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Exposure to Ethnic Discrimination in Social Media and Symptoms of Anxiety and Depression among Hispanic Emerging Adults: Examining the Moderating Role of Gender

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Abstract

Objective: A sociocultural stressor that has been understudied among racial/ethnic minorities is online ethnic discrimination. Accordingly, this study aimed to (1) examine associations of exposure to ethnic discrimination in social media with symptoms of depression and generalized anxiety, and (2) examine the extent to which gender moderates these respective associations.

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Method: 200 Hispanic emerging adults from Arizona (n=99) and Florida (n=101) completed a cross-sectional survey, and data were analyzed using hierarchical multiple regression and moderation analyses.

Results: Higher social media discrimination was associated with higher symptoms of depression and generalized anxiety. Moderation analyses indicated that higher social media discrimination was only associated with symptoms of depression and generalized anxiety among men, but not women.

Conclusion: This is likely the first study on social media discrimination and mental health among emerging adults; thus, expanding this emerging field of research to a distinct developmental period.

Keywords

online racism; Internet discrimination; cultural stress; mental health; Latinos

Epidemiological surveillance in the United States (U.S.) indicates that *emerging adults* (ages 18-25) report the highest prevalence of elevated symptoms of depression (13.1%) in comparison to adolescents and all other adult age groups (Substance Abuse and Mental Health Services Administration [SAMHSA], 2018). Although there is little to no nationally representative data on the prevalence of symptoms of generalized anxiety among emerging adults, researchers have indicated that the prevalence of symptoms of anxiety increase from adolescence to emerging adulthood, and anxiety symptoms/disorders, particularly generalized anxiety, are the most prevalent mental health problems that affect emerging adults in the U.S. (Hoffman, Guerry, & Albano, 2018; Kranzler, Elkins, & Albano, 2019; Tanner, 2016). It is hypothesized that emerging adults are at high risk of developing symptoms of depression and anxiety because this life stage is marked with significant life transitions, high levels of instability, and taking on new and challenging developmental tasks (Arnett, 2000; Arnett, Žukauskienė, Sugimura, 2014).

In addition to normative developmental risk factors, many Hispanic (inclusive of Latino/Latina/Latinx) emerging adults experience disproportionate exposure to chronic sociocultural stressors (e.g., ethnic discrimination) that place them at a higher risk of developing poor mental health (Cano et al., 2020; Salas-Wright, et al., 2019). To effectively prevent and mitigate potential mental health disparities among Hispanic emerging adults, more research is needed on social and developmental factors that are relevant to this population. Accordingly, the primary aims of this study were to (1) examine associations of exposure to ethnic discrimination in social media with symptoms of depression and generalized anxiety, and (2) examine the extent to which gender moderates these respective associations.

Ethnic Discrimination

Conceptual frameworks on social determinants of health propose that exposure to actual or perceived *ethnic discrimination*, unfair or negative treatment based on one's ethnic background, increases the risk of poor mental health (Cano et al., 2015; Clark, Anderson, Clark, & Williams; Viruell-Fuentes, 2007; Williams, Neighbors, & Jackson, 2003). It is

hypothesized that ethnic discrimination has an adverse effect on mental health because it operates as a sociocultural stressor that can diminish constructive coping responses that help an individual to manage new stressors; thus, increasing the likelihood of developing poor mental health (Bogart et al., 2013; Clark, Anderson, Clark, & Williams, 1999).

In line with these conceptual frameworks, multiple studies on emerging adults with Hispanic and multiethnic samples found that higher levels of ethnic discrimination were associated with higher symptoms of depression and generalized anxiety (Cano et al., 2016; Cheref, Talavera, & Walker, 2019; Gomez, Miranda, & Polanco, 2011; Polanco-Roman & Miranda, 2013; Killoren, Monk, Gonzales-Backen, Kline, & Jones, 2019). These findings are concerning and highlight a significant public health problem given the high prevalence of ethnic discrimination in the U.S. By one estimate, 81% of Hispanics reported that ethnic discrimination is a significant social problem in the U.S. (Pew Research Center, 2015).

Online Ethnic Discrimination

To date, the vast majority of studies on ethnic discrimination as a predictor of mental health have focused on in-person (interpersonal) experiences or perceptions of discrimination. Although exposure to online (Internet) ethnic discrimination has received some attention in recent years it remains an understudied field of research (Keum & Miller, 2018). *Online ethnic discrimination* has been operationalized as "victimization that threatens, excludes, or targets an individual based on race and ethnicity through the use of symbols, voice, video, images, text, and graphic representations online" (Stewart, Schuschke, & Tynes, 2019, p. 502). Online ethnic discrimination can take place in various mediums such as social media platforms, chat rooms, discussion boards, web pages, and online games/videos (Tynes, Umaña-Taylor, Rose, Lin, & Anderson, 2012).

