Swipe Right, Feel Wrong? Examining The Effects of Dating App Usage on Psychological Well-Being at a Predominantly White Institution

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Abstract

The goal of this research is to explore the potential relationship between swipe-based dating app usage and psychological well-being among college students at a predominantly White institution (PWI), with a specific focus on how race may influence this relationship. We hypothesized that dating app usage would be negatively correlated with self-esteem and well-being while positively correlated with loneliness. Additionally, race was examined as a moderating variable, predicting that students of color that used dating apps would experience more negative well-being outcomes than their White peers. Using survey data from undergraduate students (N = 385), analyses revealed a small but statistically significant negative association between dating app usage and psychological well-being. It was found that race moderated the relationship between dating app usage and loneliness such that students of color reported lower loneliness scores relative to White students. These findings contribute to the growing literature on online dating and psychological well-being, suggesting that while dating app usage may have modest associations with well-being, racial identity plays a complex role in shaping these experiences at PWIs. Future research should explore the underlying mechanisms driving these effects and consider additional demographic and psychological factors influencing dating app engagement.

Key Words: Dating apps, Well-being, Self-Esteem, Loneliness, Predominantly White Institutions

Introduction

Humans are exceptionally social creatures. Our ability to form meaningful connections with one another has allowed us to build communities and social networks that have become increasingly complex over time. Communication tools like speech, facial expressions, and body language have evolved over time to communicate ideas from simple survival needs to nuanced emotional interactions (Smithsonian Museum of Natural History, 2024; Terrell, 2023, Young, 2008). Despite the wealth of existing knowledge on the topic, many details of how humans form connections remain unknown. Because of this, many scientific and anthropological researchers today continue to study how humans communicate and form relationships. Social psychologists, in particular, are interested in how interpersonal dynamics informed by identities such as race and gender can influence psychological well-being (Glick & Fiske, 1999; Kiang, 2019; Traast et al., 2024). In modern psychological research, the American Psychological Association's definition of

well-being is often utilized: "a state of happiness and contentment, with low levels of distress, overall good physical and mental health and outlook, or good quality of life" (American Psychological Association, 2018).

Existing Research on Dating App Usage and Well-Being Measures

Due to their rapid increase in popularity, many social psychologists have turned their attention to dating apps as an area of study within the past few years. Dating apps like Tinder, Hinge, Bumble, Raya, and more have become a staple of online communication and interaction. In fact, a 2022 survey found that 3 in 10 American adults have used a dating site or app, an identical amount from the same survey conducted in 2019 (Vogels & McClain, 2023). People of all backgrounds utilize them to facilitate romantic, sexual, and even platonic connections. Many dating apps such as Tinder, Bumble, and Hinge utilize a swipe-based algorithm to pair users who are mutually attracted to each other in real time. If a user requests to pair or "match" with a profile that has already requested to match with them, they will immediately be notified and gain the ability to send a message.

Previous research has investigated the effects of using these swipe-based dating apps on body satisfaction and body surveillance. A 2018 study conducted by Gábor Orosz examined the motivational, personality, and psychological need-related factors behind problematic Tinder use, highlighting self-esteem enhancement as a common primary motivator for app usage. This study emphasized that general personality traits, such as those measured by the Big Five Inventory, were only weakly related to Tinder-use motivations and problematic use. Instead, the psychological need for a sense of connection with others, known as "relatedness," was a significant predictor of using Tinder for self-esteem enhancement, which in turn was strongly associated with problematic Tinder use. (Orosz et al., 2018). This suggests that personality traits and psychological needs influence Tinder-use motivations, which in turn mediates the relationship with problematic Tinder use, instead of directly causing it.

A 2019 study conducted by Jessica Strubel and Trent Petrie explores the impact of Tinder use on body image and psychosocial functioning among men and women, based on objectification theory. The authors found that Tinder usage was correlated with lower body image satisfaction, higher levels of body shame, increased internalization of societal appearance ideals, and more frequent appearance comparisons (Strubel & Petrie, 2017).

Previous studies have also found stronger correlations for sexual minorities, supporting the claim that some groups may be disproportionately affected by the negative impacts of dating app usage. Dating apps for queer men often emphasize physical traits, categorizing users into "tribes" based on body types, reinforcing socio-cultural ideals of masculinity. This study showed that using more apps correlated with higher objectification and body surveillance, lower body satisfaction, and decreased self-esteem. Those who had lower app use frequency showed weaker effects (Breslow et al., 2020).

A 2023 study found that expectations about a young adult's life contributed to feelings of loneliness. These expectations include relationship status, education level, employment status, and

demographics (Kirwan et al., 2024). This finding is further supported by a 2024 study conducted by Martaria Rizky Rinaldi, which examined the impact of dating anxiety on loneliness among dating app users. The study found a strong direct relationship between dating anxiety and loneliness. These findings were not moderated by gender, suggesting that interventions could be applied to the majority (Rinaldi, 2024). Together, these studies suggest that loneliness is prevalent in the lives of young adults, particularly among those using dating apps.

Dating App Usage for College Students

The purpose of this research is to deepen the scientific understanding of how swipe-based dating app usage impacts the psychological well-being of college students in particular. This investigation is especially relevant for students at predominantly White institutions (PWIs), where interracial microaggressions have been known to influence students' self-perceptions (Levchak, 2014; Reiter, 2017).

Students use dating apps for a variety of reasons, the most common being romantic relationships and short-term hookups (Bryant & Sheldon, 2017). Racial dynamics on these platforms can significantly influence the psychological well-being of people of color, as they may encounter biases, stereotypes, and microaggressions in their interactions (Peck et al., 2021; Stacey & Forbes, 2021; Turizo, 2018). For students of color, using dating apps in such environments can be a double-edged sword; providing opportunities for connection while also exposing them to potential discrimination or fetishization based on their race or ethnicity. Understanding how these students engage with dating apps and how it impacts their psychological well-being is crucial for addressing the unique challenges they face at PWIs. Existing literature on the subject of the psychological effects of dating apps does not include research on how students of color at PWIs may or may not be affected differently. Through this research, we aim to examine the interplay between racial group membership, dating app usage, and psychological well-being among college students.

