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Authors

Kaur, Amandeep

Charles, Susan

Molina, Kristine

et al.

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Adding Insult to Injury: Everyday Discrimination Moderates Stressor-Related Negative Affect

Amandeep Kaur[a], **Susan T. Charles**[a], **Kristine M. Molina**[a], **David M. Almeida**[b]

[a]Department of Psychological Science, University of California, Irvine, Irvine, USA

[b]Department of Human Development and Family Studies, The Pennsylvania State University, University Park, USA

Abstract

Studies examining the effects of discrimination on emotional well-being have often overlooked: (a) differential effects of both everyday and lifetime discrimination, and (b) how both types of discrimination may exacerbate stressor-related affect – even when daily stressors are unrelated to discrimination. The current study examined the effects of daily stressors not attributed to discrimination (i.e., non-discrimination-related daily stressors) on daily negative and positive affect in the presence of either form of discrimination (everyday and lifetime). Participants who completed the second wave of the Survey of Midlife Development in the US (MIDUS-II) and the National Study of Daily Experiences (NSDE-II) answered questionnaires about everyday and lifetime discrimination. Later, they completed daily phone interviews across eight consecutive days, asking about the non-discrimination-related daily stressors and the positive and negative affect they had experienced that day. Multilevel model analyses revealed that everyday discrimination was associated with decreased daily positive affect, and lifetime discrimination was associated with increased daily negative affect. Moreover, higher frequency of everyday discrimination exacerbated the within-person effects of non-discriminatory daily stressors on negative affect. Results underscore the importance of considering both independent and synergistic effects of discrimination on daily emotional well-being.

Keywords

lifetime discrimination; everyday discrimination; daily stressor; daily affect

Introduction

Discrimination, broadly defined, is the differential treatment of members of socially defined groups across a variety of experiences.[1] Patterns of discrimination reflect social hierarchies where those in lower social positions (e.g., racial/ethnic minorities, sexual minorities, aging populations, women) report more discrimination than those in privileged social positions.[2–5] Discrimination exerts negative consequences for all affected groups, including Whites and

Correspondence concerning this paper should be addressed to: Amandeep Kaur, MA; amandeek@uci.edu; Department of Psychological Science, University of California, Irvine, 4201 Social & Behavioral Sciences Gateway, Irvine, CA 92697, USA.

people of color.[6,7] A considerable amount of research has documented discrimination's adverse effects on subjective and objective indices of health (for a review, see Lewis et al.).[8]

Paralleling the stress literature, discrimination often has been classified into two broad categories. The stress literature distinguishes between more seemingly minor and frequent stressors, referred to as daily hassles (such as a deadline at work or an argument with a friend) and stressors that are less frequent and more severe, referred to as major stressful life events (such as a home foreclosure or the death of a family member). Similarly, researchers have distinguished between acts of everyday discrimination (such as being forced to wait longer for services) as types of daily hassles, and major lifetime discrimination (such as being denied a job or being fired) to major life event stressors.[1,8,9] Everyday discrimination refers to devaluation through chronic, daily exposure to socially patterned interpersonal unfair treatment (e.g., disrespect, insults).[10–13] Lifetime discrimination, in contrast, refers to specific albeit infrequent experiences of maltreatment that are the result of systematic exclusion of individuals from accessing resources including institutions of education (e.g., being denied higher education) employment (e.g., being unfairly fired), and legal systems (e.g., being threatened/harassed by law enforcement).[12,14] Although less common, lifetime discrimination still occurs with some frequency; a national study found that 31% of adults reported at least one experience of discrimination during their lifetime, with unfair firing from work being the most common.[3]

