Frequent police stops, parental incarceration and mental health: results among US non-Hispanic Black and White adolescent girls and boys

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ABSTRACT

Background National monitoring of police–public contact does not extend below age 16 and few studies have examined associations with adolescent mental health.

Methods We describe the distribution of police stops in a nationally representative cross-sectional sample of adolescents ages 12 to 18 years in the Panel Study of Income Dynamics Child Development Supplement 2002 and 2007 (n=2557). We used survey-weighted race/ethnicity-stratified and gender-stratified regression models to examine associations between the frequency of police stops and both depressive symptoms and subjective well-being (emotional, psychological and social). We adjusted for several socioeconomic covariates and evaluated effect modification by parental incarceration.

Results We estimated that 9.58% of adolescents were stopped two or more times. Despite fewer police stops compared with boys, Black and White girls who were stopped at least two times in the last 6 months had higher average depression scores relative to girls who were not stopped (Black: 2.13 (95% CI: 0.73 to 3.53), White: 2.17 (95% CI: 1.07 to 3.27)) and these associations were stronger among girls whose parents had been incarcerated. Police stops were significantly associated with higher depressive scores for White, but not Black, boys (2+ vs 0 stops: White: 1.33 (95% CI: 0.31 to 2.36, Black: 0.53 (95% CI: −0.28 to 1.34)). Associations between subjective well-being and police stops were stronger among non-Hispanic Black relative to White girls, whereas for boys, associations varied across subjective well-being subscales.

Conclusion National monitoring data and public health research should examine adolescent police contact at younger ages stratified by both race/ethnicity and gender in order to better understand its relationship with adolescent mental health.

INTRODUCTION

Many adolescents regularly encounter police in their schools, in pedestrian stops and through experiences of their peers, parents and community members.[1] However, the relationship between adolescent mental health and police contact is largely understudied, because most research focusses on adults and there are no federally collected data on police contact for those under age 16.[2] Available federal data indicate that 10% of 16 to 17 year-olds reported police-initiated contact in 2015.[3] Qualitative data and studies in select US cities suggest police interactions can be ubiquitous and intrusive, even at younger ages and especially for Black and Hispanic boys.[1 4–7] Adolescents have also described how the nature of police stops can differ across gender whereby girls have reported sexual harassment and boys have more consistently reported physical use of force.[8 9] Adolescents who are frequently stopped by police have said these interactions make them feel 'disrespected' and 'like less than a person', and that their behaviours and movements are overly controlled by police intimidation.[8] Frequent police stops can thus be conceptualised as a racialised and gendered chronic stressor that could have a detrimental impact on adolescent mental health during this sensitive developmental period.[1 4 8 10] Even one aggressive interaction with the police may prompt vigilant anticipation of future encounters, especially in the context of well-known incidents of fatal police violence.[11 12]

Among the few previous studies that have examined associations between mental health outcomes and frequent police stops among adolescents,[1 5 7 10] none have examined depressive symptoms or subjective well-being, or differences across gender and race/ethnicity, which is important given gendered experiences of police stops and racialised notions of criminality that can bias which adolescents police decide to stop, and how adolescents perceive and are affected by these interactions.[13] We assess whether frequent police stops are associated with depressive symptoms and emotional, psychological and social well-being in a nationally representative sample of adolescents in order to provide data that can inform policy decisions related to adolescent mental health and exposure to police.

