Recently, social media and social networking sites (SNS) have become increasingly accessible and popular, especially among college students. SNS include a variety of platform types ranging from general broadcast services (e.g., Facebook) to messaging services that send content directly to a specific recipient or group (e.g., Marco Polo). Moreover, SNS can be used virtually anywhere, anytime, and by anyone, with a recent estimate that every 7 out of 10 Americans use social media regularly (Lenhart, 2018), which is especially high among young adults (i.e., between 18–30 years of age). Indeed, estimates indicate more than 88% of young adults are using SNS, are more likely to use multiple SNS, and are spending as many as 3 hours a day doing so (Lenhart, 2018; Wright et al., 2017). Although SNS offer improved capacities for communication around the world, recent research has highlighted negative effects on individuals’ health and behavior (e.g., Huang, 2010; Twenge, Joiner, Rogers, & Martin, 2017).

Given these findings, there is an imperative need to investigate these relationships.

Although daily time spent on social media (e.g., Song et al., 2014; Wright et al., 2017) has been identified as a central factor, little is known about the relationships between specific SNS use (e.g., Facebook, Instagram) and health-related outcomes (e.g., physical, mental, social). Whereas some studies have suggested that SNS use is associated with health outcomes like subjective well-being (e.g., Stead & Bibby, 2017; Tromholt, 2016) or loneliness (e.g., Pittman & Reich, 2016), research has yet to shed light on unique well-being outcomes associated with specific SNS platform use, particularly among college students. As such, the purpose of the current study was to address this research gap by examining a range of health-related and well-being outcomes (e.g., depressive symptoms, loneliness, anxiety) among specific SNS platform users in a college student sample.
Social Networking Sites and Health Among Young Adults

Despite the rapid changes in technology and SNS use during the past decade (Lenhart, 2018), it is already well-documented that SNS use, typically operationalized as daily time spent on SNS, is associated with numerous negative health-related outcomes (e.g., Song et al., 2014; Tromholt, 2016). According to Huang’s (2010) displacement hypothesis, the availability and accessibility of SNS can seem a more convenient mode of human interaction and take time away from face-to-face interpersonal interactions. Indeed, social interactions through SNS could be more attractive initially but less satisfying and unable to fulfill personal needs due to their potential lack of authenticity, producing health and well-being deficits. As such, spending more time on SNS may foster an illusion that social needs are being met when these interactions may not supply all the benefits afforded by in-person interactions.

In support of this, the loneliness construct provides a strong example. Numerous studies have found a positive relationship between perceived loneliness and time spent on SNS (e.g., Song et al., 2014), especially among college students (e.g., Lou, Yan, Nickerson, & McMorris, 2012; Wright et al., 2017). This is rather perplexing considering that a major purpose of SNS is to connect socially with others, which should reduce perceptions of feeling alone or socially disconnected. However, this positive relationship between SNS use and loneliness lends support to the idea that SNS use may provide a more convenient, but less fulfilling or meaningful, medium for social interaction. Directional causality is still a point of debate (Lou et al., 2012), although it is likely bidirectional as those who are lonely seek out comfortable social interactions online and those who spend more time online are likely to withdraw from more traditional face-to-face interaction (Nowland, Necka, & Cacioppo, 2017).

Other well-being constructs related to SNS use, particularly within the young adult population, include depressive and anxiety symptoms, although studies vary in the strength of the relationship (e.g., Primack et al., 2017; Twenge et al., 2017). For example, in one study of over 500,000 U.S. adolescents (Twenge et al., 2017), those who spent more time on social media were more likely to report depressive symptoms and suicide-related outcomes than those who spent more time interacting with others directly (e.g., in-person social interaction, sports, attending religious services). Moreover, in a large nationally representative sample of 1,787 U.S. young adults, those who reported using the highest number of social media platforms (7–11) were more likely to present both depressive and anxiety symptomology (Primack et al., 2017).

Finally, well-being (i.e., life satisfaction, mood), perceived stress, and overall health appraisals are related to SNS use. Not surprisingly, those who self-report spending more time on SNS each day typically also report lower well-being than those who spend less daily time on SNS (e.g., Stead & Bibby, 2017; Tromholt, 2016). This may be due to increased time on SNS taking time away from other activities that may engender improved subjective well-being such as exercise, productive pursuits (e.g., work, education), or direct social interactions. Related to anxiety, perceived life stress has been consistently linked to use of SNS (e.g., Vanman, Baker, & Tobin, 2018), and other studies have shown a positive correlation between poor physical health appraisal and symptomology with increased SNS use (e.g., Dibb, 2019). Taken together, these findings suggest major mental, social, and physical health disturbances coinciding with increased daily combined SNS use, and raise the question regarding effects of specific SNS on user health and well-being.

