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We examined whether prevalence of social class discrimination and its association with psychological distress has changed between 1990s and 2010s in the United States. Data were from the original Midlife in the United States (MIDUS) study with data collections in 1995 1996 (n = 2931) and 2004 2005 (n = 1708), and the new MIDUS Refresher sample from 2011 to 2014 (n = 2543). Socioeconomic status (SES) became more strongly associated with self-rated discrimination over time, with individuals with the lowest SES experiencing more discrimination (B = 0.75, p < .001) and those with the highest SES less discrimination (B = 0.36, p < .001) over time: at baseline, the difference in self-rated discrimination between the highest and lowest SES groups was 15.3% versus 10.8% (4.7% point difference). This difference increased to 20.0% versus 7.4% in the last study wave (12.6% point difference). Association between self-reported discrimination and psychological distress strengthened over time, but the associations between socioeconomic indicators and distress did not change. The results suggest that people with low SES had higher risk of encountering unfair and disrespectful treatment in the 2010s compared to the 1990s.

Keywords: Discrimination; Trend; Longitudinal; Psychological distress; Socioeconomic.

People who report discriminative experiences have an increased rates of psychological distress (Purnell et al., 2012), poorer health behaviours (Fuller-Rowell, Cogburn, et al., 2012), and higher rates of disease (Lewis et al., 2014). Discrimination is often directed towards members of stigmatised groups, that is, individuals whose social identity is devalued relative to others. This poses an identity threat with which the discriminated individuals need to cope, thus, increasing the stress they experience (Berjot & Gillet, 2011). Most research on discrimination and health has focused on unfair treatment associated with race or ethnicity. However, recent research suggests that the health burden of unfair treatment based on social class or socioeconomic status (SES) is also substantial (Fuller-Rowell et al., 2018; Fuller-Rowell et al., 2012; Lott, 2002).

Low SES is one of the risk factors for receiving unfair treatment in daily life (Fuller-Rowell et al., 2012). This is sometimes called class discrimination or classism. Class discrimination may help to explain why low SES is related to poorer health. In one recent study, everyday discrimination was found to be higher among individuals with lower SES (Fuller-Rowell et al., 2018), and there was an indirect effect of SES on health through unfair treatment, with unfair treatment mediating one- fth of the longitudinal association between SES and subsequent self-rated health assessed over a 17-year follow-up period.

We are not aware of any prior studies examining secular trends in the association between SES and self-reported discrimination or unfair treatment. This is surprising given the documented increases in economic inequality and social division since the 1980s

(Fuller-Rowell et al., 2021; Reardon et al., 2018). Income and wealth inequalities have increased in the United States, and across most of the developed world, such that the incomes of more affluent groups have grown substantially while the incomes of the bottom 60% of the income distribution have remained relatively stagnant (Alvaredo, 2018; Piketty & Saez, 2014). The labour market has also become less favourable for adults with low to moderate levels of education or technical training (Autor, 2014). Inequality has also been linked to the erosion of trust in society, as well as with declines in social cohesion (Wilkinson & Pickett, 2017), which may lead people to hold more negative views of the less fortunate. It is therefore likely that social class discrimination has increased in tandem with increasing inequality.

Research on social comparisons has shown that people often compare themselves to others on many characteristics, including social status, and these comparisons can be directed towards higher or lower ranking individuals (Suls et al., 2014). Downward comparison tends to make people feel better about themselves (i.e., self-enhancement) because they perceive a relative elevation in their own status. From this perspective, interpersonal discrimination could be seen as a behavioural act of social comparison in which the person treats another as being less valuable in order to maintain or elevate the person's own relative status. It has been suggested that the social comparisons based on social status have become more prominent because of the increasing inequality in society has increased the frequency of cross-status encounters (Swencionis & Fiske, 2020).