Our analysis is guided by public health critical race theory's prioritisation of the perspectives of marginalised persons and principle of intersectionality.[14] Accordingly, our race/ethnicity-stratified and gender-stratified analysis is informed by adolescent experiences of police encounters[9] as well as a theoretical understanding of the roles racism, sexism and gendered racism as they shape the distribution of police stops and associations with mental health.[14] We also draw on ecosocial theory's ideas about the intergenerational biological embodiment in historical context.[15] Frequent police stops occur in an era of mass incarceration, in which adolescents' interpretation of their interactions with police may be informed by their parents' experiences and police are often relied on as the primary societal response to mental health issues.[5 16] Thus

we assess the co-occurrence of frequent police stops and parental incarceration with depressive symptoms and subjective well-being. Together, these analyses will extend the growing body of evidence on associations between adolescent police stops and health outcomes by addressing race, gender and parental incarceration as important modifying social contexts.[1 11 17]

METHODS

Study population

The Child Development Supplement (CDS) is a nationally-representative sample of children within the Panel Study of Income Dynamics (PSID), an intergenerational longitudinal cohort study.[18] To ensure national representation, the PSID over-sampled low-income and Black households at the start of the study and provides sample weights.

The CDS included children ages 0 to 12 in 1997 (n=3563) who were surveyed again in 2002 and 2007. The present analysis used data from adolescents ages 12 to 18 who were eligible to be interviewed using an Audio-Computer Assisted Self-Interview (ACASI) in the 2002 and 2007 CDS waves (n=2557). For the 218 children who participated in the ACASI in both waves, we used solely the 2007 data. We excluded two adolescents living in foreign countries at the time of the interview. Although a new sample of the PSID children was assessed in 2014, these data relied on a different sampling methodology and cannot be merged with prior CDS waves and few adolescents completed the ACASI section in 2014. We have, however, reported frequencies of police stops in the 2014 CDS to compare these distributions over time.

Measures

Our exposure of interest, the frequency of police stops in the past 6 months, was self-reported by adolescents. We classified the continuous measure into three categories: not stopped, stopped once and stopped two or more times. We separated one stop from two or more stops to distinguish between what might be a chance police encounter from what could be more of a routine experience.

Our study's first outcome, the Children's Depression Inventory (CDI), was administered using the validated 10-item short version, which asks about symptoms experienced in the past 2 weeks.[19] We analysed CDI scores as a continuous variable, noting that a difference of three units is considered to be clinically significant.[20] Our study's second outcome, subjective well-being, is a validated scale that includes three domains: emotional, social and psychological well-being.[21] We present associations between police stops and the combined subjective well-being measure as well as stratified by domain. The items for the CDI and subjective well-being measures are provided in online supplemental appendix table 6

With regard to measurement of gender, we used sex assigned at birth (male/female) given a lack of data on gender identity or expression. Adolescent race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, Asian and Pacific Islander, American Indian and Alaska Native, multiracial, other) was self-reported by adolescents. Non-Hispanic Black and White racial/ethnic categories are hereafter referred to as Black and White for brevity. For 947 (33.4%) adolescents missing self-reported race/ethnicity, we used primary caregiver report. Race/ethnicity was imputed for the remaining two adolescents missing both self-report and caregiver-report. Sample sizes limited gender and race/ethnic groups available for stratified analyses.

We assessed effect modification by parental incarceration, measured using two sources of PSID data. First, when parents were missing from the main PSID, study staff indicated whether they were missing due to jail or prison incarceration. Second, a 1996 question asked parents about their history of incarceration, but this question is missing for 14% of mothers and 37.8% of fathers so our classification of parental incarceration is likely an underestimate. We coded parental incarceration as ever/never been incarcerated before the adolescent's interview.

We adjust for several potential confounders. Details for how covariates were measured and coded are provided in online supplemental appendix table 6. Our first set of models adjusted for age and survey wave. Fully-adjusted models additionally included height and weight because police may be more likely to stop larger-bodied adolescents whom they perceive to be adults and because body size is also associated with the outcomes.[22–25] Geographical and socioeconomic covariates (for the same or prior year to the exposure measurement) that were predictive of police stops and are plausible independent stressors include: living in public housing, parental educational attainment, household wealth, caregiver-reported neighbourhood safety, adolescent employment, residential move in the past year and county urbanicity.

