EXPLORING THE ASSOCIATION OF TIKTOK USAGE TO ANXIETY, DEPRESSION, BODY IMAGE, AND SELF-ESTEEM: THE ROLE OF PERFECTIONISM AND SOCIAL COMPARISON AS MODERATING FACTORS

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Abstract

Since its inception, social media has largely been characterized as maladaptive for its users. Limited empirical research exists investigating the psychological implications of newer platforms such as TikTok, characterized by short videos which comprise the majority of its content. The present study examined the association between TikTok usage and mental health symptoms among 114 undergraduate students, a relevant population due to the platform's popularity in this demographic subgroup. Based on existing literature on social media and mental health, the study sought to determine whether frequency of TikTok usage would show an association with symptoms of distress, body image disturbance, and self-esteem problems. It was hypothesized that frequency of TikTok usage would be significantly and positively correlated with symptoms of psychological distress (i.e., symptoms of anxiety and depression), body image disturbance, and self-esteem problems. Results showed that TikTok usage was indeed significantly and positively associated with distress, but not body image disturbance or self-esteem problems. Additionally, based on existing literature, it was hypothesized that perfectionism and social comparison would each significantly moderate the relationship between TikTok usage and distress, body image disturbance and self-esteem problems. More specifically, it was expected that higher perfectionism and social comparison scores would be associated with an even stronger positive association of TikTok use and outcome measures. Contrary to predictions, neither social comparison nor perfectionism moderated any of the relationships with TikTok usage, although both showed significant bivariate relations with some outcome measures. This study underscores the relevance of evaluating reduction in the use of TikTok as a means of possibly lowering distress among college students, and vice versa.

Keywords: social media, TikTok, perfectionism, social comparison, distress

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Exploring the Association of TikTok Usage to Anxiety, Depression, Body Image, and Self-Esteem: The Role of Perfectionism and Social Comparison as Moderating Factors

The rise of social media usage has revolutionized the way individuals connect, communicate, and navigate their daily lives. Recent data indicates that more than 50% of the global population is actively using social networking sites (Pew Research Center, 2018). This is particularly true for younger cohorts in the 18-year-old to 24-year-old range. Although there are many benefits to social media as a means of communication, studies have observed the mental health of young adults in the United States declining, identifying social media use as a possible contributor (Twenge & Campbell, 2019).

Between 2008 and 2018, the total number of people aged 18 to 23 who reported a depressive episode increased by 83% (National Survey on Drug Use and Health, 2019). In Western industrialized cultures, Arnett (2000) depicts emerging adulthood as the developmental stage spanning from 18 to 29 years of age. This age and developmental period (e.g., college) directly overlap with both heightened social media usage and the uptick in self-reported depression. Thus, understanding the association of social media use with the mental health of university students is paramount.

Consequences of Social Media Usage

Historically, internet use has been associated with negative influences on social relationships, community life, and psychological well-being (Huang, 2017). Since the inception of Facebook in 2004, researchers have grown increasingly curious about the possible influence of social networking sites on the psychological well-being of young adults. There appears to be a multitude of negative consequences that correlate with a variety of mental health disorders (Andreassen et al., 2016). For example, Karim and colleagues (2020) found anxiety and

depression as the most commonly measured outcomes, with risk factors consisting of time spent on the application, the particular activity the user is engaged in, and one's overall psychological dependence on social media. Ample research also indicates a positive correlation of time spent using social media with symptoms of body dysmorphia and anxiety, and a negative correlation with self-esteem (Molina-Ruiz et al., 2022). Interestingly, despite TikTok's extreme popularity, little research exists regarding its impact. Based on these identified negative consequences from previous investigations, the current study will seek to close the knowledge gap involving TikTok usage and anxiety, depression, body image, and self-esteem.

TikTok Usage

The ubiquity of social media has consistently drawn scholarly interest, however the existing research on TikTok is limited due to its novelty. TikTok is a social media application that allows individuals to share, consume and create short video content. The application is owned by Chinese technology company, ByteDance and made its debut in 2017 (Bhandari & Bimo, 2022). TikTok has accrued a massive userbase, having been downloaded over *2.6 billion* times worldwide since 2021 (Bhandari & Bimo, 2022). The Pew Research Center (2021) reported that while a majority of Americans use YouTube and Facebook as their preferred social media applications, TikTok is predominantly popular among adults under 30 years old. In particular, 47% of TikTok's usership is in the 18-24 year-old range.

TikTok's Role in the Social Media Landscape

Many researchers have conducted investigations to identify the potential reasons for TikTok's rapid and substantial growth. Some studies indicate that the Coronavirus-19 pandemic spanning from 2020 to 2022 may have contributed, as many users were isolated at home (Schellewald, 2023). While TikTok is not unlike other social media applications (e.g.,

Instagram, Facebook) which allow live streaming and short-video features, studies indicate TikTok's key differentiating feature is its personalization factor. TikTok's tailored content feed known as the "*For You Page*" has become a prominent part of users' daily lives. For example, when users were asked to describe the appeal of TikTok versus other social media platforms, they frequently praised the accuracy of the content, noting how it directly targets their personal interests and points of view (Bhandari & Bimo, 2022).

