




# Resilience, Stress, and Emotion Regulation in College Students: A Moderated Mediation Model of TikTok Engagement

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## Abstract

This study examined associations between stress, resilience, emotion regulation (ER), and TikTok use. Data were collected from 101 undergraduate students ( $M_{\text{age}} = 20.04$ ,  $SD_{\text{age}} = 4.02$ ) at a Midwestern private university. Participants completed self-report measures of TikTok use and intensity (i.e., emotional attachment), resilience, perceived stress, and intrapersonal and interpersonal ER. Mediation and moderated mediation analyses were conducted using PROCESS macro models. Stress mediated the relationship between resilience and TikTok use but not intensity. Interpersonal ER moderated the resilience–stress link, with higher interpersonal ER amplifying the negative association between resilience and stress, which in turn was linked to lower TikTok use and intensity. Intrapersonal ER was not a significant moderator. Findings underscore the importance of stress and interpersonal ER in understanding social media use and suggest potential applications for college health and wellness interventions.

**Keywords:** *TikTok, stress, emotion regulation, resilience, mediation analysis*

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## Introduction

Although social media features prominently in the lives of adolescents and young adults, shifts have occurred in terms of which social media apps they frequent. TikTok is now one of the most widely used social media platforms. The majority-67% of U.S. adults and 82% of college students reporting use, with roughly two-thirds of college users engaging “frequently” or “somewhat frequently” (Appleby, 2023; Vogels et al., 2022). Despite substantial research on social media and well-being, far fewer studies have examined TikTok specifically.

We must distinguish TikTok from other platforms to gain a comprehensive understanding of its unique affordances, such as short-form media and algorithmic “For You” page content—and its potential impact on individual users. Prior research demonstrated the value of platform-specific approaches, as Facebook and Instagram have shown distinct motivational profiles (Alhabash et al., 2012; Lee et al., 2015). When surveying TikTok users specifically, Jung et al. (2025) found that information seeking and time killing were the two most common motivating factors for its use, providing initial evidence while also highlighting the need to understand the outcomes associated with its extended use.

Recent evidence suggested that high-frequency TikTok users experience poorer mental health, lower life satisfaction, worse academic performance, and higher academic stress when compared to lower-frequency users (Chao et al., 2023). This finding, along with results from similar studies (Ramsden & Talbot, 2025; Rogowska & Cincio, 2024) indicated TikTok’s association with stress. However, the potential protective factors associated with lower stress levels and TikTok consumption are unclear. Specifically, individuals’ ability or resources to cope with stress, emotion regulation (ER), and resilience have not been considered. Investigating these mechanisms in a college student sample is essential, given this demographic’s high engagement with the app.

Experiencing stressful life events is a natural occurrence and is largely unavoidable. Exposure to stress without the resources necessary to manage the corresponding cognitive and emotional reactions can lead to negative health outcomes, such as depression and addiction (Demirtepe-Saygili, 2020; Lewis et al., 2018; Sabik et al., 2020). ER skills play a crucial role in stress management; healthy ER skills reduce stress, while poor ER skills exacerbate it. This relationship has been observed not only through self-reported stress but also through biological markers of stress (Lewis et al., 2018).

According to Lazarus and Folkman’s (1984) Transactional Model of Stress, psychological mechanisms, such as resilience and ER, influence how individuals appraise and respond to stressful situations by functioning as coping resources. Because coping resources vary across individuals, those with fewer resources (e.g., lower resilience or ER difficulties) may be more susceptible to less favorable behavioral outcomes. One such outcome linked to stress is increased digital media engagement, with TikTok use (TU) and intensity (TI) being examined here as potential indicators of negative health.

The present study examines whether emotional competence functions as a protective factor associated with lower stress levels and TikTok consumption. In this context, emotional competence includes trait-based resilience and strategy-type ER. The proposed model draws from a dispositional view of resilience as a relatively stable personal resource, which is supported by prior research, suggesting that resilience shapes stress responses and coping behaviors (Smith et al., 2008). ER is viewed as a strategy-type moderator of this pathway, influencing how individuals engage with social media under stress. The following review of stress, social media outcomes, and emotional competence provides the theoretical foundation for the study, followed by a description of the methods, results, and implications for future research.

## Stress and Social Media

Stress and social media have a complicated relationship. In essence, social media is merely another form of communication, providing a unique social setting with equally unique “challenges and opportunities” that may be beneficially evaluated as a “source of stress ... and a coping mechanism” (Demirtepe-Saygili, 2020, p. 242). Similar to the forms of communication mentioned in Lazarus and Folkman’s (1984) classic Transactional Model of Stress (familial, friendship, or community support structures), social media can function as a healthy coping mechanism to provide and receive social support.

Social media can also act as a stressor, causing or amplifying symptoms of anxiety, depression, or addiction (Demirtepe-Saygili, 2020; Wolfers & Utz, 2022). Social media as a stressor includes triggering approval anxiety from a diverse audience group, triggering fear of missing out, exposure to threatening misinformation, openness to stress, connection overload, online vigilance, exposure to others’ negative posts leading to negative emotions, and triggering the social comparison process (Demirtepe-Saygili, 2020; Wolfers & Utz, 2022). According to this model, stress is induced upon an individual when the demands placed upon them exceed the amount of resources available to them (Lazarus & Folkman, 1984). In the current study, resilience and ER strategies represent the available resources (Lazarus & Folkman, 1984), as effectively handling stress requires a sufficient amount of resources. The breaking point at which the amount of stress exceeds a person’s resilience and their regulation resources is where one would be labeled “under stress.”