Statistical methods

All reported statistics applied the child-level survey-weights in order to account for differential probabilities of selection in the original PSID and attrition. Model results were similar across weighted and unweighted analyses. All statistical analyses were performed in Stata 15.1 and figures were generated in R.[26 27]

We multiply imputed data that were missing due to adolescents who either skipped questions and/or who declined to participate in the ACASI section, but for whom data from primary caregivers and households were available (n=221). The extent of missing data for each of the included variables is provided in table 1 and was below 15% for all variables except paternal education. In addition to the variables described above, the imputation models also included the following auxiliary variables: adolescent-reported closeness to mother and father, maternal and paternal death, externalising symptoms and maternal and paternal depression before age 17.

The race/ethnicity and gender stratified models among Black and White adolescents in table 2 used survey-weighted linear regression to predict, separately, the CDI and emotional, psychological and social well-being scores. To evaluate effect modification by parental incarceration, we used interaction terms in gender-stratified models (additional stratification by race/ethnicity was not possible).

To assess whether our outcome measures were reliable for Black and White boys and girls we fit structural equation models. We used a one factor structure for the CDI-S (CDI-Short version)[28] and a three factor structure for the well-being scale.[29] For both measures, multi-group confirmatory factor analyses compared models that constrained item intercepts, variances and coefficients to be the same across Black and White racial/ethnic groups within gender to models that did not constrain these parameters. A likelihood ratio test was then used to compare constrained and unconstrained models.

RESULTS

Table 1 provides weighted and unweighted descriptive statistics of the 2557 sample members ages 12 to 18 from the CDS 2002 and 2007. The CDS sample had a larger percentage of Black

Table 1 Sample characteristics of the participants ages 12 to 18 in the Child Development Supplement of the Panel Study of Income Dynamics (n=2557)

Characteristic	Unweighted	Weighted
Children's Depression Inventory		
Mean (SD)	2.45 (0.05)	2.54 (0.08)
Missing	308 (12.05%)	8.67%
Subjective well-being		
Overall mean (SD)	4.21 (0.02)	4.18 (0.03)
Emotional well-being mean (SD)	4.80 (0.02)	4.75 (0.03)
Psychological well-being mean (SD)	4.63 (0.02)	4.58 (0.03)
Social well-being mean (SD)	3.51 (0.03)	3.51 (0.04)
Missing	331 (12.94%)	10.00%
Police stops		
Mean (SD)	0.86 (0.11)	0.85 (0.18)
0 stops	1779 (69.57%)	74.57%
1 stop	247 (9.66%)	8.94%
2+ stops	238 (11.46%)	8.85%
Missing	293 (11.46%)	7.63%
Race/ethnicity n (%)		
Non-Hispanic White	1167 (45.64%)	63.06%
Non-Hispanic Black	1069 (41.81%)	15.64%
Hispanic	183 (7.16%)	14.03%
Asian and Pacific Islander	40 (1.66%)	3.40%
American Indian and Alaska Native	14 (0.55%)	0.86%
Multiracial	59 (2.31%)	2.56%
Other	23 (0.90%)	0.40%
Missing race/ethnicity	2 (0.08%)	0.04%
Gender		
Girl	1252 (48.96%)	49.31%
Boy	1305 (51.04%)	50.69%
Age		
Mean (SD)	15.03 (0.04)	15.04 (0.05)
Height (inches)		
Measured mean (SD)	65.44 (0.08)	65.43 (0.12)
Missing	304 (11.89%)	7.92%
Self-reported mean (SD)	64.22 (2.14)	64.10 (1.24)
Missing both measured and self-report	291 (11.38%)	7.22%
Weight (lbs)		
Measured mean (SD)	147.22 (0.87)	144.56 (1.25)
Missing	280 (10.95%)	7.40%
Self-reported mean (SD)	184.86 (18.30)	171.99 (26.01)
Missing both measured and self-report	258 (10.09%)	6.42%
Regularly employed n (%)	416 (16.27%)	16.97%
Missing	245 (9.58%)	6.01%
At least one parent incarcerated n (%)	241 (9.43%)	7.49%
Maternal education		
<12 years	334 (13.06%)	14.25%
12 years	920 (35.98%)	31.66%
13 to 16 years	984 (38.48%)	40.26%
>16 years	153 (5.98%)	6.98%

