RESEARCH ARTICLE

Perceived discrimination in the workplace and mental health from early adulthood to midlife

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Considerable evidence demonstrates that perceiving oneself as an object of discrimination has negative consequences for mental health. However, little is known about whether this experience is more or less harmful in distinct phases of the life course, consistent with the life course principle of timing; or whether, in accord with the principle of lifespan development, it has long-term implications. We draw on longitudinal data addressing perceived workplace discrimination based on race/ethnicity and gender from the prospective Youth Development Study, covering early adulthood to midlife. Hierarchical linear modelling of the effects of discrimination on depressed mood indicates that both forms of discrimination have short-term (within life stages) and long-term (across stages) adverse effects on adult mental health. The impacts of perceived discrimination within stages on depressed mood appear to be greatest in the mid-30s and to weaken by midlife. Lingering effects of discrimination are more pronounced early on. These patterns are observed with controls for key time-varying negative experiences at work and personal socio-economic status, as well as invariant background characteristics (gender, race and parental socio-economic status). We consider these findings in relation to the dynamics of personal change in the context of occupational careers.

Key words discrimination • mental health • life course • race/ethnicity • gender • occupational career • socioeconomic status

Key messages
- Impacts of perceived workplace discrimination on depressed mood change from early adulthood to mid-life.
- Discrimination ‘within life stage’ is most consequential in the mid-30s, a time of career advancement.
- Lingering ‘across stage’ effects of discrimination are more pronounced early in career.
- Findings contribute to understanding the dynamic impacts of discrimination from a life course perspective.

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Introduction

It is well established that perceived discrimination jeopardises mental health. However, little is known about whether its impacts vary within, or across, stages of the life course. Guided by Elder’s principles of timing and life span development (Elder et al, 2003), the present study interrogates the effects of perceived race and gender discrimination in the workplace on depressed mood within life stages, and its longer-term impacts across stages.

The nature and prevalence of perceived discrimination

Discrimination, or differential unfair treatment based on ascriptive characteristics, is a prevalent phenomenon in the US’s highly diverse society. Audit studies show that being Black diminishes the chance of getting a job even more than a criminal record (Pager, 2003), and regression analyses find wage disadvantages for women and minorities with equal performance evaluations (Castilla, 2008). Such ‘major’ or ‘acute’ discrimination is particularly visible and galling. Alternatively, discrimination may be ‘everyday’ (Banks et al, 2006) or chronic, taking the form of various microaggressions such as being treated rudely, considered dishonest or required to wait longer than others for service (Kessler et al, 1999; Lee and Turney, 2012). Both major and everyday discrimination occur in many circumstances or venues – in public places, estate agents’ offices, bank loan departments, healthcare clinics, courts and so on.

In the present study the measure of perceived discrimination pertains solely to the workplace, the domain in which people are most likely to report discrimination (Kessler et al, 1999). In this setting, discrimination may be particularly harmful to mental health, given the significance of work for identity and self-esteem (Tausig, 1999), individual livelihoods, status in the community and standard of living. Respondents were asked whether discrimination ‘has interfered with your career’. This measure ostensibly includes both major forms of discrimination, since career interference could result from major or acute discrimination, for example, in hiring, promotion, pay or other tangible benefits, or it may take the form of everyday discrimination, for instance, fewer opportunities for interpersonal interactions or informal slights, such as not being invited to social gatherings enabling contact with desirable mentors.

Discriminatory behaviour is pervasive in human task-based interactions (Ridgeway, 1987), typical of those in the workplace, as individuals judged ‘higher’ or ‘lower’, based on any number of unequally evaluated ascriptive characteristics, are treated differently in mixed-status encounters. Ridgeway et al (2009: 44) contend that: ‘A mere difference between people becomes a status difference when status beliefs develop that associate greater social esteem and competence with people in one category than with those from another’. Expectation states theory (Correll and Ridgeway, 2003) in social psychology argues that the possession of less-valued ascriptive characteristics (such as being female or a person of colour) leads to pervasive interactional disadvantages due to others’ expectations of deficiency in performance across a wide range of tasks. ‘Higher’ status members give those of ‘lower’ status fewer opportunities to express opinions, pay less attention to their suggestions, evaluate their ideas and products less highly, and are less likely to accept them. Such ‘everyday’ discrimination could diminish workplace contributions used to justify ‘major’ discrimination, such as lack of promotion.

Not surprisingly, given such interpersonal dynamics and the ‘acute’ or ‘major’ forms of discrimination to which they are subject, people of colour, women and those
of lower socio-economic status more often report discrimination in the workplace (and other settings) than White people, men and those of higher status (Schieman et al., 2005; Lee and Turney, 2012). Despite many potential bases of discrimination (age, sexual orientation and others), much scholarly work addresses race/ethnicity or gender. Many studies focus on particular minority populations: for example, African-Americans (Brown et al., 2000; Schulz et al., 2006; Banks et al., 2006; Ashburn-Nardo et al., 2007; Granberg et al., 2012; Miller et al., 2013; Perry et al., 2013; Clark, 2014; Head and Thompson, 2017; Wingfield and Chavez, 2020); Asian-Americans (Mossakowski, 2003; Hwang and Goto, 2009; Huynh, 2012; McMurtry et al., 2019); Latinos (Hwang and Goto, 2009; Huynh, 2012; Findling et al., 2019); or women (Pavalko et al., 2003; Schulz et al., 2006; Perry et al., 2013).

Representative population-based studies have also gauged perceptions of discrimination (Kessler et al., 1999; D’Anna et al., 2010; Lee and Turney, 2012; Brown et al., 2019). Kessler et al. (1999) demonstrate the pervasiveness of this experience; even people who lack disadvantaged statuses commonly consider themselves discriminated against at work. Thus, whereas ‘lower’ status group members are more likely to perceive themselves discriminated against at work, this perception is evident in more advantaged groups as well (for example, White people who feel passed over because of affirmative action or because of other less-valued characteristics related to age, religion, sexual orientation, disability and so forth). In fact, given the many possible bases of discrimination, individuals without any grounds for potential inequitable treatment could be rare. Schieman et al. (2005) find that people with higher levels of education and professional standing report more perceived discrimination than their less advantaged counterparts. Advantaged workers’ exposure to discrimination may be heightened by their greater likelihood of being on internal career ladders with promotion opportunities. As Schieman et al. speculate, ‘Perhaps elevated expectations for status attainment increase sensitivity to threats or barriers to attainment’ (2005: 715).