Specific Social Networking Sites and Health

The most recent Pew Research Center statistics on social media use in the United States (Lenhart, 2018) suggest that the most common SNS are Facebook (68%), Instagram (35%), Snapchat (27%), and LinkedIn (25%), which would suggest that daily use of these SNS would have a stronger potential for impact on health and well-being outcomes with discernable main effects. Moreover, categorization of SNS by the primary mode of communication has been helpful in prior investigations where the distinction has been drawn between those SNS platforms that are primarily text-, image-, or video-based (e.g., Pittman & Reich, 2016). Facebook, the most researched of all SNS, is primarily text-based and broadcasted to a wide audience of “friends.” Increased Facebook use has been specifically linked to many health-related outcomes including loneliness (e.g., Song et al., 2014), low subjective well-being (e.g., Tromholt, 2016), poor health behaviors (e.g., Dibb, 2019), and high perceived stress (e.g., Vanman et al., 2018), although some studies suggest positive outcomes like emotional support (Ellison, Steinfield, & Lampe, 2007).
Related to more image-based SNS like Instagram and Snapchat, studies have found contradictory findings with both negative and positive outcomes. For instance, in one study by Pittman and Reich (2016), Instagram and Snapchat use found improved subjective health outcomes for those who use these sites compared to text-based platforms (e.g., Facebook). They argued that this may be due to image based SNS offering a more intimate or “real” forum in which to interact, which produces less loneliness and improved subjective well-being. Behaviors on specific platforms may also make a difference, as Instagram interaction and browsing, in one study, was related to improved well-being compared to those who broadcasted and made social comparisons with others online (Yang, 2016). However, in a longitudinal study, Frison and Eggermont (2017) determined that Instagram browsing predicted subsequent depressive mood, suggesting a causal relationship between Instagram use and poor well-being.

Even less research has been conducted to date on the well-being of users of other professional SNS such as LinkedIn or those that are more video-based such as Marco Polo. However, one study found a clear reduction in depressive symptomology among those who used video chat SNS compared to e-mail, other social media, and instant messaging at a two-year follow-up (Teo, Markwardt, & Hinton, 2019). The researchers argued that this more “real-time” video interaction on SNS fosters a greater sense of connection with others and corresponding health benefits. However, it remains unclear what unique well-being outcomes may be associated with professional and video-based SNS.

Current Study
In sum, the current literature regarding the well-being of users of specific SNS, including college students, is limited in terms of a small quantity and mixed findings. Thus, this study was an exploratory examination of college student health-related and well-being outcomes between: (a) the specific SNS users and the respective daily use of each SNS (specific platform comparisons) and (b) users of these separate platforms compared to nonusers (user and nonuser comparisons). As such, we conducted a study among college students (typically heavy users of SNS), focusing on Facebook, Instagram, Snapchat, Marco Polo, and LinkedIn due to their popularity and contrasting characteristics.

Method
Participants and Procedure
Following institutional review board approval (on March 20, 2018), we investigated health-related and well-being outcome differences between different SNS among students at a large Intermountain West university using a questionnaire administered through an online survey platform (Provo, UT; Qualtrics). A convenience sample was solicited among students taking psychology courses at the university including General Psychology and Health Psychology. Upon providing their informed consent, student participants were offered either course or extra credit, and all participants were entered in a gift card drawing. Data were collected during the month of May 2018, resulting in a total of 630 participants who completed the online survey, which took a median of 11.3 minutes ($M = 64.10; SD = 426.72$). The sample was primarily comprised of young adults ages 18 to 23 with a mean age of 21.89 ($SD = 3.39$), where most participants were women (63%), White (82.8%), and single (56.6%).

Measures
Social media. Daily time spent on social media during the past month was assessed using a single item where participants indicated how much combined time they spent on all social media each day during the past month on a sliding scale from 0 to 10 hours. Participants identified SNS they used including Facebook, Instagram, Snapchat, Marco Polo, and LinkedIn (which were selected due to their popularity and contrasting differences within the general and this student population) and how much time they spent each day on each platform.

Participants responded to six questions about their attitudes toward social media (Wright et al., 2017; $\alpha = .86$) on a 7-point Likert-type agreement scale (1 = strongly disagree, 7 = strongly agree) so that greater values indicated a stronger positive attitude toward social media in general.

Physical and mental well-being. Overall subjective health was evaluated using the single-item EuroQol Fifth Dimension (Kind, Brooks, & Rabin, 2005), so participants rated their own health on a Likert-type scale from 0 (worst physical health) to 100 (best physical health). Affect was captured using an 8-item measure of mood on a 5-point Likert-type scale (1 = not at all, 5 = extremely) regarding how much a mood adjective described their mood over the past month along positive (i.e., happy, alert, enthusiastic, relaxed; $\alpha = .68$) and negative (i.e., sad, irritable, bored, nervous; $\alpha = .66$) dimensions (see Wright et al., 2017). Acute depressive symptoms during the past week were assessed using the CES-D 5-item measure (Bohannon, Maljanian, &
Goethe, 2005) on a 4-point scale (1 = rarely or none of the time, 4 = most or all of the time, α = .76). Anxiety over the past 3 months was assessed using a 4-item measure on a 5-point frequency Likert-type scale (1 = never, 5 = very often) from Butz & Vogeswaran (2011; α = .85). Satisfaction with life was captured using the 5-item Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) on a 7-point Likert-type agreement scale (1 = strongly disagree, 7 = strongly agree, α = .87).

Social well-being. Using the same 7-point scale as the Satisfaction With Life Scale, social support measurement included eight items (Wood, Read, Mitchell, & Brand, 2004; α = .71) and loneliness during the past month was assessed using the 3-item Short Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004) on a 5-point Likert-type frequency scale from 1 (never) to 5 (all of the time, α = 0.84). Social integration (i.e., in-person social interactions) was examined using an 8-item measure adapted from Twenge et al. (2017) on a daily frequency scale (α = .73). Finally, a single item examining subjective social standing among their college student peers was asked on a Likert-type scale from 0 (worst standing in the student community) to 100 (best standing in the student community).

Data Analysis
We reported the results from correlation and independent-samples t-test analyses and, given concerns about statistical significance being unsuitable as the sole statistic in reporting relationships, we included Cohen’s d effect size coefficients, focusing on those that are ≥ .20 (at least a small effect size).