This study examines the relationship between stress and social media. It is informed by the perspective of the “stress-triggers-social-media-use-hypothesis” of Wolfers and Utz (2022, p. 3). The perspective assumes that while under stress, individuals evaluate the situation and seek available coping tools, such as social media. And while there is debate on whether social media use is a stressor, coping mechanism, resource buffer, or some combination of the three, ample evidence points to stress being a trigger for social media use (Wolfers & Utz, 2022; Zhao & Zhou, 2021). That said, the literature on the efficacy of the medium as a coping mechanism is largely contradictory and undetermined (Demirtepe-Saygili, 2020; Lazard et al., 2021; van Ingen et al., 2016; Wolfers & Utz, 2022).

Zhao and Zhou (2021) found that increased social media usage, due to feelings of stress, leads to a self-reinforcing flow state, which leads to addictive social media use. According to their research, the mere use of social media—no matter the purpose—can ultimately lead to addiction (Zhao & Zhou, 2021). To decrease the likelihood of an overconsumption of social media, more meaningful resources must be made available to users.

## The Role of Resilience

Resilience is a multifaceted concept that varies depending on the situation currently being examined. Typically, resilience involves two key components, adversity and adaptation (Nie et al., 2022), existing in a cause-and-effect relationship. In this relationship, the individual’s capacity to respond to negative life events, such as trauma or stress, may be assessed based on the effectiveness of their adaptation (Hu et al., 2023). Resilience has commonly been viewed as a protective factor from the development of negative behaviors that could lead to longer-lasting conditions, such as depression or addiction (Nie et al., 2022; Sabik et al., 2020; Žmavc et al., 2022).

Those who rate higher in resilience reported lower levels of technology addiction (Zhao et al., 2022), internet addiction (Mak et al., 2018), and social media addiction (Yam et al., 2024; Žmavc et al., 2022). Although prior research examined resilience in relation to technology and social media use more generally, its potential function as a protective factor in the context of TU specifically remains underexplored. This study seeks to investigate how stress is associated with this relationship, utilizing the Brief Resilience Scale (Smith et al., 2008), as this particular scale assesses stress as the adversity component.

## The Role of Emotion Regulation

Individuals frequently encounter challenges or stressful situations that elicit emotional responses. The process involved in one's ability to monitor, evaluate, or modulate the trajectory (or duration) of their emotional states, in response to environmental influences, is known as ER (Andrés et al., 2017; Larsen & Prizmic, 2004; Niven et al., 2011). Healthy functionality regarding the ability to properly regulate emotional states has largely been explored, especially with children and adolescents (Compas et al., 2017).

One major concern is the negative impact that excessive social media use could have on a person's emotional well-being. Many college students mentioned using TikTok as a means of distraction from negative emotions. In turn, however, this form of procrastination led to spending an excessive amount of time on the app, resulting in even more stress and negative emotional outcomes than before (Ramsden & Talbot, 2025; Rogowska & Cincio, 2024). Effort in regulating emotional or affective states is important because of its subsequent influence on how individuals cope with lingering affective states, such as excessive TU (Larsen & Prizmic, 2004).

Previous work on ER focused solely on the "self," specifically how one intrinsically regulates their emotions. There are several ways to regulate emotions with a focus on decreasing negatively valenced emotions, including "situation selection, situation modification, attentional deployment, response modulation, and cognitive change" (Naragon-Gainey et al., 2017, p. 386). Each of these strategies has subtypes with varying degrees of effectiveness in regulating negative emotions (Naragon-Gainey et al., 2017; Webb et al., 2012). However, these strategies are limited in the sense that they do not fully utilize the emotion regulating power of social situations.

Most people undergoing stress or bad life experiences who wish to regulate these emotions do not go about it alone; they often turn to others for help or are the ones being asked for help (Zaki & Williams, 2013). While it is imperative to study how a person regulates their emotions, it is equally important to measure how individuals regulate the emotions of others around them (Niven et al., 2011).

Regulating the emotions of others relates to the construct of the interpersonal stress that students commonly experience while adjusting to social college life, particularly in their interactions with roommates, romantic partners, and social media (Coiro et al., 2017). The current study, therefore, will measure not only intrinsic (intrapersonal) ER but also extrinsic (interpersonal) ER.

## The Present Study

Based on the existing literature, the present study examined the effects of stress on TikTok consumption—both use and intensity (i.e., degree of emotional engagement with the platform)—while evaluating the potential protective roles of resilience and regulation (intrapersonal and interpersonal ER) among college students. Accordingly, we proposed the following hypotheses:

1. We hypothesized that students' stress would mediate the relationship between their resilience and general TikTok consumption, including use (TU) and intensity (TI).
  - a. We hypothesized a negative relationship between resilience and stress and a positive relationship between stress and TU.
  - b. We hypothesized a negative relationship between resilience and stress and a positive relationship between stress and TI.

2. We hypothesized that students' interpersonal and intrapersonal ER would significantly moderate the first stage of the indirect relationship—that is, the pathway from resilience to perceived stress—leading to TikTok consumption.
  - a. We hypothesized that higher levels of interpersonal ER would be associated with a stronger negative relationship between resilience and stress, which in turn is positively associated with TU.
  - b. We hypothesized that higher levels of interpersonal ER would lead to a stronger negative relationship between resilience and stress, which in turn is positively associated with TI.
  - c. We hypothesized that higher levels of intrapersonal ER would lead to a stronger negative relationship between resilience and stress, which in turn is positively associated with TU.
  - d. We hypothesized that higher levels of intrapersonal ER would lead to a stronger negative relationship between resilience and stress, which in turn is positively associated with TI.

## Methods

### Participants and Procedures

To conduct the mediation and moderated mediation analyses, we used a cross-sectional design with convenience sampling to capture self-reported data from a sample of college students at a midwestern private university. Data was collected through a Qualtrics survey administered through the SONA system. More specifically, undergraduates at the university had the opportunity to participate in the study by completing an online survey for a small amount of course credit. This is standard for all studies listed in the SONA system for students; it is not a study-specific reward given to potential participants. This was an anonymous survey that was completely voluntary.