Our review of the literature found only five published studies that assessed online ethnic discrimination as a predictor of mental health and externalizing behavior. However, a limitation of this emerging field of research is that most of the studies have focused on African American adolescents. As this area of research continues to develop it must expand to include other high-risk populations. For instance, Hispanic emerging adults are susceptible to online ethnic discrimination, particularly ethnic discrimination in social media (hereinafter referred to as social media discrimination). Emerging adults are the age-group that use social media the most, and it is estimated that 73% of Hispanics report using Facebook, the social media platform with the most users in the U.S., compared to 70% of Blacks and 67% of Whites (Smith & Anderson, 2018).

As with in-person ethnic discrimination, acts of online ethnic discrimination can range from microaggressions to hate crimes (Stewart et al., 2019). However, researchers have suggested that online ethnic discrimination is distinct from in-person ethnic discrimination because (1) many online platforms provide perpetrators with anonymity which facilitates acts of discrimination, (2) online discrimination tends to be more explicit, (3) discriminatory/racist content can be shared easily and widely, becoming "viral" or "trending," and (4) online discrimination may impact people for a longer time because the content can have a lasting presence online (Keum & Miller, 2008; Stewart et al., 2019). Expectedly, studies on online

ethnic discrimination and mental health, have found that greater exposure to online ethnic discrimination is associated with higher symptoms of depression and anxiety among African American and Hispanic adolescents (Tynes, English, Del Toro, Smith, Lozada, & Williams, in press; Tynes, Giang, Williams, Thompson, 2008; Tynes et al., 2012; Umaña-Taylor, Tynes, Toomey, Williams, & Mitchell, 2015). Also, one study that included a multi-ethnic sample of adults found that higher online ethnic discrimination was correlated with higher psychological distress (Keum & Miller, 2017).

Gender and Ethnic Discrimination

Prior studies have indicated that gender may influence exposure and responses to in-person ethnic discrimination. For instance, in the U.S., Hispanic women report lower levels of ethnic discrimination compared to Hispanic men (Araújo & Borrell, 2006; Pérez, Fortuna, & Alegría, 2008). An explanation for this difference is that Hispanic men are perceived as more threatening than Hispanic women (Bailey, 2013). Ethnic discrimination may also have a stronger adverse effect on the health of men than women, including symptoms of depression and anxiety among Hispanic emerging adults (Brondolo et al., 2015; Cano et al., 2016). A reason that men may be more affected by ethnic discrimination is that it may challenge their concept of masculinity and threaten their perceived social status and power (Gorman et al., 2010; Kulis, Marsiglia, & Nieri, 2009). Furthermore, Hispanic women tend to have larger and more diverse social networks than men, and thus, are more likely to use social support to cope with the adverse effects of ethnic discrimination (Alcántara, Molina, & Kawachi, 2015; Araújo & Borrell, 2006). Presently not much is known about the effect that gender may have on the association between online ethnic discrimination and mental health. Only one published study was found with adolescents that examined whether gender moderated the association between online ethnic discrimination and symptoms of depression and anxiety; however, no statistically significant difference was found between boys and girls (Tynes et al., 2012).

Present Study

Based on the review of the existing literature, the following hypotheses were proposed. *Hypothesis one*, higher social media discrimination will be associated with higher symptoms of depression and generalized anxiety. Since the field of research on online discrimination, particularly social media discrimination, and mental health is relatively novel it is important from a clinical perspective to examine if social media discrimination is associated with symptoms of depression and generalized anxiety after statistically controlling for well-established predictors of these two outcomes. Therefore, the present study included self-esteem as a clinically relevant covariate (Sowislo & Orth, 2013). *Hypothesis two*, gender will moderate respective associations between social media discrimination and symptoms of depression and generalized anxiety, whereby social media discrimination will have a stronger association among men than women.

Method

Procedure and Participants

This study was approved by the Institutional Review Board of Florida International University. The present analyses used data from a cross-sectional study with a sample of 200 participants from the *Project on Health among Emerging Adult Latinos* (Project HEAL). Quota sampling was used to recruit prospective participants in Maricopa County, Arizona and Miami-Dade County, Florida using various recruitment strategies (e.g., in-person, posting flyers, targeted emails). Prospective participants interested in the study contacted the project coordinator to be screened and given access to the online survey if they met the eligibility criteria. Inclusion criteria for participants included being ages 18 to 25, self-identify as Hispanic or Latina/o, able to read English, and currently living in Maricopa County, Arizona or Miami-Dade County, Florida. Exclusion criteria were currently being pregnant or breastfeeding. Participants provided informed consent to participate in the study by using an electronic informed consent form. The survey took approximately 50 minutes to complete and participants were compensated with a $30 electronic Amazon gift card. More details on the procedures for Project HEAL are published elsewhere (Cano et al., 2020).