Hypotheses

Based on existing literature in social psychology and the growing prevalence of swipe-based dating apps, this study aims to explore the complex relationships between dating app usage, wellbeing, and racial identity among college students. The following hypotheses were developed to examine these dynamics:

- 1. Dating app usage will be negatively correlated with well-being measures.
- 2. The negative correlation between dating app usage and well-being measures will be especially pronounced for students of color.
- 3. Race will moderate the relationship between the Tinder Intensity Scale and well-being measures, such that students of color will experience more negative well-being outcomes compared to their White peers.
- 4. The Crocker Collective Self-Esteem Scale will moderate the relationships between dating app usage, race, and well-being measures.

The completion of this research provides valuable new insights that can inform the creation of culturally sensitive interventions and support strategies for individuals who use swipe-based dating apps.

Method

Participants

The participants in this study were English-speaking undergraduate students from a private university located in a large city in the Gulf Coast region of the United States. Of the 616 individuals who began the survey, 385 completed the majority of measures and questions necessary for analysis. The final sample demographics are detailed in Table A1. The majority of participants identified as White/European (58.3%), with notable representation from Asian/Asian American (19.5%), Black/African American (9.9%), Hispanic/Latine (9.9%), and Multiracial (2%) groups. The mean age of participants was 19.35 years (SD = 1.445). The sample was predominantly female (69.1%), with male participants comprising 28.4% and non-binary participants accounting for 2.6%.

Sexual orientation within the sample was diverse, with 14.6% identifying as bisexual, 4.4% as gay, 3.4% as queer, and 2.3% as pansexual. Additionally, a substantial portion of participants (35.7%) reported using dating apps, while the majority (64.3%) did not. Students of color, defined as individuals identifying as Black, Hispanic, Asian, Pacific Islander, American Indian/Alaska Native, and/or Multiracial, were intentionally oversampled to ensure adequate representation for statistical analysis.

Exclusion criteria for this study included students not in good academic standing or currently under suspension. Recruitment efforts aimed to create a representative sample of both White and students of color from predominantly white institutions (PWIs). Participants were recruited through the use of on-campus flyers, emails, and course credit incentives. Based on power estimates (Collins & Watt, 2021), the study sought to recruit approximately 500 participants to reach sufficient statistical power.

Study Measures and Procedures

To explore these associations, a 10 minute survey-based study was designed that asked participants to complete the Tinder Intensity Scale (Rönnestad, 2017) and the Rosenberg Self-Esteem Scale (Rosenberg, 1979), UCLA Loneliness Scale (Russell, 1996), the Psychological Well-Being Scale (Ryff, 2010), and the Collective Self-Esteem Scale (Luhtanen, & Crocker 1992). Unlike the other measures in this study, the Crocker Collective Self-Esteem Scale is composed of four self-esteem subscales: Membership (how one sees themselves as a member their group), Private Collective (one's own evaluation of their group), Public Collective (how the group one belongs to is evaluated by others), and Importance to Identity (how important membership in a group is to self-concept)

Participants taking an eligible Tulane Psychology course received 1/2 SONA credit for participating in this study. Participants who were not eligible for SONA course credit were able to click a link to be redirected to a Google Form to enter into a raffle for one of the following prizes: Tulane University Sweatshirt, Tulane University Sweatpants, Loyola University Sweatshirt, Loyola University Sweatpants, 40oz Hydro Flask, or JBL Flip 5 Speaker.

Data Cleaning and Screening

The dataset underwent a series of modifications to ensure consistency and clarity for the analysis of the impact of dating apps on psychological well-being. In the demographics section, individuals who identified as transgender were recoded based on their affirmed gender identity, and those identifying as both White and another race were coded as the non-White race specified. Additionally, participants identifying as "multiracial" without further specification were assigned to a new "multiracial" category, which was included in the broader group of "Students of Color." Participants who selected "unsure" for political party affiliation were recoded as "non-partisan."

For the Tinder Intensity Scale (TIS), a composite score was calculated by averaging responses to specific items. Participants who indicated non-use of swipe-based dating apps were assigned a TIS score of 1 for all relevant items. TIS scores were standardized for interpretation, including specific recoding for variables such as app usage frequency (TIS1), weekly app usage minutes (TIS5), and the number of profile pictures (TIS6). When ranges of values were provided (e.g., "10–15"), the upper value was used, and non-numeric responses (e.g., "never") were assumed to represent zero usage.

For the Rosenberg Self-Esteem Scale, UCLA Loneliness Scale, Ryff Psychological Well-Being Scale, and Crocker Collective Self-Esteem Scale, reverse-scoring was applied to negativelyvalenced items to properly align response scales. Composite scores were calculated by summing responses, with higher scores on each respective scale indicating higher levels of the measured construct (e.g., higher scores on the loneliness scale indicating greater loneliness). These adjustments facilitated accurate comparison across participants, ensuring that each scale's scoring was consistent with its intended design. All variables showed a normal distribution using a Q-Q plot. Histograms and stem-and-leaf graph plots were used on SPSS to check for outliers. No data points were found to be significant outliers.

Results

Descriptive Statistics

The descriptive statistics for the dependent variables in Tables 5 & 6 revealed some notable trends across racial and gender identities. Loneliness scores were highest among Latine/Hispanic participants (M = 46.26, SD = 9.63) and lowest among White/European participants (M = 41.68, SD = 9.63). Well-being scores appeared to be highest for White/European participants (M = 96.44, SD = 12.52) and lowest for Asian/Pacific Islander participants (M = 91.75, SD = 12.14). Additionally, gender differences in well-being emerged, with nonbinary/gender non-conforming participants reporting lower well-being (M = 88.70, SD = 10.67) and higher loneliness (M = 45.20, SD = 12.52).

SD = 6.73) than both male and female participants. Regarding collective self-esteem, nonbinary/gender non-conforming individuals also reported lower scores on the private subscale (M = 4.94, SD = 1.29) compared to other groups. These data suggest that although trends are observable across the variables, differences in psychological well-being and self-perception vary across racial and gender groups, though statistical significance was not established for the observed differences.

Preliminary Statistical Analysis

The reliability analysis for the scales used in this study, as indicated by the Cronbach's alpha values in Table A2, showed high internal consistency for all measures. The Tinder Intensity Scale demonstrated excellent reliability ($\alpha = .956$), as did the UCLA Loneliness Scale ($\alpha = .923$), the Ryff Psychological Well-Being scale ($\alpha = .823$), the Crocker Collective Self-Esteem Identity Subscale ($\alpha = .874$), and the Rosenberg Self-Esteem Scale ($\alpha = .857$).