Both everyday and lifetime discrimination are related to lower emotional well-being.[11,15] Brondolo and colleagues use a social-cognitive framework to explain this process, positing that experiences of discrimination often prompt changes in schemas and threat-related appraisals.[16] Over time, these cognitions can decrease moods, thereby increasing vulnerability to depressive episodes. Changes to cognitions may also shape how individuals attend to and respond to social interactions. For instance, viewing the world as unjust and uncontrollable can lead to hypervigilance, whereby individuals constantly scan their environment and prepare for the potential of harm.[16] Social exclusion and devaluation also elicits a range of negative emotions, including sadness, hopelessness, and anger, but these reactions may be even stronger in people who have altered perceptions of the world as a result of their maltreatment.[17] Everyday discrimination has been related to increased vigilance,[18] and to perceptions of greater social exclusion/harassment and social tensions even after adjusting for personality traits.[19] These thoughts and feelings are readily recalled even during interactions not attributed to discrimination.[16]

Associations between both lifetime and everyday discrimination and lower well-being, including greater psychological distress and more depressive symptoms,[2,20–22] and greater anger/hostility[19,23] are well documented. However, everyday discrimination often has a more consistent and robust relationship with poor mental health when both forms of discrimination are examined together.[2,24–26] Less research has examined the differential effects of the two types of discrimination on positive affect. Different forms of discrimination (e.g., overt vs. subtle) have been associated with diminished positive affect,[27–30] but the effects are often less robust than those with negative affect and sometimes even not significant (see Douglass et al.).[30]

Discrimination may also exacerbate stressor-related affect even when daily stressors are not explicitly attributed to discrimination. The stress sensitization/kindling framework suggests that over time, constant exposure to stress, such as discrimination, makes a person more sensitive, or reactive, to subsequent stressors.[31–33] Consistent with this framework, discrimination is associated with chronic activation of neurobiological systems (e.g., hypothalamic-pituitary-adrenal axis and anterior cingulate cortex). These brain regions are critical for processing socioemotional information and particularly for perceiving social exclusion. Prolonged activation of these regions lowers the threshold of a stress response (for a review, see Brondolo et al.,[16] Berger & Sarnyai,[34] Berger et al.).[35] For this reason, enduring greater lifetime and everyday discrimination may make encountering additional daily stressors, even when not attributed to discrimination, more upsetting.[36]

Studies have demonstrated that prior experiences of discrimination can worsen the effects of stress on emotional well-being. For example, among African American mothers, experiences of racial discrimination exacerbated the effects of stressor pileup (i.e., negative life events, including legal issues, illness/injuries, marital problems, as well as financial and job stressors) on psychological distress,[37] and decreased relationship well-being (i.e., marital satisfaction, stability, warmth, and hostility) on psychological functioning (i.e., distress and anxiety symptoms).[38] Further, in a racially diverse community sample, greater lifetime ethnic discrimination was associated with increased daily reports of anger in the presence of routine social interactions.[19]

The current study addresses gaps in the existing literature by: (a) examining how two types of discrimination (i.e., lifetime and everyday discrimination) are each uniquely associated with daily negative and positive affect; and (b) whether each type of discrimination exacerbates the association between daily non-discrimination-related stressors and affect. To our knowledge, no other study has examined how experiences of lifetime and everyday discrimination, together in one model, relate to daily affective states. We hypothesize that both types of discrimination are uniquely associated with increased daily negative affect and decreased positive affect. We further hypothesize that discrimination moderates the association between non-discrimination-related daily stressors and affect, consistent with models of stress sensitization. We expect, however, that everyday discrimination will have a more consistent and robust association with affective states than lifetime discrimination, consistent with prior literature.[24–26]

Methods

Sample and procedures

Data were obtained from the second survey of Midlife Development in the United States Study (MIDUS-II; $N = 4,963$), a national longitudinal survey study assessing psychosocial processes and health across adulthood.[39] The MIDUS included a subsample from Milwaukee County, Wisconsin ($N = 592$) to increase representation of African Americans.[40] A subset of participants ($N = 2,022$) also completed the National Study of Daily Experiences (NSDE-II), a substudy of MIDUS-II which consists of daily telephone interviews across eight consecutive days where people are asked about the events of their day (e.g., stressful experiences, daily emotions).[41] The analytic sample included those

who participated in both MIDUS-II and NSDE-II. In addition, given the small number of Latinx respondents (only 60 people), we excluded them from the analyses, leaving only non-Hispanic White and non-Hispanic Black participants. A full description of the study is available at http://www.midus.wisc.edu/. Secondary data analysis for the present study was deemed exempt from the Institutional Review Board.

