Swiping Away Your Well-Being? Examining Well-Being Indicators Among TikTok Account Holders

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ABSTRACT. Social media platforms continue to increase in popularity and number. Although many associations between social media and user health interactions have been explored, little to no research has investigated TikTok, a recently released social media platform, and its individual interactions with user mental and physical well-being variables. To address this gap, we administered an online questionnaire to a group of college students (n = 407) at Brigham Young University – Idaho about their social media use, mental, and physical well-being. We observed potential differences among TikTok account holders and non-TikTok users using a series of independent-samples t tests with Bonferroni correction. Although TikTok account holders reported higher negative mental well-being indicators than their nonuser counterparts in almost all measured areas, these relationships were only consistent among female TikTok account holders. Conversely, our findings of significantly higher reported consumption of sugary drinks across our entire sample, t(403) = 3.41, p = .001, d = 0.33, only maintained significance among male participants, t(141) = 3.04, p < .001, d = 0.50. As such, female TikTok account holders reported consistently worse mental health and well-being indicators than non-TikTok users. Building on our findings, we call for future research to better understand the nature of these relationships for both TikTok and other social media users.

Keywords: social media, TikTok, health and wellness, behavior

Within the last few decades, technology use has greatly increased among individuals and institutions all over the world. One of the most popular technologies available is social media, which offers individuals the opportunity to connect online, share content in various formats, and browse material posted by others (Shao 2009). Prior research has demonstrated how social media use across a wide range of social media platforms (e.g., Facebook, Instagram, Snapchat) is related to user health and well-being, with some notable differences (e.g., Liu et al., 2019; Wright et al., 2020; Wright et al., 2021). Although the utility and entertainment value of social media technology is high, current scientific literature suggests that a potential relationship may exist between deleterious health and well-being outcomes, and social media use, particularly with prolonged use or exposure among college students (e.g., Wright et al., 2023). The continued release and availability of popular social media platforms such as TikTok warrants continued research efforts. As such, we review the current literature regarding connections between social media use, mental health, and physical health and then provide an overview of the research conducted to-date on TikTok below.

Social Media Use and Well-Being Indicators
First, within the extant literature, there have been several connections made between social media use and poor mental health among users. This list includes, but is not limited to, such notable well-being indicators as negative mood (Fardouly et al., 2015), poor body image (Eckler et al., 2017; Meier & Gray, 2014), loneliness (Reer et al., 2019; Wright et al., 2017), anxiety (Almarzouki et al., 2022; Reer et al., 2019), and depressive symptoms (Perlis et al., 2021; Reer et al., 2019). Additionally, studies have identified harmful mental health outcomes resulting from social comparison, or one’s tendency to compare oneself to others they see on social media (Stapelton et al., 2017; Vogel et al., 2014; Vogel et al., 2015). Moreover, it has been demonstrated that social media may facilitate
these deleterious social comparisons especially among individuals high in social comparison orientation, which then, in turn, may result in increased negative well-being outcomes such as increased negative mood, depressive symptoms and loneliness (Stapelton et al., 2017; Twenge et al., 2018; Vogel et al., 2015; Yang, 2016).

Related to this, negative mood and social comparison have been associated with exposure to unrealistic body images presented in social media especially among female users (Eckler et al., 2017; Meier & Gray, 2014). Interestingly, even taking short-term breaks from social media lasting as short as a week have led to significantly improved outcomes in these domains for individual well-being (Tromholt, 2016; Vannan et al., 2018). Although the strength of these relationships may be moderated by individual personality traits (Stead & Bibby, 2017; Vogel et al., 2015), these negative health indicators associated with social media use may be widespread as the overall increase and accessibility of social media and technology has positively correlated with rising rates of suicide and depression in the United States (Twenge et al., 2017). Additionally, addictions related to technology and social media have been associated with symptoms of other severe psychological disorders such as psychosis, obsessive-compulsive disorder (Huang, 2010) and maladaptive eating behaviors (Murray et al., 2016). Finally, other research has pointed to an observed association between elevated perceived loneliness and depressive symptomology with higher daily use of social media (Song et al., 2014; Wright et al., 2017), suggesting that prolonged social media use may have some unintended negative consequences for user mental health and well-being. As such, although causality remains difficult to firmly establish, the relationship between prolonged social media use and poor mental health indicators seems consistent and robust.

Research on the effects of technology and social media on physical and behavioral health outcomes is less extensive, but suggests a similar relationship. Indeed, as individuals place higher value on and spend more time on social media, several physical and behavioral well-being indicators seem to decline (e.g., Dibb, 2019; Wright et al., 2021). For instance, increased social media and technology use has been associated with increased sugar and caffeine intake (Bradbury et al., 2019; Fomby et al., 2021; Wright et al., 2021), physical complaints (Wright et al., 2021), decreased sleep duration (Kelly et al., 2018; Reynolds et al., 2019) and overall poorer sleep quality among users (Fomby et al., 2021; Hamilton et al., 2020; Woods & Scott, 2016). This relationship is especially poignant when social media and technology usage is localized around user bedtime (Levenson et al., 2017; Reynolds et al., 2019).