Continued

Table 1 Continued

Characteristic	Unweighted	Weighted
Missing	166 (6.94%)	6.85%
Paternal education		
<12 years	259 (10.13%)	11.15%
12 years	689 (26.95%)	25.47%
13 to 16 years	655 (25.62%)	31.08%
>16 years	158 (6.18%)	8.50%
Missing	798 (31.13%)	23.80%
Living in public housing	137 (5.36%)	3.21%
Missing	5 (0.20%)	0.11%
Household wealth*		
Debt (negative wealth)	359 (14.04%)	12.43%
Q1	521 (20.38%)	15.59%
Q2	529 (20.69%)	19.62%
Q3	563 (22.02%)	22.92%
Q4	585 (22.88%)	29.44%
Neighbourhood safety		
Completely safe	804 (31.44%)	35.41%
Fairly safe	1354 (52.95%)	51.82%
Somewhat dangerous	315 (12.32%)	10.48%
Extremely dangerous	53 (2.07%)	1.46%
Missing	31 (1.21%)	0.82%
Moved in the last year n (%)	272 (10.64%)	9.02%
Missing	28 (1.10%)	0.74%
Beale Urbanicity Index		
1 most urban	737 (28.82%)	23.36%
2	406 (15.88%)	17.08%
3	647 (25.30%)	23.23%
4	138 (5.40%)	6.45%
5	95 (3.72%)	6.94%
6	88 (3.44%)	4.02%
7	152 (5.94%)	6.18%
8	217 (8.49%)	8.49%
9	37 (1.45%)	2.10%
10 most rural	40 (1.56%)	2.16%

Note: Sample characteristics reported above are before multiple imputation to address missing data.
*Aside from households in debt, we examined unweighted quartiles of wealth within each survey wave.

children and children living in households with lower levels of wealth compared with the weighted nationally representative percentages, which is reflective of the study's sampling strategy.[18]

In the 2002 and 2007 CDS, 9.68% reported being stopped once, and 9.58% reported being stopped twice or more. In the 2014 CDS, these percentages were similar (1 stop: 7.92%, and 2+ stops: 9.51%). We estimated that 22.87% (95% CI: 19.98% to 25.75%) of adolescents ages 12 to 15 years were stopped at least once, and this number was 28.99% for those ages 16 to 18 years (95% CI: 25.21% to 32.76%).

The bar graphs in figure 1 show that boys reported more stops than girls and 20.78% of Black boys (95% CI: 12.46 to 28.11) reported being stopped twice or more, whereas this number was 8.65% (95% CI: 6.16 to 11.15%) for White boys. Among girls, there were no strong racial/ethnic differences in these prevalences.

Table 2 Associations between the number of police stops and Children's Depression Inventory scores for non-Hispanic Black and White adolescents from the Panel Study of Income Dynamics (2002 and 2007) stratified by race/ethnicity and gender

		Non-Hispanic White (age adjusted)		Non-Hispanic White (fully adjusted)		Non-Hispanic Black (age adjusted)		Non-Hispanic Black (fully adjusted)	
		β (95% CI)	P value	β (95% CI)	P value	β (95% CI)	P value	β (95% CI)	P value
Girls	0 stops	Ref		Ref		Ref		Ref	
	1 stop	1.37 (0.40 to 2.34)	0.01	1.06 (0.09 to 2.03)	0.03	1.80 (0.92 to 2.67)	0.00	1.88 (1.13 to 2.64)	0.00
	2+ stops	2.13 (0.97 to 3.28)	0.00	2.17 (1.07 to 3.27)	0.00	2.19 (0.40 to 3.98)	0.02	2.13 (0.73 to 3.53)	0.00
Boys	0 stops	Ref		Ref		Ref		Ref	
	1 stop	1.63 (0.59 to 2.66)	0.00	1.59 (0.66 to 2.51)	0.00	−0.02 (−0.58 to 0.55)	0.95	−0.20 (−0.85 to 0.45)	0.54
	2+ stops	1.14 (0.10 to 2.19)	0.03	1.33 (0.31 to 2.36)	0.01	0.88 (−0.18 to 1.94)	0.10	0.53 (−0.28 to 1.34)	0.20