Comparing respondents who participated in the NSDE-II ($N = 2{,}022$; daily diaries = 16,176) and those who only participated in the MIDUS-II ($N = 3{,}533$) survey, significant sociodemographic differences between the two groups were observed for race/ethnicity, sex, marital status, age, education, work status, and neuroticism (all $ps < .05$). There were no differences in household income and chronic illness or in levels of lifetime and everyday discrimination.

Measures

Measures described below are from both the MIDUS-II (person-level variables) survey and the daily diary study of the NSDE-II (day-level variables).

Person-level variables

Lifetime discrimination.—The 11-item subscale of the Perceived Discrimination Scale[12] assesses acute, major discriminatory events occurring over the life course across various life domains. Participants are asked how many times in their lives they have encountered discrimination for each of the 11 events. Sample items include: being discouraged by a teacher or advisor from seeking higher education; were not hired for a job; prevented from renting or buying a home in the neighborhood you wanted; and were hassled by the police. Across the 11 events, the average number of encounters was 5.33 ($SD = 37.12$), with a range between 0 (no incidents) to 1009 encounters. Given that results are highly skewed (e.g., one person reported 1009 instances when summed across the 11 items), we instead summed across the number of items that were endorsed at least once regardless of number of times, for a possible score ranging from 0 to 11. This scoring method for this scale has been validated and used in previous studies examining lifetime discrimination.[12,14,42] Higher scores indicated greater counts of lifetime discrimination ($\alpha = .88$).

Everyday discrimination.—The nine-item everyday discrimination subscale of the Perceived Discrimination Scale[12] assesses how frequently on a day-to-day basis respondents experience instances of unfair treatment. Sample items include: being treated with less courtesy than other people; received poorer service than other people at restaurants or stores; people act if they are afraid of you; and you are called names or insulted. Response options range from 1 (often) to 4 (never). Responses were reverse coded and summed, with higher scores reflecting greater frequency of everyday discrimination ($\alpha = .92$). A follow-up item asks participants about the main reason for these experiences (e.g., race, ethnicity, gender, age, sexual orientation).

Day-level variables

Daily stressors.—The Daily Inventory of Stressful Events[43] was used to assess non-discrimination-related daily stressors during the daily diary phone interview over the course

of eight days. Participants were asked whether they experienced any of the six stressors on a given day. Sample items include: "Did you have an argument or disagreement with anyone since (this time/we spoke) yesterday?" and "since (this time/we spoke) yesterday, did anything happen at work or school (other than what you already mentioned) that most people would consider stressful?" Participants answered yes or no for each stressor. One item asked participants whether they experienced any race, sex, or age discrimination in the last 24 hours. Fewer than one percent of the stressors were related to discrimination. This item was removed as our focus is on daily stressors not attributed to discrimination. Following procedures used in previous studies,[44] a dichotomous variable was created to categorize participants as having had experienced any of the stressors (1) or not (0) on each of the eight days.

Negative and positive affect.—Negative and positive affect were assessed using scales developed for the NSDE study.[45,46] During the daily diary phone interview, participants indicated on a 5-item Likert scale ranging from 0 (none of the time) to 4 (all of the time) how much of the time they experienced each of 27 emotions (14 negative and 13 positive) during the last 24-hour period. Sample negative emotion items included: nervous; so sad nothing could cheer you up; hopeless; lonely; ashamed; and upset. The within-person and between-person reliability for these items was .77 and .97, respectively.[47] Sample positive items included: in good spirits; cheerful; calm and peaceful; full of life; like you belong; and confident. Items were averaged across negative and positive affect for each of the eight days. The within-person and between-person reliability for these items was .86 and .99, respectively.[47] Given the moderate correlations between positive and negative affect, we adjust for the other affective outcome in each model (e.g., in the model where negative affect is the outcome, we adjust for positive affect).

