

POLICING AMERICA'S CHILDREN: POLICE CONTACT AND
CONSEQUENCES AMONG TEENS IN FRAGILE FAMILIES

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May 6, 2017

Fragile Families Working Paper WP18-02-FF

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ABSTRACT

Recent high-profile incidents of police violence and misconduct have brought widespread attention to long-standing tensions between police departments and the communities they serve. Policy shifts over the past 20 years have led to the broad adoption of “proactive” policing, which emphasizes active engagement of citizens at low levels of suspicion. Police use investigative stops, citations, and arrests to detect and disrupt low-level disorder or other circumstances interpreted as indicia that crime is afoot. However, these encounters rarely uncover illegal activity, and in many cities are characterized by stark racial disparities. Such encounters threaten the health and wellbeing of individuals and communities targeted. Due largely to data constraints, little is known about the experiences of youth stopped by the police, and the current national picture of policing and its implications for youth is unclear. I use new data from the Fragile Families and Child Wellbeing Survey (FFCWS) to measure the extent, nature, and health implications of police contact among a cohort of contemporary urban teenagers. I find that FFCWS teens have extensive police exposure: more than 75% report a police officer stationed at their school, and more than 25% report personal experience with the police. This contact is racially disparate, and often severe. Observed racial disparities in both a binary indicator of stop experience and a measure of police intrusion are robust to controls for adolescent behavior and their peer context. Further, I find that adolescents’ experiences with the police are significantly associated with multiple indicators of adverse mental health, suggesting that police contact has the potential to drive or exacerbate health disparities among urban teens.

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May 4, 2017

Over the past two decades policing strategies have shifted toward a “proactive” model, in which officers actively engage citizens in investigative stops in attempts to detect imminent criminal activity, and use stops, arrests, and citations to disrupt circumstances interpreted as indicia that crime is afoot (Kelling & Coles, 1996; Kubrin, Messner, Deanne, McGeever, & Stucky, 2010). Police officers have also become prevalent in urban schools, often with the authority to make arrests and engage in other enforcement activity (B.H. v. City of New York, 2010; Fowler, Lightsey, Monger, & Aseltine, 2010; Kupchik, 2010; Na & Gottfredson, 2011; Owens, 2017).

These policing practices have contributed to high rates of contact between the police and young people. National data indicate that between 15% and 26% of American youth have been arrested by age 18 (Brame, Turner, Paternoster, & Bushway, 2012). Between 2004 and 2012, the New York City Police Department recorded over 200,000 police-initiated stops of youth between the ages of 13 and 15 (City of New York, 2016). A survey of over 18,000 Chicago public school students showed that about half of students had been stopped by the police and “told off or told to move on” by the time they were in ninth or tenth grade, and a quarter to a third of these students reported having been searched by the police (Hagan, Shedd, & Payne, 2005). Work with youth in Chicago (Shedd, 2015) and St. Louis (Brunson & Weitzer, 2009) finds high rates of contact between teens and the police in school and throughout their neighborhoods.

The burden of police contact has historically fallen predominantly on black and Hispanic youth (Fagan, Geller, Davies, & West, 2010; Hagan et al., 2005). Recent high-profile incidents of police violence, most notably among unarmed citizens of color, have increased the salience of the police as a potential threat to community wellbeing, including but not limited to public health (Geller, Fagan, Tyler, & Link, 2014; Krieger,

Chen, Waterman, Kiang, & Feldman, 2015; Sewell & Jefferson, 2016; Sewell, Jefferson, & Lee, 2016), community trust of the police (Brunson, 2007; Brunson & Weitzer, 2009), and perceived legitimacy of the law (Tyler & Fagan, 2008; Tyler, Fagan, & Geller, 2014). Researchers have also identified a potential “vicarious” effect of police contact, by which young people are influenced not only by their own experiences, but also by the experiences of others in their community (Brunson & Weitzer, 2009; Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005). Adolescence is a critical developmental period, in which the brain is “plastic” (Steinberg, 2014) and both positive and negative experience may shape both short-term and long-term health, opportunities and wellbeing. To date, however, data limitations have limited our understanding of the extent, nature, and consequences of interactions between young people and the police.

This paper uses new data from the Fragile Families and Child Wellbeing Study (FFCWS) to provide a detailed description of police contact experienced by contemporary urban adolescents including, and assess implications of this contact for adolescent mental health. Any adverse health consequences of adolescent contact with the police, coupled with an unequal distribution of adolescent exposure to the police, has the potential to identify police contact as a driver of racial disparities in adolescent health.

BACKGROUND

Adolescent-Police Contact and Racial Disparities

The shift toward proactive (Kubrin et al., 2010) and “Broken Windows” (Kelling & Coles, 1996; Wilson & Kelling, 1982) policing models in the 1990s has dramatically increased the level of contact that urban residents have with the police. The objective of engaging with residents at low levels of suspicion has increased their exposure to investigative stops and other interactions; however, the vast majority of these encounters do not result in arrest, citation, or the seizure of contraband (Fagan, 2010; Fagan, Conyers, & Ayres, 2014), suggesting that most people stopped by the police have done nothing wrong (Herbert, 2010).