Age-adjusted models include age and survey wave, and applies survey weights.
Fully-adjusted models include age, height, weight, employment, living in public housing, whether moved in the last year, wealth, urbanicity, neighbourhood safety, maternal and paternal educational attainment, survey wave and applies survey weights.
*This model is only among Non-Hispanic Black and White adolescents only due to insufficient sample size for other racial/ethnic groups.

White girls had the highest average CDI scores (2.72 (SE: 0.14)), and Black girls' scores were slightly lower (2.26 (SE: 0.14)). Boys had lower scores compared with girls and were similar across race (White: 1.93 (SE: 0.12), Black: 1.96 (SE: 0.18)). There were no statistically significant racial/ethnic or gender differences in subjective well-being scores (online supplemental table 1). Likelihood ratio tests comparing constrained versus unconstrained structural equation models across Black and White racial/ethnic groups within gender categories were statistically significant for both the CDI and subjective well-being scale, indicating measurement variance.

There was a monotonic increase in frequency of police stops and associations with CDI scores for both girls and boys (table 2). In fully-adjusted stratified models, White girls who experienced two or more police stops had CDI scores that were 2.17 points

higher compared with those who were never stopped (95% CI: 1.07 to 3.37 p<0.001). The association was similar for Black girls (2.13 points, 95% CI: 0.73 to 3.53, p<0.001). White boys that were stopped two or more times had CDI scores that were 1.33 points higher compared with those who reported no stops (95% CI: 0.31 to 2.36, p=0.01), but this association was not statistically significant among Black boys (table 2).

Girls who were stopped two or more times and whose parents had been incarcerated had CDI scores that were 5.48 points higher on average than girls without either of these experiences, adjusting for all covariates (online supplemental table 2, 95% CI: 3.77 to 7.18, p<0.001). Among girls who were stopped at least twice, those whose parents had been incarcerated had CDI scores that were 4.11 points higher compared with those with no parental incarceration history (95% CI: 1.66 to 6.54, p=0.001).
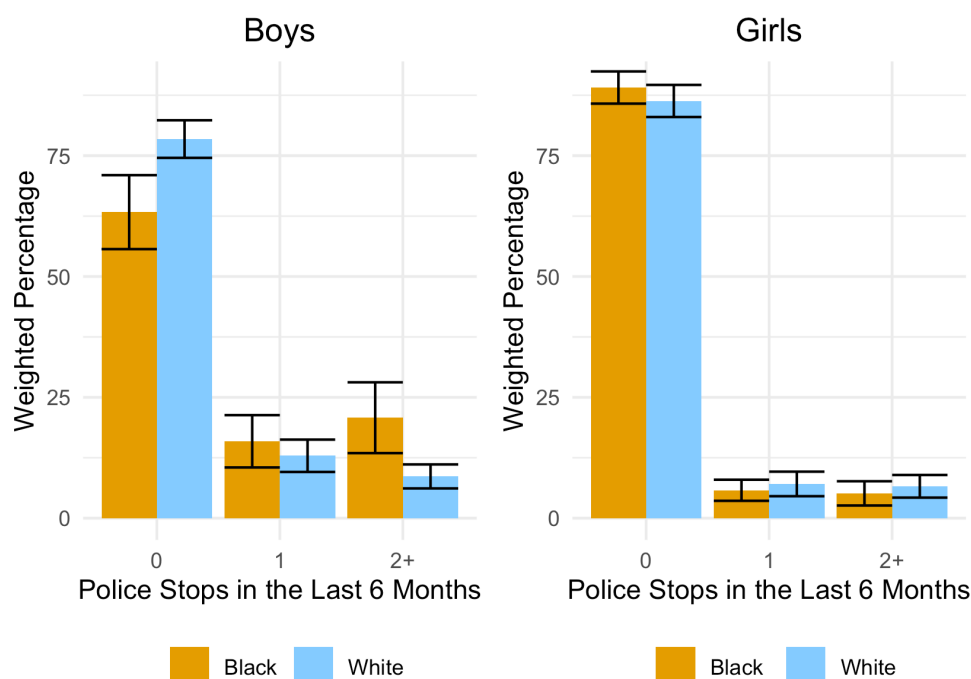