Results
Participants reported a daily average time spent on all social media of 2.22 hours (SD = 1.81) and using an average of 2.64 (SD = 1.01) SNS (of the five surveyed). In order of popularity, Facebook was most used (n = 552, 91.1%), followed by Instagram (n = 416, 68.6%), Snapchat (n = 391, 64.5%), LinkedIn (n = 137, 22.6%), and then Marco Polo (n = 102, 16.8%). A large majority (n = 513, 84.7%) of respondents used more than one SNS, although 72 (13%) reported only using Facebook, seven (1.7%) only used Instagram, eight (2%) only used Snapchat, four (2.9%) only used LinkedIn, and two (2%) only used Marco Polo. Among Facebook users, daily average time spent on Facebook was 1.28 hours (SD = 1.26) or 55.90% of their total daily social media use time; Instagram users were 1.30 hours (SD = 1.26) or 50.58% of their total time; Snapchat users were 1.27 hours (SD = 1.54) or 50.20% of their total time; LinkedIn users were 0.37 hours (SD = 0.41) or 18.23% of their total time; and Marco Polo users were 0.42 hours (SD = 0.46) or 19.27% of their total time. Finally, women spent significantly more time (hours) on social media daily (M = 2.49, SD = 1.87) than men (M = 1.73, SD = 1.58; p < .001) and, in particular, more time on Instagram (M = 1.41, SD = 1.33; M = 0.93, SD = 0.96; p < .001; respectively) and Snapchat (M = 1.38, SD = 1.63; M = 0.94, SD = 1.24; p < .01; respectively), suggesting greater exposure to social media in general and to image-based SNS than men.

Specific platform comparison analyses. Means, standard deviations, and comparisons between the specific SNS across all study variables using independent-samples t-tests are presented in Table 1. LinkedIn users were significantly older than all other social media platforms and social media attitudes were the strongest for Instagram users compared to Marco Polo, LinkedIn, and Facebook users. Marco Polo users were significantly less lonely, exhibited fewer depressive symptoms, and had higher life satisfaction than Snapchat users. Finally, LinkedIn users reported feeling a significantly greater sense of social standing among their college student peers than Snapchat, Instagram, and Facebook users. As such, it seems Snapchat users, at least among college students, may be more susceptible to negative health-related outcomes and Marco Polo users may be capitalizing on positive health-related outcomes, compared to users of other social media.

As the next step in our analyses, Table 2 displays the correlations between daily time spent on a specific SNS and the study variables. In general, these results suggest that more daily time spent on social media is associated with more detrimental outcomes (e.g., loneliness, negative mood) and the number of social media platforms used was related to more positive outcomes (e.g., social integration, perceived peer support). Although more daily Facebook and Instagram use was related to lower well-being, greater use of LinkedIn was associated with improved well-being, and increased Snapchat and Marco Polo daily use was not systematically related to any of the health-related variables. Thus, whereas increased daily social media use is associated with negative outcomes, each of the specific platforms demonstrated unique associations.

Users and nonusers difference analyses. Next, we examined users of specific SNS in comparison to all those who did not use that platform in a series of independent-samples t-tests (see Table 3). Our results of the analyses examining age, number of SNS platforms, and social media attitudes produced some significant (p < .001) results. First, compared to nonusers, Instagram and Snapchat users were each younger by about 2 years (both d’s = .48) and LinkedIn users were older by nearly 2 years (d = .45).
### TABLE 1