Covariates

The present study adjusted for several sociodemographic variables known to be associated with affect, stressor occurrence, or discrimination, including age (years), sex (male/female), marital status (married; separated/divorced/widowed; never married), race/ethnicity (non-Hispanic White; non-Hispanic Black/African American), education (ranging from no school/some grade school to doctorate/professional degree), and current work status (employed/unemployed). The household income, including wages, pension, social security, and other governmental assistance, was converted into a Z-score. Because prior research documents positive associations between negative affect and both chronic illness[48,49] and neuroticism,[50,51] we also adjusted for these covariates. Participants indicated whether they had a chronic illness (yes/no). Neuroticism was measured using a scale developed for the MIDUS survey where respondents were asked how much the following adjectives described them on a scale of 1 (not at all) to 4 (a lot): moody, nervous, worrying, and calm (reverse-coded; α = .74).[52] Items were summed, where higher scores reflect greater levels of neuroticism. Mean substitution was used for the following continuous covariates that were missing data: household income ($n = 113$), and neuroticism ($n = 80$). Mean substitution procedure performs similar to other methods for handling missing data (e.g., imputations) when less than 10% of data are missing on a variable.[53] For the race/ethnicity variable, an additional category was created for the missing data ($n = 132$), which resulted

in three categories (i.e., non-Hispanic White; non-Hispanic Black/African American; refused to state). This variable was used in the main analyses. We used the original variables (i.e., non-Hispanic White; non-Hispanic Black/African American) for the supplementary analyses examining interactions with race/ethnicity.

Analytic strategy

Intraclass correlations (ICC) were calculated to determine the extent to which daily negative and daily positive affect were clustered differentially within and between people. Slightly more than half (55%) of the variance in daily negative affect was between people (and 45% of the variance in daily negative affect was within people). Similarly, 76% of the variance in daily positive affect was between people (and 24% of the variance in daily positive affect was within people), revealing sufficient variance at the daily level for multi-level modeling.

To examine how the occurrence of a stressor is related to daily affect, and how this may be exacerbated by higher levels of discrimination, we calculated multi-level models (MLM) for continuous outcomes using Proc Mixed in SAS.[54] An annotated equation for the final model is provided in the supplemental material. We used separate models to examine negative and positive affect. All continuous predictors were mean centered to reduce multicollinearity. All models adjusted for covariates, as described in the Measures section.

To test for the extent to which discrimination (lifetime and everyday) shaped the direction or strength of the association between occurrence of daily stressors and each affective outcome (i.e., moderation effect), we included interaction terms between each discrimination measure and the non-discrimination-related daily stress variable (i.e., occurrence of daily stressors × lifetime discrimination; occurrence of daily stressors × everyday discrimination).

Results

Descriptive statistics

Table 1 includes characteristics of sociodemographic and main study variables for the participants who comprise the analytic sample ($N = 2,022$; daily diaries = 16,176). Participants were primarily non-Hispanic-White (82%, $n = 1,167$). Participants, on average, experienced at least one stressor on 40% of the daily diary days. On average, participants reported experiencing positive affect on nearly all days and negative affect on over half (56%) of the daily diary days. More than half (57%) of the participants reported experiencing at least some everyday discrimination, and among the 71% of those who specified the reason for this unfair treatment, they mentioned such aspects as race, ethnicity, gender, age, religion, height/weight, appearance, disability, sexual orientation, and other. Among those reporting everyday discrimination, 37% reported one main reason whereas 34% reported two or more reasons. For participants who reported only one reason for unfair treatment, gender (23%) was most often endorsed. Everyday and lifetime discrimination were moderately correlated with one another ($r = .46$), and higher levels of each were related to greater negative affect and lower positive affect (see Table 2 for correlations among key study variables).

Multilevel models: predicting daily negative and positive affect

Negative affect—Table 3 reports the results from MLM with negative affect as the outcome. The model with just the main effects revealed that only lifetime discrimination (γ = .008, SE = .003, 95% CI [.002, .014], p < .01), but not everyday discrimination was associated with greater daily negative affect. In addition, non-discrimination-related daily stressor occurrence (γ = .137, SE = .005, 95% CI [.127, .147], p < .001) was also associated with greater daily negative affect.