A total of 108 students participated in the study by completing the survey between the timeframe of February 2024 and June 2024. A large majority of the sample were females (76%) with an already-active TikTok account (91.5%). The ethnic composition of the sample included 69.4% of participants identifying as European American, European, or White, with the number of participants ( $n = 75$ ); 19.4% identifying as African American or Black ( $n = 21$ ); 6.5% identifying as Latina/o/x American, Hispanic, or Spanish origin ( $n = 7$ ); 1.9% identifying as Asian ( $n = 2$ ); and 0.9% identifying as American Indian, Native American, or Alaskan Native ( $n = 1$ ). Two participants chose not to disclose their ethnicity ( $n = 2$ ). Seven responses were removed during data cleaning due to incompleteness or duplication. The final sample comprised 101 participants, with mean age ( $M_{\text{age}} = 20.04$  and standard deviation ( $SD_{\text{age}} = 4.02$ ).

## Measures

### TikTok Intensity Scale

The current measure is a 7-item self-report scale adapted from a previous study that examined Facebook intensity in college students (Ellison et al., 2007). This scale was developed to examine both the behavioral aspect—specifically how engaged the participants were on the social media app (TU)—and the psychological aspect, which pertains to how emotionally attached they were to the app (TI).

TU was determined by asking the participant to go into their settings on the TikTok app and to indicate how many hours and minutes they spent on TikTok in the previous week, ensuring a full week was captured. The remaining six questions were designed to gauge the attitudes with which the students held an emotional connection to the app. These questions were measured on a 5-point scale, including the values 1 (*strongly disagree*), 2 (*disagree*), 3 (*neutral*), 4 (*agree*), and 5 (*strongly agree*). Scores are summed to yield a total ranging from 6 to 30, with higher scores indicating greater emotional engagement or intensity.

The TI subscale revealed a high reliability score (Cronbach's alpha ( $\alpha$ ) = 0.83). To evaluate the construct validity of the adapted TI scale, we also conducted a confirmatory factor analysis. The one-factor model demonstrated acceptable fit to the data, with chi square [ $\chi^2(9)$ ] = 16.78,  $p$  = .05, comparative fit index = .96, Tucker-Lewis index = .93, root mean square error of approximation = .10 (90% CI [.01, .17]), standardized root mean square residual = .05. All items loaded significantly on the latent factor (standardized loadings ranged from .49 to .82), supporting the use of a single TI score in subsequent analyses.

### **Brief Resilience Scale**

The purpose of the brief resilience scale (BRS) is to assess one's ability to regain and recover from stressful life situations. This is a 6-item scale rated from *strongly disagree* to *strongly agree*. An example item is "It is hard for me to snap back when something bad happens?" The authors of this scale first tested the psychometric properties of the scale in a college sample of undergraduates and found strong reliability (Smith et al., 2008). The Cronbach's alpha for the current study was 0.80.

### **Emotion Regulation of Others and Self**

The Emotion Regulation of Others and Self (EROS), a 19-item questionnaire developed by Niven et al. (2011), measures different types of affect regulation and aids in exploring the relationships between affect regulation strategies. EROS has practical value, as choices in affect regulation impact well-being, performance, and relationships across various contexts.

The questionnaire includes two subscales that distinguish between intrapersonal and interpersonal ER. Questions are rated on a 5-point Likert-type scale from *not at all* to *a great amount*. The instructions for the scale asked individuals to report the extent to which they had used the strategies over the past 4 weeks to try to change their own feelings (intrinsic items) or someone else's feelings (extrinsic items). Both the overall EROS scale and the intrinsic subscale demonstrated acceptable reliability, with Cronbach's  $\alpha$  scores of 0.74 and 0.71, respectively.

The reliability score was lower for the extrinsic subscale but improved after removing the item "I explained to someone how they had hurt me or others" (Cronbach's  $\alpha$  = 0.67). This decision was made in consultation with the study's faculty mentor prior to analysis based on both conceptual and statistical considerations. Compared to the other items, this statement could be confusing to understand and may hold more of a negative emotional connotation.

### **Brief Perceived Stress Scale**

The Brief Perceived Stress Scale is a shorter version of a more well-established stress measure first developed by Cohen et al. (1983). There are only four items that gauge the general stress levels in someone's life within the past month. Questions are rated on a 5-point Likert-type scale from *never* to *very often*. An example item is "In the last month, how often have you felt that you were unable to control the important things in your life?" The Cronbach's alpha for the current study was 0.74.

## **Results**

### **Descriptive Statistics**

Table 1 shows the sample sizes, means, standard deviations, kurtosis, minimum, and maximum values of stress, resilience, interpersonal and intrapersonal ER, and TU and TI. For TU, participants reported 6:04 hours on average, with scores ranging from 0 to 34:50 hours. TI scores were calculated as the total across six Likert-scale items, with a possible range of 6–30 ( $M = 16.93$ ,  $SD = 4.88$ ; observed range = 6–28).

Mean item scores indicated moderate levels of perceived stress ( $M = 1.79$ , range = 0–4), interpersonal ER ( $M = 3.41$ , range = 1–5), and resilience ( $M = 3.25$ , range = 1–5), while intrapersonal ER was relatively higher ( $M = 4.25$ , range = 1–5). All variables except TU were approximately normal in distribution, with the skewness and kurtosis falling between -1 and +1. TU was positively skewed, with most scores falling in the lower range, and was more peaked than a normal distribution.