**Means, Standard Deviations, and Comparisons Between Social Media Platform Users**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Facebook (M(SD))</th>
<th>Instagram (M(SD))</th>
<th>Snapchat (M(SD))</th>
<th>LinkedIn (M(SD))</th>
<th>Marco Polo (M(SD))</th>
<th>Difference Between Platforms†</th>
<th>Cohen’s d††</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Time Spent on App</td>
<td>1.28 (1.26)**</td>
<td>1.30 (1.26)**</td>
<td>1.27 (1.54)**</td>
<td>0.37 (0.41)</td>
<td>0.42 (0.46)</td>
<td>FB, IG, and SC higher than LI and MP</td>
<td>.99 to .75</td>
</tr>
<tr>
<td>Age</td>
<td>21.95 (3.29)</td>
<td>21.28 (3.23)</td>
<td>21.20 (3.01)</td>
<td>23.20 (4.42)**</td>
<td>21.93 (3.29)</td>
<td>LI was higher than all other platforms</td>
<td>.50 to .32</td>
</tr>
<tr>
<td>Social Media Attitude</td>
<td>3.32 (1.38)</td>
<td>3.56 (1.35)**</td>
<td>3.51 (1.33)**</td>
<td>3.20 (1.50)</td>
<td>3.19 (1.28)</td>
<td>IG and SC were higher than LI and MP</td>
<td>.28 to .24</td>
</tr>
<tr>
<td>Number of SNS</td>
<td>2.74 (0.99)</td>
<td>3.08 (0.79)</td>
<td>3.12 (0.79)</td>
<td>3.34 (1.05)**</td>
<td>3.56 (0.98)**</td>
<td>MP and LI had more than FB, IG, and SC</td>
<td>.83 to .24</td>
</tr>
<tr>
<td>Loneliness</td>
<td>2.74 (0.97)</td>
<td>2.72 (0.95)</td>
<td>2.79 (0.95)**</td>
<td>2.68 (1.01)</td>
<td>2.57 (0.93)</td>
<td>SC higher than MP</td>
<td>.23</td>
</tr>
<tr>
<td>Social Integration</td>
<td>0.33 (0.19)</td>
<td>0.35 (0.20)</td>
<td>0.35 (0.20)</td>
<td>0.31 (0.18)</td>
<td>0.32 (0.17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Support</td>
<td>5.03 (0.87)</td>
<td>5.10 (0.82)</td>
<td>5.08 (0.83)</td>
<td>5.09 (0.80)</td>
<td>5.18 (0.74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Overall Health</td>
<td>77.68(14.82)</td>
<td>78.02(14.92)</td>
<td>77.59(15.25)</td>
<td>77.42(14.96)</td>
<td>79.65(14.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Mood</td>
<td>3.52 (0.66)</td>
<td>3.52 (0.66)</td>
<td>3.51 (0.66)</td>
<td>3.63 (0.65)</td>
<td>3.60 (0.63)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Mood</td>
<td>2.74 (0.75)</td>
<td>2.75 (0.75)</td>
<td>2.81 (0.77)</td>
<td>2.68 (0.80)</td>
<td>2.71 (0.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive Symptoms</td>
<td>9.09 (3.17)</td>
<td>9.20 (3.18)</td>
<td>9.43 (3.32)**</td>
<td>8.93 (3.16)</td>
<td>8.72 (2.99)</td>
<td>SC higher than MP</td>
<td>.22</td>
</tr>
<tr>
<td>Anxiety</td>
<td>2.94 (0.74)</td>
<td>2.95 (0.74)</td>
<td>3.01 (0.74)</td>
<td>2.87 (0.80)</td>
<td>2.86 (0.70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>5.02 (1.28)</td>
<td>4.98 (1.26)</td>
<td>4.89 (1.29)</td>
<td>5.08 (1.25)</td>
<td>5.18 (1.17)**</td>
<td>MP higher than SC</td>
<td>.24</td>
</tr>
<tr>
<td>Subjective Social Standing</td>
<td>57.63(24.14)</td>
<td>56.58(24.76)</td>
<td>55.90(24.52)</td>
<td>62.52(23.96)**</td>
<td>60.93(23.13)</td>
<td>LI higher than SC, IG, and FB</td>
<td>.27 to .20</td>
</tr>
</tbody>
</table>

*Note.* Only those relationships from the independent-samples t tests that are statistically significant are presented in this column. If blank, no statistical difference was observed. † Effect size (Cohen’s d) is interpreted as such: d > .20 is small, d > .50 is medium, d > .80 is large; A range of Cohen’s d values are presented when multiple comparisons are evaluated; SNS = Social Media and Social Networking Sites, FB = Facebook, IG = Instagram, SC = Snapchat, LI = LinkedIn, MP = Marco Polo.

*†p < .05. **p < .01.

### TABLE 2

**Correlations Between Daily Time Spent on Each Social Media Platform and Psychosocial Variable**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Entire Sample (n = 606)</th>
<th>Facebook (n = 552)</th>
<th>Instagram (n = 416)</th>
<th>Snapchat (n = 391)</th>
<th>LinkedIn (n = 137)</th>
<th>Marco Polo (n = 102)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily SNS Time (hr)</td>
<td>2.22 (SD = 1.81)</td>
<td>2.64 (SD = 1.01)</td>
<td>1.28 (SD = 1.26)</td>
<td>1.30 (SD = 1.26)</td>
<td>1.27 (SD = 1.54)</td>
<td>0.37 (SD = 0.41)</td>
</tr>
<tr>
<td>Number SNS</td>
<td>2.64 (SD = 1.01)</td>
<td>1.28 (SD = 1.26)</td>
<td>1.30 (SD = 1.26)</td>
<td>1.27 (SD = 1.54)</td>
<td>0.37 (SD = 0.41)</td>
<td>0.42 (SD = 0.46)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Entire Sample (n = 606)</th>
<th>Facebook (n = 552)</th>
<th>Instagram (n = 416)</th>
<th>Snapchat (n = 391)</th>
<th>LinkedIn (n = 137)</th>
<th>Marco Polo (n = 102)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.11**</td>
<td>-.11**</td>
<td>-.03</td>
<td>-.15**</td>
<td>-.09</td>
<td>-.05</td>
</tr>
<tr>
<td>Social Media Attitude</td>
<td>.48**</td>
<td>.29**</td>
<td>.22**</td>
<td>.31**</td>
<td>.26**</td>
<td>.04</td>
</tr>
<tr>
<td>Number of SNS</td>
<td>.25**</td>
<td>.00</td>
<td>-.02</td>
<td>.05</td>
<td>-.03</td>
<td>.06</td>
</tr>
<tr>
<td>Loneliness</td>
<td>.18**</td>
<td>.02</td>
<td>.15**</td>
<td>.14**</td>
<td>.10</td>
<td>-.22*</td>
</tr>
<tr>
<td>Social Integration</td>
<td>-.04</td>
<td>.12**</td>
<td>-.10*</td>
<td>.01</td>
<td>.07</td>
<td>-.07</td>
</tr>
<tr>
<td>Peer Support</td>
<td>-.03</td>
<td>.13**</td>
<td>-.03</td>
<td>-.05</td>
<td>-.11*</td>
<td>.15</td>
</tr>
<tr>
<td>Subjective Overall Health</td>
<td>-.08</td>
<td>-.03</td>
<td>-.07</td>
<td>-.08</td>
<td>.03</td>
<td>.14</td>
</tr>
<tr>
<td>Positive Mood</td>
<td>-.07</td>
<td>.03</td>
<td>-.09*</td>
<td>-.06</td>
<td>.04</td>
<td>.04</td>
</tr>
<tr>
<td>Negative Mood</td>
<td>.18**</td>
<td>.05</td>
<td>.11**</td>
<td>.19**</td>
<td>.05</td>
<td>-.10</td>
</tr>
<tr>
<td>Depressive Symptoms</td>
<td>.11**</td>
<td>.05</td>
<td>.10**</td>
<td>.08</td>
<td>-.02</td>
<td>-.20**</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.13**</td>
<td>.06</td>
<td>.11**</td>
<td>.15**</td>
<td>.03</td>
<td>-.20**</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td>-.15**</td>
<td>-.03</td>
<td>-.08</td>
<td>-.10*</td>
<td>-.08</td>
<td>.16</td>
</tr>
<tr>
<td>Subjective Social Standing</td>
<td>-.10*</td>
<td>.02</td>
<td>.00</td>
<td>-.06</td>
<td>.00</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Note.* SNS = Social Media and Social Networking Sites.