Anxiety

The current literature indicates anxiety is one of the most commonly associated symptoms of social media use. Andreassen and researchers (2016) discovered that adolescents and young adults are more likely than older adults to endorse signs of addictive social media use and thus report higher levels of anxiety symptoms. Within this context, Andreassen and researchers characterize "addictive use" as an individual's tendency to be overly concerned about online activities. Additionally, addictive use includes a user's uncontrollable motivation to perform a particular social media behavior and devoting excess time such that it impairs other areas of their life (Andreassen & Pallesen, 2014). Similarly, research supports the understanding that higher daily social media usage is associated with greater dispositional anxiety symptoms among emerging adults (Vannucci et al., 2017).

While limited research exists assessing the relationship between TikTok usage and anxiety, Chao et al. (2023) determined higher levels of social anxiety associated with increased usage. Further, Yao et al. (2023) discovered that social anxiety is a prominent psychopathological risk factor with problematic TikTok use. Within this study, "problematic TikTok use" is defined by symptoms of psychological withdrawal without access to TikTok, continued usage despite a disturbance in daily life, and loss of control over usage.

Body Dysmorphia and Body Image

In addition to anxiety, research indicates the amount of time spent on social media has also been linked with levels of body dissatisfaction and may serve as a trigger for dysmorphic concerns and obsessive thoughts regarding one's appearance (Himanshu et al., 2020). Further, engagement in photo-based platforms may promote comparison and prompt unhealthy self-image ideals. For example, McLean et al. (2015) found that adolescent girls who participated more in photo-sharing and posted more "selfies" on social media placed increased emphasis on their body image. Moreover, Ryding & Kuss (2020) have identified frequent social media usage (e.g., Facebook, Instagram, and Twitter) as a potential risk factor for developing symptoms of body dysmorphic disorder.

It is crucial to acknowledge that there are differences in the ways a user may operate a social media platform and therefore varying implications for body image. Research has identified main variations across platforms based on their unique features. Such features may include the ability to like, comment, edit, create, and post self-images. Substantial experimental and cross-sectional studies indicate that photo-based platforms such as Instagram and Snapchat relate more consistently than text-based platforms like Facebook or Twitter, to a higher likelihood of dysfunctional body image (Vandenbosch et al., 2022). While photo-based platforms have more thoroughly been evaluated to support this correlation, TikTok is still being examined and the exact mechanisms of how this application affects body valuation is yet to be fully understood (Harriger et al., 2023). However, it can be argued that a platform involving dynamic individualized videos rather than static photos could have an even stronger relation to symptoms of body image dissatisfaction. Preliminary studies indicate that TikTok use can evoke appearance-based social comparisons which increase the likelihood of body image dissatisfaction

and negatively influences appearance-perception among its users (Pryde & Prichard, 2022, Mink & Szymanski, 2022).

Self-Esteem

Studies have yielded mixed results regarding the relationship between social media usage and self-esteem. While Sherlock and Wagstaff (2019) found no experimental effect of exposure to Instagram images on an individual's self-esteem, they found frequency of use of general social media to be associated with self-esteem problems among young adults. Further, Jan et al. (2017) revealed increased time on social media caused increased self-esteem problems in a sample of university students. However, such studies have rarely examined the relationship between social media and self-esteem in the context of differences in culture, gender, and age (Cingel et al., 2022). Pruccoli et al. (2022) determined that in a sample consisting of adolescents with a diagnosed eating disorder, 59% reported that increased time on TikTok was significantly associated with self-esteem problems. However, there is little research examining the impact of TikTok among a college sample that does not have pre-existing mental health conditions. Thus, there is need for additional research specifically assessing the self-esteem of TikTok users at the university level without pre-existing mental health conditions.

Perfectionism

Based on a recent meta-analysis, data indicates that levels of perfectionism among young people have steadily increased over the last 27 years (Curran & Hill, 2019). Perfectionism is understood to be a multidimensional construct typified by flawlessness, excessively high standards, and being overly critical of one's own behavior. In addition, it may serve as a vulnerability for mental health conditions such as anxiety and depression (Newman et al., 2019; Wu & Cortesi, 2009). Perfectionism as a construct is linked to both adaptive and maladaptive

mental health outcomes. While adaptive perfectionists are inclined to rely heavily on reappraisal of negative moods, maladaptive perfectionists rely on emotional suppression or one's attempt to evade their negative thoughts and feelings. Emotional suppression has predicted less effective emotion-regulation as well as reduced well-being and life satisfaction (Richardson et al., 2014). Behaviorally, maladaptive perfectionism has been significantly associated with obsessive-compulsive tendencies in an effort to strive toward perfection (Newman et al., 2019). Further, perfectionism has been identified as a moderating factor between image-based social media use and body dysmorphia. Gupta et al. (2023) found that individuals with stronger perfectionistic tendencies are more likely to experience increased body dysmorphic symptoms. Ultimately, although existing research emphasizes the link between perfectionism and negative psychological outcomes among university students, there remains a gap in understanding the role of perfectionism as it relates to video-based applications like TikTok.