Kessler et al. (1999) report that both major and chronic discriminatory experiences become more frequent with age. However, the youngest group in their study was 25–44 (compared with those 45–64 and 65+). Considerable change in discriminatory experiences, and their mental health outcomes, may occur from early adulthood to midlife, when career, earnings level and family are typically well established. The present longitudinal study examines the prevalence of perceived discrimination as the life course unfolds during this potentially highly formative period.

Perceived discrimination and mental health

Arguably, being the target of discriminatory acts threatens mental health because discrimination is a major stressor (Pearlin et al., 1981; Kessler et al., 1999). It challenges key psychological resources like the sense of personal mastery and self-esteem (Grollman, 2012), which contribute to mental health. Congruent with such dynamics, mounting evidence (Pascoe and Richman, 2009; Lee and Turney, 2012) points to deleterious consequences of perceived discrimination for multiple dimensions of mental health, including depressive symptoms or clinical depression (Kessler et al., 1999; Brown et al., 2000; Pavalko et al., 2003; Banks et al., 2006; Schulz et al., 2006; Hwang and Goto, 2009; Granberg et al., 2012; Grollman, 2012; Gayman and Barragan, 2013; Brown et al., 2019), anxiety (Kessler et al., 1999; Banks et al., 2006; Huynh, 2012; Perry et al., 2013; Head and Thompson, 2017; Brown et al., 2019), anger, loneliness and hostility.
Perceived discrimination in the workplace and mental health from early adulthood

(Lee and Turney, 2012). Moreover, perceived discrimination’s detrimental effect on mental health is found to be similar in magnitude to that of job loss, divorce and the death of a loved one (Kessler et al, 1999). Interestingly, Lee and Turney (2012) report that the effect of perceived discrimination on mental health is stronger, or of similar strength, in majority and minority racial/ethnic groups. Similarly, Kessler et al (1999) find that this association does not vary across subsamples defined by social status.

While much research documents significant associations between perceived discrimination and negative mental health outcomes, much of this evidence is cross-sectional. Concurrent measures of discrimination and mental health (Banks et al, 2006; Pascoe and Richman, 2009; Lee and Turney, 2012; Paradies et al, 2015; Head and Thompson, 2017) raise the possibility of reverse or reciprocal causality. Poor mental health may make a person more likely to interpret social interactions and other experiences that thwart individual goals as discriminatory, and such interpretation may be highly consequential for mental health (McLeod, 2012). Lilienfeld (2017: 153) notes that individuals with high negative emotionality are ‘vigilant and over-reactive to potential stressors’ and ‘prone to interpret ambiguous stimuli in a negative light’. His review suggests that the association between perceived microaggressions and mental health outcomes is overstated, due to their confound with prior disposition (see also Huebner et al, 2005). To overcome these concerns, the present study relies on longitudinal data collected from early adulthood to midlife to investigate the effects of discrimination on mental health.

Perceived discrimination, mental health and the life course

According to Elder’s life course principle of timing (Elder et al, 2003), the developmental consequences of life experiences depend on when they occur in a person’s life. Following Elder’s lead, life course scholars have given considerable attention to stability and change in psychological orientations, with much evidence pointing to early adulthood as particularly formative (Alwin and McCammon, 2003). Elder also proposed the principle of ‘life span development’, acknowledging that development is a lifelong process. As a result, later-life adaptive states, including psychological orientations and behaviours, cannot be understood without consideration of earlier experiences. Considering the two principles in tandem, early experiences would be expected to have lasting effects as individual attitudes, values and other psychological dimensions stabilise in subsequent phases of life. Alwin and McCammon (2003) draw attention to ‘the impressionable years’ (p.34) of adolescence and early adulthood, which may be considered a critical period for attitude formation, and to ‘ageing stability’ (p.39), the increasing stability of psychological orientations in subsequent phases of life.

Conceptualising the life course as divided into stages, such as these, is a long-standing practice among scholars (Neugarten, 1974; Elder, 1975; Arnett, 2000; Steger et al, 2009). However, the number and character of recognised stages varies considerably across historical time and place (Mortimer and Moen, 2016). Occupational career stages have also received long-standing recognition (Super, 1957; 1980; Salmela-Aro and Upadyaya, 2018). Since the present study focuses on workplace discrimination, we classify the observed period of the life course into four stages distinguished by typical career phase: Early Adulthood, Young Adulthood, Adulthood and Middle Age.
During the phase of *early adulthood*, also called ‘emerging’ or ‘transition to adulthood’, extending from the late teens to the mid-20s (Arnett, 2000; Wood et al., 2018; Shanahan, 2000), youth are completing their educations and making initial forays into the full-time labour force, trying to find a good ‘fit’. In the next stage of ‘young adulthood’, from the mid-20s to early 30s, individuals are typically trying to establish long-term work and family roles, and many are at least partially economically dependent on parents (Settersten and Ray, 2010). They may still be in the process of identifying their vocational interests and how they relate to the requirements of various occupations. This stage is typically followed by career establishment in adulthood, defined here as extending through to the late 30s. Those workers on career ladders will be seeking career advancement. By ‘middle age’, in the mid-40s, many individuals have reached a career maintenance phase, seeking to maintain their status at work and hold onto their positions. Those in working-class occupations may have reached the pinnacle of their careers; those on professional or managerial career ladders may be looking forward to continued advancement (Lorence and Mortimer, 1985).

Consistent with the ‘impressionable years’ hypothesis, early experiences of workplace discrimination arguably have particularly adverse contemporaneous and continuing consequences. Early adults may be just starting to practise newly learned occupational skills, acquired in early jobs, post-secondary academic or vocational certification programmes, or in company-sponsored training. They may be recently hired, still ‘learning the ropes’, less sure of themselves and more vulnerable than older workers with more experience and seniority. Thus, discrimination might be expected to be more deleterious for mental health, measured proximally in the same life stage, among these younger workers compared to their older counterparts. Moreover, the negative impacts of discrimination in this early stage of life would be expected to persist. Beyond the more formative years, workers would become more impervious to discriminatory treatment as their careers become established. Perceived discrimination would have less impact on depressed mood contemporaneously or in the longer term.

However, a plausible alternative hypothesis is that perceived unfair treatment in the workplace would have greater immediate impact at a later stage, when it may be more consequential for career progress. The early work career is generally quite unstable in countries like the US, which lack clear institutional bridges from school to work (Mortimer and Krüger, 2000). Most youth enter the labour force with general educational credentials (high school certificates or college diplomas), making it difficult both for them and for their employers to know what they are capable of doing. Young workers frequently shift from job to job until they find a good ‘fit’. But this lack of stability could also dilute the psychological impact of discrimination, as young workers have little commitment to specific jobs or employers. But by the time adulthood is well established, generally by the mid-30s, workers have typically become more settled in their careers, eligible for promotion and looking forward to rising earnings. If discrimination is perceived at this juncture, it could be more worrisome and consequential for career progress than similar incidents at younger ages and more threatening to identity.