Little research has examined the relationship between social media use and physical activity of users. However, general technology usage and media consumption have been associated with deficits in physical exercise and increased sedentary behaviors (Singh et al., 2008; Tandon et al., 2012), suggesting a potential similar relationship. Increases in media consumption have been observed to take up time that could be spent engaging in physical exercise while also promoting sedentary behavior and unhealthy eating among children and adolescents (Cox et al., 2012; Rosen et al., 2014).Researchers have argued that the displacement of healthy behaviors, such as sleeping and exercise, are the true culprits of negative health outcomes rather than media usage itself (Huang, 2010).

Known as the displacement hypothesis, technology and media usage, such as watching television, playing videogames, or using social media, is thought to displace other activities that may better contribute to well-being (see Putnam, 1995). Traditionally, this framework has been applied to the displacement of quality social interactions (i.e., face-to-face conversations) by technology usage, affecting individual social well-being (Hall et al., 2019b; Liu et al., 2019; Valkenburg & Peter 2007). Recent investigations, however, have discovered that different forms of media and technology may vary in their potential displacement of activities related to social well-being (Liu et al., 2019). Although claims suggesting the displacement of quality social interactions by social media have been previously unsupported (Hall et al., 2019b), social media usage has been observed to displace day-to-day activities such as work and other technology usage (Hall et al., 2019a). Moreover, displacement of these activities by social media also positively correlates with poor mental health indicators such as negative mood (Hall et al., 2019a).

Many studies have examined observed trends of poor physical and mental health indicators between men and women and have identified discrepancies reported between the two (Alt, 2015; Dibb, 2019; Przybylski & Weinstein, 2017). Blomfield & Barber (2014) found higher levels of reported negative mental health indicators from women than men but neither frequency nor investment in social media usage were substantially different. Additionally, women have reported higher rates of psychosocial risk factors related to social pressures from media and social networks than men (Ata et al., 2007; Beyens et al., 2016). Poor body image related to social comparison, in particular, has been identified more strongly among female social media users than male users (Eckler et al., 2017; Meier & Gray, 2014). More recently, female social media users reported experiencing more intense feelings of stress and anxiety during the COVID-19 pandemic when compared to male users (Hou et al., 2020). These findings suggest gender to be an important factor when considering potential relationships between social media usage and user health and well-being.
Although evidence supporting a relationship between social media usage and poor mental and physical well-being exist, not all research supports this claim. Prior longitudinal literature has failed to find any significant relationship between social media screen time and negative physical or mental health indicators (Coyne et al., 2020; Houghton et al., 2018). While most of the prior literature has claimed that higher amounts of screen time predict higher amounts of negative well-being among users (Tandon et al., 2012; Twenge et al., 2017; Twenge et al., 2018), longitudinal findings propose that potential relationships between social media usage and negative wellbeing may be more complex (Coyne et al. 2020; Houghton et al., 2018). Moderate amounts of social media use has been linked to positive outcomes such as increased social participation in extracurricular activities among adolescents (Blomfield & Barber, 2014; Romer et al., 2013). Indeed, the “Goldilocks hypothesis” proposed by Przybylski & Weinstein (2017) suggests that negative well-being is associated with extreme amounts of social media use, however, moderate amounts of social media usage yield positive user well-being outcomes (Przybylski & Weinstein, 2017). Berryman et al. (2018) proposes that social media may serve more as an outlet for poor mental well-being rather than acting as the cause of negative well-being. These observed discrepancies within the literature suggest that potential relationships between social media usage and user well-being are complicated rather than straightforward.

Along these lines, another area of research has uncovered potential differential impacts of social media platforms on user health and well-being. Indeed, different types of social media have been shown to be related differentially to user health and well-being indicators (Frison & Eggemont, 2017; Limniou et al., 2021; Masciantonio et al., 2021; Perlis et al., 2021; Wright et al., 2020; Wright et al., 2021). For instance, two studies, Wright et al. (2020; 2021) reported that users of image-based platforms, such as Snapchat, had poorer health and well-being compared to those who did not use these platforms. Furthermore, those who use video-based or more professional platforms, such as MarcoPolo or LinkedIn, had better well-being profiles. However, these studies were unable to include TikTok, a newer social media platform, in their analyses. Moreover, although the precise mechanism behind these differential observations is not clear, these findings suggest a focused examination of specific forms of social media and their relationship with user health and well-being are necessary to understand how the use of a particular social media platform may be related to health and well-being indicators.

**TikTok**

TikTok is a social media platform that was originally named Musical.ly, founded in September 2016, and then later renamed to TikTok when it was acquired by Beijing Bytedance Technology (Vaterlaus & Winter, 2021). TikTok is an application that enables individuals to create short videos to share with others and perform playback videos to different songs that are distributed on the platform and can then be recreated by other users as well. As of December 2021, TikTok had 1.2 billion active monthly users worldwide, the United States being the second most active region with 105 million registered users (Iqbal, 2022). As such, TikTok is a popular social media platform.

