110	.099	.126	−.126	−.141	−.142
	(.112)	(.111)	(.111)	(.108)	(.106)	(.107)
Social class	.076	.113*	.076	.092+	.094+	.095+
	(.052)	(.051)	(.052)	(.050)	(.049)	(.050)
Non-heterosexual	−.083	−.090	−.081	−.311*	−.300*	−.300*
	(.155)	(.155)	(.153)	(.148)	(.148)	(.148)
N	376	372	372	376	372	372
R^2	0.094	0.121	0.139	0.142	0.162	0.162
F-value	3.125	3.785	4.103	4.614	4.931	4.590

All continuous predictors in the OLS models are mean-centered and scaled. Standard errors are presented in parentheses.
*$p < .05$. **$p < .01$. ***$p < .001$. +$p < .10$.

Results

The zero-order correlation analysis (Table S1) shows that the number of received Likes is significantly associated with perceived friend support ($\rho = .18$, $p < .001$) and mental health ($\rho = .14$, $p < .010$). While the dimension of expected responder violation (ERV) is significantly correlated with perceived friend support ($\rho = -.23$, $p < .001$), it is not associated with mental health (ρ

= .04, $p > .050$). Level of expected number violation (ENV) is significantly related to mental health ($\rho = -.15$, $p < .010$) but not to perceived friend support ($\rho = -.06$, $p > .050$).

H1 predicts a positive relationship between the number of received Likes and perceived friend support and mental health. The results in Table 1 Model 1 show that the number of received Likes is significantly related to perceived friend support ($\beta = .19$, $p < .010$), but the results of Model 4 suggest that it is not significantly associated with mental health ($\beta = .07$, $p > .050$). The findings imply that the more Likes individuals receive on social media, the more social support they might perceive. Therefore, H1 is partially supported.

H2 and H3 state that the levels of ENV and ERV with respect to received Likes are significantly related to perceived friend support and mental health. The results in Table 1 Model 2 show that ERV is significantly related to perceived friend support ($\beta = -.24$, $p < .001$), but ENV is not predicting mental health ($\beta = -.06$, $p > .050$). Model 5 suggests that ERV is not a significant predictor of mental health ($\beta = .07$, $p > .050$), however, ENV is significantly negatively associated with mental health ($\beta = -.13$, $p < .010$). The findings illustrate different effects of expectancy violation of receiving Likes. If the expectation about the people who gave the Likes is violated, individuals might have a lower level of perceived social support from friends; if the expectation about the number of Likes is violated, individuals might have a lower level of mental health. H2 and H3 both receive partial support.

RQ1 asks about the difference between the effects of the number of received Likes and expectancy violation of receiving Likes. The results of the full models (Table 1 Model 3 and Model 6) demonstrate that the effects of the number of received Likes and expectancy violation of received Likes hold consistent with previous models even if they are simultaneously present. The number of received Likes and ERV are significant predictors of perceived friend support. For mental health, ENV is the only predictor that achieves statistical significance.

Comparing Model 1 and Model 3, adding expectancy violation variables (ENV and ERV) increases the *R*-square by 4.5% in explaining the variance of perceived friend support. For mental health (see Model 4 and Model 6), adding the two expectancy violation variables boosts the *R*-square by 2%. Figure 1 visualizes the effects of the independent variables on perceived friend support (top panel) and mental health (bottom panel).[2]

[2]I ran a post hoc analysis by replacing the average scores of the three posts as the independent variable with the last post only and found that the results remain the same.

Discussion

This study draws on an expectancy violation perspective to advance our understanding of the relationship between receiving Likes on social media posts and an individual's perception of social support from friends and mental health. Specifically, I underscore the role of two types of expectancy violations – those having to do with the number of Likes an individual expects to receive (i.e., Expected Number Violation, or ENV) and those having to do with who would provide Likes (i.e., Expected Responder Violation, or ERV). Relying on a cross-sectional survey among college students in Hong Kong, I found that when an individual's expectations of who would provide Likes on their posts were violated (i.e., ERV), they tended to perceive less friend support. Meanwhile, when their expectations about how many Likes they would receive on a post were violated (i.e., ENV), they reported lower levels of mental health. The absolute number of received Likes was only positively related to perceived friend support but not mental health. These results were robust after controlling for numerous variables measuring general social media use.