Measures

Demographic Questionnaire.—The following sociodemographic variables were included: age, gender, (0 = male, 1 = female), study site (0 = Florida, 1 = Arizona), partner status (0 = single, 1 = has a partner), nativity (0 = immigrant, 1 = U.S.-born), Hispanic heritage group (0 = other Hispanic heritage, 1 = Mexican heritage), student status (0 = current college student, 1 = non-college student), employment status (0 = unemployed, 1 = employed), and financial strain (1 = has more money than needed, 2 = just enough money for needs, 3 = not enough money to meet needs). Existing literature suggests that the aforementioned sociodemographic variables are linked with symptoms of depression and generalized anxiety (Alegría et al., 2007; SAMHSA, 2018); thus, we included them in the regression analyses to control for potential confounding effects.

Self-esteem.—Self-esteem was measured with the five-item positive self-esteem (self-confidence) subscale of the Rosenberg Self-Esteem Scale (Rosenberg, 1979). A sample item from this measure is, “I feel that I have a number of good qualities.” Participants responded to items in the measure using a four-point Likert-type scale (1 = *strongly disagree*, 4 = *strongly agree*) and higher sum scores are indicative of higher self-esteem. Analyses on the psychometric properties of this measure indicate that it is valid and reliable for use with Hispanics (Supple & Plunkett, 2011), and Cronbach’s reliability coefficient in the present study was $\alpha = .87$. Since prior studies have demonstrated that self-esteem is a strong predictor of symptoms of depression and anxiety (Sowislo & Orth, 2013) it was included as a covariate to test a more robust model and examine if the focal predictor, social media discrimination, was associated with the two outcomes after controlling for a well-established predictor.

Social Media Discrimination.—Self-reported exposure to social media discrimination was assessed using two items developed by the authors, one concerning discrimination

directed at the respondent and the other concerning vicarious exposure. The two items were: "How frequently DO YOU receive posts on social media (such as Facebook, Twitter, or Instagram) that contain racist statements, images, or videos about Hispanic people?" and "How frequently have you seen OTHER USERS receive posts on social media (such as Facebook, Twitter, or Instagram) that contain racist statements, images, or videos about Hispanic people?" Participants responded to both items using a five-point Likert-type scale (0 = *never*, 4 = *very often*) and higher sum scores indicate higher exposure to social media discrimination. Cronbach's reliability coefficient for the two items was $\alpha = .60$. Although the reliability coefficient is below the recommended threshold of $\alpha = .70$ it is not unexpected because alpha is influenced by the number of items and can increase as a function of more items (Morera & Stokes, 2016). The alpha for these two items is consistent with other frequently used two-item measures (Carver, 1997).

Symptoms of Depression.—Self-reported symptoms of depression were measured with the 10-item short-form Center for Epidemiological Studies Depression Scale (Andresen, Malmgren, Carter, & Patrick, 1994). A sample item from this measure is, "I felt depressed." Participants responded to items in the measure using a four-point Likert-type scale (0 = *rarely or none of the time*, 3 = *most or all of the time*) and higher sum scores are indicative of higher depressive symptomatology. Analyses on the psychometric properties of this measure indicate that it is valid and reliable for use with Hispanics (González et al., 2017), and Cronbach's reliability coefficient for this measure was $\alpha = .84$.

Symptoms of Generalized Anxiety.—Self-reported symptoms of generalized anxiety were measured with the seven-item Generalized Anxiety Disorder Scale (Spitzer, Kroenke, Williams, & Löwe, 2006). A sample item from this measure is, "Feeling nervous, anxious or on edge." Participants responded to items in the measure using a four-point Likert-type scale (0 = *not at all*, 3 = *nearly every day*) and higher sum scores are indicative of higher symptoms of generalized anxiety. Analyses on the psychometric properties of this measure indicate that it is valid and reliable for use with Hispanics (Mills, Fox, Malcarne, Roesch, Champagne, & Sadler, 2014), and Cronbach's reliability coefficient for this measure was $\alpha = .94$.

Statistical Analysis Plan

All analyses were performed using SPSS v25. Descriptive statistics including means and standard deviations were computed for continuous variables, and frequencies and proportions were generated for categorical variables. Bivariate correlations between study variables were assessed using a Pearson correlation coefficient. Multicollinearity was assessed using two diagnostic indicators, tolerance and the variance inflation factor (VIF). It is recommended that the tolerance value be higher than .10 and the VIF value be lower than 10 (Cohen, Cohen, West, & Aiken, 2003).