*†p < .05. **p < .01.
Second, users of three platforms reported using significantly \((p < .001)\) more social media platforms than those who did not use that specific platform, including Instagram \((d = 1.89)\), Snapchat \((d = 1.78)\), and Facebook users \((d = 1.38)\). Third, regarding social media attitudes, users of Instagram \((d = .72)\), Snapchat \((d = .53)\), and Facebook \((d = .52)\) reported significantly \((p < .001)\) higher (more positive) attitudes regarding the importance of social media in their lives. Whereas some specific SNS users showed mostly beneficial well-being differences (i.e., Instagram, LinkedIn, Marco Polo), others displayed more detrimental well-being differences (i.e., Facebook, Snapchat) compared to nonusers of that specific SNS. Overall, Snapchat users seemed to exhibit the most detrimental outcomes. Facebook users trended toward detrimental outcomes, and those who used the Internet extensively, an online “presence” by having multiple SNS accounts may increase perceptions of peer acceptance and provide them with topics to discuss with peers during in-person interactions, particularly ones that help foster social (e.g., Facebook) and professional (e.g., LinkedIn) goals. Thus, social media, in this case, may provide a social foundation whereupon relationships with peers can be built and nurtured.

Second, video-based (i.e., Marco Polo) and more professional (i.e., LinkedIn) SNS demonstrated the strongest links to improved well-being. Indeed, the use of videography may promote feelings of social connection and improved well-being beyond typical text and still-frame images through a more authentic social experience (Teo et al., 2019). Furthermore, Marco Polo delivers a message to a specific recipient rather than a post to a general audience, which may foster additional improved well-being and limit unhealthy social comparisons. In fact, direct communication through social media

### Discussion

The purpose of the current study was to address the current lack of information regarding how well-being and health-related outcomes may be linked to the use of different social media and networking sites (SNS) with an exploratory approach among a college student sample, which is a population known for high use of social media (Lenhart, 2018). Our results generally coincided with previous literature findings regarding outcomes associated with the increased daily use of SNS, but we also discovered unique well-being outcomes associated with the use of these specific SNS. Indeed, although increased daily time spent on social media and certain SNS were generally associated with more negative outcomes overall (e.g., loneliness, depressive symptoms, anxiety), these relationships varied according to different SNS platforms and characteristics. Interestingly, video-based and professional SNS platforms were related to improved well-being, although image-based and text-based SNS were not.

First, not surprisingly, daily use of SNS was positively related to social media attitudes and, regardless of the specific SNS used, was associated with more detrimental outcomes (e.g., loneliness, negative affect, anxiety, depressive symptoms), which coincides with many findings in the general literature (e.g., Song et al., 2014; Twenge et al., 2017; Wright et al., 2017). It may be that daily time spent on social media takes time away from other in-person interactions and is not as fulfilling for one’s social health needs (Huang, 2010). However, contrary to findings among other young adult samples (e.g., Primack et al., 2017), the number of SNS used was related to some positive health-related outcomes including social integration and perceived peer support. Among college students and those who use the Internet extensively, an online “presence” by having multiple SNS accounts may increase perceptions of peer acceptance and provide them with topics to discuss with peers during in-person interactions, particularly ones that help foster social (e.g., Facebook) and professional (e.g., LinkedIn) goals. Thus, social media, in this case, may provide a social foundation whereupon relationships with peers can be built and nurtured.

### TABLE 3

<table>
<thead>
<tr>
<th>Specific Platform User vs. Nonuser Difference t-Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Facebook</td>
</tr>
<tr>
<td>Loneliness</td>
</tr>
<tr>
<td>Subjective Health</td>
</tr>
<tr>
<td>Instagram</td>
</tr>
<tr>
<td>Social Integration</td>
</tr>
<tr>
<td>Peer Support</td>
</tr>
<tr>
<td>Snapchat</td>
</tr>
<tr>
<td>Loneliness</td>
</tr>
<tr>
<td>Social Integration</td>
</tr>
<tr>
<td>Negative Affect</td>
</tr>
<tr>
<td>Depressive Symptoms</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Life Satisfaction</td>
</tr>
<tr>
<td>LinkedIn</td>
</tr>
<tr>
<td>Positive Affect</td>
</tr>
<tr>
<td>Subjective Social Status</td>
</tr>
<tr>
<td>Marco Polo</td>
</tr>
<tr>
<td>Loneliness</td>
</tr>
<tr>
<td>Peer Support</td>
</tr>
</tbody>
</table>

Note. \(d\) represents difference in user of platform relative to nonusers; Effect size (Cohen’s \(d\)) is interpreted as such: \(d > .20\) is small, \(d > .50\) is medium, \(d > .80\) is large.