We might also expect that the longer–term mental health impacts of discriminatory experiences would diminish across life phases because workers seek, and find, increasingly congenial employment settings. Discrimination is likely to give rise to job dissatisfaction, leading workers to escape discriminatory co-workers, employers, customers or clients by searching for new jobs (McLaughlin et al., 2017). By midlife, many workers will be on a firmer footing with respect to career advancement; although not yet at the
pinnacle of their careers, they may feel less threat that their progress would be derailed by discriminatory behaviours. The psychological impacts of perceived discrimination could diminish or dissipate entirely. It is unclear whether, because of these career-related dynamics, the negative effects of perceived discrimination on mental health carry forward from one life phase to the next; whether at a certain point, only contemporaneous, or short-term discrimination (measured over a relatively short period of time) matters; or whether perceived discrimination becomes irrelevant for mental health.

Longitudinal studies of the consequences of perceived discrimination for mental health are scarce. Generally, these studies do not compare immediate or longer-term impacts of discriminatory experiences across life stages. Instead, they examine trends across time in age-heterogeneous samples. Brown et al (2000) find that perceived discrimination increased reports of depressed mood (but not clinical depression) over a one-year period among respondents to the National Survey of Black Americans. Schulz et al (2006) report an increase in depression in response to discriminatory everyday experiences in a sample of African American women 18 and older in Detroit over a five-year period. Sutin et al (2016) find that reports of neuroticism increased in response to reports of discrimination over four- and ten-year periods, using nationally representative longitudinal data from older (Health and Retirement Study) and midlife (MIDUS) adults.

We identified two studies that assessed the impacts of perceived discrimination in an earlier phase of life on mental health in a later phase. Yang et al (2019) examined the relationship between perceived discrimination in seeking a job during adolescence (age 16–22) and health at midlife (age 45–53) using data from the National Longitudinal Study of Youth that began in 1979. Early perceived discrimination had long-term effects on the latent health construct (as well as its physical and mental dimensions), mediated by early-adult risk behaviours (smoking, marijuana, cocaine and sedative use). They argue that adolescence represents a highly formative period, a ‘critical moment’ that sets the stage for health-related vulnerability or resilience later in life. Extending Yang et al’s finding that work-related discrimination has long-term effects, we ask whether such consequences vary across consecutive life course stages.

In a second study, Pavalko et al (2003) examine both short- and longer-term impacts of discrimination. Using data from the National Longitudinal Study of Mature women, they modelled depression among female workers in their 50s and early 60s as a function of perceived discrimination within the past five years, as well as discrimination 2–12 years earlier. Thus, measures of discriminatory experiences covered the respondents’ early 40s to their mid-60s. Since only discrimination in the more recent period had a positive effect on depression, the authors concluded, ‘perceptions of work discrimination do increase women’s level of distress, but … this effect … becomes evident shortly after the experiences occur’ (Pavalko et al, 2003: 25). It should be noted that respondents in this study represent an earlier cohort (born 1922–37), when opportunities for women in the labour force were more restricted than today and who probably experienced discrimination of a more overt character.

In the present study, we ask whether the impacts of workplace discrimination on depressed mood, experienced in distinct life phases, are short-lived, or whether they linger farther into the career. We interrogate the relationship between perceptions of discrimination in the workplace and depressed mood as respondents from a recent cohort (Gen X) moved from the highly formative stage of early adulthood (age 21–22) to midlife (age 45–46). We juxtapose two competing hypotheses. First, according to an ‘impressionable years’ model, discrimination will have the most pronounced
contemporaneous and lagged effects on mental health early in the work career. Second, discrimination will have more deleterious effects at a later ‘critical period’, when the effects of discrimination may be more detrimental to the long-term work career. Finally, we assess whether the effects of race and gender discrimination on mental health are similar or divergent from early adulthood to midlife.

Method

Data source

Our data derive from the Youth Development Study (YDS), a longitudinal study beginning in 1988 with an initial sample of randomly selected ninth graders enrolled in St. Paul, Minnesota public high schools (N = 1,139). The sample was largely White (66.5%), comparable to the racial composition of St. Paul when the study was launched, and slightly more than half female (52%). US Census data indicates that the site, St. Paul, was similar to nationwide averages with respect to several socio-demographic and economic indicators (Mortimer, 2003). Since 1988, the YDS has conducted 20 surveys of the original cohort from adolescence (age 14–15 in 1988) to midlife (age 45–46 in 2019). The study has good panel retention, with about 54% responding to the most recent Wave 20 questionnaire. Appendix A provides information about panel attrition and shows that it is unrelated to perceived discrimination and therefore should not influence the results.

For the first four waves from 1988 to 1991, questionnaires were administered in school; thereafter, questionnaires were mailed to respondents. In the most recent Wave 20 (2019), 84.5% respondents completed the questionnaire online, and 15.5% via a mailed paper survey. In 1988 and 1991, students’ residential parents were also surveyed to collect information on socio-demographic background. In 1988 and 1991, 95.9% and 79.1% of adolescents, respectively, had at least one parent participating (924 mothers and 649 fathers in 1988; 690 mothers and 440 fathers in 1991).

The YDS archive is ideal for the current analysis, as it includes repeatedly collected longitudinal data on workplace discrimination and mental health spanning the key life course phases of early adulthood through middle age. We use data from Wave 8 to Wave 20 that cover the respondents’ perceived experiences of race and gender discrimination in the workplace and their depressed mood during the decades from their early 20s (21–22) to middle age (45–46). We also incorporate socio-economic background data from the parent surveys.

Measures

Our two key independent variables, perceived race and gender discrimination, are measured by separate questions included in each survey since Wave 8 (age 21–22, 1995). Respondents indicated whether discrimination based on their race or ethnic background, or based on their gender, had interfered with their work or career plans since the last survey. Respondents who answered ‘yes’ were coded 1 and ‘no’ were coded 0. Other scholars (Brown et al, 2000; Pavalko et al, 2003; Yang et al, 2019) have similarly relied on single item measures. Perry et al (2013) used a single measure that queried about both race and gender discrimination, arguing that the two forms of discrimination often co-occur and are difficult to distinguish, and Kessler et al (1999)
combined other attributes like age, religion and sexual orientation. In contrast, the separate measures of race and gender-based discrimination in our study allow us to investigate whether they differentially impact mental health.