The burden of these encounters has fallen predominantly on black and Hispanic youth, and most commonly among boys (American Civil Liberties Union of Illinois, 2015; Ayres & Borowsky, 2008; City of New York, 2016; Grogger & Ridgeway, 2006; Hagan et al., 2005). A variety of explanations have been offered for these disparities, many of which seek to identify whether observed patterns reflect racial bias among officers, differences in offending or behavioral patterns among those stopped, or some other legally relevant factor that might influence police decisionmaking (Alpert, Macdonald, & Dunham, 2005; Fagan, 2010; Fagan et al., 2010; Fryer Jr., 2016; MacDonald, 2010; Ridgeway, 2007). Because the true rates of offending within the population are unknown, researchers seek to find a “benchmark” that measures what the racial distribution of police contact would be in the absence of police bias (Skogan & Frydl, 2004): Ridgeway (2007) has analyzed police stop practices in New York City using suspect descriptions, though suspect description data is notoriously incomplete (Fagan, 2010) and unlikely to provide an accurate distribution of offending patterns. Alpert et al. (2005) observed field operations and found that suspect race influenced the patterns of officer suspicion, though not the specific decision of whether to stop a suspect. A variety of studies have used race-specific arrest rates as a proxy for race-specific offending behavior (Gelman, Fagan, & Kiss, 2007; Spitzer, 1999), though the possibility of racial bias in arrest patterns suggests that arrest patterns are conservative benchmarks against which to assess other police activity. Still other studies have examined the “hit rates” at which stops lead to arrests or seizures, or otherwise identify illegal activities among those stopped (Alpert et al., 2006; Ayres & Borowsky, 2008; Fagan et al., 2010; Knowles, Persico, & Todd, 2001), and suggest that groups whose stops are less likely to identify illegal activity are stopped at lower – possibly unreasonably low – rates of suspicion (However, Fagan et al. (2014) note that equal hit rates across groups are not, on their own, sufficient to demonstrate equity in policing practices).

A related set of analyses examines racial disparities not only as a function of adolescent behavior, but also of the context in which young people live. Adolescents may face increased exposure to the police through their schools (Na & Gottfredson, 2011; Owens,

2017), through the behaviors of their peer groups or families, or through their neighborhoods. Proactive policing tactics are often implemented in the context of “hot spots” policing, a strategy that targets high-crime areas for increased enforcement (Skogan & Frydl, 2004; Weisburd, Telep, & Lawton, 2014; Weisburd, Wooditch, Weisburd, & Yang, 2016). To the extent that high-crime areas have more concentrated minority populations, racial disparities in policing practices may reflect the legally grounded decision to police high-crime areas more aggressively; however, racial disparities in some cities’ police practices have also been shown to exceed disparities in local crime rates, suggesting a targeting of minority neighborhoods that unfairly exposes residents to increased levels of police contact (Fagan, 2010; Fagan, Davies, & Carliss, 2012).

In addition to examining the initial exposure of young people to the police, researchers also have sought to measure and understand racial disparities in the nature of encounters that individuals may experience. National statistics suggest that of blacks and whites involved in traffic or street stops, blacks are less likely than whites to report that the police behaved properly in the course of the stop (Langton & Durose, 2013). Notably, Fryer Jr. (2016) finds no racial disparities in police shootings, conditional on officers’ initial decisions to make a stop, however, the risk of bias in police stop patterns suggests that isolating shootings from the encounters in which they occur is an inappropriate analytic strategy (Feldman, 2016). Analyses focused on police use of force more broadly also suggest racial disparities (Fagan, 2010; Fryer Jr., 2016; Goff, Lloyd, Geller, Raphael, & Glaser, 2016).

Despite an extensive literature examining police-public contact, very little is known about the unique nature of police contact among adolescents, disparities in, or the implications of this contact.

Police Contact as a Social Determinant of Health

Police contact may threaten the health of individuals stopped in several ways. The invasive manner in which many people are approached by the police (Brunson &

Weitzer, 2009; Fagan, 2010; Levine & Small, 2008) carries the potential not only for physical injury but also for psychological stress and related health challenges (Thoits, 2010). In addition to any acute stress brought on by the event itself, an encounter with the police has the potential to converge with pre-existing chronic strain to underscore individuals' relatively low social position, contributing to adverse outcomes (Pearlin, 1989). Further, if the "dosage" of police contact experienced is strong, if the police threaten future violence, or if individuals stopped believe they could be stopped again at any time, the anticipation of subsequent contact could cause or exacerbate stress and associated health problems (Brosschot, Gerin, & Thayer, 2006).

Police contact may be particularly damaging to racial and sexual minorities, populations at elevated risk of being stopped by the police (Alpert et al., 2006; Ayres & Borowsky, 2008; Bailey et al. v. City of Philadelphia et al., 2011; Fagan, 2010; Mallory, Hasenbush, & Sears, 2015). Qualitative research finds that many young people report the use of racial invective and homophobic harassment by police officers who stop them (Brunson, 2007; Brunson & Weitzer, 2009; Mallory et al., 2015), which have the potential to trigger stigma and stress responses (Hatzenbuehler, Phelan, & Link, 2013; Link & Phelan, 2001). To the extent that individuals stopped believe that they were targeted because of their identity, the stresses they experience could be compounded (Freeman Anderson, 2013; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Krieger, 1999; Phelan & Link, 2015; Sawyer, Major, Casad, Townsend, & Berry Mendes, 2012).

On the other hand, proactive policing tactics have the potential to improve individual and community health through improvements to public safety and by promoting a feeling of security (Powell, 2012). Tensions exist between safety demands and enforcement challenges (Rivera, 2012), suggesting that any adverse consequences of aggressive police contact may be offset by some health and safety benefits. The net effects of police contact on health are therefore theoretically ambiguous.

Available Data on Adolescent-Police Contact

Our understanding of contact between young people and the police, and racial disparities in this contact, has largely been inferred from administrative data, data based on older populations, or based on single-city studies. Administrative police department data identify extensive contact between the police and youth, and significant racial disparities in this contact (Fagan et al., 2010); however, administrative data available to researchers tends to be deidentified, cannot be traced to individuals (even anonymously), and therefore cannot measure the extent to which individuals may be exposed to repeated contact with the police.