Little research exists currently examining TikTok as an individual social media platform. The few published studies that do examine TikTok primarily focus on user motivations for engaging with TikTok as a platform (e.g., Bossen & Kottasz, 2020; Montag et al., 2021). Individual motives for TikTok usage have primarily been studied through the Uses and Gratifications framework, which suggests that individuals use specific platforms of social media to gratify specific needs or desires (Pelletier et al., 2020). Analyses summarized by Montag et al. (2021) of motivations for TikTok usage have identified self-expression, entertainment, and affective management as the primary uses and gratifications fulfilled by TikTok participation and consumption. Bossen & Kottasz (2020) found entertainment to be the primary motivation of TikTok consumption (e.g., scrolling and viewing), and searching for, and engaging with new social networks motivated TikTok users to create content on the platform. Perlis et al. (2021) analyzed the relationships between depressive symptoms and social media usage on various platforms and found that TikTok usage predicted higher rates of reported depressive symptoms in US adults 35 and over, coinciding with findings from studies examining usage of other social media platforms (Wright et al., 2017). However, with the relative lack of studies, little is known about the potential health and well-being trends among users with a TikTok account. Moreover, the popularity of TikTok and the previous literature’s identification of differential associations between health and well-being indicators unique to social media platforms warrants further in-depth study surrounding TikTok.

**Current Study**

In the current study, we measured well-being indicators among college student individuals who have a TikTok account compared to individuals who do not have a TikTok account in order to elucidate potential trends in well-being of TikTok account holders. First, consistent with general findings in the literature, we expected TikTok account holders to report poorer
mental well-being (i.e., mood, body image, stress, anxiety, loneliness, depressive symptoms, interpersonal conflict and self-regulation) relative to those who do not use TikTok. Second, we suspected, in accordance with the displacement hypothesis, that TikTok account holders may exhibit worse physical well-being due to a potential increase in displaced time being spent on social media platforms such as TikTok rather than engaging in health behaviors such as diet, exercise and sleep. Third, we examined reported differences of mental and physical well-being indicators between TikTok account holders and non-TikTok users between men and women. In line with previous research, we expected to see more significant differences between female TikTok account holders and non-TikTok users than male TikTok account holders and non-TikTok users.

### Methods

#### Participants and Procedure

After acquiring institutional review board approval, we surveyed a convenience sample regarding their social media practices and well-being. The sample was comprised of students taking a general psychology course at Brigham Young University – Idaho who were offered class credit for their volunteered participation in our survey. Data was collected via online survey in March and July 2021. Although we received 433 survey responses, we removed 26 responses due to participants reporting their age below 18 years old, or denying permission to use their data for publication purposes, which brought our final total sample size to 407. Participants had an average age of 25.68 (SD = 10.17), consisted of women (n = 263; 63.8%), and men (n = 141; 35.6%) and had an average credit enrollment of 10.82 (SD = 3.73) credits. Ethnicity included 78% White, 8% Hispanic, 5% Asian American, 2% Black or African American, and the remaining 7% were more than one race or other. Our sample was comprised of 44% first-year students, 26% sophomores, 18% juniors, and 10% seniors. Forty-nine percent were not in a committed relationship and 31% were married. The majority of our sample was reportedly unemployed (n = 173; 42%), though 39% held part-time jobs, and 17% held full-time jobs (see Table 1).

#### Measures

Although order effects were not expected, the questionnaire contained measures that were presented in this order: general health, health behaviors, physical health, emotional health, cognitive health, social health, technology use, personality, and demographics. Demographics were collected purposefully at the end to encourage full completion of the questionnaire.

### Social Media Use and Demographic Information

We assessed the average number of hours spent on all social media platforms per day over the last 30 days using a sliding scale ranging from 0 to 10 hours. Participants also indicated the number of social media platforms they used. Holding a TikTok account was measured by a single dichotomous question asking participants to indicate if they had a TikTok account. Participants provided their sex, ethnicity, relationship status, employment status, and current level of college education along with age and current credits enrolled. Biological sex, specifically, was assessed using a single dichotomous variable in which participants were asked by the following prompt, “What is your biological sex?” with the dichotomous choice of Male or Female.

### Mental Well-Being

Mental well-being was assessed using several measures.
Participants responded to an 8-item scale assessing general mood where participants chose among a 5-point scale between 1 (not at all) and 5 (extremely) how much particular positive ($\alpha = .66$) and negative ($\alpha = .62$) mood descriptions agreed with their own general mood over the last 30 days (Wright et al., 2017). Positive affect was assessed by the adjectives enthusiastic, happy, relaxed, and alert whereas negative affect was captured by sad, nervous, irritating, and bored. Although previous studies using these scales have noted similar low alpha levels (e.g., Wright et al., 2016, 2017), the low alpha level for both positive and negative affect is likely attributable to the low number of items used to measure each construct while still existing within the same scale (see Tavakol & Dennick, 2011). Moreover, these mood descriptions may also represent extremes of emotion on two different axes (e.g., pleasantness, arousal), which could play a role (see Russell, 1980).