Social Comparison

While social comparison is a fundamental aspect of human cognition irrespective of culture, upward social comparison may be identified as problematic (Buunk & Gibbons, 2007). Due to the likelihood of social media users presenting a positively biased version of themselves online, upward comparisons may be inevitable. Existing research has indicated that upward social comparison processes are responsible for perpetuating underlying maladaptive beliefs in individuals (Vogel et al., 2014). Moreover, recent studies indicate that effects of social comparison are reliant upon conditions such as the type of social media used and the content viewed (Meier & Johnson, 2022). Yang et al. (2018) conducted a study on the impact of social media-influenced social comparison in a college-age sample and found a positive association with concurrent rumination. This association ultimately predicted higher intensity of distress

regarding identity issues, such as, values, goals, and self-perception. Additionally, social comparison has also been identified as a moderating factor in the relationship between social media use and psychological outcomes. Yasin et al. (2021) found that in a sample of 384 university students, social comparison significantly moderated the association between Facebook use and depression. These findings indicate that social comparison may play a crucial role in strengthening the negative psychological effects of other social media platforms, such as TikTok.

Lastly, Lewin et al. (2022) conducted a study using five of the most popular social media applications: Facebook, Instagram, Snapchat, TikTok, and Twitter. Results showed that in each platform, the frequency of comparing one's abilities with others was positively associated with increased use of the platform. However, Lewin and researchers noted that the frequency of comparing one's opinions with others was negatively associated with the problematic use of Facebook, Instagram, and Snapchat, but *not* TikTok. A possible explanation as to why TikTok may differ in the domain of social comparison is due to the nature of TikTok's interactions. TikTok's interactions revolve around a user engaging with an "algorithmized version of self" rather than a user and their social network, like all other social media platforms do (Bhandari & Bimo, 2020). An "algorithmized self" is an extension of a "networked self" in which one understands the self as deriving from their engagement with prior self-representations rather than their social connections (Boyd, 2010). This may demonstrate that a participant's frequency of social comparison varies based on the platform they are using. To this end, future studies are necessary to further understand the association between TikTok and social comparison behaviors.

The Current Study

The current study investigated the ways in which the frequency of TikTok use is associated with an individual's symptoms of anxiety, depression, body image disturbance, and self-esteem. Further, the current study examined whether or not perfectionism and social comparison moderate these associations. This study deviates from the current literature which largely focuses on the impact of photograph-related platforms, some of which have already fallen out of favor among young adults (Pew Research Center, 2024). The current study investigated the novel and more current video-centered platform. Based on prior findings on the association of social media and psychological symptoms, it was hypothesized that there would be positive and significant correlations between TikTok usage (measured in daily time spent on the platform) and symptoms of anxiety, depression, body image disturbance, and self-esteem problems.

Second, it was hypothesized that perfectionism would significantly moderate the association between TikTok usage and symptoms of anxiety, depression, body image, and self-esteem. In other words, greater degrees of perfectionism would inflate the association of TikTok usage to distress, body image disturbance and self-esteem problems. Lastly, it was hypothesized that social comparison would also significantly moderate the association between TikTok usage and symptoms of anxiety, depression, body image, and self-esteem problems in a similar manner.

Methods

Participants

Undergraduate participants (N=114) at an urban northeastern university 18 years or older were recruited through an online subject pool in the psychology department. The final sample only included individuals who completed the survey in its entirety (81%). The participants

consisted of 86 females (75.4%) and 28 males (24.6%). In terms of ethnicity, the sample was predominately Hispanic or Latino, 40 (35.1%) and Caucasian, 37 (32.5%), followed by African-American, 19 (16.7%), Asian, 14 (12.3%) and 4 people, (3.4%) who declined to respond. 79.8% of participants were between the ages of 18 and 22 years-old. Additional details of the sample can be found in Table 1.

Measures

Patient Health Questionnaire-9

The Patient Health Questionnaire-9 (PHQ-9; Spitzer et al., 1999) is a nine item self-report scale assessing the frequency of depression symptoms. Responses on the questionnaire are measured on a four-point Likert Scale ranging from zero to three with zero indicating "not at all" and three indicating "nearly every day." The measure has shown strong psychometric properties with high internal consistency ($\alpha = 0.87$), structural validity and convergent validity (Beard et al., 2016). An analysis of the PHQ-9 responses in this sample indicated strong internal consistency ($\alpha = .90$). A depression score was calculated by adding all responses across the PHQ-9 scale.

Body Image Avoidance Questionnaire

The Body Image Avoidance Questionnaire (BIAQ; Rosen et al., 1991) is a 19-item questionnaire designed to evaluate an individual's level of body image disturbance. The measure probes an individual's likelihood of avoiding situations that may provoke concern regarding their physical appearance. The BIAQ highly correlates with negative attitudes regarding one's weight and shape. Items are scored on a 6-point Likert scale according to the frequency of a participant's behavior. Higher scores on the measure indicate greater body dissatisfaction. The measure possesses strong psychometric properties with an internal consistency of ($\alpha = 0.89$) and

a high test-retest reliability (r = .87; Rosen et al., 1991). An analysis of the BIAQ responses in this sample indicated strong internal consistency (α = .77). A total body image disturbance score was calculated by adding all responses across the BIAQ.