The bivariate correlation analyses in Table A3 reveals several notable associations between key variables among the entire population. A strong negative correlation was found between self-esteem and loneliness (r = -0.434, p < .001), indicating that individuals with higher self-esteem tend to experience lower levels of loneliness. This aligns with existing literature suggesting that a strong sense of self-worth is closely tied to reduced feelings of social isolation (Mushtaq, 2014). Self-esteem was also moderately positively correlated with psychological well-being (r = 0.496, p < .001), supporting the idea that self-esteem contributes positively to an individual's psychological health and overall sense of well-being (Mushtaq, 2014).

The bivariate correlation analysis in Table A4 shows that when only analyzing the responses of People of Color in a bivariate correlation between Tinder Intensity Scale and each well-being DV, there are no statistically significant results. The exception to this is a very weak negative correlation between Tinder Intensity Scale and Crocker Public Collective Self-Esteem Score (r = -.204, p = .011).

The four dimensions of the Crocker Collective Self-Esteem Scale (identity, membership, public, and private) show varying relationships with each other and with other constructs. Specifically, Collective Self-Esteem (Identity) was positively correlated with both Membership (r = 0.345, p < .001) and Private collective self-esteem (r = 0.499, p < .001), suggesting that individuals who strongly identify with their group tend to have greater pride and a positive private regard for their group. Well-being was also positively correlated with both the Public (r = 0.308, p < .001) and Private (r = 0.297, p < .001) dimensions of collective self-esteem, indicating that individuals who perceive their group positively, whether in private or public contexts, are likely to report greater psychological well-being. Furthermore, a small but significant negative correlation exists between Collective Self-Esteem (Public) and loneliness (r = -0.204, p < .001), suggesting that those who believe their group was viewed positively by others experience less loneliness. Lastly, the Tinder Intensity Scale shows a weak positive correlation with Collective Self-Esteem (Membership) (r = 0.121, p = .018), hinting at a possible link between Tinder engagement and a sense of group belonging, though the strength of the relationship was low. Overall, these findings

underscore the significant role of self-esteem and group identity in influencing well-being and social connectedness, with higher self-esteem and positive group perceptions closely tied to reduced loneliness and greater psychological health. Further analysis of this data will aim to see if narrowing the scope of these comparisons to specific groups (race, gender, sexual orientation, only tinder users, etc.) will reveal stronger correlations between the Tinder Intensity Scale and the various well-being measures.

Independent Samples T-Test for DV Scores of Dating App Users and Non-Dating App Users

An independent samples t-test was conducted to compare the mean DV scores between dating app users and non-users. The results indicated a statistically significant difference between the two groups only for the Rosenberg Self-Esteem Scale, (t(383) = 4.181, p = .042). However, the effect size was small (d = .135), suggesting that while the difference is unlikely due to chance, the magnitude of the effect is modest. This indicates that, although dating app usage is associated with differences in self-esteem such that dating app users reported lower self-esteem scores, the practical significance of this finding is limited. Given the small effect size, additional research is needed to determine whether this difference has meaningful psychological implications or if other factors (e.g., frequency of app use, motivations for using dating apps) play a more substantial role in self-esteem.

Multiple Regression Analysis for Race and Tinder Intensity Scale Score on Well-being Measures for Dating App Users

The purpose of the multiple regression analysis was to investigate the relationships between Tinder Intensity Scale, Race, and the various well-being scales measured for the study. Specifically, we aimed to explore how the intensity of Tinder use and racial identity might influence self-reported levels of self-esteem, loneliness, and psychological well-being. By conducting multiple regression analyses, we sought to determine whether these factors, both independently and in interaction, significantly predict individuals' experiences with self-esteem, loneliness, and psychological well-being. Due to limited data points within specific racial groups, all non-White participants were categorized into a "Person of Color" subgroup to allow for sufficient power when conducting analyses. Additionally, Tinder Intensity Scale scores were mean centered and all β values are standardized for these analyses.

Rosenberg Self-Esteem Scale

A multiple regression analysis was conducted to examine the effects of Tinder Intensity Scale and Race (Person of Color vs. White) on self-esteem, as measured by the Rosenberg Self-Esteem Scale. The overall model was not statistically significant, F(2,97) = 0.970, p = 0.409, explaining 14.6% of the variance in self-esteem ($R^2 = 0.146$).

None of the predictors were statistically significant. Race did not significantly predict selfesteem ($\beta = 0.204$, p = 0.390), nor did Tinder Intensity Scale ($\beta = 0.162$, p = 0.214). The interaction between Race and Tinder Intensity Scale was also not significant ($\beta = -0.144$, p = 0.580), indicating that the relationship between Tinder usage and self-esteem does not differ by racial identity.

Russell Loneliness Scale

A multiple regression analysis was conducted to examine the effects of Tinder Intensity Scale and Race on loneliness, as measured by the Russell Loneliness Scale. The overall model was statistically significant, F(2,97) = 3.151, p = 0.027, and explained 4.5% of the variance in loneliness, $R^2 = 0.045$.

The main effect of Race was statistically significant, with a negative beta coefficient ($\beta = -0.670$, p<0.001, indicating that being a Person of Color was associated with lower levels of loneliness compared to being White. The main effect of Tinder Intensity Scale ($\beta = -0.204$, p = 0.110) did not reach statistical significance, suggesting that Tinder usage intensity did not significantly influence loneliness in this sample.

The interaction between Race and Tinder Intensity Scale was statistically significant, $\beta = 0.592$, p = 0.021, indicating that the relationship between Tinder Intensity Scale and loneliness differed by race. Specifically, scores of the Tinder Intensity Scale on loneliness were moderated by race, with individuals from different racial backgrounds experiencing different levels of loneliness in relation to their Tinter Intensity Scale scores. As seen in the scatter plot in Figure A8, as Tinder Intensity Scale scores increase for People of Color, their predicted level of loneliness decreases. Conversely, as Tinder Intensity Scale scores increase for White people, their predicted level of loneliness increases.