Given our interest in the consequences of discrimination through stages of the adult life course, we identify four stages: Early Adulthood (Waves 8–12, age 21/22–26/27, 1995–2000); Young Adulthood (Waves 13–16, age 28/29–31/32, 2002–05); Adulthood (Waves 17–19, age 33/34–37/38, 2007–11); and Middle Age (Wave 20, age 45/46, 2019). As noted above, these life stages involve distinct career experiences. For the most part, ‘early’ adults are just beginning their careers with many still moving from job to job, seeking a good ‘fit’; ‘young’ adults have typically located an occupational niche with greater stability; ‘adults’, having become more established in the workplace, may be aspiring for income increases and promotional opportunities; while ‘middle-aged’ workers have typically become fully established in their careers. Respondents who reported discriminatory experiences in at least one wave during each stage were coded 1; those who reported no discriminatory experiences in any wave in a given stage were coded 0.

In most waves from Wave 8 to Wave 20, respondents were asked to rate the frequency of a series of negative or positive feelings during the past month (1 = none of the time to 5 = all of the time). To construct a composite scale of depressed mood, we averaged ratings of four indicators (Ware et al., 1979) included in most waves: whether the respondents have ‘been under any strain, stress, or pressure’, ‘felt downhearted and blue’, ‘felt depressed’ and ‘been in low or very low spirits’. Thus, the range of the dependent variable was 1–5. Since the key independent variables draw on measures of discrimination across waves at each stage, we used the depressed mood scales calculated for Wave 12, Wave 16, Wave 19 and Wave 20, the last waves in each life stage, as our outcome variables. Although in the last wave of each stage, and in the final stage, discrimination and depressed mood are measured concurrently, this measurement strategy avoids the possibility of reverse temporal ordering between our independent and outcome variables.

We also included seven stage-varying and stage-invariant controls. Stage-varying negative event indicators measure whether two major negative events, ‘serious trouble with boss, supervisor or co-worker’ and ‘being fired from work’, happened since the last survey (1 = at least one of these events was reported during at least one wave in each life stage, 0 = neither was reported in any wave). These negative events may sometimes be consequences of discrimination (the correlation between this indicator and perceived discrimination is .118, \( p < .001 \) for race discrimination, and .139, \( p < .001 \) for sex discrimination), but we wanted to analytically separate the effects of perceived discrimination from these potential sequelae. A stage-varying education variable was constructed by taking the highest educational level reported across waves in each life stage (education: 1 = elementary or junior high school to 8 = PhD or professional degree). A stage-varying income variable was constructed by taking the annual household income reported in the most recent wave within each stage, or using the values reported in previous waves if the most recent wave was missing (income: 1 = under $5,000 to 11 = $100,000 or more). Stage-invariant race and gender were drawn from the initial wave in 1988 (race: 1 = White, 0 = non-White; gender: 1 = male, 0 = female). Stage-invariant parental education and parental income measure the higher education level and household income reported by mothers or fathers in Waves 1 or 4.

Table 1 shows descriptive statistics for the analytic sample, pooled across stages and by stage. We observe that depressed mood is rather stable, with means of 2.41 in
Table 1: Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition and categories</th>
<th>Proportion or mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pooled</td>
</tr>
<tr>
<td>Time-varying variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed mood</td>
<td>Additive index including 5 points (1–5)</td>
<td>2.30 (0.75)</td>
</tr>
<tr>
<td>Discrimination experiences</td>
<td>Coded 1 if having experiences of discrimination; coded 0 if not</td>
<td>0.058</td>
</tr>
<tr>
<td>Race discrimination</td>
<td>0.063</td>
<td>0.095</td>
</tr>
<tr>
<td>Gender discrimination</td>
<td>0.291</td>
<td>0.362</td>
</tr>
<tr>
<td>Negative event</td>
<td>0.29</td>
<td>0.362</td>
</tr>
<tr>
<td>R’s highest education (reported within each life stage)</td>
<td>1 (Elementary or junior high school); 2 (GED or high school diploma); 3 (Technical or vocational school); 4 (Associate degree); 5 (Some college); 6 (Bachelor’s degree); 7 (Master’s degree); 8 (PhD or professional degree)</td>
<td>4.66 (1.72)</td>
</tr>
<tr>
<td>R’s income (reported in the most recent wave of each life stage)</td>
<td>1 = under $5k; 11 = $100k or more</td>
<td>6.12 (3.43)</td>
</tr>
<tr>
<td>Time-invariant variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (W1)</td>
<td>1 = male, 0 = female</td>
<td>0.417</td>
</tr>
<tr>
<td>Race (W1)</td>
<td>1 = White, 0 = other</td>
<td>0.819</td>
</tr>
<tr>
<td>Parental education (W1)</td>
<td>1 (less than high school) to 8 (PhD or professional degree)</td>
<td>3.84 (1.93)</td>
</tr>
<tr>
<td>Parental income (W1)</td>
<td>1 = under $5k; 13 = $110k or more</td>
<td>6.16 (2.35)</td>
</tr>
</tbody>
</table>

Note: N = 792 respondents (2,334 person-stages).
Early Adulthood and 2.22 in Middle Age. The percentage of respondents reporting perceived discrimination based on race and gender roughly follows a U-shaped trajectory, decreasing from 8–9% in Early Adulthood to less than 3% in Adulthood, but rising back to 6–7% in Middle Age. Because in each wave we asked about discrimination since the preceding survey, the rather large interval between Wave 19 in Adulthood (2011) and Wave 20 in Middle Age (2019) might have contributed to this jump. Across waves, males and females reported similar levels of gender discrimination (p > .05, all stages); non-White people reported more race/ethnic discrimination than White people (p < .05, all stages).

Analytic strategy

To examine whether the impacts of perceived race and gender discrimination in the workplace on respondents’ depressed mood vary across work-related life stages, we fit a two-level hierarchical linear model to account for the nested structure of the data (person-stage panel), allowing for unbalanced and incomplete data in parameter estimation (Raudenbush and Bryk, 2002). The mixed-effects modelling approach helps us assess the effects of stage-varying perceived discrimination at work, negative events in the workplace, education and income level, as well as time-invariant individual and family background characteristics. The hierarchal modelling strategy helps us to interpret the changing effects of discrimination through stages of the life course in a simpler and more intuitive fashion than an SEM (structural equation model).

All models were fitted separately for perceived race and gender discrimination. The first set of models examine ‘within-stage’ effects of perceived discrimination, using measures of perceived discrimination and depressed mood within the same life stage. In the second set of models, we assess the ‘across-stage’ effects of perceived discrimination, in which depressed mood at each life stage is regressed on perceived discrimination in the previous stage. The latter models can detect the longer-term impacts of perceived discrimination on mental health.