Negative Social Media Comparison Scale

This seven item self-report scale measures how negatively subjects compare themselves to others on social media. This is answered on a 6-point Likert scale in which higher scores indicate a greater tendency to compare one's self more negatively to others. This measure contains strong psychometric properties with an internal consistency of (α = 0.89; Samra et al., 2022). An analysis of the Negative Social Media Comparison Scale (NSMCS) in this sample indicated strong internal consistency (α = .93). A negative social media comparison score was calculated by adding all responses across the NSMCS.

General Anxiety Disorder-7

The General Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) is a self-report instrument consisting of seven items measuring a participant's anxiety symptoms (Spitzer et al., 2006). Several psychometric evaluations have supported its reliability and value, and its internal consistency is strong (α = 0.89). Lastly, the GAD-7 demonstrates moderate to strong correlations with measures of commonly comorbid disorders (Dhira et al., 2021). An analysis of the GAD-7 responses in this sample indicated strong internal consistency (α = .89). A total anxiety score was calculated by adding all responses across the GAD-7.

Almost-Perfect Scale-Revised

The Almost-Perfect Scale-Revised (APS-R; Slaney et al., 1996) is a 23-item self-report questionnaire which assesses perfectionistic tendencies by measuring three variables: high standards, order, and discrepancy. The scale works to distinguish between adaptive and

maladaptive perfectionism in its subjects. The scale has strong psychometric properties with a high internal consistency (α = 0.89; Slaney et al., 1996). An analysis of the APS-R responses in this sample indicated strong internal consistency (α = .94). A perfectionism score was calculated by adding all responses across the ASP-R.

Rosenberg Self-Esteem Scale

This self-report scale consists of 10 items to measure a subject's self-esteem (RSES; Rosenberg, 1965). The 10 items consist of five which are negatively worded and based on a four point scale ranging from "strongly agree" to "strongly disagree." The RSES is widely used and has strong psychometric properties, including a high internal consistency (α = 0.88; Rosenberg, 1965). The higher an individual scores on the test, the higher their self-esteem. An analysis of the RSES responses in this sample indicated strong internal consistency (α = .88). A total self-esteem score was calculated by adding all responses across the RSES.

Procedure

This study received approval from the university's Institutional Review Board. The study was conducted through an online survey administration tool. Once subjects completed the consent form, the survey protocol opened with three demographic questions and two introductory questions. The three demographics questions inquired about the participant's identified gender, ethnicity, and age. The first introductory question asked subjects about their average daily use time of TikTok and six choices were given ranging from "less than 10 minutes" to "more than 360 minutes." The second question inquired about individuals' TikTok frequency with four choices ranging from "never" to "every day." Following the two time-related questions, the six abovementioned self-report assessments were deployed. Measures were

administered in the same random order for all participants. In exchange for participation, those who volunteered earned two credits.

Statistical Analysis Plan

Statistical Package for Social Science (SPSS) version 30 was used for all data analyses. Prior to beginning the analyses, the data were examined for outliers and possible disingenuous responses. Of the 140 responses, 20 were eliminated due to incompletion, two for taking an excessive amount of time to complete (more than 120 minutes) and four for being completed too rapidly (less than 20 minutes). The removal of these responses (19% of the total sample) reduced the sample to 114 participants.

Prior to testing the first hypothesis, due to the strong correlation between anxiety and depression scores ($r = .84$, $p < .001$), the two measures were converted to Z-scores and combined, forming a single composite variable, ‘distress.’ Pearson correlation coefficients were calculated to evaluate the strength and direction of the outlined relationships of TikTok usage and three outcome variables; distress, body image disturbance, and self-esteem problems. The second hypothesis utilized a moderation analysis to determine whether perfectionistic tendencies moderate the association between daily TikTok usage and symptoms of distress, body image disturbance, and self-esteem. Finally, to test the third hypothesis, a second moderation analysis was conducted. This examined whether social comparison moderated the association between daily TikTok usage and symptoms of distress, body image disturbance, and self-esteem.

Results

Correlations – Daily TikTok Usage

The first hypothesis was that a positive and significant relationship would exist between daily TikTok usage and symptoms of distress, body image disturbance, and self-esteem

problems, which was tested with bivariate Pearson correlations. The results revealed a significant positive correlation between daily TikTok usage and symptoms of distress (r = .21, p = .026). There was an unexpected negative association of daily TikTok usage and body image disturbance that approached significance (r = -.16, p < .090). TikTok usage was not significantly correlated with self-esteem problems (r = .10, p = .294) (see Table 2). These results indicate that increased daily TikTok usage is associated with greater severity of distress but lower levels of body image disturbance.