Data from the National Longitudinal Survey of youth indicate that between 15% and 26% of American youth have been arrested by age 18, and between 25% and 41% have been arrested by age 23 (Brame et al., 2012). While these findings suggest high rates of police contact among youth, data to directly assess youth-police contact are limited. Data from the Police-Public Contact Survey (PPCS) show that 26% of United States residents ages 16 and over had face-to-face contact with a police officer in 2011; nearly half of these reported their most recent contact was police-initiated or involuntary (Langton & Durose, 2013). However, the PPCS does not survey younger populations. A survey of young men in New York City identifies significant police contact among 18-26 year-olds (Geller et al., 2014; Tyler et al., 2014), but does not survey adolescents or a national sample. Likewise, studies of young people in Chicago (Hagan et al., 2005; Shedd, 2015) provide valuable information about police practices and youth experiences in that city, but may not generalize to the experiences of urban teens more broadly. The National Longitudinal Study of Adolescent Health (AddHealth) asks basic questions on police contact of a nationally representative sample of teenagers; however, AddHealth focuses on a cohort that came of age before the rise in proactive policing, and asks only about the quantity of police contact that youth have experienced (Carolina Population Center, 2016), rather than asking more comprehensive information about young people's experiences. To date, no national, population-based data have measured the extent and nature of police contact, or racial, ethnic, and gender disparities in this contact, among contemporary urban adolescents.

Current Contribution

The current analysis uses new data from the FFCWS to fill significant gaps in what is currently known about adolescents' experiences with experiences and racial disparities in police contact. I ask three questions:

1. What is the extent and nature of urban adolescents' personal and vicarious experience with the police?
2. To what extent is the experience of police contact associated with adolescent race and gender?
3. What are the implications of adolescent-police contact for adolescent mental health?

METHODS

Data

Data are drawn from the FFCWS, a population-based survey of urban families, which has followed a cohort of nearly 5,000 children born in 20 large cities, along with their families, over the first fifteen years of the “focal children's” lives. Mothers were recruited into the study between 1998 and 2000, at the hospital following the birth of the child, and fathers were identified by the mothers and interviewed if available. The study includes a systematic oversample of non-marital births, providing a sample that is socioeconomically disadvantaged and has high proportions of black and Hispanic families, particularly useful for studying racial and ethnic disparities in police contact. FFCWS fathers have high rates of involvement with the criminal justice system (Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012), suggesting that the FFCWS children may also have high rates of exposure to the police. However, when weighted or regression-adjusted, the FFCWS data can be made to represent children born in each of the sample cities from 1998 to 2000, or children born at this time in large cities nationwide. (See Reichman, Teitler, Garfinkel, and McLanahan (2001) for a detailed description of the FFCWS sampling plan).

The FFCWS parents have been contacted for follow-up interviews five additional times, most recently around the focal child's fifteenth birthdays. In the two most recent follow-up waves (hereafter, Y9 and Y15, when the children were 9 and 15 years old), the children were also interviewed, providing their perceptions of, attitudes toward, and experiences within their families, schools, and neighborhoods.

Key Measures

Police Exposure and Contact.

Adolescents participating in the Y15 survey were asked a series of questions about their personal exposure to the police, and that of others in their communities. Respondents were asked to report whether they had ever been stopped by the police, whether they had ever witnessed someone else being stopped by the police, and if they had ever heard from someone they knew about having been stopped. Respondents who reported witnessing a stop or who knew someone who had been stopped were recorded as having had “vicarious contact” with the police, and could have vicarious contact whether or not they had also had personal contact with the police. Exposure to law enforcement was separately measured using adolescents' self-reports of whether or not a police officer was regularly stationed at their schools, which we return to below.

Respondents reporting personal contact with the police were asked a series of questions about the nature of their experiences: the number of times they had been stopped, the total number of stops they experienced, and where, of a variety of locations, the stops had taken place (i.e., on the street, in a car, on a bicycle, at school, or “some other place”). Respondents with either personal or vicarious contact with the police were asked to recall the details of their experience (or for those reporting multiple stops, the incident that stood out most in their mind, hereafter their “critical stop”). Specifically, they were asked about officer behavior in this critical stop: whether the officer frisked them, searched their bags or pockets (or in vicarious stops, whether the person stopped was frisked or searched), used harsh language, used racial slurs, threatened physical force, and/or used physical force. These indicators of officer behavior, summarized in Appendix 1 (Table A1.1), were combined into an index of “stop intrusion” ($\alpha=.71$).

Adolescent Mental Health.

Following Geller et al. (2014), we examine the potential health consequences of adolescent contact with the police with a focus on two outcomes: symptoms of anxiety and of Post-Traumatic Stress Disorder (PTSD). We measure anxiety symptoms using six items from the Center for Epidemiological Studies Depression (CES-D) scale (**CITE**), detailed in Appendix 1 (Table A1.2) ($\alpha=.77$).

We measure symptoms of PTSD using a subscale of the Impact of Event Scale – Revised (IES-R), which identifies symptoms that respondents report associated with a particular “critical event”, and has been used to estimate PTSD among combat veterans, survivors of natural disasters, first responders, and other potential trauma-exposed populations (Marmar et al., 2006). Specific items used in the IES-R are presented in Appendix 1 (Table A1.3) ($\alpha=.74$). Because the IES-R focuses specifically on responses to a critical event, respondents who do not report having personally been stopped by the police are not asked about responses, and are coded to have a PTSD score of 0.

To assess the extent to which police contact might drive a change in adolescents’ health trajectories, we also measure adolescents’ prior mental health, using primary caregivers’ reports of their children’s anxious/depressed behavior at Y9 from the Child Behavioral Checklist (Achenbach & Rescorla, 2001).

Adolescent Demographic and Behavioral Background and Social Environment.

