

# Direct and vicarious experiences of discrimination and rumination among Latinos before and during the beginning of the COVID-19 pandemic

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## Abstract

People from racial/ethnic minority groups can experience discrimination in various ways, including both being the direct target of discrimination (directly experienced discrimination) and learning about others' experiences of discrimination (vicariously experienced discrimination). Additionally, the frequency of these experiences may change over time as larger societal changes occur. In this retrospective self-report study, we examined how Latinos' experiences of discrimination changed during the beginning of the COVID-19 pandemic, examining both direct and vicariously experienced discrimination, in real life and online. Participants reported significantly less discrimination in-person during the beginning of the pandemic relative to before the pandemic (both direct and vicarious), but no changes for direct or vicarious discrimination experienced online. We also examined changes in rumination, a maladaptive coping strategy thought to prolong negative effects of discrimination. Rumination was experienced more frequently than discrimination in general and increased during the beginning of the pandemic. Importantly, experiences of discrimination and rumination were related to mental health outcomes, including anxiety, depression, and loneliness.

## KEYWORDS

COVID-19, discrimination, hispanic, latino, mental health, rumination

## 1 | INTRODUCTION

Racial discrimination—differential treatment of individuals based on membership in particular racial groups—is often conceptualized as something that occurs directly to a person in an interpersonal context (Mays et al., 2007). Research using this conceptualization of racial discrimination has documented a number of negative consequences, including mortality, cardiovascular disease, sleep disruptions, elevated cortisol, anxiety, and depression (Busse et al., 2017; Pascoe & Richman, 2009). Recently, there has been more interest in expanded or related forms of discrimination, including discrimination experienced vicariously and its effects on health outcomes. The current study examines Latinos' experiences with direct and vicarious forms of discrimination both in-person and online in a descriptive and exploratory manner to highlight similarities and differences between different experiences of discrimination, specifically within the context of the COVID-19 pandemic.

Experiencing discrimination directly has been reported as early as elementary school and adolescence (Benner et al., 2018) and has both acute and delayed effects on psychological and physiological stress (e.g., Torres & Ong, 2010; Volpert-Esmond et al., 2022; Zeiders et al., 2018). However, studies show that discrimination need not be experienced directly to have detrimental effects. Instead, vicariously experiencing discrimination—witnessing or learning about discrimination experienced by friends, family, and strangers—triggers similar stress responses as direct discrimination, and impacts various outcomes including anger, anxiety, depression, physiological stress responses, and executive functioning, in both the short and long term (e.g., Huynh et al., 2017; Jochman et al., 2019; Ozier et al., 2019).

Additionally, people may experience discrimination, whether directly or vicariously, both in real life and online, as social media and other online avenues (e.g., video games, online communities) become increasingly prevalent ways to engage with others. Research on the effects of discrimination experienced online is sparse but show similar effects as discrimination experienced in real life (English et al., 2020; Jochman et al., 2019; Tynes et al., 2019). Online discrimination is particularly important to consider within the context of the COVID-19 pandemic, as peoples' social lives transitioned online as schools and businesses closed and excessive Internet use increased as a result (Masaeli & Farhadi, 2021). Thus, it is important to consider the various ways individuals experience discrimination and how these experiences may have shifted during the beginning of the COVID-19 pandemic.

An important factor in how discrimination translates to negative health outcomes is how people process and think about these events. Rumination, or people's tendency to passively perseverate on negative thoughts and feelings (Borders & Liang, 2011), has been examined as a maladaptive coping strategy linked to the maintenance and development of depression (Spasojević & Alloy, 2001), and may contribute to how discrimination continues to affect an individual, both behaviorally and cognitively. Specifically, ruminating about discrimination may prolong psychological distress and physiological arousal, impacting depression, sleep quality, and cardiovascular functioning (e.g., Dondanville et al., 2022; Hoggard & Hill, 2018; Otto et al., 2022). However, research on environmental factors that influence an individual's tendency to ruminate on discrimination is sparse. Social isolation during the COVID-19 pandemic is one such possible factor, as individuals may not have had access to healthy coping strategies and thus relied on more maladaptive coping. Thus, we report on the prevalence of rumination on discrimination before and during the beginning of the COVID-19 pandemic.