For both the ‘within-stage’ and ‘across-stage’ regression sets, the first model, fitted separately for race and gender discrimination, incorporates all stage-varying (Level 1) and stage-invariant (Level 2) covariates, as well as stage dummies to examine the main effects of perceived discrimination. Given our interest in the potential variability of effects over major life stages, we then estimate a second model, which includes interactions between perceived discrimination and stage. Though it is recommended that person-specific means of time-varying covariates be included at Level 2 to distinguish within-person and between-person effects (Bell et al, 2019), we do not adopt this strategy due to the considerable overlap of the within-person means and the perceived discrimination measures at each stage, and the resulting threat of overcontrol. In a third pooled OLS regression model, we introduce lagged depressed mood to partially adjust for possible bias caused by unobserved time-varying heterogeneity.

Using i to represent the individual, t to represent the stage-specific observation and $\mu_i$ to represent a normally distributed random effect, the multilevel model with the interaction between stage and perceived discrimination yields the following equations (Raudenbush and Bryk, 2002):
Level 1:

\[ Y_{it} = \beta_{0i} + \beta_{1i} \text{(Stage 1)} + \beta_{2i} \text{(Stage 2)} + \beta_{3i} \text{(Stage 3)} + \beta_{4i} \text{(Perceived Race or Gender Discrimination in the Workplace)} + \beta_{5i} \text{(Stage 1 (Perceived Discrimination))} + \beta_{6i} \text{(Stage 2 (Perceived Discrimination))} + \beta_{7i} \text{(Stage 3 (Perceived Discrimination))} + \beta_{8i} \text{(Negative Events)} + \beta_{9i} \text{(Education)} + \beta_{10i} \text{(Income)} + \epsilon_{it} \]

Level 2:

\[ \beta_{0i} = \gamma_{00} + \gamma_{01} \text{(Gender)} + \gamma_{02} \text{(Male)} + \gamma_{03} \text{(Parental Education)} + \gamma_{04} \text{(Parental Income)} + u_{0i} \]

\[ \beta_{xi} = \gamma_{x0} \]

While the model allows \( \beta_{0i} \), the person-specific intercept at Stage 4, Middle Age (the reference group), to reflect between-person variation in averaged depressed mood, \( \beta_{xi} \), the slopes of time-varying covariates are fixed across individuals and do not have a random error component. While the coefficients for the main effects of perceived discrimination and the interactions indicate the directions of relationships and the magnitudes of their effects, substantive interpretation of stage-varying associations of discrimination from the interactions alone are difficult. Therefore, we compute predicted depressed mood for those who reported discrimination, and those who did not, at each life stage and plot the predicted values. We proceed to compute the differences between the predicted values to test the significance of the marginal effects of perceived discrimination at each stage.

**Findings**

‘Within-stage’ effects of perceived discrimination on depressed mood

Table 2 presents regression coefficients for the ‘within-stage’ two-level hierarchical linear models, which indicate the effects of perceived discrimination and other predictors on depressed mood within the same life stage. Model 1 for race discrimination and Model 4 for gender discrimination show the effects of all predictors, including stage dummies, without the stage and perceived discrimination interactions. When adjusting for other predictors, we observe that people who perceive either race or gender discrimination are more depressed \( (p < .001, \text{two-tailed test}) \). Models 2 and 5 include the interactions between stage dummies and perceived discrimination. We find some indication that the effect of racial/ethnic discrimination on depressed mood is greater in young adulthood than at midlife (age 45–46). To account for unobserved time-varying heterogeneity, we introduce lagged depressed mood (mean depressed mood in the preceding stage) in a separate pooled OLS model (Models 3 and 6). When lagged depressed mood is controlled, the magnitude and significance of major predictors are not substantially different from those shown in the previous Models 2 and 5, indicating robust estimation of key effects.
Table 2: Hierarchical linear modelling estimates of the effects of discrimination experiences on depressed mood within stages

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<th>Race discrimination</th>
<th>Gender discrimination</th>
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<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Stage (Ref: 4. Middle Age, age 45–46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Early Adulthood, age 21–26</td>
<td>-0.006 (0.050)</td>
<td>-0.002 (0.051)</td>
</tr>
<tr>
<td>2. Young Adulthood, age 28–31</td>
<td>-0.062 (0.038)</td>
<td>-0.078* (0.039)</td>
</tr>
<tr>
<td>3. Adulthood, age 33–37</td>
<td>0.003 (0.036)</td>
<td>-0.015 (0.036)</td>
</tr>
<tr>
<td>Within-person predictors (Level 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrimination experience</td>
<td>0.303*** (0.074)</td>
<td>0.135 (0.127)</td>
</tr>
<tr>
<td>Discrimination × 1. Early Adulthood, age 21–26</td>
<td>0.071 (0.142)</td>
<td>0.128 (0.156)</td>
</tr>
<tr>
<td>Discrimination × 2. Young Adulthood, age 28–31</td>
<td>0.317* (0.157)</td>
<td>0.273 (0.173)</td>
</tr>
<tr>
<td>Discrimination × 3. Adulthood, age 33–37</td>
<td>0.527 (0.298)</td>
<td>0.555* (0.282)</td>
</tr>
<tr>
<td>Depressed Mood in the Previous Stage</td>
<td>0.514*** (0.025)</td>
<td>0.513*** (0.026)</td>
</tr>
<tr>
<td>Negative event</td>
<td>0.188*** (0.033)</td>
<td>0.186*** (0.033)</td>
</tr>
<tr>
<td>R’s highest education</td>
<td>-0.030* (0.012)</td>
<td>-0.031* (0.012)</td>
</tr>
<tr>
<td>R’s income</td>
<td>-0.027*** (0.006)</td>
<td>-0.026*** (0.006)</td>
</tr>
<tr>
<td>Between-person predictors (Level 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-0.157*** (0.041)</td>
<td>-0.157*** (0.041)</td>
</tr>
<tr>
<td>White</td>
<td>-0.034 (0.055)</td>
<td>-0.035 (0.055)</td>
</tr>
<tr>
<td>Parental education</td>
<td>0.002 (0.013)</td>
<td>0.003 (0.013)</td>
</tr>
<tr>
<td>Parental income</td>
<td>-0.005 (0.010)</td>
<td>-0.006 (0.010)</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.677 (0.096)</td>
<td>2.684 (0.096)</td>
</tr>
<tr>
<td>Variance components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2 variance component</td>
<td>0.172</td>
<td>0.164</td>
</tr>
<tr>
<td>Level 1 variance</td>
<td>0.340</td>
<td>0.335</td>
</tr>
</tbody>
</table>

Note: Robust standard errors in parentheses; N = 2,334 (Level 1), 792 (Level 2); + p < .1 * p < .05 ** p < .01 ***p < .001 (two-tailed test).