Overall, this study contributes to the literature in several ways. First, it presents empirical evidence of the relationship between receiving Likes and perceived friend support. Consistent with previous findings (Wohn et al., 2016), receiving more Likes is indeed linked to a higher level of perceived

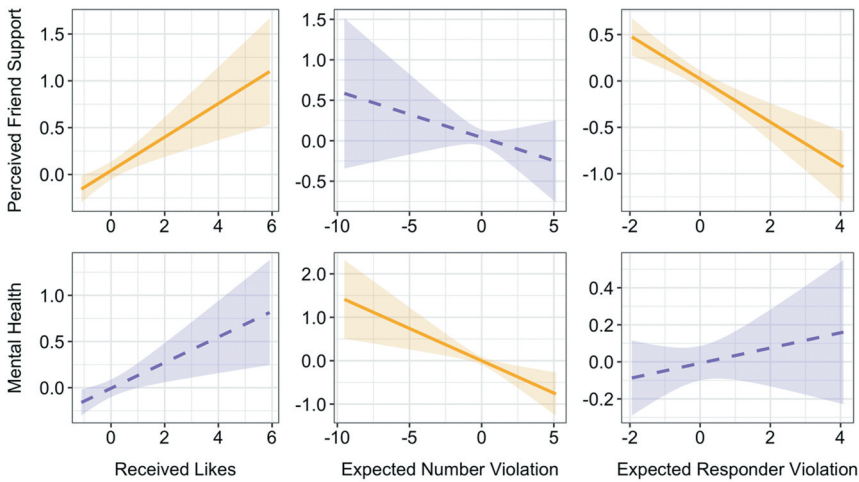

Figure 1. Effects of expectancy violation of receiving likes on perceived friend support and mental health. The interval represents a 95% confidence interval. Solid orange lines represent statistically significant predictors ($p < .05$), while dashed purple lines represent non-significant predictors ($p > .05$).

friend support. As an indicator of attention and social approval, the number of Likes received is likely to directly influence the degree to which an individual feels supported by members of their social network.

However, despite the bivariate analysis showing that received Likes is positively correlated with mental health, the effect of the number of received Likes was not statistically significant after the expected number of Likes was accounted for. This finding is particularly interesting and important because it suggests that when predicting mental health, the expectancy violation might be more explanatory than the count of received Likes. While previous experimental studies found that receiving fewer Likes led to distress, the only difference between conditions was the number of Likes (H. Y. Lee et al., 2020; Poon & Jiang, 2020). Nevertheless, when individuals evaluate social media feedback in real life, they are likely to consider their network size, how personally relevant the post is, and the features of the platform (Hayes et al., 2016b). The total number of received Likes hardly captures these context-specific factors. In contrast, young adults are typically fluent in social media and it is reasonable to assume that they are capable of adjusting their expectations of the types of responses they will receive from post to post and from platform to platform (Grinberg et al., 2017; Hayes et al., 2018). As a result, an expectancy violation perspective captures variations in how Likes are interpreted by social media users, and the results of the current study support this argument.

Second, the different aspects of expectancy violation of receiving Likes seem to have different mechanisms in influencing perceived friend support and mental health. In the current study, perceived friend support measures a specific source of social support, but mental health is a more general and long-term outcome. When formulating expectations about who would give Likes, individuals rely more on close and offline ties such as friends who are also important sources of social support and social capital (Ellison et al., 2014; Scissors et al., 2016; Steinfield et al., 2008). If expected names do not appear in the list of who has Liked a post, individuals might decide that the expected support from certain friends was not delivered. Yet, for mental health, the results suggest that the pressure to garner enough Likes (H. Y. Lee et al., 2020; Poon & Jiang, 2020) is more salient than who provides the Likes. As Likes often indicate social status and social approval, the ENV of Likes boosts the levels of social anxiety and depression due to social comparison (Carr et al., 2016; Hayes et al., 2016a; Marengo et al., 2021; Sherman et al., 2016). The differential effects of expectancy violation of receiving feedback on social media warrant future investigation to tease out the mechanisms behind such differences.

Third, the current study examined the effect of receiving Likes on different platforms. Responding to the call for including diverse platforms when studying the effects of social media use (Meng et al., 2017), participants

were asked to report the expected and received Likes of posts on their most frequently used social media platform. Among the participants, the dominance of Facebook (n = 146, 31%) was replaced by Instagram, which was the most frequently used platform by 41% (n = 193) of the sample. A considerable portion of the respondents (n = 74, 15.7%) also named WeChat, the popular Chinese social media application, as their most-used platform, and they reported significantly a higher level of perceived friend support (see, Table 1 Model 1–3). A descriptive analysis across the platforms revealed that WeChat users tended to be slightly younger, female, and non-heterosexual and reported higher levels of SNS usage, relevance, and number of SNSs but a smaller network size compared with Facebook and Instagram users (see the full analysis in Table S2). Future researchers should explore how the different affordances across platforms lead to different usage and consequences.

