


The association between experiencing police arrest and suicide ideation among emerging young adults: Does race matter?

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Abstract

The objective of the study was to examine the association between lifetime arrest and marijuana-related first arrest with past-year suicide ideation among Black and White people. We used data from Wave-IV (2008–2009; $N=5114$) of the publicly available National Adolescent Health Study (Add Health) data. A total of 4313 Non-Hispanic Black and White participants were selected for this study. Logistic regression was used to assess whether lifetime arrest and marijuana-related arrests were associated with past year suicide. Overall, 28.8% of the sample reported lifetime arrest, 6.3% reported lifetime suicide ideation, and 3.7% reported marijuana-related arrest. A significantly higher percentage of Black people (32.3%) in comparison to White people (27.4%) reported lifetime arrest ($\chi^2=9.91$; $p<0.001$; $df=1$). Among Black people, lifetime arrest (AOR = 2.98; 95% CI, 1.66–5.35; $p<0.001$) and marijuana-related arrest (AOR = 4.09; 95% CI, 1.47–11.35; $p<0.001$) were both associated with lifetime suicide ideation. Given the rate of death by suicide among Black people has been rising for two decades, further efforts are needed to educate and inform key stakeholders including law enforcement and policymakers regarding racial disparities in arrests, which may contribute to reducing risk for death by suicide among Black people.

Keywords

policy, psychological distress, race, racism, suicide

Introduction

Racial/ethnic disparities in the legal system in the United States (U.S.) have been well-documented (Hetey and Eberhardt, 2018). Black people experience the greatest number of negative consequences of personal and vicarious police contact compared to other racial/ethnic groups in the U.S. (Bačak and Nowotny, 2020; McFarland et al., 2018; Sewell and Jefferson, 2016). Furthermore, Black people are 3–4 times more likely to experience non-lethal use of force during police contact such as stop-and-frisk stops, and are more likely to report the police force used was “excessive” (Fryer, 2019; Motley et al., 2020). Frequently, the use of police force varies based on the socio-economic demographics of the neighborhood. Racially and ethnically diverse neighborhoods are often targeted at disproportionately higher rates than predominantly White neighborhoods (Sewell and Jefferson, 2016).

Black people are treated with less respect than White people by police on routine stops (Epp et al., 2017) and police officers’ language and tone are less respectful toward Black people (Voigt et al., 2017). They are often targeted by the criminal justice system to a higher degree and are arrested at rates two to three times higher than White people (Mitchell and Caudy, 2015). Although Black people are not more likely than White people to use illicit drugs, they

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are more likely to be arrested or incarcerated for drug-related offenses (Ferrer and Connolly, 2018; Mitchell and Caudy, 2015). Black people were almost four times more likely than White people to be arrested for marijuana despite having similar usage rates (American Civil Liberties Union, 2019; Noonan et al., 2016). Black people are more likely to be stopped by police and searched compared to other racial/ethnic groups (Hetey and Eberhardt, 2018; Robinson, 2017). Given the high-profile police-related deaths of George Floyd in Minnesota in May 2020, Breonna Taylor in Louisville in March 2020, and Elijah McClain in August 2019 in Colorado, among others, and the ensuing mass demonstrations across the country, the disproportionate arrest and maltreatment of Black people in the criminal justice system have become a significant policy, political, and public health concern (Bell, 2020; Krohn and Fox, 2020). There is a critical need for research to inform the public discourse about police accountability and policy/public health initiatives to address such racial disparities in police-related deaths.

Research has shown that any contact with the criminal justice system has negative mental health implications and contributes to living in a “climate of fear” (Sewell and Jefferson, 2016). Even the vicarious witnessing of police violence through mediums such as social media has been found to increase negative emotions such as sadness, anger, and fear in Black emerging adults (Motley et al., 2020). Further, victims’ perception of “unfair treatment” that involves intrusive or unfair police stops has been associated with trauma and adverse mental health effects (Geller et al., 2014). Verbal harassment or physical force used during the interactions by police may be traumatic for the victim; traumas are known risk factors for mental health problems (Kleber, 2019). Thus, the negative consequences associated with experiencing arrest are of growing concern (Schuck, 2020).