However, the coefficients of the main and interaction effects are not our main focus, but rather the marginal differences between the predicted values for those who reported experience of discrimination and those who did not during each stage. Table 3 shows predicted depressed mood, perceived race and gender discrimination, and stage to capture differences in the marginal effects of perceived discrimination within stages. For race discrimination experiences, in Stage 1 (Early Adulthood, age 21–26) the predicted level of depressed mood for those who perceived race discrimination was 2.516, compared to 2.310 for those who did not perceive race discrimination. The difference, 0.206, is statistically significant at the 0.05 level. The predicted differences in depressed mood between people who perceived race discrimination and those who did not are shown to increase to 0.452 in Stage 2 (Young Adulthood) and 0.662 in Stage 3 (Adulthood) \((p < .001, p < .05, \text{respectively})\). The marginal effect of perceived race discrimination is no longer significant in the final Stage 4 (Middle Age), suggesting that middle-aged respondents no longer report a higher level of depressed mood when they report discriminatory experience based on their race/ethnic identities. Though we do not measure the perceived severity of discrimination, it could be that by the time they reach Middle Age, individuals have left employers and co-workers who exercised the most blatant racial discrimination. Discrimination in the last stage of our observations may be less serious and consequential for mental health.

For perceived gender discrimination, the pattern looks slightly different: the period-specific associations between depressed mood and perceived gender discrimination are statistically significant from Stage 2 (Young Adulthood) to Stage 4 (Middle Age), but not significant in Stage 1 (Early Adulthood). This may be related to the relative

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Race discrimination experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have race discrimination experiences</td>
<td>2.516 (0.080)</td>
<td>2.687 (0.123)</td>
<td>2.960 (0.280)</td>
<td>2.448 (0.125)</td>
</tr>
<tr>
<td>No race discrimination experiences</td>
<td>2.310 (0.033)</td>
<td>2.235 (0.028)</td>
<td>2.298 (0.032)</td>
<td>2.313 (0.036)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.206* (0.082)</td>
<td>0.452*** (0.126)</td>
<td>0.662* (0.282)</td>
<td>0.135 (0.127)</td>
</tr>
<tr>
<td>Gender discrimination experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have gender discrimination experiences</td>
<td>2.446 (0.104)</td>
<td>2.536 (0.104)</td>
<td>2.948 (0.257)</td>
<td>2.641 (0.111)</td>
</tr>
<tr>
<td>No gender discrimination experiences</td>
<td>2.244 (0.029)</td>
<td>2.244 (0.029)</td>
<td>2.301 (0.032)</td>
<td>2.302 (0.036)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.135 (0.093)</td>
<td>0.293** (0.107)</td>
<td>0.648* (0.257)</td>
<td>0.339** (0.112)</td>
</tr>
</tbody>
</table>

Note: Standard error in parentheses; + \(p < .1\) * \(p < .05\) ** \(p < .01\) *** \(p < .001\) (two-tailed test); results from Models 2 and 5 in Table 2. Data source: Youth Development Study, Wave 8 (1995)–Wave 20 (2019).
gender parity in wages early in the work career (Blau and Kahn, 2000; Payscale, 2022). As careers unfold, many women confront motherhood wage penalties (Budig and England, 2001; Kahn et al, 2014) and glass ceilings (Cotter et al, 2001) that heighten perceptions of unfair treatment and threaten mental health. Men may feel passed over if they perceive that employers are favouring women in promotion to increase female representation at higher levels within firms.

Figure 1 depicts predicted depressed mood, as well as the magnitude of the differences in predicted values (the lower panel), by perceived discrimination and stage. It shows that the marginal effects of both perceived race and gender discrimination across the four major life stages generally follow similar patterns. As shown in the upper panels, among those who experienced discrimination, we see similar inverted U-shaped trajectories to first increase from Stage 1 through to Stage 3, and then decrease from Stage 3 to Stage 4, though the significance levels are slightly different for perceived race and gender discrimination experiences. Depressed mood is quite stable among those who experienced no discrimination at each period. The lower panel of Figure 1 depicts the differences in predicted depressed mood between those who reported discrimination and those who did not, again indicating that the marginal effects of perceived discrimination first increase and then decrease across life stages.

‘Across-stage’ effects of perceived discrimination on depressed mood

Using the same analytic strategy, we next investigate the relatively long-term impacts of discrimination by regressing depressed mood on discrimination reported during the preceding life stage. Stage 1 observations were not included in the analysis since prior waves did not include perceived discrimination measures. Table 4 shows the results of the ‘across-stage’ mixed-effects models. As before, Models 1 and 4 include all predictors (without interactions between stage dummies and perceived discrimination), indicating that those who perceived race or gender discrimination in the prior stage are significantly more likely to feel depressed in the subsequent stage when other covariates are held constant. This constitutes evidence that perceived discrimination exerts long-term negative impacts on individuals’ mental health. Models 2 and 5 include the interaction terms between stage dummies and perceived discrimination to examine whether the effects vary across stage. Models 3 and 6 are pooled OLS models that incorporate lagged depressed mood, suggesting little difference in the estimation of key effects. We observe that depressed mood is rather stable over time. Again, we rely on the marginal effects shown in Table 5 to interpret the interaction effects.

Table 5 presents the marginal effects of ‘across-stage’ perceived race and gender discrimination to capture potential variation in effects. In Stage = 2 (Young Adulthood, age 28–31), the predicted depressed mood of those who perceived race discrimination in the preceding Stage 1 (Early Adulthood, age 21–26) is 2.516 compared to 2.184 among those who did not perceive race discrimination before, a difference of 0.332 in predicted depressed mood (p < .01). Similarly, we observe a predicted difference of 0.247 between those who perceived gender discrimination in the prior stage and those who did not (p < .01). In Stage 3 (Adulthood, age 33–37), the predicted difference in depressed mood between those who perceived race or gender discrimination in the preceding Stage 2 and those who did not have decreased to 0.230 and 0.242 respectively, the latter being marginally significant (p < .10). In
Figure 1: Marginal effects of perceived discrimination on depressed mood within stages

Note: Top figures are predicted values from Table 2, Models 2 and 5; bottom figures are marginal effects from Table 3.
### Table 4: Hierarchical linear modelling estimates of the effects of discrimination experiences on depressed mood across stages