When assessing time trends in self-reported discrimination, it is important to consider whether the psychological significance of self-reported discrimination varies by time or levels of SES. For example, people might report higher or lower levels of daily discrimination in the 2010s than in the 1990s, but the psychological significance of self-reported discrimination might also have changed; thus, either strengthening or weakening the health risks associated with daily discrimination. Similarly, individuals with high versus low SES might report similar levels of self-reported discrimination but the same level of discrimination might be more strongly associated with poor health among those with low SES. Such pattern would suggest that the psychological significance of daily discrimination is stronger for individuals with low SES.

We used data from two nationally representative samples recruited 17 years apart (1995–1996 and 2011–2014) to address the following research questions: (a) has self-reported daily discrimination become more strongly associated with SES; and (b) has the association between discrimination and psychological distress remained similar over time?

METHOD

The original Midlife in the United States study (MIDUS; Core Sample) was a nationally representative random-digit-dial sample of non-institutionalised, English-speaking adults, aged 25–74 years, selected from working telephone banks in the coterminous United States in 1995–1996. The total original sample (n = 7108) includes main respondents (n = 3487), their siblings (n = 950), a city oversample (n = 757), and a twin subsample (n = 1914). Data were collected in a telephone interview and with a mail questionnaire. Follow-up studies of the original cohort have been conducted in 2004–2005 and 2013–2014. In addition, a new national probability sample of 3577 adults (aged 25–74 years) not overlapping with the original sample was surveyed in 2011–2014 to replenish the original cohort (MIDUS Refresher). The new data collection was carried out largely the same way as the original MIDUS sample in 1995–1996. The present study used the 1995–1996 and 2004–2005 data of the original cohort and the 2011–2014 data from the refresher sample. Given that the original 1995–1996 sample and the 2011–2014 refresher sample are national probability samples, the main interest was in changes between these two-time points, and the 2004–2005 follow-up data were included to supplement the analysis of time trends.

Design and post-stratification sample weights were used in all analyses to increase sample representativeness. The design weights considered the response probability, and the post-stratification weights were formed with the following variables: region, metropolitan statistical area status, sex, race, age, education and marital status. In the original MIDUS, sampling weights were not available for the city oversample, sibling, and twin subsamples, so only the main respondent sample was used. The first author had full access to all the data.

Self-reported Discrimination. The 9-item Everyday Discrimination Scale (Williams et al., 1997) was used to assess experiences of discrimination. For each item, participants indicated on a four-point scale (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often) the frequency that they had experienced each type of discrimination (e.g., "People act as if they think you are not as good as they are," "You are treated with less respect than other people," "You are called names or insulted."). The items do not specify the reasons/characteristics responsible for experiences of discrimination (e.g., discriminated because of religion, age or ethnic background), so the scale can be used to examine trends in daily discrimination that are not tied to specific characteristics determined by the scale. The sum score of the nine items was used in the analysis.

Psychological distress was assessed using the K6 psychological distress scale (Kessler et al., 2003) that consists

of six items assessing symptoms of depression and anxiety in the past month rated on 5-point scale (1 = none of the time, 5 = all the time). The sum score of the six items was used in the analysis.

SES was assessed with four different indicators: educational level coded as 1 = low (high school or less), 2 = intermediate (some college), 3 = high (bachelor degree or higher); occupational status coded as 1 = low (manual; including farming, production, and labourer categories), 2 = intermediate (non-manual, low or medium skilled), 3 = high (non-manual, high skilled, including technician, professional, and executive/manager categories); poverty status coded as 1 = household income above 150% of household poverty guidelines (based on presence of spouse and number of children in household) and 2 = household income below 150% of household poverty guidelines; and self-rated financial situation (assessed with the question 'Using a scale from 0 to 10 where 0 means the worst possible financial situation and 10 means the best possible financial situation, how would you rate your financial situation these days') which was recoded into three categories (0–5 = poor, 6–7 = average, 8–10 = good). We also created a sum score of by dichotomizing occupational status (0 = intermediate or high, 1 = low), self-rated financial situation (0 = average or good, 1 = Poor), and educational level (0 = high, 1 = low or intermediate), and summed these dichotomous variables and poverty status to create an overall index of SES.