Although arrest, conviction, and incarceration are known to have adverse impacts on the mental health of individuals (Sugie and Turney, 2017), there has been little research on the association of arrest with suicidal behaviors. Suicide rates in the U.S. have been rising consistently over the past two decades (Miron et al., 2019; Reger et al., 2020). A study by Drapeau and McInstosh (2018) showed that the age-adjusted suicide rate in 2018 was the highest since 1941, with racial disparities in suicidal behaviors being a major health/public health concern (Drapeau and McInstosh, 2018). Recent trends reveal disproportionate increases in suicidal behaviors among Black youth relative to other race/ethnic groups (Bridge et al., 2018; Lindsey et al., 2019). According to the Center for Disease Controls and Prevention, rates of completed suicide from Black youth and young adults age <25, increased from 3.4 deaths per 100,000 population in 2014 to 4.8 per 100,000 in 2019. For the same time period, rates for White youth and young adults increased from 5.7 per 100,000 to 6.7 per 100,000

(Centers for Disease Control and Prevention, National Center for Health Statistics, 2020). The increases among Black youth and young adults provided impetus to examine the contributions of police actions to this public health problem.

The aims of the current study were to (a) examine the association between any police arrest (i.e. lifetime arrest) and suicide ideation by race, using a nationally representative sample of Black and White young adults aged 24–32 years, and (b) to assess the association between marijuana related first arrest and suicide ideation. Suicidal ideation is known to consist of thoughts about self-destruction, including the idea that life is not worth living and plans to end one’s own life (Nock et al., 2008). Research shows that one in three people who report lifetime suicide ideation make a suicide plan, and nearly three in four of those with a plan make an actual suicide attempt (Dugas et al., 2012; Nock et al., 2008). As such, suicidal ideation is a strong predictor of subsequent suicide attempts, which suggests that it is imperative to identify pathways to ideation. Given the paucity of research on the interplay of police arrest and suicide ideation, and potential differences across racial/ethnic group, this study has strong potential to inform the public discourse on police accountability and the development of policy/public health measures. Findings from this study will, therefore, contribute to the achievement of the national public health goal to eliminate health disparities under the *Healthy People 2030* (Johnson et al., 2020).

Methods

This secondary analysis was conducted using data from the National Adolescent Health Study (Add Health), a longitudinal survey of a nationally representative sample of adolescents in the U.S. from 1994–2008. It aimed to investigate the health trajectories of American adolescents into their adulthood. A sample of 132 schools was chosen across the country using systematic sampling with stratification by region, school size, school type, and ethnicity. All participants provided voluntary written informed consent for participation in all aspects of the Add Health study in accordance with the Institutional Review Board guidelines. We used publicly available cross-sectional data from Wave IV of the study. There were a total of 5114 participants, age 24–32 years (mean age = 29.00 years, $SD = 1.78$), in the original dataset. Race and ethnicity were self-identified by participants. For the current study, 4313 participants were selected who identified as either “White Non-Hispanic” only ($n = 3153$) or “Black or African American Non-Hispanic” only ($n = 1160$). Those who identified as both “White Non-Hispanic” and “Black or African American Non-Hispanic” ($n = 75$) and other multiracial people who endorsed Black or White ($n = 17$) were not included in the analysis.

Measures

The primary outcome of interest was suicide ideation in the past year. This was based on responses to the following question: “During the past 12 months, did you ever seriously think about committing suicide?” Responses were coded as a binary variable, with 1 representing “yes,” and 0 representing “no.” Lifetime arrest was indexed based on the following question “Have you ever been arrested?,” and also coded binary. Marijuana arrest was based on the responses to the following question “Were you charged (the first time) for the possession, sale, use, growing, or manufacturing of marijuana/hashish?” First arrest was selected, as it has been applied in previous studies as a proxy for subsequent outcomes (Andersen and Ouellette, 2019; Lau et al., 2018; Tillson et al., 2017).

We included covariates that are associated with suicide behaviors including alcohol use (Pompili et al., 2010), income (Steelesmith et al., 2019), education (Phillips and Hempstead, 2017), health insurance status (Tondo et al., 2006), gender (Lewinsohn et al., 2001), and lifetime depression (Brådvik, 2018). Alcohol use was based on past year alcohol use in response to the following question: “During the past 12 months, how often did you drink beer, wine, or liquor?” with “nearly every day,” “3–5 days a week,” “once or twice a week,” and “2 or 3 times a month” coded as 1 representing 2 or 3 times a month, and 0 for all other responses. Income was used a binary variable, with 1 representing “low income with income \leq \$29,999 per year, and 0 representing an income of \$30,000 or higher.” The binary education variable was based on high school graduation, with 1 representing not having graduated high school, and “0” representing graduated high school or obtained a GED or high school certificate of completion. Health insurance status was coded binary with 1 representing does not currently have insurance, and 0 representing insurance as derived from the following: “Which of the following best describes your current health insurance situation?” The participant’s sex was self-reported. Lifetime depression was based on the response to the following question: “Has a doctor, nurse or other health care provider ever told you that you have or had depression?” and coded binary.