**Table 1.** Descriptive Statistics of Variables

Variables	<i>N</i>	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	Min.	Max.
Stress	104	7.14	2.79	-0.03	-0.21	0.00	14.00
Resilience	104	19.47	4.66	-0.50	0.20	6.00	29.00
Interpersonal emotion regulation	101	34.09	4.14	-0.92	0.85	18.00	38.00
Intrapersonal emotion regulation	96	34.09	5.52	-0.3	-0.29	20.00	44.00
TikTok use	105	6:04	6.72	1.75	3.24	0:00	34:00
TikTok intensity	94	16.93	4.88	-0.15	0.05	6.00	28.00

*Note.* Mean item scores were used in some analyses for interpretability, while total scores are presented in the descriptive table.

Intercorrelations of the key variables can be found in Table 2, with results indicating that participants' TU and TI were both positively related to their stress; resilience was negatively associated with TI but not TU. While stress was significantly associated with both interpersonal and intrapersonal ER, neither ER types were significantly associated with TU or TI.

**Table 2.** Correlation Matrix of Variables

Variables	Resilience	Interpersonal ER	Intrapersonal ER	TikTok use	TikTok intensity
Stress	-0.42**	-0.03	-0.48**	0.33**	0.26*
Resilience		0.02	0.18	-0.17	-0.26*
Interpersonal ER			0.31**	0.13	0.09

Intrapersonal ER	-0.14	0.03
TikTok use		0.25*

Note: \*\* Correlation is significant at the 0.01 level (2-tailed); \* Correlation is significant at the 0.05 level (2-tailed).

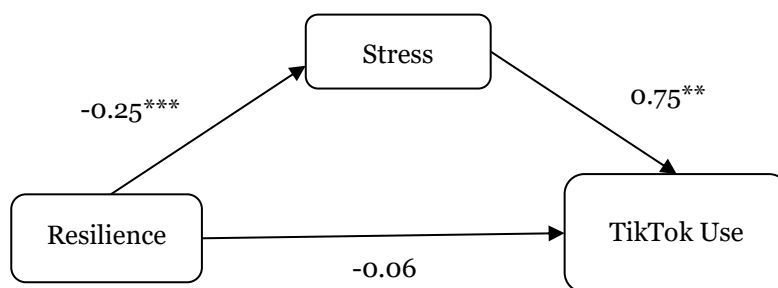
## Mediation

The mediation analysis, using 5,000 bootstrapped samples based on PROCESS macro-Model 4 (Hayes, 2022a), was conducted to test two mediating models: (1a) mediating effect of stress on the relationship between resilience and TU, as depicted in Figure 1a, and (1b) mediating effect of stress on the relationship between resilience and TI, as depicted in Figure 1b.

Hypothesis 1a was supported by the results, as shown in Figure 1a, indicating that participants' stress levels fully mediated the relationship between their resilience and overall TU (indirect effect = -0.19, 95% CI [-0.37, -0.06]). Resilience was negatively associated with stress levels ( $\beta = -0.25$ ,  $SE = 0.05$ ,  $p < .0001$ ), which was then positively associated with TU ( $\beta = 0.75$ ,  $SE = 0.25$ ,  $p = 0.004$ ). Resilience had no significant direct effects on overall TU ( $\beta = -0.06$ ,  $SE = 0.15$ ,  $p = .69$ ). This model significantly predicted TU,  $F(2, 101) = 6.08$ ,  $p < .01$ ,  $R^2 = 0.12$ .

Stress levels did not mediate the relationship between participants' resilience and TI (indirect effect = -0.08, 95% CI [-0.21, 0.02]), as shown in Figure 1b, meaning hypothesis 1b was not supported. While resilience was negatively associated with stress levels ( $\beta = -0.24$ ,  $SE = 0.06$ ,  $p < 0.001$ ), stress did not have a significant association with TI ( $\beta = 0.33$ ,  $SE = 0.19$ ,  $p = 0.09$ ). Resilience had no significant direct effects on TI ( $\beta = -0.19$ ,  $SE = .12$ ,  $p = .09$ ). This model did not significantly predict TI,  $F(2, 91) = 4.76$ ,  $p = 0.01$ ,  $R^2 = 0.09$ . Although they are related variables, these results suggest there is a difference in the mere usage of social media and the level/intensity of how it is used.

**Figure 1a. and 1b.** Pathway Graph of Mediation Models



**1a.** Mediating effect of stress on the relationship between resilience and TU

**1b.** Mediating effect of stress on the relationship between resilience and TI

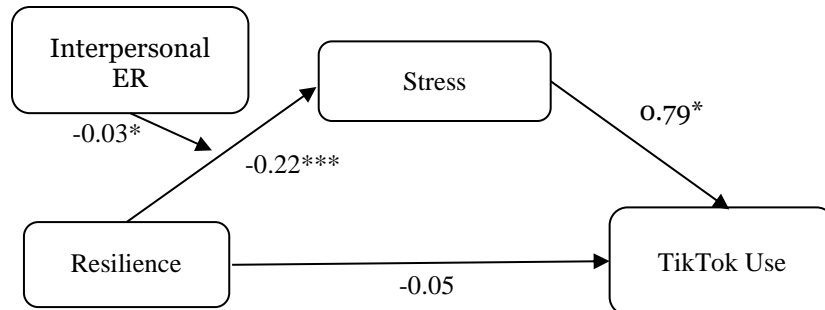
Note: \* $p < .05$ ; \*\* $p < .01$ , \*\*\* $p < .001$