\(p < .10\), †\(p < .05\), ††\(p < .01\), †††\(p < .001\)
may improve perceived social support, mood, and cognition through a more realistic social interaction instead of fostering unrealistic comparisons through views of others’ posts or comments. Similarly, the motivation to engage with someone directly through video or, in the case of LinkedIn, using an SNS for more professional reasons (e.g., locating a job, speaking with a colleague) rather than for social comparisons, may elicit improved well-being because entertainment or comparison motives are not as salient.

On the other hand, the relationships between text-based (i.e., Facebook) and image-based SNS with negative health-related outcomes (especially Snapchat) suggest a unique effect of these specific platforms on user well-being. Compared to users of other SNS, Snapchat users exhibited greater loneliness, depressive symptoms, anxiety, and lower satisfaction with life, in general, suggesting that there may be something unique to the use of Snapchat or to Snapchat users, in general, that may link them to these outcomes. These findings are contrary to the findings of Pittman and Reich (2016) who found less depressive symptomology for image-based SNS users (i.e., Instagram). However, one potential interpretation, consistent with social comparison orientation (Buunk & Gibbons, 2006), is that image-based communications may enable social comparisons more readily and, given that people generally post overly positive or “picture perfect” types of images (Cramer, Song, Drent, 2016; Yang, 2016), this may activate negative emotions and cognitions within the users. Moreover, young women in our sample reported greater exposure to image-based SNS, making gender characteristics likely influential on these results. Indeed, young women are more likely to be held to higher social standards of appearance and achievement (MacNeill & Best, 2015) and, as such, experience more negative reactions to image-based platforms where unrealistic and idealized images of women are portrayed and viewed (Spyck, Gray, & Ahrens, 2004). It is difficult to know, however, since Instagram, another primarily image-based SNS, was associated with some poor health-related outcomes, but also manifested some positive health relationships (i.e., social integration, peer support) compared to other SNS platforms.

Finally, it is important to note two alternative explanations for these observations. First, Snapchat users were younger than users of all other SNS, suggesting that this may have produced well-being deficits because younger people tend to be more unsure and anxious about their future and less socially stable, especially within college settings (e.g., Sears, 1986). However, Instagram users were significantly younger than other users and did not manifest unilateral negative outcomes. Second, it is possible that those who have preexisting poor health profiles are drawn to certain SNS such that those who desire entertainment, have poor health, or desire social comparisons to others are drawn to image-based platforms like Snapchat and those who are drawn to video-based SNS (e.g., Marco Polo) may already have superior health.

Potential Limitations and Future Research Directions

Implications of this study should be considered in light of potential limitations. First and foremost, the cross-sectional design of this study limits drawing any causal conclusions. However, our large sample did enable us to detect some clear relationships between well-being and specific SNS use. Second, estimates provided of time spent on each SNS could overlap with time spent using other SNS, which limits our ability to link certain health-related outcomes to specific SNS use. Third, we did not query motivations for SNS use, which can impact well-being (e.g., Yang, 2016) and may be an influential factor. Fourth, SNS usage was determined via a single item with the potential for retrospective self-report bias across a 30-day average estimation, and the relatively large number of t-tests conducted raises concern for Type I error (false positive), although we focused only on those with at least a small effect size (d ≥ .20). Finally, we only examined five specific SNS, used a college student sample, and might not have included influential control variables, which may limit generalizability.

Future research should investigate the directionality of the relationship between health and SNS use by well-constructed longitudinal, controlled, and experimental research designs. Different populations should be investigated such as adolescents, older adults, and children who are beginning to use social media to ascertain whether relationships for college students are similar or different for these other populations. Building on the idea that motivations for SNS use are an important factor, examining SNS use motivations and additional SNS platforms across an international domain may yield additional interesting cultural contrasts and similarities. Finally, future studies could examine additional health outcomes, especially objectively measured outcomes (e.g., BMI, blood pressure), which are important health indicators within the college student population (e.g., Wright et al., 2018).

Conclusion

In conclusion, the current study sheds light on the important issue of technology use and health, focusing on differences between types of social media and networking sites across a range of health and well-being outcomes. In sum, the main
conclusions drawn from these findings are that increased daily use of social media has a negative impact on the user well-being, image-based social media (i.e., Snapchat) use is associated with more negative health-related outcomes, and video-based (i.e., Marco Polo) and professional social media (i.e., LinkedIn) use are related to more positive outcomes. As technological advances continue to develop, this area of research inquiry will remain of great importance to researchers and practitioners. As such, it is our desire and hope that future research can build on this to provide additional and valuable understanding of the complicated relationship between technology use and health.

References


Author Note. Robert R. Wright, Brigham Young University–Idaho; Chad Schaeffer, Brigham Young University–Idaho; Rhett Mullins, https://orcid.org/0000-0003-2903-8216 Brigham Young University–Idaho; Austin Evans, https://orcid.org/0000-0002-1486-4630 Brigham Young University–Idaho; and Laure Cast, https://orcid.org/0000-0001-7568-5727

This research was supported by internal funding from Brigham Young University–Idaho for student- and faculty-directed research. Furthermore, the authors declare a potential conflict of interest as this research investigation was, in part, also supported by funding from Joya Communications Inc (the organization that manages the Marco Polo app), which also assisted in reviewing data analysis and interpretation. We would like to thank Amanda Butler for her assistance on an earlier draft of this paper, as well.