Analysis

All data cleaning and recoding of variables was conducted in SAS (version 9.4), with analyses conducted in Stata Version 14 (StataCorp LP, College Station, TX, USA). A chi-square test of difference was conducted to assess differences between Black and White people for our outcome variable of suicide ideation and all covariates. Logistic regression was used to assess whether lifetime arrest was associated with the outcome variable, past year suicide ideation. We stratified by race, based on the long-standing literature warning of the dangers of using simple

Table 1. Sample demographics ($n=4313$).

Demographics	<i>n</i> (%)
Sex	
Female	2220 (54.0)
Male	1983 (46.0)
Race, ethnicity	
White, non-Hispanic	3153 (73.1)
Black, non-Hispanic	1160 (26.9)
Education	
<High school	315 (6.4)
Graduated high school	4063 (9)
Annual Household income	
<\$0–\$29,999	885 (18.0)
>\$30,000	3692 (75.2)
Unknown/refused	262 (6.1)
Health insurance: none	917 (21.3)
Lifetime depression	721 (16.7)
Past year alcohol use	
\geq 2–3 times/month ^a	2016 (46.7)
<2–3 times a month ^b	1442 (33.4)
None	855 (19.8)
Lifetime arrest	1413 (32.7)
Marijuana arrest ^c	236 (5.4)
Past year suicide ideation	309 (7.2)

n: number.

^aAlcohol use of 2–3 times per month.

^bAlcohol use once a month or less or 1–2 days in the past year.

^cFirst lifetime was a marijuana related arrest.

adjustment methods such as linear regression when there is a substantial covariate imbalance (Imbens and Rubin, 2015; Rubin, 1973). as occurred in this sample for socioeconomic status. In the current sample, a significantly higher percentage of Black people (20.9%) reported income of <\$30,000 in comparison to White people (12.0%).

Results

Table 1 shows descriptive statistics. Overall, 28.8% of the sample reported any lifetime arrest, 6.3% reported lifetime suicide ideation, and 3.7% reported marijuana related offense at first arrest. Table 2 shows that 16.2% of participants reported lifetime depression. A significantly higher percentage of Black people (32.3%) in comparison to White people (27.4%) reported lifetime arrest ($\chi^2=9.91$; $p < 0.001$; $df=1$). No significant race/ethnicity differences were found for marijuana arrest ($p=0.12$) and suicide ideation ($p=0.09$).

The adjusted logistic regression models showing the association between lifetime arrest and past year suicide ideation for Black people are shown in Table 3. Lifetime arrest (AOR=2.98; 95% CI, 1.66–5.35; $p < 0.001$), depression (AOR=5.55; 95% CI, 3.06–10.55; $p < 0.001$), and no access to health insurance (AOR=2.07; 95% CI, 1.14–3.78;

Table 2. Descriptive statistics and chi-square tests of differences by race/ethnicity.

Variable	Black (<i>n</i> = 1160)	White (<i>n</i> = 3153)	χ^2 ^a
	<i>n</i> (%)	<i>n</i> (%)	
Lifetime arrest	406 (32.7)	1007 (27.4)	12.75*
Marijuana arrest ^b	74 (6.0)	162 (4.4)	4.89*
Lifetime depression	133 (10.7)	678 (18.5)	40.31*
Past year suicide ideation	69 (5.6)	240 (6.5)	1.49
Household income: <\$30,000/year	250 (20.6)	435 (11.9)	53.34*
Education: <high school	99 (8.0)	216 (5.9)	6.81*
Health insurance: none	311 (25.1)	749 (20.4)	11.98*
Past year alcohol use ^c	399 (34.4)	1677 (51.3)	97.15*

n: number.

^aChi-square test of differences between Black and White cohorts.

^bMarijuana related offense at first arrest.

^c2–3 times per month of alcohol use or more.

*Significant ($p < 0.05$).

Table 3. The association between lifetime arrest and lifetime suicide ideation among Black sample (*n* = 1160).

Variable	AOR	95% CI
Lifetime arrest	2.98	[1.66, 5.35]*
Lifetime depression	5.55	[3.06, 10.55]*
Household income: <\$30,000	1.04	[0.56, 1.95]
Education: <high school	1.28	[1.54, 3.14]*
Health insurance: none	2.07	[1.14, 3.78]*
Past year alcohol use		
≥ 2 –3 times/month ^a	1.86	[0.93, 3.70]
< 2–3 times a month	1.44	[0.78, 2.67]
Female	3.14	[1.60, 6.16]*
Age	1.00	[0.85, 1.16]

AOR: adjusted odds ratio; CI: confidence interval.