## Moderated Mediation

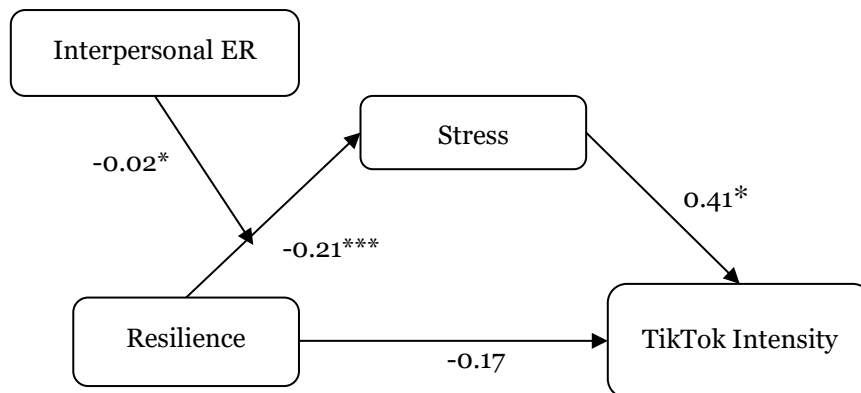
With the significant mediation effect between resilience and TU, we conducted a first-stage moderated mediation analysis using 5,000 bootstrapped samples, based on PROCESS macro-model 7 (Hayes, 2022a)

using ER abilities as the moderator between resilience and stress. We tested four models considering the two types of ER and two types of outcomes, as shown in Figure 2.

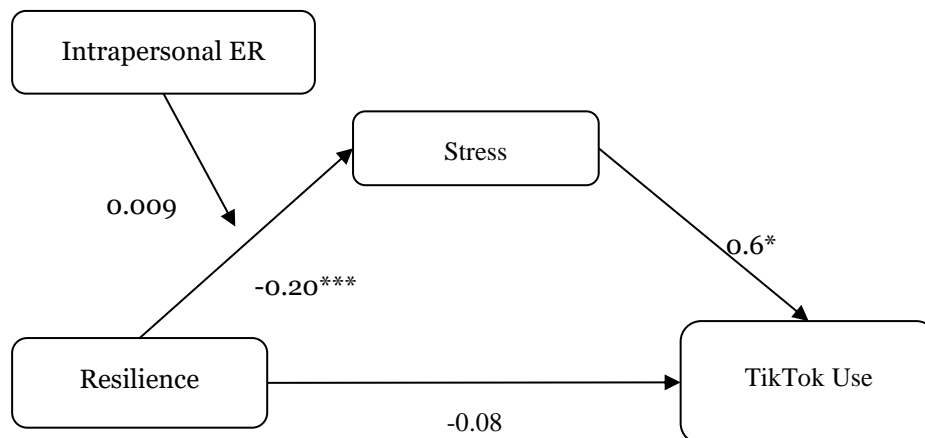
**Figure 2.** Pathway Graph of Moderated Mediation Models



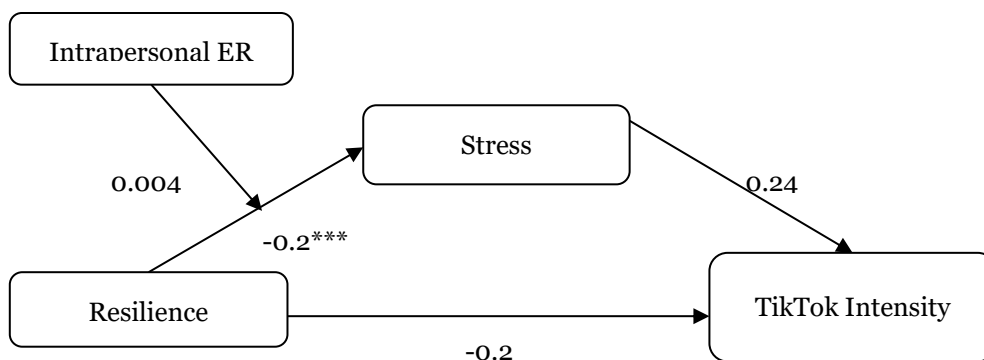
**2a.** Moderated mediation of interpersonal ER between resilience and TU



**2b.** Moderated mediation of interpersonal ER between resilience and TI



**2c.** Moderated mediation of intrapersonal ER between resilience and TU



#### 2d. Moderated mediation of interpersonal ER between resilience and TI

Table 3 results indicate that interpersonal ER moderated the indirect effect of participants' resilience, which worked through the amount of stress they were under to influence their overall TU (index of moderated mediation = -0.03, 95% CI [-0.08, -0.01]) and TI (index of moderated mediation = -0.02, 95% CI [-0.05, -0.001]). The Johnson-Neyman approach revealed that interpersonal ER only significantly moderates the relationship between resilience and stress when the value is near or above the mean for both intensity and overall usage, supporting hypotheses 2a and 2b, meaning that higher levels of resilience were indirectly associated with lower levels of TI and TU among participants with medium to high levels of interpersonal ER skills, as shown in Figures 2a and 2b.