The 13-item Body Appreciation Scale was used to assess participant perceived body image; responses ranged from a 7-point truth scale from 1 (not at all true) to 7 (very true; Avalos et al., 2005; $\alpha = .94$). For example, “Please indicate how true each is for you: My feelings for my body are positive for the most part.” Participants reported their perceived stress over the past 90 days through 7 items on the Perceived Stress Scale reporting on a 5-point frequency scale ranging from 1 (never) to 5 (very often; Cohen et al., 1983; $\alpha = .88$). For example, “Please indicate how often you felt or thought a certain way about your life in general during the past month: Felt that you were unable to control the important things in your life?” Anxiety was measured over the past 90 days through a 4-item 5-point frequency measure from 1 (never) to 5 (very often; Butz & Yogeesswaran, 2011; $\alpha = .85$). For example: “In the past 3 months, how often have you been anxious?”

The Short Loneliness Scale provided 3-items which assessed frequency of feelings of loneliness among participants using a 5-point scale between 1 (never) and 5 (all the time; Hughes et al., 2004; $\alpha = .90$). For example, “How often do you feel isolated from others?” Participants reported occurrence of depressive symptoms over the last 30 days on a 4-point scale from 1 (rarely or none of the time) to 4 (most of all of the time; $\alpha = .73$) using the 5 items on the Center for Epidemiological Studies Depression Scale-5 (Bohannon et al., 2003). For example, “Please indicate how you have felt during the past 4 weeks: I felt depressed.”

Interpersonal conflict was measured using a 6-item frequency scale; each item a 5-point scale ranging from 1 (never) to 5 (very often; Wright et al., 2017; $\alpha = .90$). For example, “In the past 3 months, how often have you: Had a disagreement with other people over the work that you do?” Self-regulation was analyzed through 10-items on the Self-Regulation Scale on a 4-point scale ranging from 1 (not at all) to 4 (completely true; Diehl et al., 2010; $\alpha = .82$). For example, “Please indicate how accurately each of the following statements describe you: It is difficult for me to suppress thoughts that interfere with what I need to do.”

### Physical Well-Being

Physical well-being was also measured across several dimensions. A single item from the EuroQol-5 Dimension (EQ-5D) was used to measure perceived physical well-being among participants using a rating from 0 (worst physical health) to 100 (best physical health; Kind et al., 2005). Physical symptoms occurring over the past 30 days were measured through the 18-item Physical Symptom Inventory (Spector & Jex, 1998), which was administered as a simple dichotomous checklist (yes or no).

Dietary intake of health food servings (e.g., fruits and vegetables) and unhealthy foods (e.g., sugary snacks, sugary drinks, fast food) were measured using a 10-point scale indicating the number of servings consumed over the past month ranging from 0 (never) to 10 (5 or more servings per day) using one item each (Buxton et al., 2009). Participants were informed about what qualifies as a serving of fruits and vegetables as recommended by the U.S. Department of Agriculture (U.S. Department of Agriculture, 2020). Water consumption was measured using a slider scale between 1 and 12 indicating how many 10oz glasses of water participants consumed on each day of the week (Wright et al., 2016).

To assess average weekly aerobic exercise, 5 items from the Stanford Patient Education Research Center measure were used to assess participant aerobic exercise over the last 30 days (Lorig et al., 1996). For example, “In a typical week during the last 30 days, how much total time for the entire week did you spend on each of the following: bicycling (including stationary exercise bikes)?” Sedentary behavior during the past month was measured using the 10-item Sedentary Behavior Questionnaire (Rosenberg et al., 2010) which queries length of time spent being sedentary on a 9-point scale ranging from 1 (none) to 9 (6 or more hours). For example: “On a typical weekday, how much time do you spend (from when you wake up until when you go to bed) doing the following: Watching television (including TV shows, movies on DVD)?” Participants reported average hours spent sleeping per night over the past 30 days and reported average sleep quality on a 5-point scale ranging from 1 (very poor) to 5 (very good; Buysse et al., 1998).

### Data Analysis

We examined our data by following the methods of previous studies with similar objectives to our study (e.g., Wright et al., 2020; 2021). First, we investigated descriptive
statistics of those who held a TikTok account in order to describe a typical college student TikTok account holder. Second, using a series of independent-samples t tests, we examined the data for systematic differences in both mental and physical well-being variables between those with a TikTok account and non-TikTok users. Furthermore, due to the concern for inflated risk of Type I error while running multiple t tests, we applied a Bonferroni correction to all analyses. This adjusts the alpha level to \( p = .005 \) for our analyses of mental well-being indicators, and \( p = .004 \) for our analyses of physical well-being indicators based on the number of independent t tests conducted. Additionally, we analyzed the strength of any observed statistical significance using Cohen’s \( d \) effect sizes. Finally, we explored sex as another influential variable on the potential relationship between holding a TikTok account and our mental and physical well-being variables.