In short, the expectancy violation perspective (Burgoon, 1978; Burgoon & Le Poire, 1993) is a valuable theoretical framework to understand the relationship between social media use, perceived support, and mental health. While the increased statistical variances are relatively small, the findings still offer important theoretical and practical implications. First, the current study only examines how individuals' expectations about receiving Likes were met or violated, a very specific feature across platforms. The significant results open up a promising research path to ask what will happen if users' expectations are violated with regard to receiving comments and retweets (or shares) and other configurations and directionality of interaction as outlined in a recent meta-review (Meier & Reinecke, 2021). Second, clinic counselors might intervene by introducing skills of expectation management when using social media to help adolescents and youth with mental health concerns.

Results showed that approximately 6.5% of the participants reported that they expected no Likes for all three posts. While the data cannot show the reasons behind these expectations, a post hoc analysis was conducted by comparing the average scores of the key variables between participants who expected zero Likes across three posts and the rest of the sample. As Figure 2 shows, the difference in received Likes between participants who expected zero Likes and some Likes was indeed significant, which suggested that people's expectations about Likes were largely consistent with the actual numbers. Another significant difference occurred in perceived friend support such that people who did not expect any Likes reported lower friend support. It is possible that some people expect no reaction because they indeed lack friend support both online and offline. However, it is also plausible that the low expectations, together with the confirmation that

they received fewer reactions, lead to a lower level of perceived friend support. Future researchers should use a longitudinal design to probe the causal link between the two variables.

This study is not without limitations. First, the sample only includes college students in Hong Kong. Future studies may try to replicate this study in a broader population group. However, given that young adults are both heavy social media users and relatively more vulnerable to mental health issues, the findings of the current study still provide important insights into the effects of social media use on mental well-being.

Second, this study relies on cross-sectional data only. Future research may adopt a longitudinal design to make a stronger causal claim of how the expected violation of receiving Likes influences the psychological outcomes. In addition, the data were collected in 2018, so the results should be interpreted carefully as the major social media platforms update the interaction features constantly. For example, future research should explore the expectancy violation on newly added responses such as emoji reactions.

There are a few other suggestions for future researchers. The expectation was measured by asking participants to recall the moment when they made the posts. Alternative methods might be explored such as keeping a diary record to measure the expectation before publishing the posts. In addition, the specificity of the measurement of ERV can be further improved. For

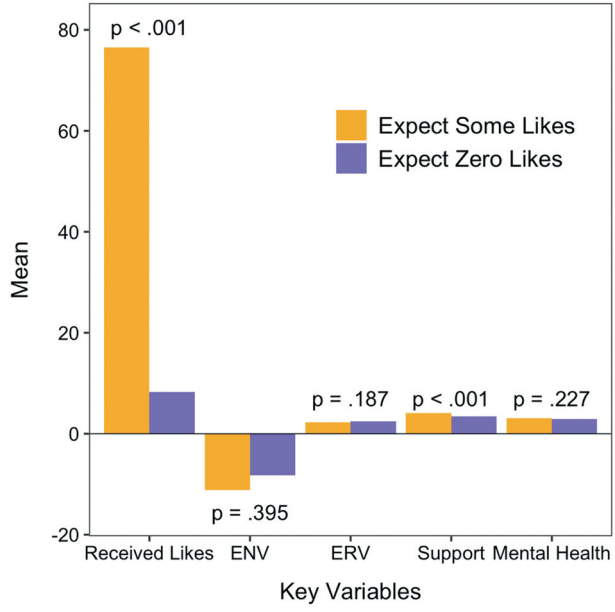

Figure 2. Comparing key variables between subjects who expected zero likes (n = 31) and some likes (n = 440) across three posts.

example, the relational role of the expected responder (e.g., family, friends, or acquaintances) could be untangled as the imagined audience on social media can be very diverse (Litt, 2012). This would not only allow for a nuanced understanding of which role types are at the center of an individual's expected responder violations, but it would also enable a more source-specific account of violations in the expected number of Likes received. Finally, another aspect of relationships that could provide a greater understanding of the expectation formation profess is reciprocity (Sumner et al., 2018). To this end, future research should be directed at trying to understand how reciprocity expectations in Liking behavior (i.e., when Person A Likes Person B's content and, therefore, expects Person B to Like their content in return), factors into an individual's expectations for social feedback and, in turn, their perceived support and mental health.

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No potential conflict of interest was reported by the author(s).

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