Two hierarchical multiple regression (HMR) models were used to estimate the main effects of the predictor variables on symptoms of depression and generalized anxiety, respectively. Predictor variables were entered into the HMR models in a specified order so that each block of predictors contributed to the explanatory variance of the outcome variable (i.e., symptoms

of depression/generalized anxiety) after controlling for the variance explained by the previous block of variables (Cohen et al., 2003). In each HMR model, predictor variables were grouped and entered in the following order: (1) demographic variables were entered in the first block, (2) self-esteem was entered in the second block, and (3) social media discrimination was entered in the third and final block to determine the extent to which it uniquely predicted symptoms of depression and generalized anxiety above and beyond the other predictors.

PROCESS v3.2 for SPSS (Hayes, 2017) was used to conduct moderation analyses and examine the extent to which gender influenced the direction and/or strength of the association between social media discrimination and symptoms of depression and generalized anxiety. PROCESS tests moderation by (1) performing a multiple regression to replicate the variance explained by all the predictor variables included in the HMR model, (2) estimating interaction terms between the focal predictor (e.g., social media discrimination) and the moderating variable (e.g., gender), and (3) estimating conditional effects in relation to symptoms of depression and generalized anxiety, respectively. To estimate standardized regression coefficients in PROCESS, variables must be transformed into a standard score (e.g., *z*-score). The moderation analyses controlled for all variables in the HMR model that were not included in respective interaction terms.

Results

Descriptive Analyses and Diagnostics

The mean participant age was 21.30 (*SD* = 2.09) and approximately half the sample was composed of women (*n* = 102, 51.0%) and participants from Arizona (*n* = 99, 49.5%). The following Hispanic heritage groups were represented in the sample: Mexican (*n* = 88, 44.0%), Cuban (*n* = 33, 16.5%), Colombian (*n* = 24, 12.0%), other South American (*n* = 21, 12.5%), Central American (*n* = 20, 10.0%), and Puerto Rican (*n* = 9, 4.5%). Related to the level of severity for symptoms of depression, 44.5% (*n* = 89) of participants reported a sum score of 10 or higher suggesting a possible diagnosis of major depression (Andresen et al., 1994). Regarding the level of severity for symptoms of generalized anxiety, 30.0% (*n* = 60) of participants reported a sum score of 10 or higher suggesting a possible diagnosis of generalized anxiety disorder (Spitzer et al., 2006). Most participants reported being exposed to social media discrimination, 66% (*n* = 132, *M* = 1.14, *SD* = 1.05) reported exposure to social media discrimination directed at them and 85% (*n* = 170, *M* = 1.94, *SD* = 1.24) reported vicarious exposure to social media discrimination. The two social media discrimination items were moderately correlated (*r* = .43, *p* = .01) and *t*-tests indicate there were no statistically significant gender differences in relation to these two items. Frequencies, proportions, means, and standard deviations for all study variables are presented by gender in Table 1. Bivariate correlations for all study variables are presented in Table 2. Assumptions of multicollinearity were met because all tolerance values were higher than .10 and all VIF values were lower than 10.

Hierarchical Multiple Regression

Table 3 presents all the regression coefficients from the HMR model used to estimate the main effects on symptoms of depression. Results indicate that 32.3% of the variance of symptoms of depression was explained by all predictor variables entered in the HMR model. The first predictor block included demographic variables and explained 20.4% of the variance in symptoms of depression, $R^2 = .204$, $F(9, 189) = 5.37$, $p \leq .001$. Standardized regression coefficients from the first block of predictors in the HMR model indicate that being U.S.-born ($\beta = .16$, $p = .03$) and being a current college student ($\beta = -.24$, $p \leq .001$) were associated with higher symptoms of depression.

The second block added self-esteem, which explained 10.4% of the variance in symptoms of depression $\Delta R^2 = .104$, $F(1, 188) = 28.17$, $p \leq .001$. Standardized regression coefficients from the second block of predictors in the HMR model indicate that being U.S.-born ($\beta = .16$, $p = .02$) and being a current college student ($\beta = -.25$, $p \leq .001$) were associated with higher symptoms of depression. By contrast, higher self-esteem was associated with lower symptoms of depression ($\beta = -.33$, $p \leq .001$). The third and final block added social media discrimination, which explained 1.5% of the variance in symptoms of depression $\Delta R^2 = .015$, $F(1, 187) = 4.27$, $p = .04$. Standardized regression coefficients from the third block of predictors in the HMR model indicate that being U.S.-born ($\beta = .15$, $p = .02$), being a current college student ($\beta = -.23$, $p \leq .001$), and higher levels of social media discrimination ($\beta = .13$, $p = .04$) were associated with higher symptoms of depression. Conversely, higher levels of self-esteem were associated with lower symptoms of depression ($\beta = -.33$, $p \leq .001$).