All regression models were adjusted for age (in years), gender (men, women), self-reported race/ethnicity (categorised as 0 = White, 1 = Black/African-American, 2 = other), and marital status (0 = married, 1 = never married, 2 = divorced/separate, 3 = widowed). In addition, because personality differences have been associated with SES (Ayoub et al., 2018), and might influence self-reports of discrimination experiences (Diener et al., 2003), we additionally adjusted the models for extraversion, emotional stability, agreeableness, conscientiousness, and openness to experience, as assessed by the 25-item MIDUS Big Five inventory (Lachman & Weaver, 1997).

The daily discrimination scale was analysed with negative binomial regression due to its positively skewed distribution. All models were adjusted for gender, age, self-reported race/ethnicity, and marital status. Separate regression models were fitted for each measurement time to apply appropriate sampling weights. Given that the time trends for discrimination were constructed from three separate regression models, we estimated the statistical significance of the trends using a dose–response analysis method developed for meta-analysis (drmata package in Stata 15.2). Using year 1995–1996 as the reference group, we assessed for linear trend for each of the levels of the five socioeconomic indicators. The analysis was performed based on the log count predictions and

their standard errors; this method takes into account the standard errors associated with the estimated means when assessing the linear trend across years.

The results were illustrated by calculating the predicted probabilities for scoring 10 or higher on the discrimination scale—a score of 10 indicating that the participant reported having experienced at least one item of the scale sometimes, compared to experiencing all the items never or rarely. Associations between self-reported discrimination and psychological distress were assessed using linear regression.

MIDUS data collection was reviewed and approved by the Education and Social/Behavioural Sciences and the Health Sciences IRBs at the University of Wisconsin-Madison, and all procedures were in accordance with the 1964 Declaration of Helsinki.

Informed consent was obtained from all individual participants included in the study.

RESULTS

Table S1 shows the descriptive statistics by study year (n = 2931, 1708 and 2543 in the three study waves). The correlations between study variables at baseline are shown in Table S2.

First, we examined the time trends in the association between SES and discrimination. The overall prevalence of self-reported discrimination (score ≥ 10) was 12.2% (95% confidence interval = 11.4, 12.9) in 1995–1996, 12.1% (11.1, 13.0) in 2004–2005, and 13.4% (12.6, 14.2) in 2011–2014. Figure 1 shows the model-predicted probabilities of self-reported discrimination by study year and indicators of SES. For each of the four indicators, and the SES sum score, the socioeconomic differences widened between 1995–1996 and 2011–2014 (see Table S3 for the statistical significance of the time trends; the visually observed upward and downward time trends were statistically significant). For the SES sum score, the difference between individuals with the lowest versus highest SES was 4.7% points in 1995–1996 (15.3% vs. 10.8%) and increased to 12.6% points in 2011–2014 (20.0% vs. 7.4%). Adjusting for personality traits attenuated some of the time trends associated with low SES but did not change the main conclusions of the results (Table S3).

Second, we examined the strength of association between self-reported discrimination and psychological distress. There was a strengthening association over time: the unstandardized coefficient of self-reported discrimination in predicting psychological distress was B = 0.28 (95% confidence interval = 0.12, 0.35) in 1995–1996; B = 0.41 (0.31, 0.50) in 2004–2005; and B = 0.45 (0.26, 0.54) in 2011–2014 (p = .005 for trend). Figure 2 shows the associations of discrimination with psychological distress by socioeconomic risk and study year. There was some indication of high versus low SES

Figure 1. Predicted probabilities of self-reported discrimination by survey were and indicators of socioeconomic status. Error bars are 95% con dence intervals. Associations were adjusted for age, gender, ethnic background and marital status.

becoming more strongly associated with psychological distress over time particularly for the SES sum score (i.e., growing horizontal distance between high and low SES estimates in Figure 2), but none of the interaction effects between SES indicators and discrimination were statistically signi cant (all p-values > 0.07).