In the model testing whether discrimination moderated the effects of daily stressors on negative affect, we found a significant result only for the interaction between daily stressor and everyday discrimination (γ = .006, SE = .001, 95% CI [.004, .009], p < .001). To unpack this interaction, we plotted the simple slopes at low (everyday discrimination = 9, or no discrimination), moderate (everyday discrimination greater than 9 but less than 16), and high (everyday discrimination greater than 16) values of the moderator. All simple slopes were significantly different than 0 (p <.001) (see Figure 1 for interaction plot).

Positive affect—Table 4 reports results from MLM with positive affect as the outcome. The model with only main effects revealed a significant negative association with everyday discrimination (γ = −.012, SE = .003, 95% CI [−.018, −.005], p < .01), but not lifetime discrimination. Daily stressor occurrence (γ = −.034, SE = .008, 95% CI [−.051, −.018], p < .001) was also negatively associated with daily positive affect. Interactions between occurrence of a daily stressor and discrimination (of either type) were not significant.

Supplementary analyses

We examined whether lifetime discrimination was significantly associated with daily positive affect in our model with just the main effects if we removed the effects of everyday discrimination. However, lifetime discrimination was still not significantly related to daily positive affect (p > .68).

Similarly, our aforementioned models found that occurrence of daily stressors by lifetime discrimination interaction was not significantly associated with daily negative affect, so we examined whether this interaction was significant if we removed the occurrence of daily stressors by everyday discrimination interaction. Doing so yielded a significant daily stressor by lifetime discrimination interaction (γ = .010, SE = .003, 95% CI [.004, .015], p < .01) in the model with daily negative affect as the outcome.

Moreover, given that prior research finds the effects of discrimination has differential impacts by race/ethnicity,[55,56] we tested whether race/ethnicity moderated the effects found in our main analyses. We conducted four 3-way interactions: one for each type of discrimination (occurrence of daily stressors × everyday discrimination × race/ethnicity; occurrence of daily stressors × lifetime discrimination × race/ethnicity) with each affective outcome (daily negative; positive affect). However, none of these interactions were significant (ps > .25).

Discussion

The present study examined how discrimination was related to positive and negative affect on a given day and how discrimination exacerbated these within-person daily stress processes among a sample of U.S. adults. In zero-order correlations, both types of discrimination were significantly associated with greater negative affect and lower positive affect. In the full models where both types of discrimination were entered together, results only partially supported our hypotheses. Lifetime discrimination was associated with higher daily negative affect but had no unique association with positive affect. Everyday discrimination was associated with lower positive affect. Everyday discrimination also moderated stressor-related affect.

Consistent with our second hypothesis, we found a synergistic effect for everyday discrimination and daily stress on negative affect. Specifically, everyday discrimination strengthened the association between occurrence of a daily stressor and negative affect. The social cognitive framework of racism offers support for our findings that greater frequency of everyday discrimination exacerbates the effects of non-discrimination based daily stressors on negative affect. This framework posits that experiences of discrimination evoke feeling of worthlessness and hopelessness, a diminished sense of purpose, and less self-acceptance. Our finding is consistent with this model and the stress-sensitivity hypothesis, whereby constant experiences of discrimination in daily life may sensitize people to react more strongly to stressors, even when they are not explicitly related to discrimination.

In addition, this finding is similar to prior empirical studies that demonstrate that discrimination moderates the association between life stressors (e.g., financial, legal, and marital functioning) and psychological well-being.[37,38] Our findings are also in line with stress sensitization theory.[32] This may be especially the case in the context of everyday discrimination, given its chronic and ambiguous nature. Prior research suggests that more chronic and ambiguous forms of discrimination have greater cognitive costs that can drain regulatory processes and increase risk for experiencing negative affect.[16,57] Thus, in the context of routine experiences of unfair treatment and daily stressors, individuals may not have sufficient cognitive resources to cope, thereby resulting in increased daily negative emotions.