Table 4 presents all the regression coefficients from the HMR model used to estimate the main effects on symptoms of generalized anxiety. Results indicate that 29.7% of the variance of symptoms of generalized anxiety was explained by all predictor variables entered in the HMR model. The first predictor block included demographic variables and explained 18.5% of the variance in symptoms of generalized anxiety, $R^2 = .185$, $F(9, 189) = 4.76$, $p \leq .001$. Standardized regression coefficients from the first block of predictors in the HMR model indicate that being female ($\beta = .14$, $p = .04$), living in Arizona ($\beta = .26$, $p = .05$), being a current college student ($\beta = -.28$, $p \leq .001$), and higher financial strain ($\beta = .14$, $p = .04$) were associated with higher symptoms of generalized anxiety.

The second block added self-esteem, which explained 9.8% of the variance in symptoms of generalized anxiety $\Delta R^2 = .098$, $F(1, 188) = 25.56$, $p \leq .001$. Standardized regression coefficients from the second block of predictors in the HMR model indicate being female ($\beta = .16$, $p = .02$), living in Arizona ($\beta = .29$, $p = .02$), being a current college student ($\beta = -.29$, $p \leq .001$), and higher financial strain ($\beta = .13$, $p = .05$) were associated with higher symptoms of generalized anxiety. By contrast, higher levels of self-esteem were associated with lower symptoms of generalized anxiety ($\beta = -.32$, $p \leq .001$). The third and final block added social media discrimination, which explained 1.4% of the variance in symptoms of generalized anxiety $\Delta R^2 = .014$, $F(1, 187) = 3.381$, $p = .05$. Standardized regression coefficients from the third block of predictors in the HMR model indicate being female ($\beta = .16$, $p = .01$), living in Arizona ($\beta = .27$, $p = .03$), being a current college student ($\beta = -.27$, $p \leq .001$), higher financial strain ($\beta = .13$, $p = .05$), and higher levels of social media

discrimination (β = .13, p = .05) were associated with higher symptoms of generalized anxiety. Conversely, higher levels of self-esteem were associated with lower symptoms of generalized anxiety (β = −.32, $p \leq .001$).

Post hoc analyses were conducted to replicate the structure of the HMR models; however, the two social media discrimination items were entered individually in the third block instead of a sum score. Results from these analyses indicate that the individual social media discrimination items did not have statistically significant associations with either outcome. These findings suggest that it is the cumulative effect of exposure to social media discrimination that is associated with symptoms of depression and generalized anxiety.

Moderation Analyses

A moderation analysis indicated that gender had a statistically significant interaction with social media discrimination in relation to symptoms of depression (β = −.39, $p \leq .001$). Conditional effects show that increasing levels of social media discrimination, across participants, were associated with higher symptoms of depression among men (β = .31, $p \leq .001$), but not women (β = −.08, p = .37). This interaction effect added 3.8% to the variance explained by the HMR model, ΔR^2 = .038, $F(1, 186) = 10.97$, $p \leq .001$. Similarly, gender also had a statistically significant interaction with social media discrimination in relation to symptoms of generalized anxiety (β = −.33, p = .01). Conditional effects indicate that increasing levels of social media discrimination, across participants, were associated with higher symptoms of generalized anxiety among men (β = .28, $p \leq .001$), but not women (β = −.05, p = .58). This interaction effect added 2.6% to the variance explained by the HMR model, ΔR^2 = .026, $F(1, 186) = 7.25$, p = .01. Both moderating effects are depicted in Figure 1.

Discussion

The current study may be the first to explicitly assess social media discrimination and examine its association with mental health outcomes among emerging adults and Hispanics. Consistent with our hypotheses, key findings from this study were that higher exposure to social media discrimination was associated with higher symptoms of depression and generalized anxiety, even after controlling for self-esteem, a well-established predictor of both outcome variables. Second, gender moderated respective associations between social media discrimination and symptoms of depression and generalized anxiety. More specifically, the moderation analyses indicated that higher social media discrimination was only associated with higher symptoms of depression and generalized anxiety among men, but not women.

As previously noted, emerging adults experience higher symptoms of depression and anxiety when compared to adolescents and other adult age groups. Considering the high usage of social media among Hispanic emerging adults, social media discrimination may be a sociocultural and developmental factor that compounds the risk of developing poor mental health in this population. Thus, more research on social media discrimination and other forms of online ethnic discrimination are needed during emerging adulthood because it can be a unique period in life for many. For instance, some key social and intrapersonal factors

of mental health may not be at optimal levels during emerging adulthood thus exacerbating the link between social media discrimination and mental health. For example, many emerging adults report experiencing insufficient or unstable sources of social support to help cope with social stressors (Wang, 2019). Also, the repertoire of adaptive emotion regulation strategies (e.g., cognitive reappraisal) to cope with social stressors may not be fully developed in emerging adulthood (Zimmermann & Iwanski, 2014).