Adolescents’ reports of police contact and potential health consequences are considered in the context of their personal and family backgrounds, their participation in behavior that might expose them to the police, and characteristics of their social environments. First, I examine racial and gender differences in adolescents’ experiences with the police. Adolescent respondents are asked to report their racial and ethnic backgrounds in an open-ended question, which I code to a five-category measure (white/black/Hispanic/other (single) race/multiple races). When adolescents’ open-ended

responses cannot be categorized into these measures¹, their responses are supplemented with a measure based on parents' self-reported or partner-reported racial classification². Adolescents' gender is measured using their reported sex at the baseline interview (around the time of their birth).

Other adolescent background and behavioral characteristics measured include their age at the time of their Y15 interview, and adolescents' reports of delinquent behavior both by themselves and their peers. I measured adolescents' self-reported delinquency at the Y9 interview, using a variety score measure of adolescents' self-reported participation in 17 delinquent activities ($\alpha=.70$). At Y15, adolescents were asked the number of times they had engaged in each of 13 delinquent activities in the past year; I again code these 13 indicators into binary measures of past-year participation, supplement them with three binary indicators of substance use, and total them to construct a variety score. Both personal delinquency measures are detailed in Appendix 1 (Tables A1.4 and A1.5).

Adolescents exist in a number of social spheres, and I measure their social environments based on characteristics of their friend groups, families, schools, and cities. I measure the extent to which adolescents' peer environments may bring them into contact with the police through a measure of peer delinquency at Y15, detailed in Appendix 1 (Table A1.6). I measure adolescents' family environments with an indicator of whether their parents' were married, cohabiting, or living apart at the time they were born, as well as parents' educational attainment (mothers' highest level of education, and an indicator of whether fathers had greater, lesser, or equivalent attainment). I measure adolescents' school environments and potential police exposure based on their self-reports of whether a police officer was regularly stationed at their schools, and finally, I include indicators of

¹ Some adolescents respond to the open-ended race question with an answer related to religion, national origin, or some other characteristic that cannot be directly coded.

² When both parents are reported to be the same race or ethnicity, their racial classification is applied to their adolescent child. When parents are reported to be different races or ethnicities, their adolescent child is coded as "multiple races". When only one parent's race is available, and the child's self-reported race is unknown or unclassifiable (fewer than 1% of cases), the child is measured to be the race of the known-race parent.

the city in which the adolescents were born to account for regional differences in police practices.

Analytical Approach

The analysis proceeds in two steps: First, I assess the extent and nature of adolescents' contact with the police, racial and gender disparities in this contact, and possible explanations for any observed disparities. Second, I assess the relationship between adolescents' contact with the police and their self-reported mental health.

Understanding Disparities in Police Contact

I begin my assessment of disparities in adolescent-police contact by providing a detailed description of the FFCWS focal teens' reports of their exposure to, and experiences with, the police. I measure adolescent exposure to the police through their reports of whether a police officer is regularly stationed at their schools, and whether they have "vicarious" contact with the police, having witnessed a police stop or known anyone who has told them about being stopped. I measure adolescents' personal police contact among a variety of domains, assessing racial and sex disparities in a binary indicator of whether the teens report having been stopped, the number of times they report having been stopped, the age at which they were first stopped, where they have been stopped, and the level and types of intrusion experienced in their most memorable "critical" stop.

In order to understand the potential drivers of any observed disparities in police contact, I next examine disparities in the context of adolescent personal background and behavior, their peer, family, and school contexts, and the cities in which they were born. I focus on two key indicators of adolescent stop experience: a binary indicator of whether they were ever stopped by the police, and, for those reporting personal police contact, the level of intrusion in their most memorable stop. Model 1, examining the binary indicator of police contact, focuses specifically on the systematic measurement of race and sex disparities in police contact. Comparing minority teens to whites, and boys to girls, I estimate:

$$(1) \quad \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \varepsilon_i$$

Model 2 tests for interactions between race and sex as predictors of stop experience.

$$(2) \quad \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{BlackMale}_i + \beta_7 \text{HispanicMale}_i + \beta_8 \text{OtherMale}_i + \beta_9 \text{MultRaceMale}_i + \varepsilon_i$$

To the extent that race-sex interactions are significant predictors of encounters with the police, subsequent models will be modified to consider these interactions. To the extent that no such interactions are significant, I proceed as follows:

I next examine the extent to which adolescents' contact with the police, and particularly, race and sex disparities in this contact, might be explained by their age at the time of the survey and their personal behavior. I use adolescents' self-reports of delinquent activity as a benchmark against which police conduct might be assessed. To the extent that racial disparities in police contact and conduct are explained by disparities in adolescent delinquency, these disparities may reflect crime-fighting objectives. However, to the extent that racial disparities are still observed when adolescent behavior is controlled for, these disparities reflect a potentially excess burden borne by minority teens, which may have implications for their subsequent health and broader wellbeing. Model 3 examines the extent to which police contact reported at age 15 is associated with delinquent behavior the teens reported at age 9:

$$(3) \quad \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{Age}_i + \beta_7 \text{Delinq9}_i + \varepsilon_i$$

In Model 4 I include a measure of contemporaneously measured delinquent behavior (Y15) as well as delinquent behavior reported at Y9. Although Y15 delinquency may reflect a relationship in which adverse experience with the police leads teens to become cynical and further disregard the law, this possibility suggests that any marginal racial and sex disparities in police contact are likely to be conservative estimates.

$$(4) \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{Age}_i + \beta_7 \text{Delinq9}_i + \beta_8 \text{Delinq15}_i + \varepsilon_i$$

Model 5 examines teens' personal contexts related to their adolescent-police contact in the context of their peer groups and family backgrounds as well as their personal behavior, adding an additional control for Y15 peer delinquency, as well as controls for their parents' educational attainment and relationship status at the time the teens were born.

$$(5) \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{Age}_i + \beta_7 \text{Delinq9}_i + \beta_8 \text{Delinq15}_i + \beta_9 \text{PeerDelinq15}_i + \beta_{10} \text{Parent}_i + \varepsilon_i$$