^aAlcohol use 2–3 times a month or more.

*Significant ($p < 0.05$).

Table 4. Logistic regression analyses predicting lifetime suicide ideation among White sample (*n* = 3153).

Variable	AOR	95% CI
Lifetime arrest	1.17	[0.84, 1.62]
Lifetime depression	5.50	[4.06, 7.44]*
Household income: <\$30,000	1.13	[0.76, 1.69]
Education: <high school	1.81	[1.09, 3.04]*
Health insurance: none	1.62	[1.16, 2.27]*
Past year alcohol use		
≥ 2 –3 times/month ^a	1.12	[0.78, 1.61]
< 2–3 times a month	1.02	[0.73, 1.45]
Female	0.81	[0.59, 1.11]
Age	0.97	[0.89, 1.05]

AOR: adjusted odds ratio; CI: confidence interval.

^aAlcohol use 2–3 times a month or more.

*Significant ($p < 0.05$).

Table 5. The association between marijuana related first arrest and past year suicide ideation among Black sample (*n* = 1160).

Variable	AOR	95% CI
Marijuana related first arrest	4.09	[1.47, 11.35]*
Lifetime depression	6.95	[3.36, 10.89]*
Household income: <\$30,000	1.12	[0.60, 2.09]
Education: <high school	1.54	[0.66, 3.60]
Health insurance: none	1.85	[0.75, 4.57]
Alcohol use ^a		
≥ 2 –3 times/month	2.06	[1.05, 4.07]*
< 2–3 times a month	1.48	[0.80, 2.72]
Female	2.78	[1.40, 5.50]*
Age	0.98	[0.84, 1.14]

AOR: adjusted odds ratio; CI: confidence interval.

^aAlcohol use 2–3 times a month or more.

*Significant ($p < 0.05$).

$p < 0.001$), were associated with past year suicide ideation among Black people. The results for the White sample are shown in Table 4. Depression, less than high school education, and no access to health insurance were associated with suicide ideation among White people.

In Table 5, we present findings from logistic regression among the Black sample on lifetime marijuana arrest. A positive association was found between marijuana-related arrest and suicide ideation (AOR=4.09; 95% CI, 1.47–11.35; $p < 0.001$) among Black participants. Results for the White sample are shown in Table 6; no significant association was found between marijuana arrest and suicide ideation.

Discussion

Although the negative health/public health consequences of police arrests and incarceration has been documented

Table 6. The association between marijuana arrest and past year suicide ideation among White sample ($n = 3153$).

Variable	AOR	95% CI
Marijuana arrest ^a	1.74	[0.93, 3.23]
Lifetime depression	5.53	[4.09, 7.48]*
Household income: <\$30,000	1.13	[0.75, 1.69]
Education: <high school	1.89	[1.14, 3.16]*
Health insurance: none	1.62	[1.16, 2.26]*
Past year alcohol use		
≥ 2 –3 times/month ^b	1.15	[0.80, 1.63]
<2–3 times a month	1.04	[0.73, 1.47]*
Female	0.81	[0.59, 1.11]
Age	0.97	[0.85, 1.05]

AOR: adjusted odds ratio; CI: confidence interval.

^aMarijuana related offense at first arrest.

^bAlcohol use 2–3 times a month or more.

*Significant ($p < 0.05$).

(Bowleg et al., 2020), there is paucity of research on the interplay of police arrest and suicide ideation. This study examined police arrest, (both lifetime for any reason and marijuana related arrest), and suicide ideation among young adults. This study found important and distinct risk factors by race in our stratified models that contributed to suicide ideation among a nationally representative sample. Stratified regression models suggested a positive association of higher suicide ideation among Black people who experienced arrest while among White people there was no significant association.

There are urgent concerns associated with suicidal behaviors among Black people. Between 2001 and 2017, the rates of Black suicide has been rising (Price and Khubchandani, 2019). Because rates of suicides among Black people are lower than rates among White people, assessment of preventive factors and examination of suicide etiology among Black adults have been vastly overlooked. In fact, combined models in which White people are the “gold standard” and used as the “reference” group in most studies is suggested to be a form of racism (Gee et al., 2019). Assessing risk for suicide among Black people specifically may identify unique factors that can be addressed through health interventions and/or policy changes.