### 1.1 | Current study

The current study took a retrospective self-report approach to examine how Latinos' experiences with various forms of discrimination changed during the onset of the COVID-19 pandemic. Asian Americans in particular experienced an increase in racially motivated hate crimes and discrimination as a result of xenophobic rhetoric in Americans' response to the Coronavirus pandemic (Le et al., 2020; Reny & Barreto, 2022; U.S. Department of Justice, 2020). However, xenophobia and anti-immigrant attitudes impacted other perceived outgroups, including Latino Americans.

Experimental studies have shown that public health messaging connecting COVID-19 and China increases not just negative attitudes towards Asian Americans but xenophobia in general, along with more negative evaluations of diversity, decreased support for pathways to citizenship for undocumented immigrants, and anti-Hispanic prejudice (Daniels et al., 2021; Dhanani & Franz, 2021; Kaushal et al., 2022; Lu et al., 2021). Additionally, all racial/ethnic minority groups reported experiencing COVID-19-related discrimination to a greater extent than White Americans in 2020 and 2021 (Strassle et al., 2022). Over half of Latino respondents reported experiencing some form of discrimination during the first 12 months of the pandemic, relative to 38% of Latino adults who reported experiencing discrimination before the pandemic (Gonzalez-Barrera & Hugo Lopez, 2020; Noe-Bustamante et al., 2021).

For these reasons, our study focused on Latinos' experiences of discrimination and how they may have changed during the pandemic. In particular, we examined similarities and differences in patterns of discrimination experienced directly or vicariously, and whether discrimination was experienced in-person or online. We expected in-person forms of discrimination to decrease due to limited social interactions with others in public following lockdowns, but online forms of discrimination to increase. We additionally expected rumination to increase at the onset of the COVID-19 pandemic as healthy coping strategies became limited and as national attention to racial issues increased in the form of well-publicized protests. Last, we examined how these different forms of discrimination and rumination were related to anxiety, depression, and loneliness.

## 2 | METHOD

### 2.1 | Participants

We recruited 291 Hispanic or Latino college students (70 men, 220 women, 1 trans/non-binary) from psychology classes at the University of Texas at El Paso (UTEP) and compensated 0.5 course credits. Data were collected from October to December 2020 (roughly 7–9 months after the first lockdown procedures in March 2020 in El Paso). Participants ranged from 18 to 50 years old ( $M = 21.38$ ). All study materials and procedures were approved by the UTEP Human Subjects Institutional Review Board.

### 2.2 | Measures

Questionnaires were administered via Qualtrics and took approximately 30 min to complete. Only measures relevant to the present study are reported here.<sup>1</sup> All reported data and code for analysis are available at [<https://osf.io/mwh7c/>].

#### 2.2.1 | Direct discrimination

Participants responded to 4 items about discrimination they had experienced directly, either online or in-person before the beginning of the pandemic in March 2020 and during the pandemic since, prior to participating in the study. Items asked: "How often were you treated unfairly or poorly because of your race/ethnicity [in-person/on social media or the internet in general], *before* the beginning of the Covid pandemic?", and "How often have you been treated unfairly or poorly because of your race/ethnicity [in-person/on social media or the internet in general], *since* the beginning of the Covid pandemic?". Participants responded using a 5-point Likert-type scale ranging from 1 (never) to 5 (almost always).

#### 2.2.2 | Vicarious discrimination

Similar items were used to assess vicarious discrimination experienced in-person and online, during the two different time periods: "How often did you see or witness anti-Mexican or anti-Hispanic statements or behaviors [in-person/on

social media or in the news], *before* the beginning of the Covid pandemic?" and "How often have you seen or witnessed anti-Mexican or anti-Hispanic statements or behaviors [in-person/on social media or in the news], *since* the beginning of the Covid pandemic?". Participants responded using a 5-point Likert-type scale ranging from 1 (never) to 5 (almost always).

### 2.2.3 | Rumination on discrimination

To assess rumination on discrimination, participants were asked, "How often did you think about racial injustices and the mistreatment of Latino/a, Hispanic, or other people of color in the US, *before* the beginning of the Covid pandemic?" and "How often did you think about racial injustices and the mistreatment of Latino/a, Hispanic, or other people of color in the US, *since* the beginning of the Covid pandemic?". Participants responded using a 5-point Likert-type scale ranging from 1 (never) to 5 (almost always).