Moderation Analyses – Perfectionism

The second hypothesis proposed that perfectionism would significantly moderate the association between daily TikTok usage and symptoms of distress, body image disturbance and self-esteem problems. Symptoms of perfectionism showed positive bivariate correlations with two of the dependent variables (distress, r = .57, p < .001; self-esteem problems, r = .71, p < .001), and a negative bivariate correlation with body image disturbance (r = -.48, p < .001).

In a moderation model predicting distress, the overall model was significant (F(3, 110) = 13.72, p <.001). However, only the main effect of perfectionism was a significant predictor of distress (b = 0.13, p = .003) (Table 3). Neither daily TikTok usage nor the interaction of the two contributed to the moderation analysis, therefore the model is explained only by the main effect of perfectionism (Table 3, Figure 1).

In a moderation model predicting body image disturbance, the model was significant, (F(3, 110) = 17.00, p <.001), however, once again, only the main effect of perfectionism was significant and negative (b = -0.56, p = .001) (see Table 4). However, daily TikTok usage was not found to be a significant predictor of body image disturbance (b = -1.68, p = .170), and neither was the interaction of the two (Table 4, Figure 2).

Last, in the third moderation model predicting self-esteem problems, the model was significant, ($F(3, 110) = 17.48$, $p < .001$). Again, the main effect of perfectionism significantly predicted self-esteem problems ($b = 0.27$, $p = .033$) (Table 5). However, neither daily TikTok usage nor the interaction of the two were significant predictors of self-esteem problems (see Table 5, Figure 3).

Moderation Analyses – Social Comparison

The third and final hypothesis predicted that social comparison tendencies would significantly moderate the association between daily TikTok usage and symptoms of distress, body image disturbance, and self-esteem problems. Social comparison tendencies showed a positive correlation with distress ($r = .49$, $p < .001$) and self-esteem problems ($r = .56$, $p < .001$). Additionally, there was a negative correlation of symptoms of body image disturbance with social comparison ($r = -.55$, $p < .001$) (see Table 2).

In a moderation model predicting distress, the model was significant, ($F(3, 110) = 18.28$, $p < .001$). However, only the main effect of social comparison was a significant predictor of distress ($b = 0.07$, $p = .002$) (see Table 6). Neither daily TikTok usage nor the interaction of the two reached statistical significance, therefore, the moderation model was not accounted for by the predicted interactive effect (Table 6, Figure 4).

Similarly, in a moderation model predicting body image disturbance, the model was significant ($F(3, 110) = 11.09$, $p < .001$). However, once again, only the main effect of social comparison was a significant predictor of body image disturbance ($b = -0.23$, $p = .029$) (Table 7). Neither daily TikTok usage nor the interaction of the two variables significantly predicted body image disturbance, therefore, the moderation model was not accounted for by the predicted interactive effect (see Table 7, Figure 5).

Finally, in the last moderation model predicting self-esteem problems, the model was significant ($F(3, 110) = 37.18$, $p < .001$). Again, the main effect of social comparison was the only significant predictor of self-esteem problems ($b = 0.26$, $p < .001$) (see Table 8, Figure 6). Neither daily TikTok usage nor the interaction of the two variables were significant predictors of self-esteem problems in the model. Therefore, the moderation model was not accounted for by the predicted interactive effect.

Discussion

This study explored the association between TikTok usage and mental health symptoms with emphasis on undergraduate university students, due to its popularity with this demographic. This study further advances the existing research examining the association between social media usage and psychological well-being. These findings potentially offer valuable insight into this innovative platform and the vulnerability of its users.

It was hypothesized that participants who exhibited higher frequency of daily TikTok usage would experience increased symptoms of distress, body image disturbance, and self-esteem problems. The results indicated that increased daily TikTok usage was associated with increased symptoms of distress, was negatively associated with body image disturbance (an effect that approached statistical significance), but no significant association with self-esteem problems.

These findings align with current literature demonstrating that increased time on TikTok is significantly associated with increased symptoms of distress. While the current study measured anxiety and depression as elements of distress, other mental health problems might also show this relation. For example, TikTok's potential in impacting a broader range of

psychological outcomes is supported by Bilali et al. (2025) who found that increased TikTok usage was significantly associated to daytime sleepiness causing disruption in sleep patterns.

There may also be a need to further classify users. For example, Chao et al. (2023) investigated the impact of TikTok usage by categorizing users into non-users, moderate users, and addictive users, using a two hour per day criteria. Consistent with this data, Chao and colleagues reported that only those in the 'addictive users' category endorsed higher levels of depression, anxiety, stress, loneliness, and social anxiety. Future studies could expand both the definition of psychological distress and the categories of usage to reveal patterns that are more specified. This type of data will be necessary for the development of interventions for vulnerable college students.

Contrary to predictions, this study yielded non-significant associations between daily TikTok usage and body image disturbance and self-esteem problems. One explanation is that measuring users' impact on the broad concept of 'distress' is more recognizable, easier to identify, and relatable to users compared to more complex and layered constructs, such as body image disturbance or self-esteem. To this end, Lau et al. (2025) analyzed TikTok videos with the hashtag "#teenmentalhealth" and discovered that videos related to social isolation and distress had higher engagement. Their results indicate users are more likely to resonate with content that directly matches their immediate and familiar emotional states.