Correspondence concerning this article should be addressed to Robert R. Wright, Department of Psychology, Brigham Young University–Idaho, 525 South Center St. Rexburg, ID 83460-2140. Phone: 208-496-4085. E-mail: wrightro@byui.edu
Psi Chi Journal of Psychological Research 2019 Reviewers

We sincerely appreciate the hard work on the part of the following individuals who each completed at least one review in 2019. Without the assistance of such dedicated professionals, Psi Chi Journal would not be able to function. —Debi Brannan (Editor)

Leslie D. Cramblet Alvarez
Adams State University

Kathryn B. Anderson
Our Lady of the Lake University

Maria Anderson
Farmingdale State College

Glena Lynne Andrews
George Fox University

Trey Asbury
Texas Woman’s University

Lara K. Ault
Saint Leo University

Ruth L. Ault
Davidson College

Danielle Balaghi
Michigan School of Psychology

Angela Banitt Duncan
Washburn University

Daniel W. Barrett
Western Connecticut State University

Mark E. Basham
Regis University

Susan E. Becker
Colorado Mesa University

Michelle Beddow
Saginaw Valley State University

Barbara Blatchley
Agnes Scott College

Stefanie S. Boswell
University of the Incarnate Word

Karen Brakke
Spelman College

Kosha D. Bramesfeld
University of Toronto Scarborough

Scott R. Brandhorst
Southeast Missouri State University

Sheila Brownlow
Catawba College

Brittany Canfield
California Southern University

Mary Jo Carnot
Chadron State College

Bradley James Caskey
Birmingham-Southern College

Shawn R. Charlton
University of Central Arkansas

Maria Carla Chiarella
University of North Carolina at Charlotte

Daniel Corts
Augustaana College

Sarah Cronin
Bemidji State University

Grace Deason
University of Wisconsin - La Crosse

Leslie D. Cramblet Alvarez
Adams State University

Kathryn B. Anderson
Our Lady of the Lake University

Maria Anderson
Farmingdale State College

Glena Lynne Andrews
George Fox University

Trey Asbury
Texas Woman’s University

Lara K. Ault
Saint Leo University

Ruth L. Ault
Davidson College

Danielle Balaghi
Michigan School of Psychology

Angela Banitt Duncan
Washburn University

Daniel W. Barrett
Western Connecticut State University

Mark E. Basham
Regis University

Susan E. Becker
Colorado Mesa University

Michelle Beddow
Saginaw Valley State University

Barbara Blatchley
Agnes Scott College

Stefanie S. Boswell
University of the Incarnate Word

Karen Brakke
Spelman College

Kosha D. Bramesfeld
University of Toronto Scarborough

Scott R. Brandhorst
Southeast Missouri State University

Sheila Brownlow
Catawba College

Brittany Canfield
California Southern University

Mary Jo Carnot
Chadron State College

Bradley James Caskey
Birmingham-Southern College

Shawn R. Charlton
University of Central Arkansas

Maria Carla Chiarella
University of North Carolina at Charlotte

Daniel Corts
Augustaana College

Sarah Cronin
Bemidji State University

Grace Deason
University of Wisconsin - La Crosse

Leslie D. Cramblet Alvarez
Adams State University

Kathryn B. Anderson
Our Lady of the Lake University

Maria Anderson
Farmingdale State College

Glena Lynne Andrews
George Fox University

Trey Asbury
Texas Woman’s University

Lara K. Ault
Saint Leo University

Ruth L. Ault
Davidson College

Danielle Balaghi
Michigan School of Psychology

Angela Banitt Duncan
Washburn University

Daniel W. Barrett
Western Connecticut State University

Mark E. Basham
Regis University

Susan E. Becker
Colorado Mesa University

Michelle Beddow
Saginaw Valley State University

Barbara Blatchley
Agnes Scott College

Stefanie S. Boswell
University of the Incarnate Word

Karen Brakke
Spelman College

Kosha D. Bramesfeld
University of Toronto Scarborough

Scott R. Brandhorst
Southeast Missouri State University

Sheila Brownlow
Catawba College

Brittany Canfield
California Southern University

Mary Jo Carnot
Chadron State College

Bradley James Caskey
Birmingham-Southern College

Shawn R. Charlton
University of Central Arkansas

Maria Carla Chiarella
University of North Carolina at Charlotte

Daniel Corts
Augustaana College

Sarah Cronin
Bemidji State University

Grace Deason
University of Wisconsin - La Crosse

Leslie D. Cramblet Alvarez
Adams State University

Kathryn B. Anderson
Our Lady of the Lake University

Maria Anderson
Farmingdale State College

Glena Lynne Andrews
George Fox University

Trey Asbury
Texas Woman’s University

Lara K. Ault
Saint Leo University

Ruth L. Ault
Davidson College

Danielle Balaghi
Michigan School of Psychology

Angela Banitt Duncan
Washburn University

Daniel W. Barrett
Western Connecticut State University

Mark E. Basham
Regis University

Susan E. Becker
Colorado Mesa University

Michelle Beddow
Saginaw Valley State University

Barbara Blatchley
Agnes Scott College

Stefanie S. Boswell
University of the Incarnate Word

Karen Brakke
Spelman College

Kosha D. Bramesfeld
University of Toronto Scarborough

Scott R. Brandhorst
Southeast Missouri State University

Sheila Brownlow
Catawba College

Brittany Canfield
California Southern University

Mary Jo Carnot
Chadron State College

Bradley James Caskey
Birmingham-Southern College

Shawn R. Charlton
University of Central Arkansas

Maria Carla Chiarella
University of North Carolina at Charlotte

Daniel Corts
Augustaana College

Sarah Cronin
Bemidji State University

Grace Deason
University of Wisconsin - La Crosse
Master of Arts in Psychology

A Master’s degree in psychology can lead to a new or more rewarding career in health & human services or a doctorate.