Lifetime discrimination did not moderate stressor-related negative affect. Our study did not test underlying mechanisms to explain this pattern of results, but perhaps lifetime discrimination exerts its effect on daily life through its overlap with everyday discrimination. For example, lifetime discrimination is defined by denial of resources and opportunities (e.g., loans, education, promotions), and lower socioeconomic status and financial worries are often related to greater distress.[36] Lifetime discrimination may result in daily slights (e.g., being treated rudely by others due to a lack money or education), captured by the daily discrimination measure. Moreover, lifetime discrimination did moderate stressor-related negative affect when we removed the effects of everyday discrimination, which strengthens the hypothesis that the effects of lifetime discrimination may exert themselves through these everyday injustices.

We did not find a main effect of lifetime discrimination on positive affect, even when we removed the main effect of everyday discrimination. Using a system blame perspective, perhaps individuals are more likely to attribute lifetime discrimination to institutional structures and barriers, which can protect from internalizing and ascribing experiences of lifetime discrimination to the self.[58]

Our findings must be interpreted considering some limitations. First, all measures were self-reported, and thus are susceptible to recall and social desirability bias. Future studies should assess daily discrimination in "real time" using ecological momentary assessment methods (EMA) and include objective measures of discrimination and daily stressors to minimize reporting bias and increase ecological validity.[59,60] Second, we did not examine the source of daily stressors in the study, and individuals may be more sensitive to the effects of discrimination when they encounter specific types of daily stressors. For example, discrimination exacerbated the effects of lower relationship well-being on psychological functioning, but not other stressors (e.g., stressful life events such as financial challenges) among rural African American women[38] (see also, Wardecker et al.).[61] Further, the daily stressors in our study may be indirectly related to discrimination. For instance, prior research documents that the effects of discrimination experiences can spill over to other household members[62,63] (e.g., parental experiences of workplace discrimination can spill over to parent-child relationships).[64] Structural racism can also expose racialized groups to harms, such as neighborhood violence and harsh parenting (as reviewed in Brondolo et al.).[65] Although not seemingly racial, gendered, aged, or other, daily stressors could be the result of experiencing unfair treatment in institutional and interpersonal contexts. For instance, someone stating that they were in a disagreement/argument could be referring to a disagreement with a spouse about taking out the trash, but they could also be referring to an argument at a store/restaurant due to unfair treatment. Daily stressors assessed in the study include those related to actual or potential arguments with others, stressful events in the workplace or home, discrimination, stressors within social networks, and other, unspecified stressors. Participants reported that very few (less than one percent) of daily stressors were due to race, sex, or age discrimination. However, 89% of all stressors reported occurred across the following domains: interpersonal, work, home, and social networks. These stressors may have arisen as a consequence of racism.

Finally, although data are drawn from a larger national sample, the analytic sample was not nationally representative, and participants were predominately White. Most of the African American participants were from Milwaukee County, Wisconsin, a relatively impoverished and segregated region.[66] Experiences of African Americans residing in Milwaukee County may not be representative of African Americans residing in less segregated US regions (e.g., Laredo, Texas)[67,68] or to other racial/ethnic groups. For instance, we excluded Latinx individuals given their low representation in the sample (i.e., about three percent of the sample). In addition, even though our supplementary analyses suggest that racial/ethnic groups appear similarly impacted by discrimination, it could be that insufficient power prevented us from detecting differences in effects across racial/ethnic groups. Thus, future studies could examine this with more racially/ethnically heterogeneous samples from a range of different communities.