Figure 1 Survey-weighted percentages of Black (gold) and White (blue) girls (right panel) and boys (left panel) who reported being stopped by police 0, 1, 2+ times in the past 6 months.

Table 3 Associations between the number of police stops and subjective well-being scores for non-Hispanic Black and White adolescents from the Panel Study of Income Dynamics (2002 and 2007) stratified by race/ethnicity and gender

		Non-Hispanic White (age adjusted)		Non-Hispanic White (fully adjusted)		Non-Hispanic Black (age adjusted)		Non-Hispanic Black (fully adjusted)	
		β (95% CI)	P value	β (95% CI)	P value	β (95% CI)	P value	β (95% CI)	P value
Girls									
Emotional well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.20 (−0.48 to 0.08)	0.17	−0.12 (−0.42 to 0.18)	0.42	−0.64 (−1.05 to 0.22)	0.00	−0.74 (−1.13 to 0.36)	0.00
	2+ stops	−0.38 (−0.74 to 0.01)	0.04	−0.35 (−0.69 to 0.00)	0.05	−0.78 (−1.31 to 0.26)	0.00	−0.74 (−1.35 to 0.14)	0.02
Psychological well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.12 (−0.37 to 0.14)	0.38	0.06 (−0.23 to 0.35)	0.68	−0.62 (−1.06 to 0.19)	0.01	−0.68 (−1.10 to 0.27)	0.00
	2+ stops	−0.34 (−0.68 to 0.01)	0.05	−0.19 (−0.50 to 0.13)	0.24	−0.67 (−1.28 to 0.07)	0.03	−0.65 (−1.21 to 0.08)	0.03
Social well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.39 (−0.79 to 0.01)	0.06	−0.25 (−0.66 to 0.17)	0.24	−0.35 (−0.90 to 0.20)	0.21	−0.42 (−0.92 to 0.07)	0.09
	2+ stops	−0.82 (−1.23 to 0.40)	0.00	−0.70 (−1.11 to 0.28)	0.00	−1.20 (−1.87 to 0.54)	0.00	−1.03 (−1.74 to 0.33)	0.00
Boys									
Emotional well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.45 (−0.83 to 0.07)	0.02	−0.42 (−0.77 to 0.07)	0.02	−0.09 (−0.56 to 0.38)	0.71	−0.11 (−0.49 to 0.27)	0.58
	2+ stops	−0.38 (−0.72 to 0.04)	0.03	−0.36 (−0.68 to 0.04)	0.03	−0.48 (−0.90 to 0.06)	0.02	−0.40 (−0.75 to 0.04)	0.03
Psychological well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.39 (−0.72 to 0.05)	0.02	−0.31 (−0.64 to 0.02)	0.07	0.15 (−0.15 to 0.45)	0.34	0.22 (−0.08 to 0.53)	0.15
	2+ stops	−0.23 (−0.57 to 0.10)	0.18	−0.19 (−0.52 to 0.14)	0.26	−0.16 (−0.61 to 0.29)	0.49	−0.16 (−0.54 to 0.21)	0.39
Social well-being	0 stops	Ref		Ref		Ref		Ref	
	1 stop	−0.39 (−0.75 to 0.04)	0.03	−0.30 (−0.63 to 0.03)	0.07	0.61 (0.23 to 0.99)	0.00	0.50 (0.17 to 0.84)	0.00
	2+stops	−0.31 (−0.71 to 0.08)	0.12	−0.30 (−0.68 to 0.09)	0.13	−0.27 (−0.72 to 0.18)	0.23	−0.11 (−0.54 to 0.32)	0.60