Model 6 further considers adolescents' school contexts, adding controls for whether the teens have a police officer stationed in their schools.

$$(6) \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{Age}_i + \beta_7 \text{Delinq9}_i + \beta_8 \text{Delinq15}_i + \beta_9 \text{PeerDelinq15}_i + \beta_{10} \text{Parent}_i + \beta_{11} \text{School}_i + \varepsilon_i$$

Finally, I measure the extent to which observed disparities are driven by differences across cities, by adding a fixed effect for the teens' cities of birth:

$$(7) \text{Logit}(P[\text{EverStopped}_i]) = \beta_0 + \beta_1 \text{Black}_i + \beta_2 \text{Hispanic}_i + \beta_3 \text{Other}_i + \beta_4 \text{MultRace}_i + \beta_5 \text{MultRace}_i + \beta_6 \text{Age}_i + \beta_7 \text{Delinq9}_i + \beta_8 \text{Delinq15}_i + \beta_9 \text{PeerDelinq15}_i + \beta_{10} \text{Parent}_i + \beta_{11} \text{School}_i + \alpha_{\text{city}} + \varepsilon_i$$

I next assess the extent to which racial disparities observed (or not observed) in adolescents' experience of any police stops are also present in police conduct in the course of their most memorable stops. Focusing specifically on the 805 teens reporting personal experience with the police, I estimate 7 models of parallel form to those

examining the binary outcome, examining intrusion disparities in the context of adolescent behavior, peer context, family background, school environment and city.

Health Implications of Police Contact

To the extent that police contact is experienced disproportionately by race and gender, and is associated with adverse health outcomes, the broad exposure of young people to police contact may be identified as a potential driver of broader health disparities. For each of our health outcomes, we estimate the extent to which symptoms are elevated among teens personally stopped by the police, controlling for their age, gender, and race. We also control for the teens' mental health (*ANX_DEP*) reported by their primary caregiver at age 9.

$$(8) \text{ HEALTH} = \beta_0 + \beta_1 \text{ STOPPED} + \beta_2 \text{ ANX_DEP} + \beta \mathbf{X} + \varepsilon$$

We next examine the extent to which adolescent health is associated with police contact, controlling for the selection factors that might lead some teens, rather than others, to be stopped. We do this by estimating adolescent propensity for personal police contact, based on Model 7 above, and use the inverse of this estimated propensity in an inverse probability of treatment (IPT) model that weights observations by the product of the "IPT" ($P[\text{STOPPED}]^{-1}$) and the FFCWS city weights. This model has the same functional form as Model 8, but applies weights based on both the probability of selection into the FFCWS and the probability of having been stopped.

Having established the extent to which health outcomes vary between those with and without personal experience with the police, we next examine the extent to which health outcomes differ by the extent of police contact that teens report having experienced. Model 9 estimates an IPT model that examines not only whether teens report having been stopped, but also the number of times they report having been stopped, and Model 10 examines both the quantity of stops they report, and the level of intrusion involved in their critical stop experience.

$$(9) \text{ HEALTH} = \beta_0 + \beta_1 \text{ STOPPED} + \beta_2 \text{ NSTOPS} + \beta_3 \text{ ANX_DEP} + \beta \mathbf{X} + \varepsilon$$

$$(10) \text{ HEALTH} = \beta_0 + \beta_1 \text{ STOPPED} + \beta_2 \text{ NSTOPS} + \beta_3 \text{ INTRUSION} + \beta_4 \text{ ANX_DEP} + \beta \mathbf{X} + \varepsilon$$

Comparable models are estimated for anxiety and PTSD symptoms.

Analysis Samples and Sample Description.

Adolescents are included in our primary analysis sample if they are interviewed at the Y15 follow-up wave, and provide information on both their personal and vicarious contact with the police. Analyses are weighted to account for family background characteristics that influenced eligibility for participation, and to be representative of each of the 20 FFCWS sample cities³. At time of writing this sample includes 3,036 teens⁴.

Analyses of health outcomes include the subset of the analysis sample in which the teens also report their mental health measures at Y15, with specific analysis samples varying based on the health outcomes observed.

A description of the analysis sample is provided in Table 1.

[Table 1 about here]

RESULTS

Adolescent-Police Contact

Police Exposure and Contact

As noted in Table 1, police contact is common among the teens in our analysis sample: 23% report having been personally stopped by the police, and 75% report some form of vicarious contact, either having witnessed a stop, or having heard about the stop of

³ Analyses are weighted using the FFCWS mothers' "baseline city weights" to account for the systematic oversample of nonmarital births and other factors influencing within-city selection of families.

⁴ All analyses are currently "complete case" analyses, but future drafts will provide a more sophisticated treatment of missing data, as well as interviews with additional teens who were not reached in the first rounds of interviewing.

someone they know. The nature of the police contact that teens report varies widely, both across individuals, and notably, across teens' sample cities. Details of reported adolescent-police contact in each of the FFCWS cities are reported in Table 2. The prevalence of personal contact with the police ranges from 13% among teens born in Nashville and Newark, to more than 30% among teens born in Baltimore and Toledo. Among urban teens, exposure to the police is a normative experience; 75% report vicarious contact with the police, in which they have either witnessed a stop or know someone who has been stopped.

[Table 2 about here]

Adolescent contact with the police varies widely in kind as well as in prevalence: teens report having been stopped as early as when they were 8 years old, with an average age at first stop between ages 12 and 13. The distribution of stops per teen is also quite skewed; approximately half of teens reporting stops were stopped only once, nearly 20% of teens report having been stopped twice, 95% were stopped five times or fewer, yet the top 1% of teens reporting stops report having been stopped between 14 and 50 times. Teens report having been stopped in a variety of locations: most commonly “on the street”, but the percent of teens reporting stops in other locations – most notably in schools – varies significantly across cities.