DISCUSSION

The prevalence of class discrimination has increased in the United States between the 1990s and the 2010s. At the 1995 1996 baseline assessment, the difference in daily discrimination between the highest and lowest SES groups was 15.3% versus 10.8% (4.7 percentage point difference). This difference increased to 20.0% versus 7.4% difference in 2011 2014 (12.6% point difference). The same pattern of widening socioeconomic differences was observed with education, self-rated nancial situation, occupational status and poverty status.

The increasing class discrimination may stem from the increasing levels of economic inequality (Alvaredo, 2018), labour market polarisation (Autor, 2014), and the increasingly separated life trajectories (Chetty

Figure 2. Associations between self-reported discrimination and psychological distress by levels of socioeconomic status (low vs. high) and survey wave. Values are linear regression coefficients of self-reported discrimination in predicting psychological distress, fitted separately for each socioeconomic indicator and study year (12 models in total; the separate estimates for levels of low and high SES were derived from interaction effects between SES indicator and discrimination). The differences between the estimates of low versus high SES indicate whether discrimination was more strongly associated with psychological distress among those with low SES compared to those with high SES. Error bars are 95% confidence intervals. Associations were adjusted for age, gender, ethnic background and marital status.

et al., 2014; Glei et al., 2019) and cultural differences (Murray, 2012) of individuals with different levels of SES. Together these trends of social fragmentation may have amplified the prejudiced views people hold of disadvantaged individuals (Fiske, 2010; Lott, 2002). The disrespectful treatment of less fortunate individuals can be seen as a behavioural act of creating social distance to stigmatised individuals (e.g., individuals with low SES), which helps people to disassociate themselves from socioeconomic misfortune (Lott, 2002). It also provides an opportunity for downward social comparison to improve the person's perceived relative socioeconomic ranking (Swencionis & Fiske, 2020). The present study could not assess how much of the self-reported discrimination originated from interactions between individuals from different versus the same socioeconomic positions.

Some methodological limitations need to be kept in mind when interpreting the findings. Discrimination was based on self-reported data, which might be confounded by reporting bias: the time trends might not reflect actual changes in class-based discrimination if (a) only awareness of discrimination, instead of actual experiences of unfair treatment, had increased, or (b) SES had become more strongly associated with other characteristics associated with self-reported discrimination. However, the rates of overall self-reported discrimination only increased from 12.2% to 13.4%, suggesting a modest overall change. Regarding individual differences in perceptions, the results remained largely unchanged

when adjusted for personality traits of the Five Factor Model that are related to people's perceptions of social stressors (Diener et al., 2003). The Daily Discrimination Scale does not specify the perceived reasons for unfair treatment, so the responses are less biased by the respondent's inferences and assumptions about the sources of discrimination.

An increasing awareness of discrimination might have led people to more readily report distressing experiences as discrimination in the 2010s compared to 1990s. We found no evidence to suggest that the mental-health correlates of self-reported discrimination would have diluted over time; the associations between discrimination and distress were similar over time and across levels of SES, which supports the external validity of self-reported discrimination in assessing socioeconomic inequalities over time. Thus, our results are consistent with the hypothesis that psychologically adverse social class discrimination — and not merely people's awareness of discrimination — has become more common in recent years. Our analysis used sampling weights to make the results representative of the general population, but the weighting scheme can only consider a limited number of sociodemographic factors, so the samples might not have been representative with respect to all the relevant characteristics with respect to discrimination.

In sum, the current findings suggest that people with low SES have a higher risk of encountering unfair and disrespectful treatment from others in the 2010s compared to the 1990s, while such encounters decreased for people with the highest SES.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1. Supporting Information
Table S1. Descriptive statistics by study year (unweighted)
Table S2. Correlations between study variables at baseline (n = 2217)
Table S3. Time trends in the prevalence of self-reported discrimination by study year and socioeconomic risk indicators.

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