Age-adjusted models include age and survey wave, and applies survey weights.
Fully-adjusted models include age, height, weight, employment, living in public housing, whether moved in the last year, wealth, urbanicity, neighbourhood safety, maternal and paternal educational attainment, survey wave and applies survey weights.
*This model is only among Non-Hispanic Black and White adolescents only due to insufficient sample size for other racial/ethnic groups.

Models among boys also suggested evidence of effect modification by parental incarceration (online supplemental table 2). However, models within categories of police stops suggested no additional risk associated with parental incarceration on depressive symptoms.

For Black and White girls, police stops were negatively associated with emotional, psychological and social well-being, and the magnitude of these associations was slightly stronger for Black compared with White girls (results stratified by domain in table 3; combined well-being score in online supplemental table 3). For both Black and White boys, the number of police stops was negatively associated with emotional well-being (0 vs 2+ stops: White −0.36 (95% CI: −0.68 to −0.04), Black −0.40 (95% CI: −0.75 to 0.27)). Associations of police stops and with psychological and social well-being were null for Black and White boys (table 3), but for Black boys the association with social well-being was positive for those who were stopped one, but not two or more, times compared with no stops (fully adjusted: 0.50 (95% CI: 0.17 to 0.84)).

Girls who were stopped at least twice and whose parents had been incarcerated had lower well-being scores compared with girls without these experiences (online supplemental table 4 and 5, −1.10 points; 95% CI: −1.82 to −0.39, p<0.001). This trend did not hold in models among girls within strata of police stops. There was no statistically significant interaction with parental incarceration for boys' well-being scores (online supplemental table 4 and 5).

DISCUSSION
Our study provides novel evidence regarding both the differential distributions of police stops for US adolescents and associations with mental health outcomes by race/ethnicity and gender. A history of parental incarceration further magnified these risks for Black and White adolescent girls. The large magnitude of these associations for the CDI scores (over five points) is significant given the clinical threshold of three points to screen for depression using this measure.[20] Parental incarceration is itself

an emotional and material stressor for adolescents, especially for girls' development of depression,[30] and these experiences may shape the way that they perceive police encounters and their likelihood of having police contact.[5] Our findings are concerning given that depression during adolescence often recurs later in life and is associated with other mental and physical health problems.[31]

Previous research on frequent police stops and health has focussed primarily on boys and men,[11] given that they are generally stopped more often than girls and women. However, girls may be subject to sexual harassment in police encounters[8] and are more likely to experience depressive symptoms at earlier ages,[32] which may explain stronger associations for this group. The negative associations with boys' emotional well-being and number of police stops we observed are supported by a previous study of boys' police contact and psychological distress.[10] Unfortunately, the CDS did not include a measure of psychological distress or anxiety, making it difficult to compare with these previous findings.

Although our study found that White boys with more police stops had worse depressive symptoms on average, this association did not hold for Black boys. The results of our structural equation models suggest that these differences could be due to measurement. Recent findings on the full-length CDI suggest that raw scores are not equivalent in latent levels of depression symptom severity across racial groups.[33] Alternatively, given the ubiquity of police stops for Black boys, they may be more likely to receive peer and/or parental support to mitigate potential negative consequences of these interactions on depressive symptoms,[34] or they may be defending themselves against depressive symptoms by accepting frequent police contact as the norm.[7 35]