**Table 3.** Configurations and Results of the Mediation Models

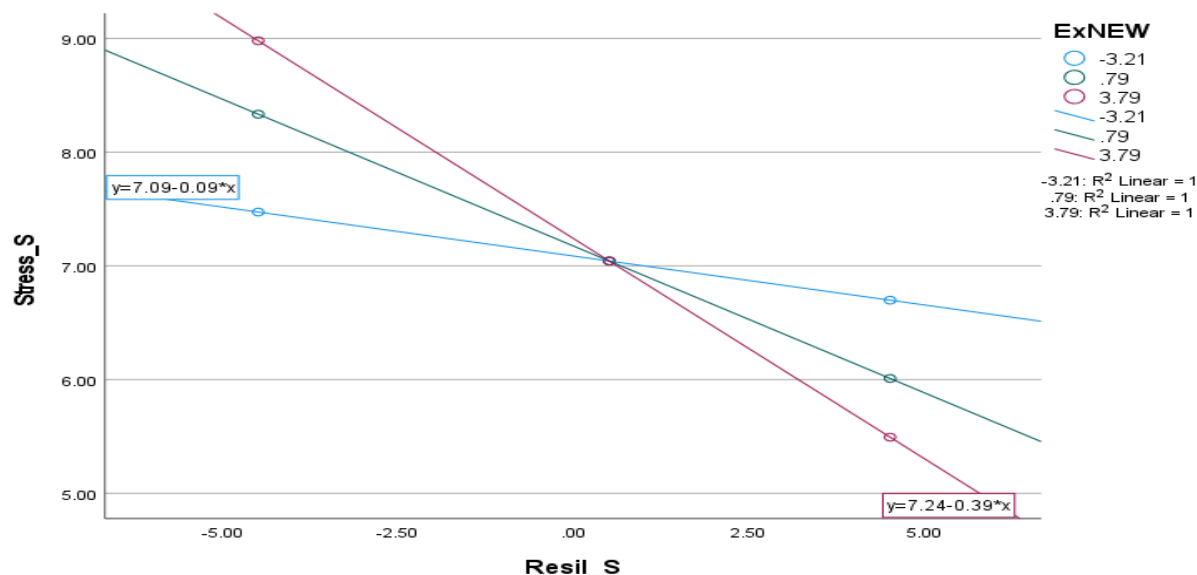
Predictor	Mediator	Outcome	Moderator	Direct effect (95% CI)	Indirect effect (95% CI)	Index of moderated mediation (95% CI)
Resilience	Stress	TikTok use		-0.06 (-0.36, 0.24)	-0.19* (-0.37, -0.06)	
			Interpersonal ER	-0.05 (-0.35, 0.25)	0.79* (-0.39, -0.07)	-0.03* (-0.07, -0.01)
		Intrapersonal ER	-0.08 (-0.38, 0.22)	0.91* (-0.27, -0.03)	0.01 (-0.001, 0.02)	
	TikTok intensity		-0.19 (-0.42, 0.04)	-0.08 (-0.21, 0.02)		
		Interpersonal ER	-0.17 (-0.39, 0.06)	0.64* (-0.23, -0.01)	-0.02* (-0.05, -0.001)	
		Intrapersonal ER	-0.19 (-0.43, 0.04)	0.77* (-0.15, 0.04)	0.003 (-0.003, 0.01)	

Note: In the "Indirect effect" column, the estimate of the conditional indirect effect at the median (50th percentile) value of the moderator.

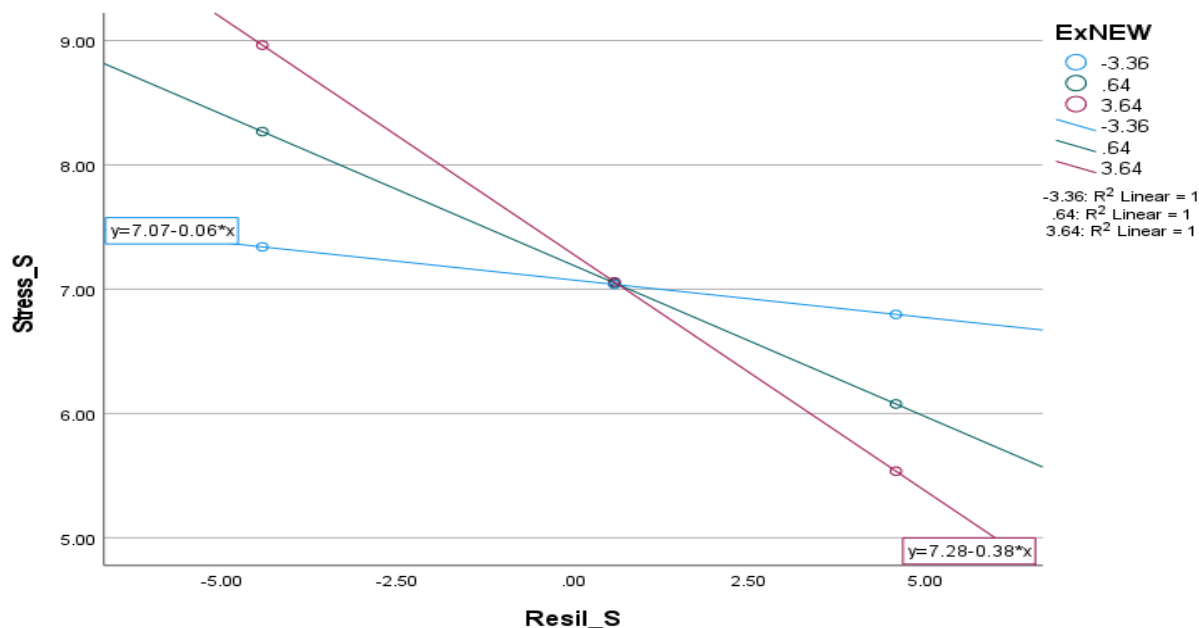
Results of the simple slope tests show how interpersonal ER moderated the mediation of stress between resilience and TikTok overall usage (TU). When individuals' interpersonal ER was high, there was a significant negative relationship between resilience and stress, coefficient  $\beta = -0.39$ ,  $t = -5.58$ ,  $p < .0001$ . When individuals' interpersonal ER was median, there was a significant negative relationship between resilience and stress, though not as extreme as when interpersonal ER was high, coefficient  $\beta = -0.26$ ,  $t = -4.99$ ,  $p < .0001$ . This amount is similar to the relationship between resilience and stress without the moderator. When individuals' interpersonal ER was low, there was no significant relationship between resilience and stress, coefficient  $\beta = -0.09$ ,  $t = -1.14$ ,  $p = .26$ . Figure 3a illustrates the simple slope tests.