Ryff Psychological Well-Being Scale

A multiple regression analysis was conducted to examine the effects of Tinder Intensity Scale and Race on psychological well-being, as measured by the Ryff Psychological Well-Being Scale. The overall model did not reach statistical significance, F(2,97) = 1.579, p = 0.197, and explained only 1.3% of the variance in psychological well-being, $R^2 = 0.013$.

Neither the main effect of Race or Tinder Intensity Scale significantly predicted psychological well-being. Specifically, the beta coefficient for Race was $\beta = 0.405$, with a p-value of 0.087, suggesting a trend toward higher psychological well-being for People of Color compared to White individuals, although this effect did not reach statistical significance at the conventional 0.05 level. Similarly, the beta coefficient for Tinder Intensity Scale was $\beta = 0.170$, with a p-value of 0.189, indicating that Tinder usage intensity did not significantly predict psychological well-being in this sample.

The interaction between Race and Tinder Intensity Scale was also not significant, $\beta = -0.308$, p = 0.233, suggesting that the relationship between Tinder Intensity and psychological well-being did not differ by race.

Crocker Collective Self-Esteem Scale

A multiple regression analysis was conducted to examine the effects of Tinder Intensity Scale and Race on psychological well-being, as measured by the Crocker Collective Self-Esteem Scale. The Crocker Collective Self-Esteem Scale creates scores for each of its four subscales (Membership self-esteem, Private collective self-esteem, Public collective self-esteem., Importance to Identity). A composite score for the Crocker Collective Self-Esteem Scale cannot be calculated as the scale was designed to create scores for each of the four subscales which measure independent concepts.

Membership self-esteem. The overall model did not reach statistical significance, F(2,97) = 1.686, p = 0.173, and explained only 1.5% of the variance in membership self-esteem (R² = 0.015). None of the individual predictors significantly predicted membership self-esteem. Specifically, the beta coefficient for Race was $\beta = -0.172$, with a p-value of 0.469, indicating that race was not a significant predictor of membership self-esteem. Similarly, the beta coefficient for Tinder Intensity Scale was $\beta = 1.33$, with a p-value of 0.308, suggesting that Tinder usage intensity did not significantly impact membership self-esteem in this sample. The interaction between Race and Tinder Intensity Scale was also not significant ($\beta = 0.052$, p = 0.843), indicating that the relationship between Tinder usage and membership self-esteem did not vary by racial identity.

Private collective self-esteem. The overall model was statistically significant, F(2,97) = 8.400, p<0.001, explaining 16.2% of the variance in collective private self-esteem ($R^2 = 0.162$). Among the individual predictors, Race had a significant negative effect on collective private self-esteem ($\beta = -0.513$, p = 0.022), suggesting that People of Color reported significantly lower levels of collective private self-esteem compared to White individuals. However, Tinder Intensity Scale was not a significant predictor ($\beta = -0.115$, p = 0.343), indicating that Tinder usage intensity did not have a meaningful relationship with collective private self-esteem. The interaction between Race and Tinder Intensity Scale was also not significant ($\beta = 0.144$, p = 0.556), suggesting that the relationship between Tinder usage and collective private self-esteem does not differ substantially by race.

Public collective self-esteem. The overall model was statistically significant, F(2,97) = 12.573, p<0.001, explaining 22.5% of the variance in collective public self-esteem (R² = 0.225). However, despite the model reaching significance, none of the individual predictors were statistically significant. Race had a positive effect on collective public self-esteem ($\beta = 0.302$, p = 0.158), but did not reach statistical significance, indicating that People of Color may report slightly higher levels of collective public self-esteem compared to White individuals, but this difference was not statistically reliable. Similarly, Tinder Intensity Scale did not significantly predict collective public self-esteem ($\beta = 0.035$, p = 0.764), suggesting that Tinder usage intensity is not strongly related to perceptions of public self-esteem. The interaction between Race and Tinder Intensity Scale was also not significant ($\beta = 0.179$, p = 0.447), indicating that the relationship between Tinder usage intensity and collective public self-esteem does not meaningfully differ based on racial identity.

Importance to Identity. The overall model was statistically significant, F(2,97) = 25.014, p<0.001, explaining 36.6% of the variance in the importance of online dating to identity ($R^2 = 0.366$). Being a Person of Color was a significant predictor of the importance of social groups to identity, with People of Color reporting a significantly lower importance to their identity compared to White individuals ($\beta = -0.747$, p<0.001). However, the beta coefficient for the Tinder Intensity Scale was $\beta = -0.092$, with a p-value of 0.386, indicating that Tinder usage did not significantly influence the importance of social groups to identity in this sample. The interaction between Race and Tinder Intensity Scale was also not significant ($\beta = 0.174$, p = 0.415), suggesting that the relationship between Tinder usage and the importance of social groups did not differ based on racial identity.

Discussion

The purpose of this study was to deepen social psychologists' understanding of how swipebased dating app usage impacts the psychological well-being of college students in particular.

Hypotheses

The first hypothesis predicted that dating app usage will be negatively correlated with wellbeing measures. This hypothesis was not supported by the results. The bivariate correlations in Table A3 revealed that the Tinder Intensity Scale did not significantly predict self-esteem, loneliness, psychological well-being, or collective self-esteem in this sample. While there was a statistically significant correlation between the Tinder Intensity Scale and the Membership subscale of the Collective Self-Esteem Scale, the strength of the correlation was negligible.

The second hypothesis proposed that the negative correlation between dating app usage and well-being measures will be especially pronounced for students of color. The bivariate correlation analysis in Table A4 revealed no significant correlations between Tinder Intensity Scale score and any of the dependent variables when looking only at responses for People of Color. While there was a statistically significant correlation between the TIS Scale and the Public subscale of the Collective Self-Esteem Scale, the strength of the correlation was negative and negligible. Therefore, this hypothesis is not accepted. A potential reason for this result is the already weak correlations between the same variables when looking at responses from all participants.

The third hypothesis that race will moderate the relationship between the Tinder Intensity Scale and well-being measures, such that students of color will experience more negative wellbeing outcomes compared to their White peers, was not supported. Although race did moderate the relationship between Tinder usage and loneliness, the direction of the effect was not consistent with the hypothesis. For People of Color, higher Tinder intensity was associated with lower loneliness, whereas for White participants, higher Tinder intensity was linked to higher loneliness. This suggests that students of color did not experience more negative well-being outcomes compared to their White peers, therefore the hypothesis that race would moderate this relationship in a negative direction was not supported.