**Results**

Across the entire sample, participants recorded their total time spent on all social media platforms at an average of 182 minutes (SD = 170.71) and reported an average total number of social media platforms of 4.21 (SD = 1.78). Thirty-six percent of respondents (\( n = 145 \)) indicated they had a current TikTok account. TikTok account holders were significantly younger (\( M = 23.12, SD = 6.61 \)) than those who did not have a TikTok account (\( M = 27.23, SD = 11.37 \)), \( t(402) = 4.60, p < .001 \). Moreover, TikTok account holders reported using significantly more social media platforms (\( M = 5.26, SD = 1.65 \)) than their non-TikTok counterparts (\( M = 3.64, SD = 1.56 \)), \( t(400) = 9.76, p < .001 \) (see Table 1). Finally, our sample seemed relatively healthy with an average reported score of 78.38 (SD = 14.65) out of 100 on their subjective physical health.

**Mental and Physical Well-Being**

Comparative analysis of mental well-being outcomes among TikTok account holders versus non-TikTok users yielded several significant differences. Across nearly all the mental well-being outcomes, TikTok account holders reported significantly worse mental well-being including higher amounts of negative mood, perceived stress, anxiety, interpersonal conflict, and depressive symptoms along with lower levels of self-regulation compared to non-TikTok users (see Table 2). Interestingly, the largest effect size was observed among perceived stress, suggesting that TikTok account holders were reporting significantly (\( p < .001 \)) and substantially (\( d = 0.47 \)) greater stress than their non-TikTok user counterparts. Although TikTok account holders reported a lower average of positive mood (\( M = 3.27, SD = 0.67 \)) than non-TikTok users (\( M = 3.37, SD = 0.66 \)) the difference did not reach significance between the two groups, \( t(403) = -1.39, p = .16, d = 0.15 \). Thus, those who had a TikTok account reported significantly worse mental well-being than those without a TikTok account across the variables we assessed.

Comparing TikTok account holders to non-TikTok users yielded significant differences in only one of the twelve physical well-being indicators, namely sugary drink consumption (see Table 3). Although TikTok account holders reported consuming significantly more sugary drinks than non-TikTok users, \( t(403) = 3.41, p < .001 \) (see Table 3). To further illustrate the relationship between TikTok use and physical well-being, we conducted additional t tests with Bonferroni corrections to identify significant differences in physical health across the two groups (Mann and colleagues, 2020; Pajares and Valdez, 2020). These analyses revealed that TikTok users reported a lower average of positive mood (\( M = 3.27, SD = 0.67 \)) compared to non-TikTok users (\( M = 3.37, SD = 0.66 \)).

**Table 2:** Mental Well-Being Among TikTok Account Holders and Non-TikTok Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>TikTok Account Holders (( n = 145 ))</th>
<th>Non-TikTok Users (( n = 260 ))</th>
<th>( \Delta )</th>
<th>( p )</th>
<th>( t(df) )</th>
<th>( d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Mood</td>
<td>3.27 (0.67)</td>
<td>3.37 (0.66)</td>
<td>0.10</td>
<td>.16</td>
<td>1.39 (403)</td>
<td>0.15</td>
</tr>
<tr>
<td>Negative Mood</td>
<td>2.79 (0.73)</td>
<td>2.47 (0.75)</td>
<td>-.32</td>
<td>&lt;.001</td>
<td>4.17 (403)</td>
<td>0.43</td>
</tr>
<tr>
<td>Body Image</td>
<td>4.84 (1.36)</td>
<td>5.31 (1.22)</td>
<td>0.47</td>
<td>&lt;.001</td>
<td>3.57 (403)</td>
<td>0.36</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>2.82 (0.69)</td>
<td>2.51 (0.62)</td>
<td>0.31</td>
<td>&lt;.001</td>
<td>4.76 (403)</td>
<td>0.47</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.05 (0.72)</td>
<td>2.76 (0.78)</td>
<td>0.29</td>
<td>&lt;.001</td>
<td>3.66 (403)</td>
<td>0.39</td>
</tr>
<tr>
<td>Loneliness</td>
<td>2.73 (0.99)</td>
<td>2.53 (0.97)</td>
<td>0.20</td>
<td>.05</td>
<td>1.95 (403)</td>
<td>0.20</td>
</tr>
<tr>
<td>Depressive Symptoms</td>
<td>9.30 (3.32)</td>
<td>8.26 (2.73)</td>
<td>1.04</td>
<td>.001</td>
<td>3.39 (403)</td>
<td>0.34</td>
</tr>
<tr>
<td>Interpersonal Conflict</td>
<td>2.25 (0.81)</td>
<td>1.98 (0.72)</td>
<td>0.27</td>
<td>&lt;.001</td>
<td>3.42 (403)</td>
<td>0.35</td>
</tr>
<tr>
<td>Self-Regulation</td>
<td>2.78 (0.40)</td>
<td>2.90 (0.46)</td>
<td>0.12</td>
<td>.01</td>
<td>2.62 (403)</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Note: \( p < .05 \) with Bonferroni correction; \( \Delta \) refers to the difference between TikTok and non-TikTok Users.