The adolescents reporting personal experience with the police also report considerable intrusion in their encounters. More than one-third report that they were frisked or searched in their most memorable encounter, one-fifth report that the police officer used “harsh language” (including, but not limited to, racial slurs), and more than 10% report that the police threatened or used physical force.

Racial and Gender Disparities in Police Contact

Although exposure to the police is common among urban adolescents generally, the experiences that urban teens have with the police vary significantly by adolescent race and sex. Details of adolescents' experiences with the police, by race and sex, are provided in Table 3. Notably, exposure to the police is common among urban teens

regardless of race or sex: More than three-quarters of both boys and girls report police officers regularly stationed at their schools, with little significant variation across demographic group. (Multiracial girls are significantly more likely to have police officers at their schools than white girls, but no other within-sex differences are statistically significant.) Likewise, approximately three-quarters of urban teens report vicarious contact with the police (in which they report seeing a police stop or knowing someone stopped), a rate that does not differ significantly by sex or race within sex.

Although exposure to the police (through schools or stops of others) are common across race and sex, boys and minority teens, particularly black teens, have significantly more, and more aggressive, contact with the police than their white counterparts. Both black boys and black girls are significantly more likely than their white counterparts to report personal contact with the police; 45% of black boys report having been stopped compared to 26% of white boys, and 18% of black girls report having been stopped compared to 8% of white girls. Rates of contact are nearly as high for multiracial boys as for black boys (40% report having been stopped); however, the multiracial-white difference is not statistically significant.

Few demographic differences exist in the age at which teens experience their first contact with the police, the number of times teens report having been stopped, or where they report having been stopped. (Indeed, stop locations vary more by city than by demographic group.) However, the nature of police stops – and particularly the extent of intrusion in teens’ most memorable “critical” stops – varies significantly by race and sex. Black boys are more likely than white boys to report intrusion in their critical stops, across all domains of intrusion: frisks, searches, the officer’s use of harsh language and racial slurs, as well as the threat and use of physical force. Hispanic boys, boys of other races, and multiracial boys also report more intrusion than do white boys, though the specific domains of intrusion they experience more often vary by group. Black girls also report more intrusion than do white girls; specifically, they report greater rates of frisks, harsh language, and the threat and use of physical force. No other inter-racial differences in intrusion are statistically significant among girls.

[Table 3 about here]

Disparities in Context

Results examining racial disparities in police contact are presented in Table 4. Logistic regression models of lifetime stop experience suggest that observed black/white differences are not driven exclusively by race differences in adolescent behavior. Early delinquency, reported at age 9 and included in Model 3, is not significantly associated with police contact, and does little to attenuate observed racial disparities. Model 4, which includes contemporaneous delinquency (measured at Y15) indicates that teens self-reporting more delinquent behavior are indeed more likely to have been stopped; however, the odds black teens have been stopped remain nearly twice as high as for their white counterparts.

Adolescents' peer and family contexts are largely unrelated to their likelihood of reporting personal police contact (with a few slight exceptions, such as increased risk among teens born to cohabiting, compared to married, parents). Black-white differences in police contact are robust to controls for peer and family circumstances; notably, however, when these contexts are considered we find that Hispanic teens have significantly lower odds of police contact than similarly situated white teens. School context (and specifically, the presence of a police officer at school) is not itself a significant predictor of adolescent-police contact; however, when school context is considered the statistical significance of the observed black-white difference is reduced, and the conditional risk faced by Hispanic teens is further reduced. Finally, the inclusion of city fixed effects suggests considerable variation in police practices (as also shown in Table 2), but does little to alter the magnitude of the marginally significant black-white differences in the risk of police contact. The reduced odds of contact among Hispanics, on the other hand, is further apparent when focusing on within-city race differences.

[Table 4 about here]

Table 5 presents race differences in the nature of police stops adolescents experience, conditional on having been stopped at all. Focusing specifically on the intrusion of the teens’ “critical stops”, we find that minority teens experience significantly more intrusive stops than their white counterparts, and that these differences are robust to the controls for their own delinquent behavior, peer delinquency, and their family, school, and city contexts.

[Table 5 about here]

Police Contact and Adolescent Health

The relationship between adolescent police contact and self-reported anxiety is presented in Table 6. Model 1 of Table 6 (Model 8 above) suggests that adolescents who have been stopped by the police indeed report greater levels of anxiety than those never stopped, and, given the control for past mental health, that the symptoms associated with police contact represent a deviation from their mental health history. However, as shown in Model 2, our model weighted by adolescents’ inverse probability of treatment, a portion of this increase in symptoms reflects the broader circumstances associated with their propensity for stop experience, rather than the encounter itself. Our findings are similar when also examining the quantity of stops that adolescents report – as shown in Model 3, the number of stops teens experience is not significantly associated with their self-reported anxiety. The nature of their stops, on the other hand, is a significant predictor of subsequent mental health. Adolescents reporting more intrusive stops report greater levels of anxiety symptoms. Moreover, controlling for the intrusion associated with adolescents’ most memorable stops exacerbates the association between their having ever been stopped and subsequent mental health.

[Table 6 about here]

We find similar relationships between adolescents’ stop experience and their reports of PTSD. Table 7 presents coefficients from OLS and IPT models predicting PTSD

symptoms, and finds that a significant association between adolescent stop experience and PTSD symptoms that is robust to controls for the factors that select the teens into contact with the police. Unlike our anxiety analysis, however, we find that the association between PTSD and stop experience is only marginally related to stop intrusion when controlling for the binary indicator of stop experience. This is potentially an artifact of our choice of measure, which I return to below.