When interpreting the moderating effects of gender, the following should be noted. First, the difference in exposure to social media discrimination between men and women was not statistically significant. Second, women reported higher symptoms of depression and generalized anxiety; however, social media discrimination did not have a conditional effect on either outcome because the slopes, the rate of change in symptoms of depression and generalized anxiety observed across cases was low. By contrast, both conditional effects of men were statistically significant because as levels of social media discrimination increased the rate of change in symptoms of depression and generalized anxiety observed across cases was high.

To the knowledge of the authors, this is the first study to find differential gender effects of online ethnic discrimination on mental health outcomes. Some explanations may be that prior studies of online ethnic discrimination did not find gender differences because (1) they did not measure social media discrimination explicitly, and (2) most studies have focused on adolescents who may interpret actual or perceived ethnic discrimination differently than adults (Bogart et al., 2013). However, our findings are consistent with studies of in-person discrimination that indicate ethnic discrimination has a stronger association on the mental health of men than women. Yet, the moderating effects found in the present study cannot be attributed to men being exposed to higher levels of social media discrimination.

Although men and women reported similar levels of exposure to social media discrimination in our sample, the racist/discriminatory content in social media (e.g., memes, videos) may have depicted men more often than women which may lead to greater internalizing among men. This explanation would be consistent with the *Subordinate Male Target Hypothesis*, which proposes that men who believe they are from a “dominant” social group would be more inclined to develop and/or post racist/discriminatory content that depicts men, rather than women, who they perceive to be from a “subordinate” social group (Veenstra, 2013). Future research studies may consider conducting a qualitative content analysis to empirically characterize and quantify the forms of racist/discriminatory content on social media and examine their effects between gender. Again, while exposure to social media discrimination was similar in this sample, the *Theory of Gendered Prejudice* would suggest that men may be exposed to more egregious forms of racist/discriminatory content which may have a stronger or longer-lasting impact (McDonald, Navarrete, & Sidanius, 2011). This may be probable because men are more likely than women to follow political topics/groups on social media which may function as a platform to post and see more egregious forms of racist/discriminatory content (Jakubowicz, 2017; Park, 2016). Lastly, some research indicates that men may be more affected by ethnic discrimination because they tend to engage more with perpetrators of racism/ethnic discrimination and respond in more combative forms to assert power (Assari, Moazen-Zadeh, Caldwell, & Zimmerman, 2017). In contrast, women tend to

be more avoidant or seek out social support in response to racial/ethnic discrimination which may mitigate its effects (Assari et al., 2017).

Limitations

The following limitations should be considered when interpreting the findings of this study. First, the present study used self-report measures that are susceptible to participant misrepresentation and error. Second, due to the cross-sectional design, the causal or directional order of the associations found cannot be confirmed. Third, generalizability may be limited due to the non-probability sampling technique that was used. Lastly, the study did not use a validated measure of online ethnic discrimination (e.g., Perceived Online Racism Scale, Keum & Miller, 2017) and only measured social media discrimination.

However, focusing on social media discrimination among emerging adults may have some practical advantages. For instance, this demographic group uses social media the most; thus, it is probable that social media discrimination exposes emerging adults to online ethnic discrimination more than other online mediums. Social media discrimination may also be somewhat distinct and potentially more harmful from other forms of online ethnic discrimination because racist/discriminatory content is more likely to go viral on social media, racist/discriminatory content can be directed at the study participant more easily, directed at people known to the participant via their social media network, and in some instances, people who experience social media discrimination can engage in communication with the perpetrator of the racist/discriminatory content. As this field of study advances, more research will be needed to empirically examine if social media discrimination is different from other forms of online discrimination.

Conclusion

Presently, most studies of online ethnic discrimination and mental health have focused on adolescents. This study expands the emerging field of online ethnic discrimination by examining its association with mental health in a distinct developmental period, emerging adulthood. Findings from this study also highlight that investigations of online ethnic discrimination and mental health should consider examining potential gender differences. Furthermore, as research on traditional media use among Hispanics has shown, ethnocultural (e.g., acculturation) and social (e.g., social status, political affiliation) factors should be examined to provide more context into determinants that influence perceptions of ethnic discrimination and to examine the intersectionality of socially marginalized identities and disadvantaged groups (Seng, Lopez, Sperlich, Hamama, & Meldrum, 2012; Sizemore & Milner, 2004; Veenstra, 2013).

Considering the limited research on this subject, it is challenging to develop recommendations for interventions. Therefore, more studies are needed to identify protective factors that may enhance resilience (Tynes et al., 2012; Umaña-Taylor et al., 2015). Future studies should also examine if general coping strategies for ethnic discrimination are associated with and effective for online ethnic discrimination (Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009). Lastly, since online ethnic discrimination, especially on social media platforms, will likely be a lasting social problem there is a need to explore the

development and effectiveness of interventions that target online mediums such as social media support groups and social media campaigns to counteract exposure to online ethnic discrimination (Chung, 2014; Freemana, Potente, Rock, & McIver, 2015).

