

¹ Police stop and depressive symptoms: Examining moderating role of race

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⁴ Author Note

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Abstract

12 Police stops are increasingly recognized as psychologically consequential events that may
13 elevate depressive symptoms, particularly among marginalized groups. The present study
14 used a simulated dataset of 500 participants to examine whether experiencing a police stop
15 was associated with higher depressive symptoms, and whether this association was
16 moderated by race. Participants ranged from early to late adolescence ($M = 27.52$, $SD =$
17 0.42) and were demographically diverse: 43.40% identified as female, 58.80% identified as
18 BIPOC, and 27% reported negative police contact. Depressive symptoms were assessed
19 using the PHQ-9. Analyses were conducted in R and proceeded in two steps. First, a
20 Welch t-test revealed that individuals who had been stopped by the police reported
21 significantly higher depressive symptoms than those who had not, $t(255.31) = -12.10$, $p <$
22 .001. Second, a linear regression model tested whether race moderated this association.
23 Although the model explained a significant portion of variance in depressive symptoms (R^2
24 = .26), the police contact \times race interaction was not significant, $B = -0.13$, $p = .938$,
25 indicating that the psychological impact of police stops did not differ between White and
26 BIPOC participants. Together, findings from this simulated dataset suggest that police
27 contact is strongly associated with elevated depressive symptoms, but this association
28 appears consistent across racial groups.

29 *Keywords:* police stop; psychopathology; black; race; legal system exposure

30 Word count: 1264

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32 Police interactions, especially involuntary or intrusive stops, are increasingly
33 recognized as significant stressors that may undermine mental health (J. DeVylder, Fedina,
34 & Link, 2020). A growing body of research shows that being stopped by the police can
35 evoke fear, threat, and feelings of injustice(Jackson Davis, 2022), all of which may
36 contribute to elevated depressive symptoms (Harris & Cortés, 2022) . However, the
37 psychological impact of police contact is not experienced uniformly across
38 communities(Jackson Davis, 2022). Race remains a central factor shaping how individuals
39 perceive, interpret, and internalize police encounters(Harris, 2025; Jackson, Fix, et al.,
40 2025). For many racial and ethnic minority groups, especially Black and Latino
41 communities(Briere & Runtz, 2024), police stops occur within a broader historical and
42 social context marked by discrimination and disproportionate surveillance(Del Toro et al.,
43 2019). The present study examines the association between police stops and depressive
44 symptoms and investigates whether this relationship differs by race. Understanding racial
45 variation in the mental health consequences of police contact is essential for clarifying risk
46 pathways and identifying populations most adversely affected(J. E. DeVylder, Anglin,
47 Bowleg, Fedina, & Link, 2022). This work contributes to ongoing discussions on policing,
48 public health, and racial inequality by evaluating whether race moderates the psychological
49 burden of police stops.

50 **Methods**

51 The current study was *NOT* preregistered. Data and code are available at
52 https://github.com/hash1205-ship-it/contact_phq. The study uses a simulated dataset
53 generated for teaching and learning purposes.

54 **Participants**

55 The present study uses a simulated dataset comprising 500 participants. Participants
56 ranged in age from early to late adolescence, with a mean age of 27.52 years ($SD = 0.42$).
57 The sample was demographically diverse. Approximately 43.40% of the sample identified
58 as female, and 58.80% identified as belonging to a BIPOC racial or ethnic group. 27%
59 participants had negative police contact. In addition, 50% of participants were immigrants
60 and rest were non-immigrants.

61 **Measures**

62 **Police Contact.** Participants self reported whether they had been stopped by the
63 police in yes or no responses. This direct question approach has previously been used in
64 the literature(Jackson, Qureshi, Testa, & Prins, 2025).

65 **Depressive Symptom.** Participants completed the Patient Health
66 Questionnaire-9 (Kroenke, Spitzer, & Williams, 2001), a widely used and well-validated
67 self-report measure of depressive symptomatology. The PHQ-9 assesses the frequency of
68 nine DSM-based symptoms of major depression experienced over the past two weeks (e.g.,
69 anhedonia, depressed mood, sleep disturbance, fatigue, and difficulty concentrating). Items
70 are rated on a 4-point Likert scale ranging from 0 (not at all) to 3 (nearly every day), with
71 total scores reflecting overall severity of depressive symptoms. Higher scores indicate
72 greater depressive symptom severity, with established clinical cutoffs corresponding to
73 mild, moderate, moderately severe, and severe depression. In the present sample, the
74 PHQ-9 demonstrated excellent internal consistency (Cronbach's alpha = 0.95), consistent
75 with prior research supporting its reliability and construct validity.