The final hypothesis stated that the Crocker Collective Self-Esteem Scale will moderate the relationships between dating app usage, race, and well-being measures was not fully supported. While there were some significant findings, the results were inconsistent across the subscales of the Crocker Collective Self-Esteem Scale. For the Membership Self-Esteem subscale, the regression model did not reach statistical significance, and neither race nor Tinder usage significantly predicted membership self-esteem. Additionally, the interaction between race and Tinder usage was also not significant. The Private Collective Self-Esteem subscale showed that the regression model was statistically significant, with race significantly predicting lower private collective self-esteem for People of Color compared to White individuals ($\beta = -0.513$, p = 0.022). However, Tinder usage intensity was not a significant predictor, and the interaction between race and Tinder usage was not significant. For the Public Collective Self-Esteem subscale had a significant regression model but, neither race nor Tinder usage significantly predicted public collective self-esteem. The interaction between race and Tinder usage was also not significant. Finally, the Importance to Identity subscale had a statistically significant model, with race significantly predicting a lower importance of social groups to identity for People of Color. However, Tinder usage did not significantly affect this outcome, and the interaction between race and Tinder usage was not significant. In summary, while race had some significant effects on certain aspects of collective self-esteem and the importance of social groups to identity, which was expected based on previous research, Tinder usage did not show meaningful effects, and the interaction between race and Tinder usage was not supported in moderating these relationships.

These findings contribute to the existing literature on the psychological effects dating app usage by deepening our understanding of how dating app usage impacts various measures of psychological well-being. The analyses utilizing race as a third variable are unique to this study, and not a dimension explored in previous research on this topic.

Study Limitations and Directions for Future Research

This study had several notable limitations that could be used as areas of improvement for future research. One limitation of this study is the sample size for the participants of color, which was not large enough to explore nuances within individual groups. Instead, during analysis all non-White groups were homogenized into a singular "Person of Color" categorical variable. Doing this effectively treated all students of color as a monolith, generalizing their experiences for easier analysis. Ideally, future research will be able to generate samples of each racial group large enough to allow for individual analysis. However, even within those racial groups there are many different experiences and cultures that are included within them. Because of this a small-N design focused on qualitative data from a small number of participants could also be considered for future research to focus on more specific demographics and experiences within each racial group.

Another potential limitation is the use of self-reported measures for the independent (Tinder Intensity Scale) and dependent (well-being, loneliness, etc.) variables, which could cause issues like social desirability bias, recall bias, and subjectivity. Participants may intentionally or unintentionally distort their responses to align with perceived social norms or personal beliefs relating to dating app usage, leading to inaccurate data. Additionally, self-reports rely on memory,

which can be flawed, especially in a study like this one which asks questions regarding past patterns of behavior. It should also be considered that many of the participants completed the survey for course credit. This led to a portion of the original data set including incomplete or unusable data (ie. selecting strongly agree to every question). While the researchers screened the data and removed these subjects from the final data set, it is possible that a few participants who engaged in these behaviors were still included and skewed the final results.

Since the sample consisted of undergraduate students from a predominately White institution in the gulf south, the findings may not generalize to all college populations, or even all predominantly White institutions. Future research could replicate this study at other universities in different regions to see if the findings are consistent. This study should especially be replicated at more racially diverse institutions to see if the racial diversity of universities acts as a confounding variable for the findings of the present study.

A potential follow-up study for this research could also explore a person's frequency of "likes" to "dislikes" as an additional DV, the duration of app usage on a weekly basis as an additional IV, or a pretest-posttest design to measure all variables before and after prescribed usage of dating apps. Interdisciplinary research incorporating more direct analysis of gender as a moderating variable may provide further insights into the differences between men and women on these effects.

Study Implications

If the results of this study are taken at face value and not assumed to be attributed to the design limitations, there are several notable implications. First, the rejection of any hypothesis correlating dating app usage to psychological well-being may be indicative of the fact that college students are not as impacted by the negative effects of dating app usage suggested in previous research (Breslow et al., 2020; Orosz et al., 2018; Strubel & Petrie, 2017). This may be a result of the increasing prevalence of technology in young people's lives and digital socialization being easier to navigate for generations who were raised with the technology to do so (Hancock, 2024). At the time of writing this paper, the vast majority of current college students had their highschool experience impacted by the COVID-19 pandemic for at least one full school year. It's not unreasonable to think that these students' prolonged exposure to online communication may play a role in their digital communication skills today. Future research could aim to learn more about if these trends are truly representative of this age demographic.

Second, the interaction effect found between the Tinder Intensity Scale on loneliness such that People of Color had lower predicted levels of loneliness as their Tinder Intensity Scale scores increased could support the claim that People of Color are able to find meaningful connections on dating apps more easily than White people. This could possibly be caused by People of Color setting their match distance to be further than their White peers, allowing them to use dating apps to meet people beyond their campus vicinity.. Future research could aim to isolate whether this is a true effect or a fluke from within this study.

Conclusion

The present study sought to examine the relationship between swipe-based dating app usage and psychological well-being among college students, with a specific focus on racial identity as a moderating factor. Contrary to prior research suggesting that dating app engagement negatively impacts self-esteem and well-being, the current findings did not support a significant overall correlation between dating app usage and well-being measures. While initial analyses suggested a small but statistically significant negative association, further regression analyses indicated that Tinder usage did not meaningfully predict self-esteem, loneliness, or psychological well-being when controlling for race. A key finding of this study was the significant interaction between Tinder usage and loneliness, moderated by race. Specifically, White participants exhibited a positive correlation. This finding suggests that dating app experiences may be influenced by racial identity in ways not previously considered, potentially reflecting differing social or cultural expectations regarding online dating and community belonging.

These findings highlight the need for further research into the nuanced effects of dating app usage, particularly across diverse racial and cultural backgrounds. Future studies should explore additional moderating variables, such as gender identity, sexual orientation, and motivations for app use, to provide a more comprehensive understanding of the psychological effects of online dating. Given the increasing prevalence of dating apps among young adults, it is essential to continue investigating how these platforms shape social interactions, self-perception, and wellbeing.