[Table 7 about here]

DISCUSSION

Summary of Findings

My analysis uses new data from the Fragile Families and Child Wellbeing Study, the first national study of contemporary adolescents to collect detailed data on interactions between young people and the police, to examine the exposure of young people to the police, racial disparities in police contact, and the implications of police contact for adolescent mental health. Although the role of the police in the lives of young people has largely gained prominence as a national issue due to highly publicized, but isolated, incidents of police violence, my findings suggest that exposure to the police is a normative experience in the lives of urban teens.

The nature of adolescent-police contact varies widely by city, but the vast majority of teens have police officers stationed at their schools, and most have at least vicarious contact with the police (by witnessing or hearing about stop incidents), if not personal contact. Despite the broad presence of the police in the lives of urban teens, however, my analysis suggests that the nature of relationships between young people and the police varies widely by race, and has the potential to impose disproportionate burdens on minority teens that exceed any disparities in adolescent behavior.

Racial Disparities in Police Contact

Data from the FFCWS suggest that minority teens – and particularly black and multiracial teens – interact significantly more with the police than do their white

counterparts. 45% of black boys, and 18% of white boys, report having been stopped by the police by their Y15 survey. Regression analyses suggest that black-white disparities in police contact are robust, and although contemporaneous delinquency is associated with police contact, observed disparities are highly significant and of considerable magnitude even when current and past delinquency are controlled for. These disparities change only marginally when peer, family, school, and city contexts are also controlled for.

Racial disparities in police contact are observed not only in the extent of police contact, but in the nature of police contact; minority teens report significantly more intrusion in their most memorable stop experiences, a finding largely robust to controls for personal and peer delinquency, as well as family, school, and city contexts. To the extent that police contact and intrusion are associated with adverse health outcomes and broader threats to wellbeing, the increased burden of policing borne by minority teens threatens to cause or exacerbate disparities in adolescent outcomes.

Police Contact and Mental Health

My analyses of anxiety and PTSD suggest robust relationships between police contact, and the intrusion of police stops in particular, and adolescent health. These findings are consistent with analyses of adults; however, the presence of the police in urban life, as early as adolescence, suggests that these encounters may affect the wellbeing of urban young people for many years to come.

Limitations and Next Steps

This analysis is quite preliminary, and future analyses will provide a more sophisticated treatment both of the FFCWS data itself, and of the relationship between adolescent race, police contact, and subsequent mental health. Future analyses will include a more complete treatment of missing data (most likely through multiple imputation) and a formal consideration of vicarious police contact, as well as personal police contact, as determinants of adolescent mental health.

TABLES AND FIGURES

Table 1: Key Descriptive Statistics for FF Analysis Sample

(Analysis sample: N=3036 Kids answering questions on personal and vicarious contact)

	Mean or %	SD
Adolescent Health (Anxiety)	4.87	[3.87]
(0=low, 20=high, alpha = .77)		
Adolescent Race		
White	25%	
Black	36%	
Hispanic	29%	
Other	4%	
Multiple Races	6%	
Adolescent Age		
Age (Years)	15.48	[0.56]
Adolescent Delinquency History		
Y9 Self-Reported Delinquency (0-17, alpha=.7)	1.23	[1.76]
Delinquency Score Unknown	7%	
Y15 Self-Reported Delinquency (0-16, alpha=.77)	1.16	[1.78]
Delinquency Score Unknown	<1%	
Y15 Peer Delinquency (0-11, alpha=.76)	1.32	[2.17]
Peer Delinquency Score Unknown	6%	
School Safety Environment (Teen Self-Report)		
Police Officer at School	77%	
No Police Officer at School	20%	
Unknown	3%	
Mothers' Education		
< HS	25%	
HS Grad or GED	32%	
Some College/Tech Training	23%	
College +	20%	
Unknown	<1%	
Fathers' Education		
More educated than mother	23%	
Equally educated as mother	52%	
Less educated than mother	22%	
Unknown	3%	
Police Contact		
Personal contact with police?	23%	
Vicarious contact with police?	75%	

All descriptive statistics are weighted to be representative of each of the 20 FFCWS cities.

Table 2: Experience of Police Contact, Analysis Sample and by City (1 of 4)

School Safety Environment (Teen Self-Report)	Overall (N=3036)	Oakland (N=163)	Austin (N=183)	Baltimore (N=226)	Detroit (N=220)
Police Presence (N=3036)					
Police Officer at School	77%	70%	86%	83%	67%
No Police Officer at School	20%	28%	13%	14%	31%
Unknown	3%	2%	1%	3%	1%
Personal contact with police?	23%	25%	22%	32%	27%
Vicarious contact w/ police?	75%	92%	79%	82%	86%
Personal Contact	N=805	54	51	83	59
Age at first stop	12.87	12.78	14.23	12.57	13.01
SD (Age first stop)	[1.81]	[2.26]	[2.00]	[1.90]	[1.82]
Range (Age first stop)	8-17	8-16	8-17	8-15	8-15
% with no age reported	2%	4%	8%	4%	7%
Number of stops recorded	2.42	5.28	2.48	3.37	2.32
SD (N stops recorded)	[3.60]	[6.49]	[1.59]	[3.64]	[1.67]
Range (N stops recorded)	1-50	1-30	1-10	1-25	1-8
% with N stops not reported	1%	0%	0%	2%	2%
Location of stop					
On the street	79%	95%	58%	99%	83%
In a car	26%	22%	41%	31%	33%
On a bike	14%	26%	1%	21%	18%
At school	20%	12%	51%	14%	20%
Some other place	32%	47%	17%	44%	26%
No location given	<1%	0%	<1%	0%	0%
Intrusion of critical stop					
Frisked?	30%	51%	37%	42%	38%
Searched?	38%	54%	38%	41%	47%
Harsh Language	20%	30%	7%	29%	23%
Racial Slurs	10%	7%	3%	6%	18%
Threatened Force?	16%	11%	8%	15%	13%
Used Force	10%	24%	10%	8%	9%
Intrusion Index (N=798)	1.23	1.76	0.96	1.42	1.47
SD (Intrusion Index)	[1.50]	[1.80]	[1.41]	[1.65]	[1.68]
Range (Intrusion Index)	0-6	0-6	0-6	0-5	0-6
Intrusion Unknown	<1%	0	7%	2%	0%

Note: Adolescents can select multiple locations in which stops took place, and multiple forms of intrusion they may have experienced in their critical stops.