76 **Procedure**

77 All data were simulated to approximate realistic distributions. Participants
78 hypothetically reported demographics, police contact, and depressive symptoms.

79 **Data Analysis**

80 Data analyses were conducted in R using tidyverse, psych, emmeans, and ggplot2
81 packages. All analyses were performed on the simulated dataset after computing PHQ-9
82 total scores by summing the nine individual symptom items. Prior to analysis, categorical
83 predictors were coded as factors with meaningful reference categories (i.e., No for police
84 contact and BIPOC for race) to facilitate interpretation of regression coefficients.

85 Analyses proceeded in two steps. First, to evaluate Hypothesis first, which predicted
86 that individuals who had been stopped by the police would report higher depressive
87 symptoms than those who had not, we conducted a Welch two-sample t-test comparing
88 PHQ-9 total scores across police contact groups (“Yes” vs. “No”). This test allowed for
89 unequal variances between groups and provided an estimate of whether depressive
90 symptom severity differed as a function of police contact.

91 Second, to evaluate second hypothesis, which predicted that race would moderate the
92 association between police contact and depressive symptoms, we estimated a linear
93 regression model including police contact, race, and their interaction term. This
94 moderation model tested whether the effect of police contact on depressive symptoms
95 differed between White and BIPOC participants. Model fit was evaluated using R^2 and
96 F-tests, and significance of individual predictors was assessed using t-tests with associated
97 confidence intervals. To aid interpretation of the interaction, estimated marginal means
98 were computed using the emmeans package, and a corresponding moderation plot was
99 produced to visualize predicted depressive symptoms across police contact status for each
100 racial group.

101 All statistical tests used a significance threshold of $\alpha = .05$ (two-tailed), and effect
102 sizes and predicted values were reported where relevant. Confidence intervals were
103 computed using model-based standard errors.

104 **Results**

105 **Descriptive Statistics**

106 Descriptive analyses were conducted to characterize overall depressive symptom
107 severity and patterns across key demographic and experiential groups. The mean
108 depressive symptom score for the full sample was 28.42 ($SD = 6.69$), indicating generally
109 moderate levels of depressive symptoms in this simulated dataset. Depressive symptoms
110 differed meaningfully across participants based on police contact. Those who reported
111 being stopped by the police had a notably higher mean PHQ score (33.74), whereas
112 individuals with no history of police stops showed a substantially lower average score
113 (26.46). Differences also emerged at the descriptive level across racial groups. BIPOC
114 participants reported a higher mean level of depressive symptoms (29.37) compared with
115 White participants (26.94). Finally, depressive symptoms varied modestly by immigrant
116 status. Immigrant participants had an average PHQ-9 score of 28.87, slightly higher than
117 the mean for non-immigrant participants (27.92).

118 **Inferential Statistics**

119 **Group Differences in Depressive Symptoms by Police Contact.** To test the
120 hypothesis that individuals who had experienced a police stop would report higher
121 depressive symptoms than those who had not, a Welch two-sample t-test compared
122 depressive symptom scores across police contact groups. The analysis revealed a large and
123 statistically significant difference in depressive symptoms, $t(255.31) = -12.10$, $p < .001$. The
124 95% confidence interval for the mean difference ranged from -8.47 to -6.10, indicating that