Conclusions

The current study reveals that lifetime and everyday discrimination are differentially associated with emotional well-being, and also that everyday discrimination exacerbates negative affect on stressor days. Based on our findings, population-level solutions that increase awareness about and redress discrimination, and interventions that help individuals cope with this form of psychosocial stressor may prove particularly effective at reducing emotional stress-reactivity and optimizing stress resilience. For example, Kwate[69] found that a public health intervention that exposed community residents to racism countermarketing outdoor advertisements was associated with decreased psychological distress 3-months post intervention. At the individual level, interventions shown to reduce emotional stress-reactivity and promote positive emotions (e.g., mindfulness meditation training) may offer viable solutions in the context of everyday discrimination and daily stressors.[70,71] Further work is warranted to understand how, for whom, and under which conditions discrimination impacts health. Elucidating these processes is essential for advancing our understanding of the stress process and for developing targeted interventions across contexts in which discrimination and stressors occur.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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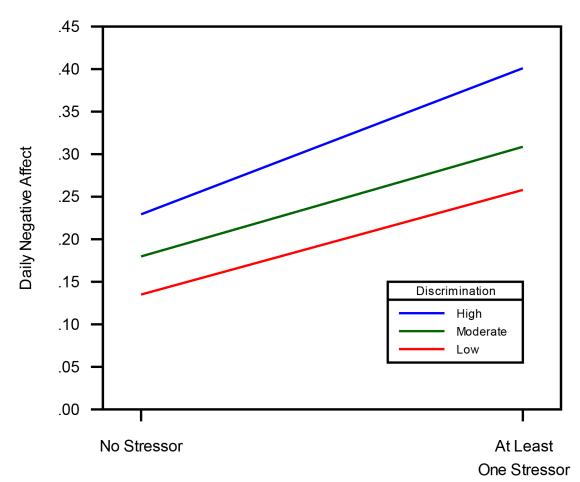
Figure 1.
Daily negative affect as a function of everyday discrimination and occurrence of daily stressors.

Table 1.

Descriptive statistics for covariates and key study variables ($N = 2,022$).

		Total Sample		Missing Data
		N	**%**	**%**
Sex				0.0%
	Female	1,157	57.2%	
	Male	865	42.8%	
Race				6.5%
	Non-Hispanic White	1,667	82.4%	
	Non-Hispanic Black	223	11.0%	
Education				0.2%
	Some high school or less	128	6.3%	
	High School graduate/GED	501	24.8%	
	Some college	472	23.3%	
	College graduate	538	26.6%	
	Graduate school and beyond	379	18.7%	
Marital Status				0.1%
	Married	1,387	68.6%	
	Widowed/Separated or Divorced	454	22.5%	
	Never Married	179	8.9%	
Work Status				0.3%
	Employed	1,012	49.7%	
	Unemployed	1,004	50.0%	
Chronic Illness				3.3%
	Yes	1,540	76.2%	
	No	415	20.5%	
		M (Range)	**SD**	
	Age, years	56.25 (33–84)	12.20	0.0%
	Household Income	$67,434.63 (0–300K)	$57,119.04	5.6%
	Neuroticism	2.05 (1–4)	0.63	4.0%
	Average Number of Stressors	0.53 (0–4)	0.47	0.0%
	Daily Stressor [*]	38.8%	0.00	7.9%
	Lifetime Discrimination	1.07 (0–11)	1.77	6.0%
	Everyday Discrimination	12.92 (9–34)	4.70	4.3%
	Negative Affect	.19 (0–3.5)	0.32	7.9%
	Positive Affect	2.74 (0–4)	0.79	7.9%

Note.

[*] For daily stressor (i.e., daily stress exposure across 8 days), proportion and standard error are reported. Missing data for daily stressor, negative affect, and positive affect are on individual days across all participants. There is no missingness for average number of stressors as there were no participants missing data on daily stressor across all days.

Table 2.

Correlations among key study variables.

	1	2	3	4	5
1. Everyday Discrimination	--				
2. Lifetime Discrimination	.46	--			
3. Daily Stressor (at least one stressor across eight days)	.08	.08	--		
4. Positive Affect	−.19	−.09	−.21	--	
5. Negative Affect	.18	.15	.35	−.49	--

Note. Pearson product-moment correlation coefficients are reported for correlations between continuous variables. Point-Biserial correlation coefficients are reported for correlations between continuous and dichotomous variables. The reference group for daily stressor variables is 0 (i.e., did not endorse any stressor across the 8 days).

All coefficients are significant at $p < .001$.

Table 3.