This pattern was similar for TI. The results of the simple slope tests show that when individuals' interpersonal ER was high, there was a significant negative relationship between resilience and stress, coefficient  $\beta = -0.38$ ,  $t = -5.26$ ,  $p < .0001$ . When individuals' interpersonal ER was median, there was a significant negative relationship between resilience and stress, coefficient  $\beta = -0.24$ ,  $t = -4.43$ ,  $p < .0001$ . This amount is similar to the relationship between resilience and stress without the moderator. When individuals' interpersonal ER was low, there was no significant relationship between resilience and stress, coefficient  $\beta = -0.06$ ,  $t = -0.72$ ,  $p = 0.47$ . Figure 3b illustrates the simple slope tests.

**Figure 3.** Graph of Moderation Model



**3a.** First-stage moderating effect of interpersonal ER on the association between resilience and stress in the model predicting TU



### 3b. First-stage moderating effect of interpersonal ER on the association between resilience and stress in the model predicting TI

However, the results of Table 3 and Figures 2c and 2d showed that intrapersonal ER did not moderate the indirect effect of resilience to stress levels on overall TU (index of moderated mediation = 0.004, 95% CI [-0.003, 0.012]) or TI (index of moderated mediation = 0.009, 95% CI [-0.001, 0.021]), meaning hypotheses 2c and 2d were not supported. While participants' interpersonal ER significantly moderated the mediation model, their intrapersonal ER did not, suggesting an intrinsic difference in effect depending on focusing inward or outward for ER skills. For more information on the mediation and moderated mediation results, see the Microsoft Excel file in Electronic Supplementary Material 2.

## Discussion

### Mediating Role of Stress Between Resilience and TikTok Consumption

Our results showed that stress was statistically associated with the relationship between a student's resilience level and how much they used TikTok in a week. Participants with higher resilience tended to report lower stress, which was related to reduced TU. However, stress did not mediate the relationship between participants' resilience and their TI. In this case, TI refers to the extent to which participants were emotionally connected to TikTok, and how necessary they felt the app was to their day-to-day lives, which could indicate a difference in how students consume social media and short-form media content. People interact with media in multiple ways; merely looking at the amount they consume but ignoring the way they consume it is detrimental to our understanding of social media engagement.

Findings of this study align with the existing literature on the mediating role of stress between resilience and TikTok consumption to a certain extent. Resilience and stress were found to be negatively related, echoing the idea that psychological resilience may act as a protective mechanism against feelings of stress. Under the purview of the Transactional Model of Stress (Lazarus & Folkman, 1984), these results support the idea that a person's resilience is another resource available to them, which can be the deciding factor between being burdened by stress or dealing with it without negatively affecting their well-being.

While this is a correlational study, the findings offer preliminary insights into potential intervention points. For example, the results point toward the idea that participants without enough psychological resilience to balance out the stress succumbed to frequenting TikTok more often; however, this effect was not seen for the emotional engagement aspect of the app (TI), suggesting that the relationship did not invoke unfavorable behavioral qualities.

Although our study did not directly account for addiction, some items in the scale capture elements (such as preoccupation and emotional connection) that overlap with recognized indicators of social media addiction, including salience, mood modification, and withdrawal (Ellison et al., 2007; Peng & Liao, 2023; Zhao & Zhou, 2021). However, we lack specific measures of tolerance, conflict, and negative consequences, which distinguish problematic use in validated scales like the Bergen Social Media Addiction Scale. These results could indicate that while the traditional idea of psychological resilience acts as a barrier against the mere usage of TikTok due to stress, it alone cannot contend with the overarching relationship between stress and TikTok consumption.

Some results were not supported by the literature. The significant mediation relationship but lack of significant correlation between resilience and TU, in our study, points to the interpretation that our participants' psychological resilience did not directly affect the amount of time they spent on TikTok, only indirectly through resilience, as a resource, to balance stress. The lack of mediation but significant negative correlation between resilience and TI points to the suggestion that participants' psychological resilience provided a barrier against emotional connection to TikTok directly but factoring in stress diminished that relationship.

Previous works have found that resilience negatively predicts social media addiction, including the amount of time spent on it (Nie et al., 2022; Sabik et al., 2020; Yam et al., 2024; Zhao & Zhou, 2021; Žmavc et al., 2022). This could be due to the specific Facebook Intensity Scale used to account for TI. As mentioned in the Methods section, this scale was first used in a study examining Facebook use and intensity. Items were modified for the current study to capture a similar effect in TikTok users.

As previously mentioned, TikTok and Facebook differ in many ways, although they have similar constructs. For this reason, an updated measure specifically geared toward TikTok should be considered in future studies. It is also important to note that given the cross-sectional nature of the data, the directionality of relationships should be interpreted with caution.

### **Moderating Effects of Intrapersonal and Interpersonal ER**

With the mediation results, the next question became: How did the intervention of ER skills moderate this relationship? We found that interpersonal ER skills significantly moderated the relationship between participants' resilience and stress when interpersonal ER scores were median or high. ER amplified the negative relationship between resilience and stress, meaning participants with higher resilience scores had even lower stress levels if their interpersonal ER skills were high compared to the medium levels of interpersonal ER. This pattern emerges when the outcome is both use and intensity, indicating that TikTok consumption overall can be shaped depending on the level of one's interpersonal ER.

In contrast to the standard mediation model, interpersonal ER as a moderator resulted in the relationship among resilience, stress, and TI being statistically associated. This relationship suggests that—much like TU—the degree to which participants engaged with—and emotionally relied on—TikTok can be shaped and changed by how well they regulate the emotions of those around them. These initial findings could help inform further research, extending beyond the outcome of TI. Since the TI is a better indicator of the extent of emotional attachment a person has to the app than TU, this relationship provides a possible answer for how to decrease and manage social media overconsumption using a concrete and readily available strategy that can

be trained and improved upon. While including interpersonal ER showcases the hypothesized outcome, this relationship was not present when using intrapersonal ER, contradicting previous literature (Larsen & Prizmic, 2004; Niven et al., 2011). This contradiction could be due to the lack of focus and specificity of the ER scales used in this study compared to previous literature.