**Featuring flexible program scheduling, CCSU’s MA in Psychology offers three tracks**

- **General Psychology**
  Highly flexible and tailored to students’ particular interests, the graduate program in General Psychology prepares graduates for careers in human services or further graduate study.

- **Community Psychology**
  The program in Community Psychology prepares students to be active practitioners in prevention and community-based research. You can take the lead in developing and implementing interventions against the onset of substance abuse, interpersonal violence, and depression.

- **Health Psychology**
  The only program of its kind in New England, the program in Health Psychology enables students to deeply understand biological, behavioral, and social factors in health and illness and to develop interventions fostering health.

To learn more and apply: www.ccsu.edu/grad

---

**GREAT NEWS!**

*Ps* **Chi Journal Reveals Broader Eligibility Requirements**

The first author of articles published in *Ps* Chi *Journal of Psychological Research* is no longer required to be a Psi Chi member! Effective January 2020, only a single author (either the first author or a coauthor) is now expected to provide an official Psi Chi membership ID number at the time of submission.

The Psi Chi Board of Directors and Journal Editorial Team both approve of this exciting development. Consistent with best practices in publishing, this change will help open up the journal’s rigorous, but educational, peer-review process to a new, broader audience.

Learn more about publishing your empirical research with Psi Chi at

[www.psichi.org/journal_main](http://www.psichi.org/journal_main)
PSI CHI Advertising Contract: *Psi Chi Journal*

**CLIENT INFORMATION**

Adviser:

Contact Name:

Address | Street or P.O. Box |
City | State | Zip | Country |

Phone (daytime) | E-mail |
Submitted by |
Authorized Signature |

Please read our Privacy Policy at https://www.psichi.org/general/custom.asp?page=PrivacyPolicy

**DIGITAL PUBLICATION**

**Issue**

- Spring (deadline Jan 31) online Feb 22
- Summer (deadline April 15) online May 17
- Fall (deadline Sept 3) online Sept 28
- Winter (deadline Nov 15) online Dec 14

**Size/Dimensions**

- Full page (no bleed) 6 ⅞” x 9 ⅛” Cost: $400 Black & White only
- Half page (horizontal) 6 ⅞” x 4 ⅜” Cost: $275 Black & White only

Articles are also indexed in PsyCINFO, EBSCO, and CrossRef databases—essential tools that researchers use to search for millions of psychology-related articles. This makes *Psi Chi Journal* a key place to communicate your message with our Professional Organization’s three quarters of a million lifetime members and far beyond.

**AD SPECIFICATIONS**

- Digital format: PDF, EPS, and TIFF
- Resolution: 300 dpi | B&W line art—1,200 dpi
- Black & white ads (no RGB or 4-color process)
- PDF settings: Press quality, embed all fonts

**DEADLINE/BILLING**

Payment due upon receipt of invoice.

**CONTACT**

Submit contract by e-mail to

Susan Iles
Advertising Sales
Psi Chi Central Office
E-mail: susan.iles@psichi.org
Phone: 423-771-9964

---

See past issues of *Psi Chi Journal of Psychological Research* at http://www.psichi.org/?journal_past

---

**SPRING 2020**

---

**PSI CHI JOURNAL OF PSYCHOLOGICAL RESEARCH**

---

**COPYRIGHT 2020 BY PSI CHI, THE INTERNATIONAL HONOR SOCIETY IN PSYCHOLOGY (VOL. 25, NO. 1/ISSN 2325-7342)**
LOOKING FOR COLLABORATIVE RESEARCH EXPERIENCE?

Join the Psi Chi CROWD!

Students and faculty within the United States and beyond are invited to participate in the CROWD, which is Psi Chi’s annual, guided cross-cultural research project. Specific benefits of joining the CROWD include:

- a reduced burden of having to solicit large numbers of participants,
- increased diversity of student samples,
- accessible materials and protocols for participating researchers, and
- a convenient platform to engage students in the scientific research process.

Contributing to the CROWD provides unique data collection and publication experiences that can be used to strengthen any student’s CV.

For more information, visit https://www.psichi.org/Res_Opps or contact the NICE Chair, Megan Irgens, at nicechair@psichi.org.
Publish Your Research in *Psi Chi Journal*

Undergraduate, graduate, and faculty submissions are welcome year round. Only one author (either first author or coauthor) is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
- free access of all articles at psichi.org
- our efficient online submissions portal

View Submission Guidelines and submit your research at www.psichi.org/?page=JN_Submissions

---

Become a Journal Reviewer

Doctoral-level faculty in psychology and related fields who are passionate about educating others on conducting and reporting quality empirical research are invited become reviewers for *Psi Chi Journal*. Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—Please join us!

To become a reviewer, visit www.psichi.org/page/JN_BecomeAReviewer

---

Resources for Student Research

Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at www.psichi.org/journal_past

---

Add Our Journal to Your Library

Ask your librarian to store *Psi Chi Journal* issues in a database at your local institution. Librarians may also e-mail to request notifications when new issues are released.

Contact PsiChijournal@psichi.org for more information.

---

Register an account:
http://pcj.msubmit.net/cgi-bin/main.plex