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Appendix A

Tables and Figures

Table A1 Participant Demographics							
Demographic		Total in Sample N = 385					
Gender (n, %)	Male	109 (69)					
	Female	266 (28.4)					
	Non-binary	10 (2.6)					

Mean age in years (SD)		19.345	(1.445)		
Race (self-described)	White/European	224 (58	224 (58.3)		
	Asian/Asian Amer	ican 75 (19.	5)		
	Black/African American	38 (9.9))		
	Hispanic/Latine	38 (9.9))		
	Multiracial	8 (2)			
Sexual Orientation (n, %)	Heterosexual	279 (72	2.8)		
	Bisexual	56 (14.	6)		
	Gay	17 (4.4))		
	Queer	13 (3.4))		
	Pansexual	9 (2.3)			
	Prefer not to say	5 (1.3)			
	Asexual	4 (1)			
Political Affiliation (n, %)	Democrat	215 (56	.1)		
	Independent/Othe	r 140 (36			
	Republican	28 (7.3))		
Dating App Usage (n, %)	Yes	138 (35	(.7)		
	No	247 (64	.3)		
Fable A2 Reliability statistics for ea	ch of the Measured D	Vs and IVs			
		ronbach's	N of		
Variable	A	lpha	Items		
Tinder Intensity Scale	.9	56	10		
Rosenberg Self-Esteem	.8	57	10		

UCLA Lo	neliness	.923	20			
Ryff Psych	ological Well-	.823	18			
Crocker	Collective	Self-Esteem	.874	4		
(Identity Subscale)						

Table A3

Bivariate correlations of each variable for all participants

		Tinde				Collect ive Self-	Collectiv		
		r Intens ity Scale		Loneli ness	Wel 1- Bein	Esteem - Identit y	e Self- Esteem - Member ship	e Self- Esteem -	Collectiv e Self- Esteem - Private
Tinder	Pearson	1	-	.075	-	002	.121*	.029	009
Intensity Scale	tion		.040		.091				
	Sig. (2- tailed)		.433	.143	.074	.970	.018	.574	.866
	N	385	385	385	385	380	380	380	380
Self- Esteem	Pearson Correla tion		1	434**	.496* *	.003*	.220**	.292**	.175**
	Sig. (2- tailed)			<.001	<.00 1	.958	<.001	<.001	<.001
T ()	N		385	385	385	380	380	380	380
Loneline ss	Pearson Correla tion			1	- .572* *	.008	162**	204**	162**
	Sig. (2- tailed)				1	.879	.002	<.001	.002
3 8 7 11	N			385	385	380	380	380	380
Well- Being	Pearson Correla tion				1	010	.297**	.308**	.297**
	Sig. (2- tailed)					.841	<.001	<.001	<.001
	N Pearson Correla				385	380 1	380 .345**	380 260**	380 .499**
Esteem: Identity	tion Sig. (2- tailed)						<.001	<.001	<.001

	N Pearson Correla tion	380	380 1	380 .179**	380 .533**
Member ship	Sig. (2- tailed)			<.001	<.001
1	N		380	380	380
Table A3 (continued).				
Collectiv e Self-	Pearson Correla			1	.188**
Esteem: Public	tion Sig. (2- tailed)				<.001
	N			380	380
Collectiv					1
e Self- Esteem:	Correla tion				
Private	Sig. (2-				
	tailed)				
	N				

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table A4

Bivariate correlations of each variable with Tinder Intensity Scale for all People of Color

	Self- Esteem	Lonelines s	Well- Being	Collectiv e Self- Esteem: Identity	Esteem:	Collectiv e Self- Esteem: Public	Collective Self- Esteem: Private
Pearson Correlati on	.012	.009	092	.068	.113	204*	018
Sig. (2- tailed)	.884	.915	.256	.401	.165	.011	.829
Ν	155	155	155	153	153	153	153

*. Correlation is significant at the 0.05 level (2-tailed).

						Std.
		Ν	Minimum	Maximum	Mean	Deviation
Tinder Intensity	Scale	385	1.00	3.33	1.4984	.69809
Self-Esteem		385	6.00	30.00	20.023 4	4.60412
Loneliness		385	19.00	74.00	43.215 6	9.55754
Well-Being		385	59.00	120.00	95.155 8	12.40701
Collective (Identity)	Self-Esteem	380	1.00	7.00	3.8829	1.57804
Collective (Membership)	Self-Esteem	380	1.00	7.00	4.8985	1.14395
Collective Self-Esteem (Public)		380	1.00	7.00	4.6910	1.29717
Collective Self-E	Esteem (Private)	380	2.00	7.00	5.3803	1.16930

Table A5 Descriptive statistics for all DV measures across all participants

Table A6

Descriptive statistics for all DV measures across racial demographics

DV Measure	Race								
	White/European		Asian/Pacific Islander		Black/African American		Latine/Hispanic		
	М	SD	М	SD	М	SD	М	SD	
Tinder Intensity Scale	1.5112	.70557	1.5209	.73273	1.5793	.68505	1.3781	.63351	
Self-Esteem	20.026 7	4.77523	19.973 3	4.48714	20.4737	5.26968	18.9474	4.53185	
Loneliness	41.675 6	9.63145	45.480 0	8.42512	45.8421	9.69125	46.2632	9.62734	
Well-Being	96.444 4	12.5224 0	91.746 7	12.1378 3	94.1579	11.56772	94.5789	12.69950	
Collective Self- Esteem (Identity)	3.1712	1.27186	4.8000	1.32797	5.4671	1.19284	4.5417	1.60301	

Collective Self- Esteem (Membership)	4.8026	.97894	4.9833	1.23391	5.7105	1.14568	4.5556	1.51671
Collective Self- Esteem (Public)	4.9610	1.26336	4.7600	1.05622	3.3158	1.27698	4.3333	1.10195
Collective Self- Esteem (Private)	5.0041	1.13926	5.7678	1.03951	6.2961	.82580	5.9861	.93912

Table A7

Descriptive statistics for all DV measures across gender

DV Measure	Gender							
	Male		Female			Nonbinary/Gender Non-Conforming		
	М	SD	М	SD	М	SD		
Tinder Intensity Scale	1.6031	.75389	1.4494	.67228	1.6600	.65730		
Self-Esteem	20.330 3	4.74816	19.853 4	4.67885	18.0000	4.89898		
Table A7 (contin	nued).							
Loneliness	43.495 4	9.18092	43.026 3	9.81120	45.2000	6.72970		
Well-Being	94.477 1	12.2682 9	95.676 7	12.4827 7	88.7000	10.66719		
Collective Self- Esteem (Identity)	3.8073	1.57807	3.9282	1.57821	3.5250	1.66020		