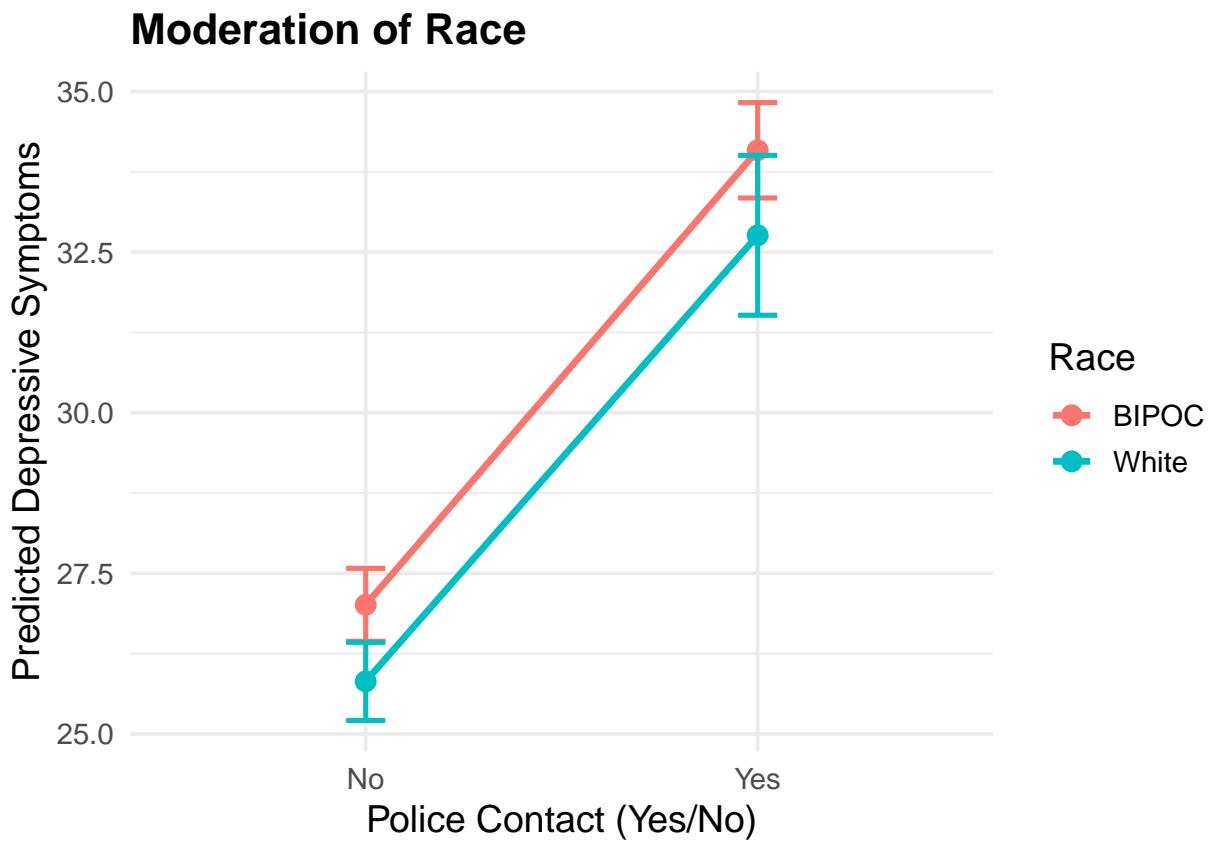
125 individuals with police contact consistently exhibited more severe depressive symptoms.
126 These results provide strong support for first question, suggesting that involuntary police
127 encounters are associated with heightened psychological distress in this sample.

128 **Moderation by Race.** To examine whether race moderated the association
129 between police contact and depressive symptoms, a linear regression model was estimated
130 including the main effects of police contact and race, along with their interaction. The full
131 model accounted for a significant proportion of variance in depressive symptoms, $R^2 = .26$,
132 adjusted $R^2 = .25$, $F(3, 265) = 31.52, p < .001$.

133 For the reference category of BIPOC individuals with no police contact, the
134 estimated mean depressive score was 27.01. A significant main effect of police contact
135 emerged: BIPOC individuals who had been stopped by the police scored, on average, 7.07
136 points higher on depressive symptoms than their BIPOC counterparts who had not been
137 stopped, $B = 7.07, SE = 0.93, t(265) = 7.57, p < .001$. The main effect of race was not
138 statistically significant, $B = -1.19, SE = 0.83, t(265) = -1.43, p = .153$, indicating that
139 White and BIPOC participants did not significantly differ in depressive symptoms when
140 they had not been stopped by the police.