Our findings of increased risk for suicide ideation, with both lifetime and marijuana related arrests for Black people as compared with White people, extends findings from prior studies of racial, economic, and gender differences in arrests and their subsequent effect on mental health. Previous research has found that, as compared to White people, a higher proportion of Black men and women reported lifetime experiences of interactions with/from police that included shouting, cursing, the threat of arrest, pushing/grabbing, and being handcuffed (Motley et al., 2020). However, there appear to be gender-based differences in how police aggressions affect mental health with

men faring worse than women across ethnic and racial groups (Hirschtick et al., 2019). Scholars have suggested that policies promoting proactive policing to prevent crime in highly disadvantaged neighborhoods, such as stop and frisk laws, have attributed to racial disparities in police contact and arrests (Geller et al., 2014; Motley et al., 2020; Sewell and Jefferson, 2016). Given the findings of this study with regard to the effect of these policies and police practices on the mental health of young Black adults, attention is urgently needed.

A lack of health insurance and its association with suicide behaviors appears to be a potent universal factor (Hester, 2017; Luoma et al., 2002) as treatment options for psychiatric services may be limited. A lack of health insurance is related to income or socioeconomic factors (Courtney Hughes et al., 2010) and these, in turn, may be related to our findings of increased risk for arrest and depression among Black people. This would be consistent with findings from Motley and Joe (2018) that suggest a higher proportion of Black men and women with lower incomes (<\$20,000 and \$20,000–49,000) have reported being handcuffed during a police encounter (Motley et al., 2020). However, among Black women, those with a higher salary (\$50,000 or more) were more likely to experience shouting, cursing, and threats of arrest than Black women of lower-income (Motley et al., 2020).

Thus, our study provides further evidence of the need to better examine the role of gender and socioeconomic status in relation to racial disparities, police contact, and the deleterious consequences to mental health. Race is important to consider when examining the association between police arrests and suicidality because Black people are more likely to have encountered psychosocial stressors and systemic racism (Miller et al., 2013) that affect how interactions with police are perceived and experienced. As our findings illustrate, the impact of these interactions differs by race, with a greater negative impact experienced by Black men and women. Thus, there is a need to address the role of institutional racism and marginalization, such as excessive police force and unnecessary arrests among Black people, to ultimately develop improved suicide prevention interventions.

Limitations

Our results should be considered within the limitations of our findings. First, data from this study was cross-sectional, and thus this study is unable to establish temporal relationships. Only past year suicidal ideation was included in this study, thus while we know that the experience of suicidal ideation was in young adulthood, the exact age of its occurrence is unknown. Second, it is unknown at what age the arrest occurred or the time that elapsed between the arrest and experience of suicidal ideation. Future studies are needed to explore the type of police force used in an arrest and subsequent suicidal behaviors. Further, future studies

should examine how the type of force used during arrest may mediate mental health risk factors for depression and traumatic stress. Third, more knowledge is needed on the role of gender and socioeconomic status with police force during arrests and the subsequent impact on suicidal behavior. Fourth, the data analyzed in our study is from 2008. The overall political climate and attitudes about racial injustice may have changed since 2008. However, police brutality and harsh arrests toward Black people are not novel, and in fact have been at the forefront in the U.S. since the institution of policing in the South. This topic may have received greater visibility in the last decade due to mass media, social media, and other factors (Alang et al., 2017; Miller and Vittrup, 2020). Fifth, there are limitations from the use of secondary data, as the questions posed do not necessarily reflect the aims of the original study. For example, the dataset only queries participants about suicidal ideation in the last 12 months and does not consider other measures such as lifetime ideation, or date of first/last suicide ideation. Sixth, the survey uses the word “committing” when asking about past year suicidal ideation. In suicide research, the use of the word “committing” recognized as an outdated and stigmatizing word which associates suicide with a criminal act (Howell et al., 2021; Nielsen et al., 2016). Furthermore, perceived stigma related to suicide is suggested to contribute to reduced disclosure of suicidal behavior (Fulginiti and Frey, 2018; Fulginiti et al., 2020). Future suicide-related research examining the role of justice involvement should consider tailored survey questions that align more closely with the research question of interest and de-stigmatizing language related to suicidal ideation and suicide attempts. Nevertheless, given the paucity of studies on police arrest and suicide ideation and the role of race in such relations, the results of this study have strong policy/public health implications that can inform public discourse on the disparate impacts of police arrest and incarceration in the U.S.

Public health implications

The findings reveal that there are adverse consequences associated with experiencing arrest among Black young adults, including suicidal ideation. As suicide rates for Black people have been rising for the last two decades (Lindsey et al., 2019), it is important to identify contributing factors. It has been well established that Black people are significantly more likely to experience police brutality than are White people (Alang et al., 2017). Further efforts to educate and inform key stakeholders including law enforcement, policymakers, and government officials are necessary. Further research is warranted in this area to identify actions during an arrest that may contribute to these adverse outcomes and interventions needed to lessen suicidal behaviors.

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