<table>
<thead>
<tr>
<th></th>
<th>Race discrimination</th>
<th>Gender discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Stage (Ref: 4. Middle Age, age 45–46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Young Adulthood, age 28–31</td>
<td>$-0.099^{*}$ (0.038)</td>
<td>$-0.105^{*}$ (0.038)</td>
</tr>
<tr>
<td>3. Adulthood, age 33–37</td>
<td>$-0.030$ (0.036)</td>
<td>$-0.029$ (0.036)</td>
</tr>
<tr>
<td>Within-person predictors (Level 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discrimination experience</td>
<td>0.279^{*} (0.091)</td>
<td>0.187 (0.236)</td>
</tr>
<tr>
<td>Discrimination × 2. Young Adulthood, age 28–31</td>
<td>0.145 (0.246)</td>
<td>0.319 (0.220)</td>
</tr>
<tr>
<td>Discrimination × 3. Adulthood, age 33–37</td>
<td>0.043 (0.264)</td>
<td>0.246 (0.243)</td>
</tr>
<tr>
<td>Depressed mood in the previous stage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R's highest education</td>
<td>$-0.029^{*}$ (0.014)</td>
<td>$-0.029^{*}$ (0.014)</td>
</tr>
<tr>
<td>R's income</td>
<td>$-0.036^{***}$ (0.007)</td>
<td>$-0.036^{***}$ (0.007)</td>
</tr>
<tr>
<td>Between-person predictors (Level 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>$-0.146^{*}$ (0.046)</td>
<td>$-0.147^{*}$ (0.046)</td>
</tr>
<tr>
<td>White</td>
<td>$-0.036$ (0.063)</td>
<td>$-0.037$ (0.063)</td>
</tr>
<tr>
<td>Parental education</td>
<td>0.007 (0.014)</td>
<td>0.007 (0.014)</td>
</tr>
<tr>
<td>Parental income</td>
<td>$-0.007$ (0.011)</td>
<td>$-0.007$ (0.011)</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.743 (0.104)</td>
<td>2.748 (0.104)</td>
</tr>
<tr>
<td>Variance components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2 variance component</td>
<td>0.067</td>
<td>0.067</td>
</tr>
<tr>
<td>Level 1 variance</td>
<td>0.316</td>
<td>0.316</td>
</tr>
</tbody>
</table>

Note: Robust standard errors in parentheses; N = 1,674 (Level 1), 727 (Level 2); $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed test).

Stage 4 (Middle Age, age 45), neither perceived race nor gender discrimination in the preceding Stage 3 has significant impacts on later depressed mood. Figure 2 depicts predicted depressed mood by perceived discrimination and stage, and the predicted difference at each stage graphically. The trajectories indicate that the marginal effects of perceived discrimination in the previous life stage decrease across stages, suggesting that workplace discrimination in Early Adulthood has the most potency in affecting depressed mood in the subsequent stage. As individuals move through their careers, earlier perceived discrimination becomes less consequential for future mental health. In supplemental analyses, we found that the associations between perceived discrimination and depressed mood decayed in non-adjacent life stages. While beyond the scope of the current study, future research should interrogate the extent to which discriminatory experience affects mental well-being in the long run.

We conducted several additional analyses to assess the robustness of findings. First, we use a combined measure, with report of discrimination based on either race/ethnicity or gender (Appendix B). Second, we restrict the analytic sample to those who answered the perceived discrimination questions in all waves of each life stage (Appendix C). Third, we assure that discrimination in each stage prior to the last is measured before depressed mood (Appendix D). Fourth, we equalise the number of waves in each stage to avoid having more opportunity to report discrimination in earlier stages (Appendix E). Fifth, we include additional controls for educational enrolment, marital status, friend support and efficacy (Appendix F). Finally, we examine subgroups based on educational attainment and gender (Appendix G). In each analysis, the results were substantially the same as the findings reported above.

**Discussion**

This study, using longitudinal data covering a broad span of the adult life course, confirms the oft-reported finding that discrimination in the workplace has significant deleterious consequences for mental health. Notably, discrimination based on race/ethnicity and gender evidence quite similar patterns when we examine the effects of perceived unfair treatment that occurs within broad life stages. But we extend prior studies by showing that discrimination does not have uniform effects on depressed

---

Table 5: Marginal effects of perceived discrimination on depressed mood across stages

<table>
<thead>
<tr>
<th>Predicted depressed mood</th>
<th>2. Young Adulthood, age 28–31</th>
<th>3. Adulthood, age 33–37</th>
<th>4. Middle Age, age 45–46</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race discrimination experiences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have race discrimination experiences</td>
<td>2.516 (0.105)</td>
<td>2.489 (0.151)</td>
<td>2.475 (0.233)</td>
</tr>
<tr>
<td>No race discrimination experiences</td>
<td>2.184 (0.029)</td>
<td>2.259 (0.031)</td>
<td>2.288 (0.033)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.332** (0.108)</td>
<td>0.230 (0.154)</td>
<td>0.187 (0.236)</td>
</tr>
<tr>
<td><strong>Gender discrimination experiences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have gender discrimination experiences</td>
<td>2.430 (0.084)</td>
<td>2.499 (0.144)</td>
<td>2.472 (0.178)</td>
</tr>
<tr>
<td>No gender discrimination experiences</td>
<td>2.183 (0.029)</td>
<td>2.258 (0.031)</td>
<td>2.290 (0.033)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.247** (0.088)</td>
<td>0.242 + (0.147)</td>
<td>0.182 (0.181)</td>
</tr>
</tbody>
</table>

Note: Standard error in parentheses; *p < .1 ** p < .05 *** p < .01 **** p < .001 (two-tailed test); results from Models 2 and 5 in Table 4.
Figure 2: Marginal effects of perceived discrimination on depressed mood across stages

Note: Top figures are predicted values from Table 4, Models 2 and 5; bottom figures are marginal effects from Table 5.
mood as workers move from early adulthood to midlife. Within-stage perceived race and gender discrimination have little effect on depressed mood among the youngest workers (age 21–26), but discrimination’s association with depressed mood increases in magnitude as workers grow older, reaching a peak once adulthood (for most people) is fully established (ages 33–37). The mental health impact of perceived discrimination diminishes markedly by midlife (ages 45–46).