**Table 3:** Physical Well-Being Among TikTok and Non-TikTok Users

<table>
<thead>
<tr>
<th>Variable</th>
<th>TikTok Account Holders (( n = 159 ))</th>
<th>Non-TikTok Users (( n = 274 ))</th>
<th>( \Delta )</th>
<th>( p )</th>
<th>( t(df) )</th>
<th>( d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Health</td>
<td>77.08 (14.67)</td>
<td>79.22 (14.28)</td>
<td>-2.14</td>
<td>.15</td>
<td>1.43 (403)</td>
<td>0.15</td>
</tr>
<tr>
<td>Physical Symptoms</td>
<td>5.52 (3.56)</td>
<td>4.93 (3.31)</td>
<td>0.59</td>
<td>.09</td>
<td>1.65 (403)</td>
<td>0.17</td>
</tr>
<tr>
<td>Vegetable Intake</td>
<td>1.23 (1.27)</td>
<td>1.26 (1.33)</td>
<td>-0.03</td>
<td>.87</td>
<td>0.17 (403)</td>
<td>0.02</td>
</tr>
<tr>
<td>Fruits Intake</td>
<td>1.19 (1.22)</td>
<td>1.15 (1.02)</td>
<td>0.04</td>
<td>.72</td>
<td>0.35 (403)</td>
<td>0.04</td>
</tr>
<tr>
<td>Sugary Snack</td>
<td>0.70 (0.89)</td>
<td>0.67 (0.94)</td>
<td>0.02</td>
<td>.75</td>
<td>0.32 (403)</td>
<td>0.03</td>
</tr>
<tr>
<td>Sugary Drink</td>
<td>0.69 (1.01)</td>
<td>0.40 (0.70)</td>
<td>0.29</td>
<td>&lt;.001</td>
<td>3.41 (403)</td>
<td>0.33</td>
</tr>
<tr>
<td>Fast Food</td>
<td>0.25 (0.39)</td>
<td>0.19 (0.29)</td>
<td>0.06</td>
<td>.09</td>
<td>1.67 (403)</td>
<td>0.17</td>
</tr>
<tr>
<td>Water</td>
<td>5.73 (2.95)</td>
<td>5.62 (2.70)</td>
<td>0.11</td>
<td>.72</td>
<td>0.36 (403)</td>
<td>0.04</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>34.24 (24.72)</td>
<td>32.63 (26.33)</td>
<td>1.61</td>
<td>.55</td>
<td>0.60 (403)</td>
<td>0.06</td>
</tr>
<tr>
<td>Sedentary Behavior</td>
<td>119.53 (55.43)</td>
<td>112.73 (50.47)</td>
<td>-6.80</td>
<td>.21</td>
<td>1.26 (403)</td>
<td>0.13</td>
</tr>
<tr>
<td>Sleep Quantity</td>
<td>6.67 (1.20)</td>
<td>6.74 (1.11)</td>
<td>-0.07</td>
<td>.55</td>
<td>0.59 (431)</td>
<td>0.06</td>
</tr>
<tr>
<td>Sleep Quality</td>
<td>3.61 (0.88)</td>
<td>3.80 (0.75)</td>
<td>-0.19</td>
<td>.02</td>
<td>2.34 (403)</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Note: \( p < .05 \) with Bonferroni correction; \( \Delta \) refers to the difference between TikTok and non-TikTok Users.
\( p = .001, d = 0.33 \), no significant relationship was found in the difference of consuming sugary snacks, fast food or any other diet related health outcome. No significant differences emerged between the two groups in terms of physical activity, physical health complaints, or overall subjective health.

**Sex Differences and TikTok**

Finally, we explored the potential relationship between these well-being outcomes and biological sex. Most notably is the number of significant differences in reported well-being outcomes among female respondents, which is much higher than those of male respondents (see Tables 4 and 5). In terms of our mental well-being variables, female TikTok account holders reported significantly poorer mental health in almost all measured variables compared to non-TikTok users (see Table 4). All significant differences in mental well-being indicators disappeared when examining only male participants. Interestingly, Sugary drink consumption was only found to be significantly different among male TikTok account holders, \( t(141) = 3.04, p < .001, d = 0.50 \), while no physical well-being indicators showed any significant differences among female TikTok account holders and non-TikTok users (see Tables 4 and 5).

**Discussion**

Social media, with all its many benefits to consumers, has become a form of technology that is commonly used. However, recent studies have discovered potential links between increased use of this technology and many health and well-being indicators (e.g., Wright et al., 2023), giving rise to some concerns regarding how social media use may influence well-being. Investigating this relationship between well-being and TikTok, a new and popular social media platform, our study observed several differences between those who have a TikTok account and those who do not. TikTok account holders reported worse mental well-being in several areas (i.e., stress, depressive symptoms, body image, negative mood) and with only one observed physical health deficit (i.e., higher sugary drink intake) relative to their non-TikTok user counterparts. These findings surrounding mental health, however, were only consistent among female TikTok account holders, who reported worse mental health outcomes in almost all measured variables comparative to non-TikTok users, whereas no significant differences were observed among male participants. Notably, we found many nonsignificant differences between the two groups within each sex, especially among physical well-being indicators related to sleep, diet, and exercise with the exception of sugary drink intake, which was only significantly different among male participants. Overall, these findings highlight an area of social media exploration that has had little prior investigation and points to directions for future research regarding TikTok as an individual social media platform.