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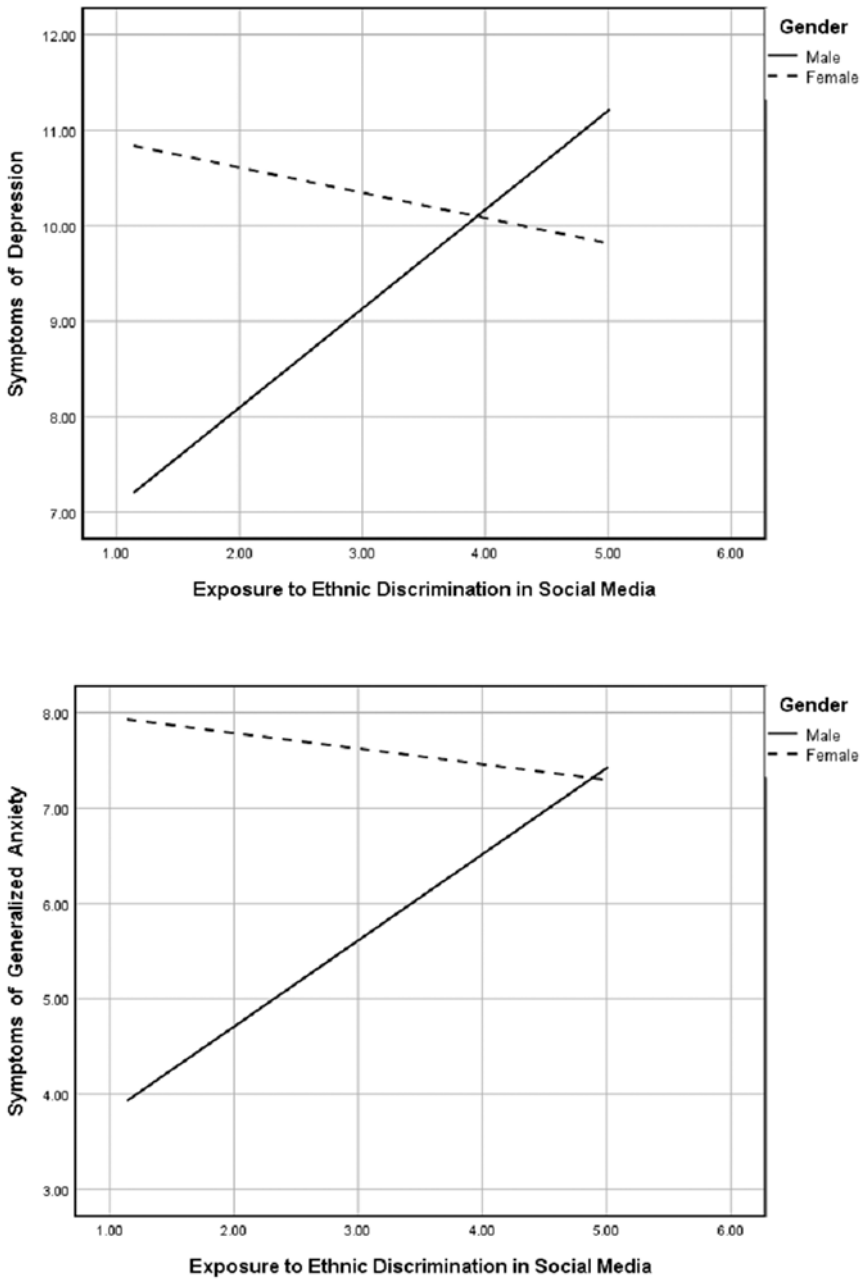

Figure 1.

Two-way interactions with gender moderating respective associations between social media discrimination and symptoms of depression and generalized anxiety.

Table 1

Descriptive Statistics for Study Variables (n = 200)

Variable	Female 99 (49.5)	Male 101 (50.5)	
	n (%)	*n* (%)	χ^2
Study Site			.50
Arizona	53 (53.5)	46 (46.5)	
Florida	49 (48.5)	52 (51.5)	
Partner Status			.02
Single	72 (70.6)	70 (71.4)	
Has Partner	30 (29.4)	28 (28.6)	
Nativity			4.15*
Immigrant	24 (23.5)	36 (36.7)	
U.S.-Born	78 (76.5)	62 (63.3)	
Hispanic Heritage			.10
Mexican	46 (45.1)	42 (42.9)	
Other Hispanic Heritage	56 (54.9)	56 (57.12)	
Student Status			.01
Current College Student	71 (69.6)	68 (69.4)	
Non-College Student	31 (30.4)	30 (30.4)	
Employment Status			.44
Employed	82 (80.4)	75 (76.5)	
Unemployed	20 (19.6)	23 (23.5)	
	M (*SD*)	*M* (*SD*)	*t*-value
Age	21.20 (1.92)	21.41 (2.26)	.72
Financial Strain	2.35 (.57)	2.24 (.61)	−1.89
Self-esteem	17.12 (2.60)	16.82 (2.74)	−.79
Social Media Discrimination	3.18 (1.88)	2.97 (2.00)	−.76
Depression Symptoms	10.51 (6.37)	8.95 (6.35)	−1.73
Anxiety Symptoms	7.67 (6.24)	5.50 (6.11)	−2.48**