Parameter estimates for negative affect and interactions between occurrence of daily stressors and discrimination types ($N = 1878$)

Variables		Estimate (SE)	95% C.I. LB	95% C.I. UB
Fixed Effects				
	Intercept	.133 (.027) ***	.080	.186
Main Effects	Everyday Discrimination	−.003 (.001) *	−.005	.000
	Lifetime Discrimination	.007 (.003) *	.000	.014
	Daily Stressor (At least one stressor on each of eight days)	.137 (.005) ***	.127	.146
Interactions	Daily Stressor*Everyday Discrimination	.006 (.001) ***	.004	.008
	Daily Stressor*Lifetime Discrimination	.003 (.003)	−.003	.009
Covariates	Average Number of Stressors	.112 (.011) ***	.090	.134
	Sex (Male)	−.004 (.010)	−.230	.015
	Race (Non-Hispanic White)	−.011 (.018)	−.047	.025
	Race (Non-Hispanic Black)	.049 (.023) *	.004	.094
	Age	.000 (.000)	−.001	−.001
	Education	−.009 (.002) ***	−.013	−.005
	Household Income	−.006 (.005)	−.016	.004
	Chronic Illness (Yes)	−.012 (.012)	−.034	.011
	Work Status (Employed)	−.026 (.010) *	−.460	−.005
	Married	−.26 (.017)	−.060	.007
	Separated/Divorced/Widowed	−.002 (.019)	−.038	.035
	Neuroticism	.047 (.008) ***	.032	.063
	Positive Affect	−.181 (.004) ***	−.188	−.173
Random Effects		σ		z
	Intercept	.028 (.001) ***		20.73
	Daily Stressor (At least one stressor on each of eight days)	.007 (.001) ***		10.06

Variables	Estimate (SE)	95% C.I.	
		LB	UB
Residual	.037 (.001)***		71.26

Note. All estimates are standardized. SE = Standard Error. C.I. = Confidence Interval. LB = Lower Bound. UB = Upper Bound.

*
p < .05

**
p < .01

***
p < .001

Table 4.

Parameter estimates for positive affect and interactions between occurrence of daily stressors and discrimination types ($N = 1878$)

Variables		Estimate (SE)	95% C.I.	
			LB	UB
Fixed Effects				
Main Effects	Intercept	2.930 (.080) ***	2.773	3.088
	Everyday Discrimination	−.013 (.004) ***	−.020	−.006
	Lifetime Discrimination	.019 (.010) *	.001	.038
	Daily Stressor (At least one stressor on each of eight days)	.034 (.008) ***	−.051	−.018
Interactions	Daily Stressor * Everyday Discrimination	.003 (.002)	−.001	.007
	Daily Stressor * Lifetime Discrimination	−.006 (.005)	−.016	.004
Covariates	Average Number of Stressors	−.161 (.033) ***	−.225	−.097
	Sex (Male)	−.089 (.029) **	−.145	−.033
	Race (Non-Hispanic White)	−.045 (.055)	−.154	.064
	Race (Non-Hispanic Black)	−.016 (.069)	−.151	.119
	Age	.005 (.001) ***	.002	.008
	Education	−.018 (.006) **	−.030	−.007
	Household Income	.012 (.016)	−.019	.042
	Chronic Illness (Yes)	−.120 (.035) ***	−.188	−.053
	Work Status (Employed)	−.013 (.031)	−.048	.074
	Married	.078 (.051)	−.023	.178
	Separated/Divorced/Widowed	.048 (.056)	−.062	.157
	Neuroticism	.259 (.023) ***	−.305	−.214
	Negative Affect	−.689 (.015) ***	−.718	−.659

		σ	z	
Random Effects				
	Intercept	.320 (.011) ***	27.84	
	Daily Stressor (At least one stressor on each of eight days)	.010 (.002) ***	5.01	

Variables	Estimate (SE)	95% C.I.	
		LB	UB
Residual	.126 (.002)***		72.27

Note. All estimates are standardized. SE = Standard Error. C.I. = Confidence Interval. LB = Lower Bound. UB = Upper Bound.

*
p < .05

**
p < .01

***
p < .001