First, participants with a TikTok account reported significantly worse mental health in nearly all variables examined. Even more interesting is the loss of all significant differences in these reported indicators when examining male participants (which will be discussed in more detail below). Although further investigation is needed to determine the nature of the relationship between TikTok and these various indicators (e.g., causation), our findings are consistent with that of previous studies noting poorer comparative mental well-being among those who use social media, in general, and those who use social media for longer durations of time (e.g.,

| **TABLE 4**
| Reported Well-Being Among Women |
|-----------------------------|-----------------------------|
| TikTok Account Holders (n = 46) | Non-TikTok Users (n = 97) |
| M(SD) | M(SD) | Δ | t(df) | p | d |
| Age | 23.77 (7.58) | 29.90 (13.08) | -6.12 | -3.24(260) | <.001 | 0.57 |
| Total social media platforms used | 5.24 (1.51) | 3.74 (1.45) | 1.49 | 7.92 (259) | <.001 | 1.01 |
| Mental Health | | | | | | |
| Positive mood | 3.19 (0.63) | 3.40 (0.65) | -0.20 | -2.45 (260) | .01 | 0.32 |
| Negative mood | 2.83 (0.73) | 2.46 (0.78) | 0.36 | 3.77 (260) | <.001 | 0.48 |
| Body Image | 4.62 (1.37) | 5.29 (1.28) | -0.66 | -3.97 (260) | <.001 | 0.50 |
| Perceived Stress | 2.87 (0.65) | 2.52 (0.61) | 0.35 | 4.34 (260) | <.001 | 0.35 |
| Anxiety | 3.10 (0.68) | 2.81 (0.79) | 0.29 | 3.01 (260) | <.001 | 0.39 |
| Loneliness | 2.71 (1.01) | 2.47 (0.98) | 0.24 | 1.89 (260) | .05 | 0.24 |
| Depressive Symptoms | 9.62 (3.28) | 8.42 (2.87) | 1.19 | 3.09 (260) | <.001 | 0.38 |
| Interpersonal Conflict | 2.25 (0.84) | 2.00 (0.74) | 0.25 | 2.56 (260) | .01 | 0.31 |
| Self-Regulation | 2.74 (0.40) | 2.90 (0.45) | -0.16 | -3.00 (260) | <.001 | 0.37 |
| Physical Health | | | | | | |
| Subjective Health | 75.04 (15.67) | 78.43 (14.76) | -3.39 | -1.76 (260) | .07 | 0.22 |
| Physical Symptoms | 6.08 (3.46) | 5.41 (3.42) | 0.66 | 1.52 (260) | .12 | 0.19 |
| Vegetables | 1.41 (1.37) | 1.41 (1.20) | 0.00 | -0.02 (260) | .98 | 0.00 |
| Fruits | 1.29 (1.29) | 1.25 (1.02) | 0.03 | 0.25 (260) | .79 | 0.03 |
| Sugary Snacks | 0.61 (0.78) | 0.71 (0.99) | -0.09 | -0.85 (260) | .39 | 0.11 |
| Sugary Drinks | 0.50 (0.81) | 0.31 (0.59) | 0.19 | 2.23 (260) | .02 | 0.26 |
| Fast Food | 0.18 (0.21) | 0.15 (0.21) | 0.03 | 1.31 (260) | .19 | 0.14 |
| Water | 5.27 (2.74) | 5.49 (2.71) | -0.21 | -0.63 (260) | .52 | 0.08 |
| Aerobic Exercise | 32.57 (24.37) | 33.93 (26.43) | -1.36 | -0.41 (260) | .67 | 0.05 |
| Sedentary Behavior | 120.36 (54.80) | 109.16 (48.87) | 11.19 | 17.11 (260) | .08 | 0.21 |
| Sleep Quantity | 6.81 (1.19) | 6.72 (1.10) | 0.09 | 0.63 (258) | .52 | 0.07 |
| Sleep Quality | 3.59 (0.97) | 3.79 (0.79) | -0.20 | -1.82 (260) | .07 | 0.22 |

*Note: p < .05, with Bonferroni Correction; Δ refers to the difference between TikTok and non-TikTok Users.*
The usage and structure of the TikTok platform may be an important factor to consider. Although TikTok is primarily a video-based platform rather than an image-based platform, possible underlying similarities between platforms may further elucidate the relationship between particular social media platforms, such as TikTok, and user mental well-being. Indeed, Wright et al. (2021) observed differences in user health profiles based on usage of image versus video-based platforms suggesting that user interaction with platform modalities rather than specific platform brands may be a mediating factor in social media’s relationship to user mental well-being. However, in that study, the video-based platform of Marco Polo seemed to be associated with better rather than poorer health and well-being profiles as we observed in the current study with TikTok. Although specific modalities may be important, it may be that the motive for using these particular social media platforms has a stronger moderating effect (e.g., Yang, 2016). For instance, TikTok is often used for pleasure, recreation, and entertainment (Bosson & Kottasz, 2020; Montag et al., 2021) whereas Marco Polo is regularly used to stay socially connected with family and friends. Ultimately, however, it remains unclear the exact causal mechanism behind this observation.