Collective Self-Esteem (Membership)	5.0619	1.19420	4.8436	1.11512	4.5500	1.23491
Collective Self- Esteem (Public)	4.6078	1.37957	4.7318	1.27208	4.5333	1.05497
Collective Self- Esteem (Private)	5.4495	1.23874	5.3681	1.13519	4.9417	1.28803

Figure A8

Linear Regression Model for Interaction of Race and Tinder Intensity Scale on Loneliness

Appendix B

Measures

Tinder Intensity Scale

The Tinder Intensity Scale was used to measure someone's engagement with using Tinder and how it affects their psychological state (Rönnestad, 2017).

Table B1

Tinder Intensity Scale Survey Questions

Below is a list of statements dealing with your usage and general feelings about Tinder. Please indicate how strongly you agree or disagree with each statement. Choose the option that best describes how you feel most of the time.

	Strongly disagree	Disagree	Agree	Strongly agree
Dating apps are a part of my everyday routine	0	0	0	0
If I could not use dating apps anymore I would get upset	0	0	Ο	0
Getting a match makes me happy	0	0	0	0

Usually, when I get a match I try to meet in person	0	0	0	0
Usually, I am the one starting the conversation	0	0	0	0
Usually, I answer when people write to me	0	0	0	0
I swipe left on people I think are less attractive than myself	0	0	0	0
I swipe right on people I think are more attractive than myself	0	0	0	0
I talk to my friends about dating apps and my experiences on them	0	0	0	0
I feel ashamed to tell people I have dating apps	0	0	0	0

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale was used to measure a person's overall sense of selfworth and self-acceptance, also known as global self-esteem (Rosenberg, 1979).

Table B2

Rosenberg Self-Esteem Scale Questions

Please record the appropriate answer for each item, depending on whether you Strongly agree, agree, disagree, or strongly disagree with it.

Stro	ongly Disa	gree Agree	e Strongly agree
disa	gree		

On the whole, I am satisfied with myself.	0	0	0	0
At times I think I am no good at all.	0	0	0	0
I feel that I have a number of good qualities.	0	0	0	0
I am able to do things as well as most other people.	0	0	0	0
I feel I do not have much to be proud of.	0	0	0	0
I certainly feel useless at times.	0	0	0	0
I feel that I'm a person of worth.	0	0	0	0
I wish I could have more respect for myself.	0	0	0	0
All in all, I am inclined to think that I am a failure.	0	0	0	0
I take a positive attitude toward myself.	0	0	0	0

Russell Loneliness Scale

The Russell Loneliness Scale, also known as the UCLA Loneliness Scale, measures a person's subjective feelings of loneliness and social isolation. It's used in mental health research,

aging studies, and social psychology to understand the effects of loneliness on well-being (Russell, 1996).

Table B3

Russell Loneliness Scale Questions

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by circling one of the responses below.

	Never	Rarely	Sometimes	Always
How often do you feel that you are "in tune" with the people around you?	0	0	0	0
How often do you feel that you lack companionship?	0	0	0	0
How often do you feel that there is no one you can turn to?	0	0	0	0
How often do you feel alone?	0	0	0	0
How often do you feel part of a group of friends?	0	0	0	0
How often do you feel that you have a lot in common with the people around you?	0	0	0	0
How often do you feel that you are no longer close to anyone?	0	0	0	0

How often do you feel that your interests and ideas are not shared by those around you?	0	0	0	0
How often do you feel outgoing and friendly?	0	0	0	0
How often do you feel close to people?	0	0	0	0
How often do you feel left out?	0	0	0	0
How often do you feel that your relationships with others are not meaningful?	0	0	0	0
How often do you feel that no one really knows you well?	0	0	0	0
How often do you feel isolated from others?	0	0	0	0
How often do you feel that you can find companionship when you want it?	0	0	0	0
How often do you feel that there are people who really understand you?	0	0	0	0

How often do you feel shy?	0	0	0	0
How often do you feel that people are around you but not with you?	ο	0	0	0
How often do you feel that there are people you can talk to?	0	0	0	0
How often do you feel that there are people you can turn to?	0	0	0	0

Ryff Psychological Well-Being Scale

The Ryff Psychological Well-Being Scale measures psychological well-being across multiple dimensions of personal growth and fulfillment. Developed by Carol Ryff in 1989, it goes beyond traditional measures of happiness by assessing different aspects of what it means to live a meaningful and well-rounded life (Ryff, 2010).

Table B4

Ryff Psychological Well-Being Scale Questions

Choose one response below each statement to indicate how much you agree or disagree.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongl y agree
I like most parts of my personality.	0	0	0	0	0	0	0
When I look at the story of my life, I am pleased with how things have turned out so far.	0	0	0	0	0	0	0

Some people wander aimlessly through life, but I am not one of them.	Ο	0	0	0	0	0	0
The demands of everyday life often get me down.	0	0	0	0	0	0	0
In many ways I feel disappointed about my achievements in life.	ο	Ο	ο	ο	Ο	0	0
Maintaining close relationships has been difficult and frustrating for me.	0	0	Ο	Ο	0	0	0
I live life one day at a time and don't really think about the future.	0	0	0	0	0	0	0
In general, I feel I am in charge of the situation in which I live.	0	0	Ο	Ο	0	0	0
I am good at managing the responsibilitie s of daily life.	0	0	0	0	0	0	0

I sometimes feel as if I've done all there is to do in life.	o	0	ο	0	0	0	0
For me, life has been a continuous process of learning, changing, and growth.	0	0	0	0	0	0	0
I think it is important to have new experiences that challenge how I think about myself and the world.	O	0	0	0	ο	Ο	0
People would describe me as a giving person, willing to share my time with others.	0	0	0	0	0	0	0
I gave up trying to make big improvements or changes in my life a long time ago.	0	Ο	Ο	Ο	Ο	Ο	0
I tend to be influenced by people with strong opinions.	o	ο	ο	0	0	0	Ο

I have not experienced many warm and trusting relationships with others.	0	0	0	0	0	0	0
I have confidence in my own opinions, even if they are different from the way most other people think.	Ο	Ο	Ο	Ο	Ο	Ο	Ο
I judge myself by what I think is important, not by the values of what others think is important.	0	0	ο	0	0	Ο	0

Crocker Collective Self-Esteem Scale

The Crocker Collective Self-Esteem Scale measures collective self-esteem, or how individuals evaluate their social groups and their sense of belonging within them. It was developed to assess self-esteem derived from group membership rather than just personal self-worth (Luhtanen, & Crocker 1992).