Some prominent life course theories specify cumulative development, or ‘chains of risk’, such that experiences in one phase trigger events, circumstances or individual outcomes in subsequent phases, leading to increasingly positive or negative outcomes over time that have major consequences for later life trajectories and well-being (Dannefer, 1987; 2003; Ferraro et al, 2009). This model has illuminated processes of socio-economic attainment and both mental and physical health. According to an alternative ‘critical period’ model, certain stages of development are characterised by heightened sensitivity or plasticity, during which experiences are most consequential (Penfield and Roberts, 1959). Though critical periods are often thought to be quite early in life, the critical period concept does not rule out subsequent phases. This model has been applied to a wide range of developmental processes including embryonic development, second-language learning and child attachment. As noted earlier, Alwin and McCammon (2003) highlight youthful ‘impressionable years’ (p. 13), a critical period for attitude formation, followed by ‘ageing stability’ (Alwin and McCammon, 2003: 39). Based on this model, we had expected that discrimination, measured proximally in the same life stage, would be more deleterious for mental health among younger workers, when compared to their older counterparts.

Contrary to this expectation, perceived unfair treatment was found to have the greatest impact in this panel at a stage in life when it may be more consequential for career progress. Workers in their mid-30s have typically become established in their careers, eligible for promotion and looking forward to rising earnings. We find evidence that when discrimination is perceived at this juncture, it is more consequential for mental health than similar incidents at younger or older ages. By age 45, when many workers are in a career maintenance stage, their mood state is more impervious to discrimination. Such workers may feel less threat that their careers would be derailed by discriminatory behaviours.

Thus, the findings of this study appear to be more consistent with a ‘critical period’ model than life course theories that stress cumulative stress or inequality. But instead of being most consequential early on, discrimination had its strongest impact on depressed mood at a stage when future work careers were arguably more susceptible to being derailed by discrimination than in earlier or subsequent phases. Contrary to the ‘chains of risk’ model, we did not find that the effects of discrimination on depressed mood carried over to subsequent periods except in one instance. Each form of discrimination in early adulthood, age 21–26, was found to have a lingering detrimental effect on mental health in the next adjacent stage. Our findings are thus consistent with those of Pavalko et al (2003), who conclude that it is the more proximal discrimination that matters more for mental health than earlier discrimination.

We find some indication (see Figure 1) that within-stage gender discrimination at midlife (age 45–46) has a stronger impact on depressed mood than race discrimination. While we can only speculate about this finding, it could be that women are particularly sensitive to discrimination at this age due to the negative stereotypes and real discrimination widely encountered against ‘older women’ (Neumark et al,
As noted earlier, this is also a time when motherhood penalties on wages may be accumulating, and women are facing glass ceilings. At the same career stage, men may feel that women unfairly benefit from affirmative action policies designed to increase female representation at higher levels of the firm.

Our strategy of separating race and gender discrimination enables us to observe that these two bases of discrimination do not have identical implications for mental health. These findings extend prior research in promoting understanding of the impacts of perceived work-related discrimination on mental health across a broad span of the work career. They suggest that the effects of perceived discrimination, based on race/ethnicity and gender, on depressed mood waxes and wanes as individuals move through their adult work careers. Yet this study has potential limitations based on the character of the panel, the measures and the designation of life stages. First, the initial YDS sample resided in a single community in the Midwest. The YDS respondents represent a particular cohort (Gen X), born in the early 1970s, a time of less diversity in St. Paul and the nation at large than today. And due to selective attrition, the proportion of White respondents increased as the study progressed (White people were 66.5% of the sample in Wave 1 and 78.9% in Wave 20). Whereas even those in ‘superordinate’ categories have been found to report substantial acts of discrimination, this study cannot speak to differences in the mental health consequences of perceived unfair treatment for White people and people of colour.

Second, rather little discrimination was reported by the respondents, raising the question as to how respondents defined discrimination. As shown in Table 1, across all person-stages the experience of perceived discrimination never reached 10% (in contrast, other negative events at work were reported by about a quarter to a third of respondents across life stages). Discrimination is not always easily observable by workers. For example, given widespread pay secrecy, workers may not be aware that their rewards (for example, bonuses, pay raises or promotions) for meritorious performance are less than those of work colleagues (Rosenfeld, 2017). They may not realise that discriminatory social networks exist at work if they were not invited to join them. Moreover, our measures of racial/ethnic and gender discrimination refer only to the workplace. If we had inquired about other venues of discrimination, for example, in higher educational settings, retail stores, residential access, the courts, neighbourhood social snubs and so on, we may have had more such reports to work with.

Similarly, the measures only asked about discrimination based on race/ethnicity or gender, though there are many other potential bases of discrimination, including age, sexual orientation, social class, citizenship status, disability, ‘lookism’ and so on, which could affect depressed mood contemporaneously and in the long-term, especially when experienced together (Grollman, 2012; Gayman and Barragan, 2013). Finally, the age cut-offs of the life and career stages may be considered somewhat arbitrary because their beginnings and endings surely vary across segments of the population defined by social class, race and gender (Osgood et al, 2005; Furstenberg, 2008; Silva, 2012). Moreover, age boundaries may be quite ‘fuzzy’ to individuals who experience them as well as to others. For example, considerable age variation exists in the development of an ‘adult’ identity (Eliason et al, 2015). However, other investigators (Morrow and McElroy, 1987; Allen and Meyer, 1993; Pogson et al, 2003) have operationalised career stages in a similar manner, identifying a trial period before age 31, a stabilisation or establishment phase from age 31 to 44, and a maintenance phase from age 44 on (Duarte and Lopes (2018) use a similar classification).
Conclusion

Despite its limitations, this research confirms the report of many studies that discrimination matters for mental health. However, our central contribution is to show that discrimination in the workplace in the YDS panel did not have uniform consequences for mental health as respondents moved through their work careers, from early adulthood (age 21–26) through midlife (age 45). The findings indicate that the more proximally experienced, ‘within-stage’ perceived discrimination is most consequential once careers have become established, rather than in the earlier phases of work life. With the exception of within-stage gender discrimination, its effects are barely perceptible (and statistically non-significant) among the oldest people in our study, at midlife. However, lingering effects of discrimination appear to be more pronounced early in the work career. The fact that race/ethnicity and gender-based discrimination at work yielded similar effects on depressed mood across stages of adult life suggests the need for further studies incorporating additional potential bases of discrimination, to discover whether they, too, manifest stronger consequences for mental health at mid-career. We call for future longitudinal studies of the dynamics of discrimination and mental health, including more potential venues of unfair treatment and more bases of perceived discrimination, with larger and more representative samples studied over a wider span of the life course.

Note

1 We are cognizant of the difficulties in determining causal effects even from longitudinal observational data. When we discuss the effect of discrimination on depressed mood, we refer to the conditional association of discrimination on depressed mood. For brevity, we use the term effect to proxy for this longer description.

Funding

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Acknowledgements

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Conflict of interest

The authors declare that there is no conflict of interest.

References