Regarding body image disturbance, the inconsistency between this study's findings and previous literature may be attributed to the unique nature of TikTok's individually curated algorithms. To this end, a potential reason our findings did not indicate a significant relationship between body image disturbance and TikTok may be due to an individual using TikTok to view content that alleviate issues with their body image rather than exacerbate it. In a study featuring

156 undergraduate students, Dhadly et al. (2023) found that viewing body-positive content led to increases in body image satisfaction. Further, Dhadly and colleagues discovered that viewing body-positive TikTok for five minutes a day leads to longer-term improvements in body image. While our results yielded an association that approached significance, the lack thereof may be best explained by the abovementioned study.

Similar to body image disturbance, the individualized nature of TikTok's algorithm may account for this study's inconsistent findings with regards to self-esteem. Research by Han and Yang (2023) posits that for users who feel social support from their content or a "connection" to influencers on TikTok, their self-esteem is positively impacted. Ultimately, their research findings indicate that users who are more emotionally attuned to the interactions on the platform experience improved self-worth.

At the multivariate level, this study revealed that perfectionism does not significantly moderate the relationship between daily TikTok usage and distress, the relationship between daily TikTok usage and body image disturbance, or the relationship between daily TikTok usage and self-esteem problems. Lastly, our final hypothesis investigated the moderation of social comparison on the relationship between TikTok usage and symptoms of distress, body image disturbance, and self-esteem. Our research found that social comparison significantly predicts distress, body image disturbance, and self-esteem, although it does not significantly moderate the relationship between daily TikTok usage and distress, the relationship between daily TikTok usage and body image disturbance, nor the relationship between daily TikTok usage and self-esteem. This finding supports existing literature suggesting social comparison via social media is a significant predictor of self-esteem problems, depression, and decreased well-being, likely due

to individuals comparing themselves to curated online profiles leading to negative self-evaluations (Vogel et al., 2014).

Based on this study's data, it appeared daily TikTok usage was a significant predictor of distress. Yet, the moderation models indicate that the association was reduced when social comparison and perfectionism were added to the model. This suggests it may not be the role of an individual's daily TikTok habits which cause negative mental health outcomes but perhaps a participant's pre-existing social comparison and perfectionistic tendencies, constructs that also share some amount of variance with TikTok use and the current outcome variables.

Limitations

There are several notable limitations in the present study. Firstly, the reliance on self-report measures allows for biases which may affect the accuracy of participants' responses. Such biases may include social desirability bias, memory bias, and an overall lack of insight into one's behavior (Miller, 2011). Additionally, when evaluating the mental health variables chosen for this study, distress was comprised of anxiety and depression. It's possible having a multifaceted measure of distress would have been beneficial. For example, von Fedak and Langlaise (2024) examined psychological distress due to TikTok use and determined distress to include stress, alongside anxiety and depression. Future studies may consider adding increased assessments to screen for disordered eating or personality pathology.

Demographically, 75% of participants in this study identify as females compared to 25% who identify as males. This gender representation disparity reduces the generalizability of our findings, significantly limiting our knowledge of male TikTok users' experiences. In addition, research indicates that women are more likely to partake in social media experiences related to body image concerns and social comparison (Grabe et al., 2008). This representation disparity

may have caused our results to be skewed heavily toward the female experience. Further, potential cultural differences within our sample and other outliers may have been identified by increasing this study's sample size. Due to the relatively small self-identified minority subsample (n = 73 from three different ethnic and racial groups), the study may have lacked adequate statistical power to uncover cultural differences (Marszalek et al., 2011).

Additionally, this study focused predominately on individuals within an undergraduate cohort, and as such, ages fall into the 18-year-old to 22-year-old range. Due to this narrow focus, the study eliminated the possibility of identifying the differential impact of TikTok usage across varying ages. Further, understanding how age moderates the impact of this relationship would allow researchers and clinicians to develop more targeted interventions.

Clinical Implications and Future Directions

The current study contributes to the sparse body of literature investigating TikTok's association with symptoms of mental health. Given the popularity and exorbitant rise of its userbase, it is of particular importance this application continue to be examined in the future. This study yielded results which indicate a significant association between daily TikTok usage and distress, however, no significant correlation was identified between daily TikTok usage and body image disturbance or self-esteem. This contribution is noteworthy as it addresses the gap in research regarding TikTok's impact on psychological well-being.

Further, the study indicated that neither social comparison nor perfectionism moderated the above associations, although they were predictors of distress, body image disturbance, and self-esteem. Additionally, with increased knowledge from this study and others, clinicians will be able to apply valuable psychoeducation to clients about the impact of the abovementioned tendencies on one's overall mental health.

While our results revealed significant correlations between our proposed moderator variables and outcome variables, none of these associations were associated with daily TikTok usage. This suggests that perhaps only examining users' time is not enough to gain sufficient understanding of a possible mental health effect. Evaluating users' engagement patterns and the content they consume may have provided more substantial insights. For example, one user may passively scroll while another actively scrolls, comments, and posts videos (Jain et al., 2025). Refining a user's experiences may allow researchers and clinicians to develop more pointed interventions.