141 Critically, the interaction between police contact and race was not significant, $B =$
142 $-0.13, SE = 1.67, t(265) = -0.08, p = .938$. This indicates that the effect of being stopped
143 by the police on depressive symptoms did not differ meaningfully between White and
144 BIPOC participants. Although the descriptive plot suggested slightly higher predicted
145 scores for BIPOC youth following a police stop, this difference was not statistically reliable.

146 Together, the results show that while police contact is strongly associated with higher
147 depressive symptoms, the magnitude of this association is similar for White and BIPOC
148 participants, providing no evidence in this dataset that race moderates the psychological
149 impact of police stops.



150

151 **Figure 1:** Moderation plot for Race

152

Discussion

153

No discussion section is written as we used simulated data.

154

References

- 155 Briere, J., & Runtz, M. (2024). Police in the rearview mirror: Social marginalization,
156 trauma, and fear of being killed. *American Journal of Orthopsychiatry*, 94(1), 15–22.
157 <https://doi.org/10.1037/ort0000700>
- 158 Del Toro, J., Lloyd, T., Buchanan, K. S., Robins, S. J., Bencharit, L. Z., Smiedt, M. G., ...
159 Goff, P. A. (2019). The criminogenic and psychological effects of police stops on
160 adolescent black and Latino boys. *Proceedings of the National Academy of Sciences of
161 the United States of America*, 116(17), 8261–8268.
162 <https://doi.org/10.1073/pnas.1808976116>
- 163 DeVylder, J. E., Anglin, D. M., Bowleg, L., Fedina, L., & Link, B. G. (2022). Police
164 Violence and Public Health. *Annual review of clinical psychology*, 18, 527–552.
165 <https://doi.org/10.1146/annurev-clinpsy-072720-020644>
- 166 DeVylder, J., Fedina, L., & Link, B. (2020). Impact of Police Violence on Mental Health:
167 A Theoretical Framework. *American journal of public health*, 110(11), 1704–1710.
168 <https://doi.org/10.2105/AJPH.2020.305874>
- 169 Harris, L. K. (2025). *Police violence exposure and cardiometabolic risk in black women*
170 (PhD thesis). United States – North Carolina. Retrieved from
171 <http://login.ezproxy.lib.umn.edu/login?url=https://www.proquest.com/dissertations-theses/police-violence-exposure-cardiometabolic-risk/docview/3205838164/se-2?accountid=14586>
- 174 Harris, L. K., & Cortés, Y. I. (2022). Police Violence and Black Women's Health. *The
175 journal for nurse practitioners : JNP*, 18(5), 589–590.
176 <https://doi.org/10.1016/j.nurpra.2022.02.014>
- 177 Jackson, D. B., Fix, R. L., Testa, A., Webb, L., Mendelson, T., Alang, S., & Bowleg, L.
178 (2025). Police Avoidance Among Black Youth. *Academic pediatrics*, 25(2), 102594.
179 <https://doi.org/10.1016/j.acap.2024.10.006>
- 180 Jackson, D. B., Qureshi, F., Testa, A., & Prins, S. J. (2025). Police Contact and the

- 181 Mental Health of Young Adults in the United States. *Journal of Adolescent Health*,
182 76(5), 813–820. <https://doi.org/10.1016/j.jadohealth.2025.01.015>
- 183 Jackson Davis, A. (2022). *Black, first-generation, underresourced college students: Fighting*
184 *the dual pandemics of COVID-19 and police brutality* (PhD thesis). United States –
185 California. Retrieved from <http://login.ezproxy.lib.umn.edu/login?url=https://www.proquest.com/dissertations-theses/black-first-generation-underresourced-college/docview/2705675004/se-2?accountid=14586>
- 188 Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General*
189 *Internal Medicine*, 16(9), 606–613.
190 <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>

Table 1
*Descriptives Statistics for
PHQ scale by police contact*

Police Contact	Mean	SD
No	26.46	6.45
Yes	33.74	3.38
NA	26.37	7.29

Note. The groups significantly differd

Table 2

Model 2: Moderation by race

term	estimate	std.error	statistic	p.value
(Intercept)	27.01	0.57	47.60	0.00
pconYes	7.07	0.93	7.57	0.00
raceWhite	-1.19	0.83	-1.43	0.15
pconYes:raceWhite	-0.13	1.67	-0.08	0.94