### 2.2.4 | Anxiety

Participants responded to the 7-item Generalized Anxiety Disorder scale (GAD-7;  $\alpha = 0.92$ ; Spitzer et al., 2006), which has been validated with a Latino/Hispanic sample (Mills et al., 2014). Participants were asked, "Over the past 2 weeks, how often have you been bothered by the following problems?", and rated items on a 4-point Likert-type scale ranging from 0 (Not at all) to 3 (Nearly every day). Sample items include "Not being able to stop or control worrying" and "Being so restless that it is hard to sit still".

### 2.2.5 | Depression

Participants responded to the 8-item Patient Health Questionnaire<sup>2</sup> (PHQ-9;  $\alpha = 0.89$ ; Kroenke & Spitzer, 2002), which has been validated with a Latino/Hispanic sample (Granillo, 2012; Merz et al., 2011; Patel et al., 2019). Participants were asked, "Over the past 2 weeks, how often have you been bothered by any of the following problems?", and rated items on a 4-point Likert-type scale ranging from 0 (Not at all) to 3 (Nearly every day). Sample items include "trouble falling asleep, staying asleep, or sleeping too much" and "Feeling bad about yourself—or that you're a failure or have let yourself or your family down".

### 2.2.6 | Loneliness

Participants responded to the 20-item revised UCLA Loneliness Scale ( $\alpha = 0.92$ ; Russell, 1996). Sample items include "How often do you feel that there is no one you can turn to?" and "How often do you feel isolated from others?". Participants rated items on a 4-point Likert-type scale ranging from 1 (Never) to 4 (Always).

## 3 | RESULTS

First, we examined patterns in self-reported frequency across different types of discrimination and rumination. Then, we examined relationships between self-reported frequency and mental health outcomes. Means of self-reported frequency for each of the different types of discrimination and rumination are shown in Figure 1.

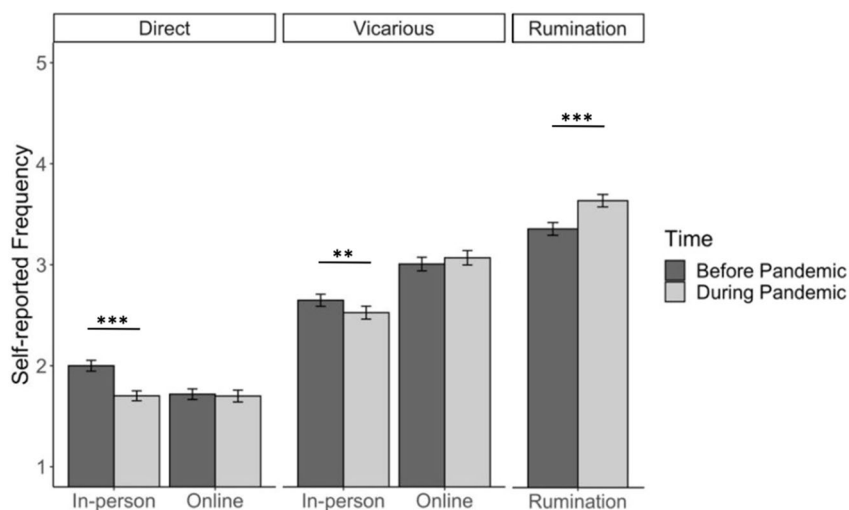


FIGURE 1 Self-reported frequency of experiencing discrimination and rumination, before and during the beginning of the COVID-19 pandemic. Asterisks indicate significant follow-up contrasts for Time. Other significant differences are present but not indicated in the figure. Error bars depict standard error. \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ .

### 3.1 | Self-reported frequency of discrimination

We used multilevel models to compare the prevalence of different types of discrimination as a function of Type (direct, vicarious), Form (in-person, online), and Time (before the pandemic, during the beginning of the pandemic).<sup>3</sup> The effect of Type was significant, such that participants reported experiencing vicarious discrimination more often than direct discrimination,  $b = 0.52$ , 95% CIs [0.46, 0.57],  $t(290.3) = 19.9$ ,  $p < 0.001$ ,  $R^2_{\beta} = 0.58$ .<sup>4</sup> The Form  $\times$  Type interaction was also significant,  $b = 0.15$ , 95% CIs [0.13, 0.17],  $z = 12.8$ ,  $p < 0.001$ ,  $R^2_{\beta} = 0.12$ . Follow-up contrasts<sup>5</sup> indicated vicarious discrimination was experienced more often online than in-person,  $b = -0.45$ , 95% CIs [-0.54, -0.36],  $z = -9.6$ ,  $p < 0.001$ , whereas direct discrimination was experienced more often in-person than online,  $b = 0.14$ , 95% CIs [0.05, 0.23],  $z = 3.0$ ,  $p = 0.003$ .