Our cross-sectional study should be interpreted with the possibility of reverse causation in mind. We were unable to adjust for prior levels of our study's outcomes because these questions were not collected in earlier waves. Thus, worse well-being and depressive symptoms could have put adolescents at greater risk of police contact through engagement in criminalised activities (eg, illicit substance use, curfew violations, truancy and so on) or because police are often deployed to address mental health emergencies. Some policing practices, however, disproportionately surveil Black and under-resourced neighbourhoods and stop pedestrians on the grounds of 'reasonable suspicion', a weaker legal standard than 'probable cause'.[36] Black adolescents on average are therefore more likely to be stopped by police relative to White adolescents, regardless of engagement in criminalised activities.[37] Indeed, the higher levels of social well-being we observed among Black boys who were stopped once may be reflective of policing that targets groups of Black boys. Previous longitudinal research that has been able to disentangle the directionality of these associations found that among a sample of Black and Latino boys, prior levels of adolescent psychological distress did not predict police encounters, and that police contact was associated with subsequent greater psychological distress.[10] Although this pattern may not hold for subjective well-being and depressive symptoms, future research is warranted given potential adverse long-term consequences of both police contact and adolescent mental health.

A second limitation is that our estimates for adolescents ages 16 to 17 are higher than federal estimates during these same years (28.99% vs 20.83% reporting any police stops/contact),[38] and may be due to differences in data collection (ie, ACASI vs telephone interview) or more difficulty recalling police contact over the past 12 (federal) as compared with 6 months (CDS). Lastly, although the data from the main analyses were collected in 2002 and 2007, the similar distribution of police stops in the 2014 CDS and data from a 2014 to 2017 sample of urban youth point to the current relevance of our findings.[1 7]

The high frequency of police stops for some adolescents in our study suggests that national data on police contact should extend to those below 16 years old. The associations with depressive symptoms and well-being provide additional adolescent mental health outcomes that could be affected by frequent stops by police, and suggests that future analyses and data monitoring systems, including monitoring of harassment, injuries and morbidity in interactions with the police, should attend to distinct distributions and associations across both race/ethnicity and gender.[1 5 10]

Policies that regulate stop, question and frisk are actively being discussed and debated by policy-makers, affected communities and law enforcement agencies.[39] Our study suggests that these conversations should include adolescent perspectives, especially those of Black adolescents, and associated mental health outcomes. Indeed, new adolescent initiatives have advocated for minimising youth contact with the police.[40] Policies and interventions that address adolescent mental health may prevent contact with police and potential adverse health consequences of these interactions; and must include a critical understanding of the gendered racism that affects youth interactions with police.[39]

What is already known on this subject

Qualitative data and studies in select US cities indicate that many adolescents frequently come in contact with the police, but national monitoring of police–public contact does not extend below age 16. There are large racial/ethnic and gender inequities in police stops, but of the handful of studies that have examined associations between adolescent police stops and mental health, none have examined subgroup variation.

What this study adds

This study is the first to evaluate whether frequent police stops are associated with worse depressive symptoms and subjective well-being. In a nationally-representative sample, we find that although police stops were most frequent among boys, and particularly non-Hispanic Black boys, among non-Hispanic Black girls and girls whose parents had been incarcerated there was a persistent association between exposure to two or more police stops and depressive symptoms as well as subjective well-being, relative to girls who were not stopped by police in the past 6 months.

Patient consent for publication Not required.

Ethics approval The Harvard Longwood Campus Office of Human Research Administration and Panel Study of Income Dynamics' Institute for Survey Research Institutional Review Boards approved all study protocols and use of restricted data.

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Data availability statement Data are available in a public, open access repository. Data from the PSID are publicly-available at https://psidonline.isr.umich.edu/. However, certain variables are only available through restricted data access, see more at: https://simba.isr.umich.edu/restricted/RestrictedUse.aspx.

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Correction: *Frequent police stops, parental incarceration and mental health: results among US non-Hispanic Black and White adolescent girls and boys*

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This article has been corrected in the online version. The provenance and peer review statement has been included:

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