Additionally, understanding individual content is challenging due to the application's algorithmically curated feed, excessively personalized videos, and enormous amount of content. In other words, it is likely impossible to develop a standardized way to track the content each individual views on their app. Researchers have argued that TikTok's highly advanced and user-tailored algorithm works by stimulating users with their specific interests and matching their interests within the first 200 videos a user views. Ultimately, TikTok is not only responding to a user's behavior but also influencing their experience by amplifying topics based on their niche interests (Baumann et al., 2025).

In addition to the underlying mechanics of the algorithm, Qin et al. (2022) suggests that TikTok's usage may be best explained by the stimulus-organism-response or "S-O-R" model. The S-O-R framework suggests that an environmental stimulus affects one's internal state which leads to their individual response. The researchers posit that TikTok's personalization and user interface acts as a stimulus, while a user's concentration, satisfaction, and deep engagement refers to their internal state, and their response is heightened TikTok usage (Qin et al., 2022). With this in mind, it may be necessary to evaluate individual differences in user types and

investigate whether TikTok use operates as a correlate or a moderator. To this end, as it relates to the present study, individuals may work to reduce their TikTok usage in an attempt to alleviate symptoms of distress.

Conclusion

In summary, these findings revealed that while higher frequency of TikTok usage was significantly associated with symptoms of distress, no significant associations were found between TikTok use and body image disturbance or self-esteem problems. By examining moderating variables, the study revealed that social comparison predicted distress, body image disturbance, and self-esteem problems, but it did not moderate the relationship between TikTok usage and the abovementioned psychological outcomes. Similarly, perfectionism did not significantly moderate any of TikTok's relationships but it did predict distress, body image disturbance, and self-esteem problems. The contribution made by this study could guide future research with the goal of informing effective interventions to improve the psychological well-being of college-aged adults.

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Tables

Table 1

Demographic Characteristics of Participants

	n	*%*
Gender		
Female	86	75.4
Male	28	24.6
Ethnicity		
Hispanic/Latino	40	35.1
White/Caucasian	37	32.5
African-American	19	16.7
Asian	14	12.3
Declined to respond	4	3.5
Age		
18	44	38.6
19	21	18.4
20	14	12.3
21 and above	34	19.3

Note. $N = 114$

Table 2

Correlations for Study Variables

Variable	1	2	3	4	5	6
1. Distress	—					
2. Self-Esteem	.55**	—				
3. Body Image Disturbance	-.47**	-.47**	—			
4. Daily TikTok Usage	.21*	.10	-.16	—		
5. Social Comparison	.49**	.56**	-.55**	.06	—	
6. Perfectionism	.57**	.71**	-.48**	.20*	.59**	—

**Correlation is significant at the .01 level (2-tailed)

*Correlation is significant at the .05 level (2-tailed)

Table 3

Moderation Table (Perfectionism) Predicting Distress

Variable	*b*	*t*	*p*
Constant	-4.02	-3.47	<.001
Daily TikTok Usage	0.52	1.66	.099
Perfectionism	**0.13**	**3.01**	**.003**
TikTok*Perfectionism	-0.01	-0.84	.403

Table 4

Moderation Table (Perfectionism) Predicting Body Image Disturbance

Variable	*b*	*t*	*p*
Constant	53.52	12.46	<.001
Daily TikTok Usage	-1.68	-1.38	.170
Perfectionism	**-0.56**	**-3.34**	**.001**
TikTok*Perfectionism	0.38	0.80	.426

Table 5

Moderation Table (Perfectionism) Predicting Self-Esteem Problems

Variable	*b*	*t*	*p*
Constant	12.93	4.15	<.001
Daily TikTok Usage	-0.19	-0.21	.831
Perfectionism	**0.27**	**2.17**	**.033**
TikTok*Perfectionism	0.21	0.60	.547

Table 6

Moderation Table (Social Comparison) Predicting Distress

Variable	*b*	*t*	*p*
Constant	-4.07	-3.51	<.001
Daily TikTok Usage	0.33	0.91	.363
Social Comparison	**0.07**	**3.12**	**.002**
TikTok*Social Comparison	-0.004	-0.50	.615

Table 7

Moderation Table (Social Comparison) Predicting Body Image Disturbance

Variable	*b*	*t*	*p*
Constant	49.82	9.94	<.001
Daily TikTok Usage	-0.61	-0.40	.690
Social Comparison	**-0.23**	**-2.22**	**.029**
TikTok*Social Comparison	0.004	0.13	.898

Table 8

Moderation Table (Social Comparison) Predicting Self-Esteem Problems

Variable	*b*	*t*	*p*
Constant	8.85	3.02	.003
Daily TikTok Usage	-0.06	-0.07	.943
Social Comparison	**0.26**	**4.17**	**<.001**
TikTok*Social Comparison	-0.003	-0.14	.889