### 3.2 | Change in self-reported frequency over time

Although the Form  $\times$  Type  $\times$  Time interaction was not significant,  $b = -0.01$ , 95% CIs [-0.04, 0.01],  $z = -1.1$ ,  $p = 0.277$ ,  $R^2_{\beta} = 0.00$ , because of our *a priori* interest in change over time, we examined how self-reported prevalence of each type of discrimination differed before and during the beginning of the pandemic using follow-up contrasts. Participants reported a significant decrease in direct discrimination experienced in-person,  $b = -0.30$ , 95% CIs [-0.39, -0.20],  $z = 6.1$ ,  $p < 0.001$ , but no significant change in direct discrimination experienced online,  $b = -0.02$ , 95% CIs [-0.11, 0.08],  $z = 0.3$ ,  $p = 0.749$ . Similarly, participants reported a significant decrease in vicarious discrimination experienced in-person,  $b = -0.12$ , 95% CIs [-0.21, -0.02],  $z = 2.5$ ,  $p = 0.014$ , but no significant change in vicarious discrimination experienced online,  $b = 0.06$ , 95% CIs [-0.03, 0.16],  $z = -1.3$ ,  $p = 0.203$ .

### 3.3 | Rumination

A separate model was used to compare prevalence of rumination with direct and vicarious discrimination, where Type (direct, vicarious, rumination) and Time (before, after) were included as the only predictors.<sup>6</sup> Rumination was experienced more often than both direct discrimination,  $b = -1.50$ , 95% CIs [-1.65, -1.36],  $z = -20.7$ ,  $p < 0.001$ ,  $R^2_{\beta} = 0.47$ ,

and vicarious discrimination,  $b = -0.53$ , 95% CIs  $[-0.66, -0.41]$ ,  $z = -8.2$ ,  $p < 0.001$ ,  $R^2_{\beta} = 0.11$ . Additionally, follow-up contrasts revealed that rumination significantly increased during the beginning of the pandemic,  $b = 0.28$ , 95% CIs  $[0.17, 0.39]$ ,  $z = 4.9$ ,  $p < 0.001$ .

### 3.4 | Relationships with anxiety, depression, and loneliness

The impact of self-reported prevalence of each type of discrimination/rumination at each time point was examined separately for each mental health outcome (anxiety, depression, and loneliness).<sup>7</sup> The analysis found no significant interactions with time, suggesting self-reported prevalence before and during the pandemic were not differentially related to each outcome. Thus, only the relationship between each type/form of discrimination and each outcome is reported (see Table 1). All types/forms of discrimination and rumination were significantly related to self-reported anxiety and depression symptoms. Relationships with loneliness were less uniform, such that direct discrimination, experienced both in-person and online, and online vicarious discrimination were significantly related to loneliness, but not in-person vicarious discrimination or rumination.

## 4 | DISCUSSION

Descriptive results highlight differences in prevalence of different forms of discrimination. Vicariously discrimination was experienced more frequently than direct discrimination, regardless of time point. Interestingly, direct discrimination was experienced more often in-person than online, whereas vicarious discrimination was experienced more often online than in-person. Additionally, both direct and vicarious discrimination experienced in-person decreased during the beginning of the COVID-19 pandemic, whereas no changes were reported for direct or vicarious discrimination online. Although a decrease in in-person discrimination was expected as in-person interactions decreased in general as a function of lockdown procedures, it is unexpected that no change was found in direct or vicarious discrimination experienced online, especially given other research that documents increases in xenophobia and prejudice towards racial minority groups in general during the beginning of the pandemic (Reny & Barreto, 2022; Strassle et al., 2022). Importantly, these differential patterns of change highlight the importance of considering different forms of discrimination, which are differentially impacted by societal factors and trends.

The prevalence of rumination was higher than experiences of direct or vicarious discrimination, regardless of time point. Rumination has been identified as a maladaptive coping strategy and is thought of as a mechanism by which discrimination can contribute to negative health outcomes (Hoggard & Hill, 2018; Keum & Li, 2023). However, our data suggest that one need not experience discrimination in order to think about it more generally, and that these

TABLE 1 Relationships between self-reported discrimination and rumination and mental health outcomes.