Table B5

Crocker Collective Self-Esteem Scale Questions

We are all members of different social groups or social categories. We would like you to consider your race or ethnicity (e.g., African-American, Latino/Latina, Asian, European-American) in responding to the following statements. There are no right or wrong answers to any of these statements; we are interested in your honest reactions and opinions. Please read each statement carefully, and respond by using the following scale from 1 to 7:

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongl y agree
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I am a worthy member of my race/ethnic group.	0	0	0	0	0	0	0
I often regret that I belong to my racial/ethnic group.	0	0	0	0	0	0	0
Overall, my racial/ethnic group is considered good by others.	0	0	0	0	0	0	0
Overall, my race/ethnicity has very little to do with how I feel about myself.	0	0	0	Ο	Ο	Ο	0
I feel I don't have much to offer to my racial/ethnic group.	0	0	0	0	0	0	0
In general, I'm glad to be a member of my racial/ethnic group.	ο	Ο	Ο	Ο	Ο	Ο	0

Most people consider my racial/ethnic group, on the average, to be more ineffective than other groups.	0	0	Ο	Ο	0	Ο	0
The racial/ethnic group I belong to is an important reflection of who I am.	0	0	0	0	Ο	0	0
I am a cooperative participant in the activities of my racial/ethnic group.	Ο	0	Ο	Ο	Ο	0	0
Overall, I often feel that my racial/ethnic group is not worthwhile.	ο	Ο	Ο	0	ο	0	ο
In general, others respect my race/ethnicity	0	0	0	0	0	0	0
My race/ethnicity is unimportant to my sense of what kind	0	0	0	0	0	0	0

of a person I am.							
I often feel I'm a useless member of my racial/ethnic group.	0	Ο	0	ο	0	0	0
I feel good about the race/ethnicity I belong to.	0	0	0	0	0	0	0
In general, others think that my racial/ethnic group is unworthy.	0	0	0	0	0	0	0
In general, belonging to my race/ethnicity is an important part of my self image.	0	Ο	Ο	Ο	Ο	Ο	0

Appendix C

IRB Approval



On 08/12/2024, the Tulane University Social-Behavioral IRB provided a review and Exempt determination for the initial submission of this study, in accordance with the appropriate federal regulations.

The following items were included with this submission:

- Consent Form (General Population) (1).pdf (Consent Script)
- Consent Form (Tulane Intro Psych SONA).docx.pdf (Consent Script)
- Dating App Usage and Psychological Well-Being Flyer.pdf (Flyer)
- Dr. Mandishona Letter of Support (Other)
- IRB Protocol.docx (1).pdf (Study Protocol)
- Relationships_of_Dating_App_Usage.docx (Questionnaires/Surveys)

This study is authorized to enroll 500 subjects.

The first Exempt Check-In Report is due on 8/12/2027.

Research under this protocol can be conducted at the following site: Online.

If this protocol involves sites not listed under the Tulane FWA, this determination is contingent upon the investigator obtaining sponsor approval to conduct this research and authorization from sites not listed under the Tulane FWA for the use of those respective facilities and/or the access of the facilities data for the purposes of this research. It is the responsibility of the investigator to obtain the necessary authorization from the respective sites and approval from sponsors. The IRB is not responsible for verifying that these permissions have been granted. Exempt studies are subject to institutional oversight including reviews and audits by the Human Research Protection Program. Please submit any proposed changes to the research that could potentially change the exempt status prior to implementation, unless a change is necessary to avoid immediate harm to subjects. If subject safety becomes an issue, please notify the Tulane University Human Research Protection Office (HRPO) as soon as possible.

Please submit any unanticipated problems involving risk to subjects or others, deviations from the approved research, non-compliance, and complaints to the IRB in accordance with Tulane University Human Research Protection Program (HRPP) Standard Operating Procedures (SOPs). Please contact the HRPO via irbmain@tulane.edu or (504) 988-2665 if you have questions and/or concerns regarding reporting events.

If your study is supported in whole or in part by a federal grant, please note that Federal regulations prohibit the use of Federal funds for human subject research that is not conducted under current IRB approval. Loss of IRB approval for this study due to lapse, suspension or termination will be communicated by the Tulane IRB to Tulane's Office of Grants and Contracts Accounting, which may result in an administrative hold being placed on the related grant(s). Therefore, to avoid an interruption in research activity, including use of coded, identifiable human data or biospecimens, and access to grant funds it is critical that IRB approval for the study be maintained.

When the Tulane IRB determination allows for the use of medical records under this protocol, it is the responsibility of the investigator to obtain authorization to access the records for research purposes from the institution housing the medical records.

Please notify the IRB within 30 days of completion of all study activities and data analysis by submitting a Study Closure Form.

The Principal Investigator is responsible for being familiar with and complying with Tulane University HRPP SOPs found at <u>https://research.tulane.edu/hrpo</u>. Please do not hesitate to contact our office with any questions or concerns.

We encourage investigators and research staff to provide feedback about the IRB review process, our website, and any other aspects of the HRPP that will help us to identify improvements we can make. You can complete this form in an anonymous manner at <u>HRPO/IRB Feedback Survey</u>.

Sincerely,

Tulane University Human Research Protection Office

Please note that the actual signature by the IRB Chair(s) is not required for this document to be effective. IRBManager generates this letter pursuant to the IRB Chair's electronic signature and approval. This process is consistent with Federal Regulations and Tulane Standard Operating Policies with respect to the IRB and Human Research Protection Office, which consider electronically generated documents as official notices to sponsors and others of approval, disapproval or other IRB decisions. Please refer to Tulane's Electronic Signatures and Records Policy by visiting the HRPO website at https://research.tulane.edu/hrpo.