This study aimed not to find the specific mechanism through which individuals regulate their emotions but to find a simple dichotomy between the ER of others versus that of the self. For this purpose, intrapersonal ER and interpersonal ER were simplified into attempts at regulating one's emotions and others' emotions per the EROS scale (Niven et al., 2011). Unfortunately, most of the literature on ER does not distinguish between interpersonal and intrapersonal. Instead, these ER scales focused more on internal or intrapersonal ER skills and strategies. Common item themes included in other popular ER scales, for example, were emotional or affective expression and cognitive reappraisal (Andrés et al., 2017; Larsen & Prizmic, 2004). These results suggest the importance of distinguishing between the types of ER strategies used by individuals to better understand how they could aid in this process.

Compared to other ER strategies, such as cognitive reappraisal, interpersonal ER is a much more approachable and easy-to-digest framework to initiate change in stress and social media consumption levels in the context of this study. Instead of relying solely on internal mechanisms, which may be influenced by more stable traits like resilience, interpersonal ER provides a more dynamic and socially grounded approach. Initiating conversations and engaging with others may help individuals manage both their own and others' stress responses, reinforcing ER through social interaction. Considering the high levels of TI in college students (shown in Table 1), such a strategy could be implemented and studied to understand its intervening effects more fully.

Due to the nature of this study, no experimental conclusions can be drawn about the efficacy of interpersonal ER compared to the long list of intrapersonal ER strategies. As colleges continue to address mental health and wellness on campus, incorporating interpersonal ER strategies into prevention and intervention efforts may serve as a valuable tool to reduce stress-related social media overconsumption and support students' overall well-being.

## Limitations and Future Directions

This study offers a preliminary exploration of the statistical associations between resilience, stress, ER, and TikTok consumption. However, several limitations should be acknowledged.

First, the cross-sectional nature of the data does not allow for any conclusions related to causality. While the proposed moderated mediation model is grounded in prior theoretical frameworks, the temporal order of variables (i.e., resilience → stress → TikTok consumption) remains hypothetical. These findings represent an initial step toward understanding the relationships between these constructs, and future work should employ longitudinal or interventional designs to better test for directionality and causal assumptions. Another issue related to cross-sectional design is the inherent susceptibility to various kinds of participant bias. Specifically, the reliance on self-report measures introduces the potential for social desirability bias or recall bias.

Second, although interpersonal ER was found to be a significant moderator, the measure used in the study does not allow us to isolate the specific effect of regulating others' emotions from the broader mental health benefits of social interaction. It remains unclear whether participants benefited from the act of ER itself or from the social context in which that regulation occurred. Future studies should aim to distinguish between these effects, perhaps by comparing interpersonal ER strategies to more neutral or task-based forms of social engagement (e.g., coordinating schedules or exchanging information).

Third, as briefly mentioned before, while the concept of addiction was discussed in the interpretation of TI scores, this study did not directly assess addictive behavior. The measure of TI used here was adapted from the Facebook Intensity Scale, which was developed for a different platform and does not include items related to core addiction components such as tolerance, conflict, or negative consequences. Therefore, any interpretations related to problematic use should be viewed with caution. Future research should incorporate validated social media addiction scales to better capture these dimensions.

Additionally, it is important to note that our sample was predominantly White (69.4%) and from one regional university. This limitation affects the study's claims regarding generalizability and external validity.

A future direction for this study is to examine the viability of interpersonal ER strategy in a texting context. Specifically, whether framing a texting dialogue—with the participants' goal to be the emotional improvement of their conversation partner—would result in the same effect as found in this study. Future studies could further dive into the inner mechanisms of how interpersonal ER functions on a practical level.

Another avenue for future research could look at the possible negative feedback loop effect between TikTok (or social media consumption in general) and stress. In this study, the relationship between stress and TikTok was posed in only one direction to demonstrate the study's proposed pathway model. However, as Table 2 showcases, the correlational relationship observed was bidirectional. This feedback loop theory of stress and social media consumption would provide insight into the development and maintenance of problematic social media use and potentially inform intervention strategies.

## Disclosure Statement

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States of America and received approval from the Institutional Review Board of the University of Indianapolis. Informed consent was obtained from all participants included in the study. Any students who clicked on the survey link were presented with the consent form and given the option to agree or disagree to participate. All procedures in studies involving human participants were performed in accordance with the ethical standards of the institution's Human Research Protection Program (Study No. 01942).

## Research Transparency Statement

The authors are willing to share their data, analytics methods, and study materials with other researchers. The material will be available at [osf.io](https://osf.io) study materials (Center for Open Science, 2026).

## Electronic Supplementary Material (ESM)

**ESM 1.** TikTok and Stress Survey (Bibat et al., n.d.)

**ESM 2.** SPSS Mediation Data (Hayes, 2022b)

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## Appendix

### Facebook Intensity Scale (*Modified for TikTok*)

Time spent on TikTok last week was \_\_\_\_\_ minutes.

	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
1. TikTok usage is part of my life.	1	2	3	4	5
2. I feel proud when I tell others I am using TikTok.	1	2	3	4	5
3. Getting on TikTok is one of my daily routines.	1	2	3	4	5
4. I feel isolated if I don't get on TikTok.	1	2	3	4	5
5. I feel I am a member and belong to TikTok.	1	2	3	4	5
6. I will feel very sad if TikTok is banned.	1	2	3	4	5

Note: SD = strongly disagree, D = disagree, N = neutral, A = agree, SA = strongly agree.



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