Variable	Anxiety		Depression		Loneliness	
	B	p	B	p	B	p
Direct						
In-person	0.15 [0.06, 0.23]	<0.001	0.13 [0.05, 0.22]	0.002	0.17 [0.08, 0.25]	<0.001
Online	0.10 [0.02, 0.18]	0.017	0.12 [0.04, 0.18]	0.004	0.19 [0.11, 0.27]	<0.001
Vicarious						
In person	0.13 [0.05, 0.21]	0.002	0.11 [0.03, 0.19]	0.007	0.07 [-0.01, 0.15]	0.107
Online	0.16 [0.08, 0.24]	<0.001	0.21 [0.13, 0.29]	<0.001	0.11 [0.03, 0.20]	0.008
Rumination	0.23 [0.15, 0.31]	<0.001	0.22 [0.14, 0.30]	<0.001	-0.03 [-0.06, 0.11]	0.521

Note: Standardized regression coefficients were calculated using the effectsize package (Ben-Shachar et al., 2020) in R and are reported as a measure of effect size, along with 95% confidence intervals. Time and interaction with Time were included in each model but were not significant and are not reported.

thoughts occur more frequently than the experiences themselves. This may especially be the case since our measure of rumination more broadly included thoughts about injustice experienced by other marginalized groups, not just Latinos. Importantly, rumination strongly predicted both anxiety and depression-related symptoms, highlighting the importance of how individuals process and think about discrimination, independent of personal experiences.

Additionally, we examined changes in self-reported rumination during the beginning of the COVID-19 pandemic. Only one other study to our knowledge has examined factors influencing the tendency to ruminate on discrimination, highlighting the role of sleep in individuals' ability to engage in adaptive rather than maladaptive coping, such as rumination (Wang & Yip, 2020). Here, we found a significant increase in rumination about discrimination during the beginning of the pandemic. Unfortunately, it is impossible to pinpoint what exactly during this time resulted in this increase. As stress related to the pandemic increased, adaptive coping may have decreased, leading to increases in rumination in general about a variety of negative events, of which discrimination is only one. Alternatively, increases in rumination on discrimination in particular may reflect national attention to racial injustice following George Floyd's death in May 2020, independent of the pandemic. A major limitation of the current study is the retrospective nature of the self-reported measures, since we did not measure discrimination and rumination before the beginning of the pandemic and limitations of retrospective self-report thus apply, including inability to determine causal relationships. Regardless of the cause, increases in rumination are concerning because of related negative consequences, and interventions targeting rumination may be fruitful in addressing mental health concerns during the pandemic.

## ACKNOWLEDGMENTS

All study materials and procedures were approved by the University of Texas at El Paso Human Subjects Institutional Review Board (protocol number 1653851-1).

## CONFLICT OF INTEREST STATEMENT

No conflict of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF at <https://osf.io/mwh7c/>.

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## ENDNOTES

- <sup>1</sup> Volpert-Esmond et al. (2023) report data from the same sample but concern separate research hypotheses and use other measures administered in the study.
- <sup>2</sup> The item assessing suicidal thoughts was not administered.
- <sup>3</sup> Model was fitted using the lme4 (Bates et al., 2015) and lmerTest (Kuznetsova et al., 2017) packages in R (version 4.2.1). Predictors were effect-coded. The Satterthwaite approximation is used to estimate degrees of freedom. *T* statistics are reported as *z* statistics when *dfs* > 200. Subject was specified as a random factor to account for within-subject repeated measures and all predictors (but not their interactions) were included as random slopes. Wilkinson notation: Frequency ~ Type × Form × Time + (Type + Form + Time|SubID)
- <sup>4</sup> Partial  $R^2$  ( $R^2_p$ ) was calculated using the method proposed in Edwards et al. (2008) to estimate local effect size in linear mixed models.
- <sup>5</sup> Follow up contrasts were computed with the emmeans package (Lenth et al., 2018) in R.
- <sup>6</sup> Wilkinson notation: Frequency ~ Type × Time + (Type + Time|SubID)
- <sup>7</sup> Each model included self-reported prevalence of one type of discrimination/rumination (e.g., direct discrimination online), with Time (before, during) and their interaction as predictors, and one of the mental health outcomes as the outcome variable. Example Wilkinson notation: Anxiety ~ Prevalence × Time. Models were run separately for each type/form of discrimination and rumination because of issues with multicollinearity.

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