Second, physical and behavioral well-being differences between TikTok account holders and non-TikTok users, though few, are noteworthy. As previously observed by Bradbury et al. (2019), technology usage has been successful in predicting an increase in sugary drink and caffeine intake. The several nonsignificant differences between TikTok account holders and non-TikTok users are important to note, suggesting that TikTok may not be related to these well-being indicators. In any case, it seems that TikTok use may not be strongly related to diet, physical activity, or physical health indicators.

Finally, the differences in reported deleterious well-being outcomes between women and men is an especially important observation. Several differences in mental well-being indicators among female TikTok account holders were observed, but none were observed among males. These findings are reminiscent of previous literature which has consistently observed female social media users reporting more intense and frequent negative health and well-being outcomes than male counterparts (Beyens et al., 2016; Blomfield & Barber, 2014; Dibb, 2019; Hou et al., 2020). Moreover, these results may extend into maladaptive behaviors that differ between the sexes such as maladaptive eating behaviors which have been associated with media use among women (Alta et al., 2007), although no significant diet-related differences were observed among female TikTok account holders within our sample.

The similarity in findings between the present study and prior literature regarding female account holders may indicate that TikTok resembles other platforms in potential effects on user mental well-being. For instance, reports of increased poor body image by female TikTok account holders may reflect a higher exposure to unrealistic body images that facilitate social comparison as seen in prior studies (Eckler et al., 2017; Meier & Gray, 2014) especially among women (Ata et al., 2007; Beyens et al., 2016). As such, potential higher social comparison among female TikTok account holders may be the culprit for other reported deficits in mental well-being indicators compared to non-TikTok account holders, such as reported levels of increased negative mood, perceived stress, anxiety, and depressive symptoms (Stapleton et
Also notable was the significant difference in sugary drink intake observed only among male participants, while no differences in physical well-being indicators were observed among female participants whatsoever. Although some research has found relationships between the consumption of sugary and caffeinated drinks, and screen time activities such as video game and social media usage (Bradbury et al., 2019; Larson et al., 2014) no major discrepancies have been found between sexes. Furthermore, more research into the types of sugary drinks consumed by TikTok account holders and social media users in general is needed to better understand this observation and the potential relationship between sugary drink consumption and social media engagement (Bradbury et al., 2019).

**Limitations and Future Research**

Several potential limitations exist within the present study. Most notable are the self-report nature and cross-sectional design of the study, which prevents any causal conclusions from being drawn. Additionally, we did not measure the amount of TikTok screen time nor that of any specific social media platform; groups were separated based on TikTok account status. Moreover, participants within our sample were college students, predominantly White, and mostly women which may limit the generalizability of these findings to individuals of whom these descriptors do not apply. The assessment of biological sex through a single dichotomous variable using “male” and “female” should also be noted as a potential limitation as these findings may not be generalizable to transgender, intersex, or non-binary individuals. Furthermore, characteristics of other universities and their respective student pools may further limit generalizability of these findings to populations that might otherwise be similar. Other characteristics, such as the average age difference between TikTok account holders and non-TikTok users, may have influenced our findings. Additionally, we were unable to independently control for use of other social media platforms, which may have inadvertently biased the results. Not all measures involved in the study measured their respective health indicators across the same time frame which may limit precision in the interpretations of findings within the study. Survey fatigue, due to the extensive measures involved in the study, is another possibility, which may potentially bias participant responses. However, the rather large sample size mitigates this concern somewhat. The use of multiple t-tests raises concern for Type 1 error, though we adjust for this risk using a Bonferroni correction based on the number of t-tests conducted. Finally, although our study did examine differences in health outcomes among women and men, further analysis is needed to directly compare those outcomes. Despite these shortcomings, this study makes important contributions as it is one of the first examinations of the relationship between TikTok use and user health and well-being.

The widespread popularity of TikTok and potential trends in user mental and physical health reported in this analysis warrant further study into use of the social media platform itself. Further investigations measuring screen time on the TikTok platform and more in-depth TikTok use (such as consuming versus creating content) may elucidate potential relationships between the app and user well-being. Particularly, comparisons between user health outcomes associated with TikTok use and other platforms of similar and different modalities (i.e., video versus image-based user interactions) may provide better understanding of social media usage and user health, and the effects of individual social media platforms, such as TikTok, on user health outcomes. Controlling for factors such as age, further comparisons of mental health indicators between sexes regarding TikTok users may also point out potential trends and relationships unique to TikTok as a platform. The relationship between number of social media platforms reported by respondents with a TikTok account versus non-TikTok users also provides an interesting avenue for further study. Investigations into whether or not making an account for the TikTok platform precedes or follows subscription to other social media platforms, especially among younger users, may be insightful. In conclusion, although these findings suggest that TikTok account holders are generally not as healthy as their counterparts, further research is needed to ascertain the causal mechanisms and implications for future recommendations of social media use.

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