Figures

Figure 1

Moderation Model (Perfectionism) Predicting Distress

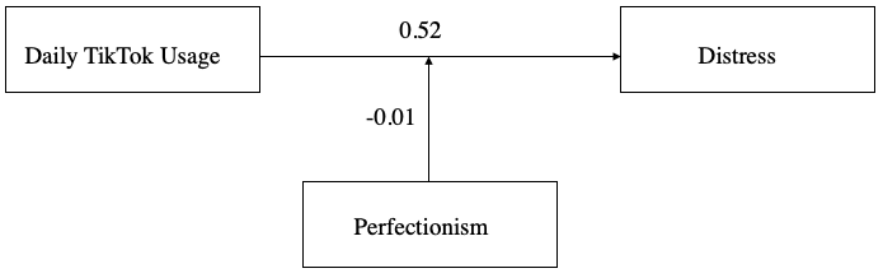

Figure 2

Moderation Model (Perfectionism) Predicting Body Image Disturbance

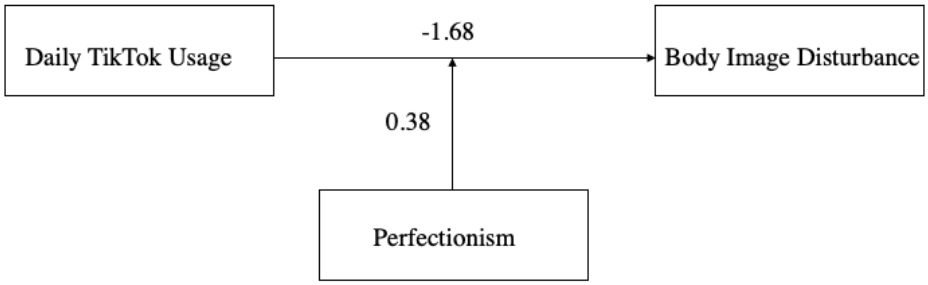

Figure 3

Moderation Model (Perfectionism) Predicting Self-Esteem Problems

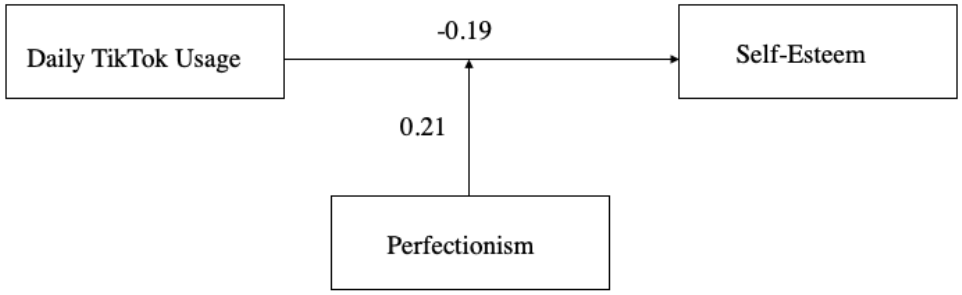

Figure 4

Moderation Model (Social Comparison) Predicting Distress

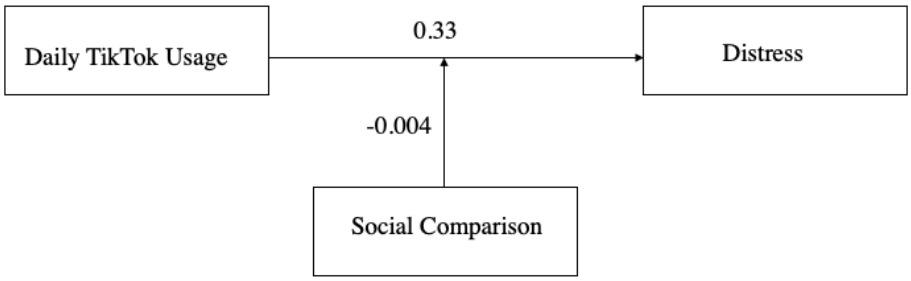

Figure 5

Moderation Model (Social Comparison) Predicting Body Image Disturbance

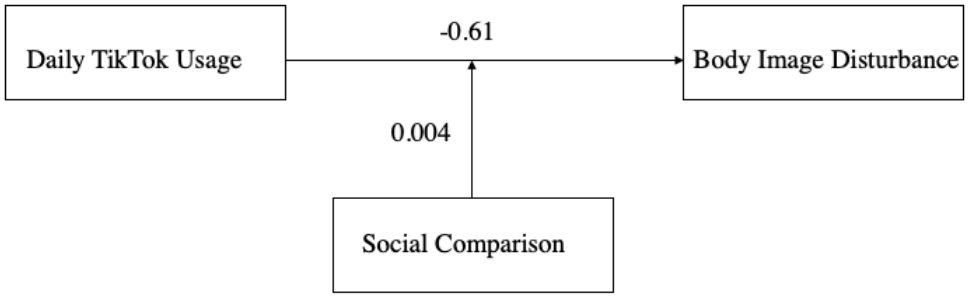

Figure 6

Moderation Model (Social Comparison) Predicting Self-Esteem Problems