*$p \leq .05$

**$p \leq .01$

Table 2

Bivariate Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	-												
2. Gender	−.05	-											
3. Study Site	.17*	.05	-										
4. Partner Status	.24**	.01	.07	-									
5. Nativity	.08	.14*	.34**	−.01	-								
6. Hispanic Heritage	.23**	.02	.86**	.06	.32**	-							
7. Student Status	.30**	−.00	.02	.01	−.11	.00	-						
8. Employment Status	.27**	.05	.40**	.09	.16*	.37**	.24**	-					
9. Financial Strain	−.02	.09	.07	.03	.02	.06	−.19**	.02	-				
10. Self-esteem	.05	.06	.17*	.13	.06	.15*	−.01	.14*	−.02	-			
11. Depression Symptoms	−.15	.12	.20**	−.04	.25**	.18**	−.32**	−.04	.19**	−.29**	-		
12. Anxiety Symptoms	−.07	.17*	.20**	−.03	.16*	.14*	−.30**	.04	.22**	−.27**	.74**	-	
13. Social Media Discrimination	−.16*	.05	.18*	.02	.12	.16*	−.21**	.07	.05	.07	.23**	.21**	-

* $p \leq .05$

** $p \leq .01$

Table 3

Hierarchical Multiple Regression Model Predicting Symptoms of Depression

	Model 1			Model 2			Model 3		
Variable	***b***	***SE***	**β**	***b***	***SE***	**β**	***b***	***SE***	**β**
Block 1									
Age	−.30	.22	−.10	−.32	.21	−.10	−.25	.21	−.08
Gender	.95	.84	.08	1.16	.79	.09	1.12	.78	.09
Study Site	1.67	1.65	.13	2.10	1.54	.17	1.91	1.53	.15
Partner Status	−.44	.95	−.03	.15	.90	.01	.07	.89	.01
Nativity	2.16	1.00	.16*	2.15	.92	.16*	2.08	.91	.15*
Hispanic Heritage	.84	1.63	.07	.96	1.53	.08	.87	1.51	.07
Student Status	−3.33	1.00	−.24***	−3.49	.93	−.25***	−3.16	.94	−.23***
Employment Status	−.96	1.15	−.06	−.50	1.08	−.03	−.66	1.08	−.04
Financial Strain	1.25	.72	.12	1.10	.67	.10	1.11	.67	.10
Block 2									
Self-esteem				−.80	.15	−.33***	−.80	.15	−.33***
Block 3									
Social Media Discrimination							.43	.21	.13*

Note: b = unstandardized coefficient, *SE* = standard error, β = standardized coefficient

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

R^2 = 20.4% for Block 1, ΔR^2 change = 10.4% for Block 2, ΔR^2 change = 1.5% for Block 3.

Table 4

Hierarchical Multiple Regression Model Predicting Symptoms of Generalized Anxiety

	Model 1			Model 2			Model 3		
Variable	***b***	***SE***	**β**	***b***	***SE***	**β**	***b***	***SE***	**β**
Block 1									
Age	−.01	.22	−.01	−.02	.21	−.01	.04	.21	.01
Gender	1.78	.84	.14*	1.98	.79	.16**	1.93	.78	.16**
Study Site	3.20	1.63	.26*	3.61	1.54	.29*	3.43	1.53	.27*
Partner Status	−.68	.94	−.05	−.13	.89	−.01	−.20	.89	−.02
Nativity	.71	.98	.05	.70	.92	.05	.63	.91	.05
Hispanic Heritage	−1.43	1.62	−.11	−1.31	1.52	−.10	−1.40	1.51	−.11
Student Status	−3.79	.99	−.28***	−3.94	.93	−.29***	−3.64	.94	−.27***
Employment Status	.52	1.15	.03	.96	1.08	.06	.81	1.08	.05
Financial Strain	1.46	.71	.14*	1.32	.67	.13*	1.33	.67	.13*
Block 2									
Self-esteem				−.75	.15	−.32***	−.76	.15	−.32***
Block 3									
Social Media Discrimination							.41	.21	.13*

Note: b = unstandardized coefficient, *SE* = standard error, β = standardized coefficient

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

R^2 = 18.5% for Block 1, ΔR^2 change = 9.8% for Block 2, ΔR^2 change = 1.4% for Block.