Table 2: Experience of Police Contact, Analysis Sample and by City (2 of 4)

School Safety Environment (Teen Self-Report)	Newark (N=191)	Phila. (N=237)	Richmond (N=216)	Corpus Christi (N=214)	Indianapolis (N=242)
Police Presence (N=3036)					
Police Officer at School	81%	73%	89%	90%	81%
No Police Officer at School	19%	21%	9%	5%	14%
Unknown	0%	6%	2%	5%	5%
Personal contact with police?	13%	29%	29%	21%	27%
Vicarious contact w/ police?	67%	83%	75%	75%	77%
Personal Contact	30	82	68	50	61
Age at first stop	13.83	13.08	13.27	12.93	12.12
SD (Age first stop)	[1.74]	[1.78]	[1.71]	[1.37]	[2.28]
Range (Age first stop)	8-16	8-15	8-16	8-15	8-15
% with no age reported	0%	1%	3%	1%	<1%
Number of stops recorded	2.83	2.73	2.61	2.74	5.27
SD (N stops recorded)	[2.18]	[2.94]	[4.11]	[2.54]	[11.36]
Range (N stops recorded)	1-10	1-30	1-50	1-10	1-50
% with N stops not reported	0%	<1%	2%	1%	0%
Location of stop					
On the street	92%	93%	82%	72%	68%
In a car	25%	29%	16%	23%	36%
On a bike	3%	15%	14%	10%	15%
At school	16%	23%	24%	34%	23%
Some other place	27%	25%	40%	32%	48%
No location given	0%	0%	0%	0%	0%
Intrusion of critical stop					
Frisked?	44%	36%	26%	37%	26%
Searched?	36%	36%	24%	50%	25%
Harsh Language	29%	32%	11%	24%	15%
Racial Slurs	9%	16%	6%	3%	4%
Threatened Force?	4%	20%	14%	14%	9%
Used Force	20%	9%	9%	12%	3%
Intrusion Index (N=798)	1.41	1.49	0.88	1.23	0.75
SD (Intrusion Index)	[1.66]	[1.65]	[1.44]	[1.25]	[1.21]
Range (Intrusion Index)	0-5	0-6	0-5	0-5	0-5
Intrusion Unknown	0%	0%	<1%	8%	5%

Note: Adolescents can select multiple locations in which stops took place, and multiple forms of intrusion they may have experienced in their critical stops.

Table 2: Experience of Police Contact, Analysis Sample and by City (3 of 4)

	Milwaukee (N=234)	NYC (N=162)	San Jose (N=180)	Boston (N=64)	Nashville (N=66)	Chicago (N=85)
School Safety Environment (Teen Self-Report)						
Police Presence (N=3036)						
Police Officer at School	60%	74%	68%	68%	88%	84%
No Police Officer at School	37%	25%	28%	24%	3%	15%
Unknown	3%	1%	5%	7%	9%	1%
Personal contact with police?	27%	22%	17%	30%	13%	21%
Vicarious contact w/ police?	79%	71%	68%	67%	34%	79%
Personal Contact	59	37	33	21	12	23
Age at first stop	13.09	12.99	12.53	13.28	13	12.27
SD (Age first stop)	[1.78]	[1.45]	[1.70]	[1.15]	[1.86]	[2.41]
Range (Age first stop)	8-15	10-15	8-15	10-15	8-14	8-14
% with no age reported	0%	2%	1%	2%	0%	0%
Number of stops recorded	2.14	1.88	1.69	2.09	1.55	2.6
SD (N stops recorded)	[2.25]	[1.86]	[1.54]	[1.61]	[0.52]	[1.44]
Range (N stops recorded)	1-15	1-10	1-12	1-5	1-2	1-5
% with N stops not reported	0%	0%	<1%	0%	6%	2%
Location of stop						
On the street	67%	68%	84%	88%	67%	86%
In a car	34%	27%	54%	20%	47%	29%
On a bike	15%	13%	4%	24%	4%	23%
At school	15%	13%	38%	22%	43%	4%
Some other place	29%	30%	23%	16%	13%	43%
No location given	0%	0%	0%	0%	0%	0%
Intrusion of critical stop						
Frisked?	39%	20%	14%	26%	24%	57%
Searched?	40%	37%	15%	24%	55%	60%
Harsh Language	16%	20%	2%	20%	21%	31%
Racial Slurs	2%	18%	<1%	0%	0%	7%
Threatened Force?	15%	22%	4%	4%	21%	22%
Used Force	15%	16%	3%	5%	0%	7%
Intrusion Index (N=798)	1.27	1.33	0.39	0.79	1.21	1.85
SD (Intrusion Index)	[1.58]	[1.42]	[0.96]	[1.39]	[1.56]	[1.73]
Range (Intrusion Index)	0-5	0-5	0-5	0-4	0-4	0-5
Intrusion Unknown	0%	0%	0%	0%	0%	0%

Note: Adolescents can select multiple locations in which stops took place, and multiple forms of intrusion they may have experienced in their critical stops.

Table 2: Experience of Police Contact, Analysis Sample and by City (4 of 4)

School Safety Environment (Teen Self-Report)	Jacksonville (N=68)	Toledo (N=72)	San Antonio (N=74)	Pittsburgh (N=63)	Norfolk (N=76)
Police Presence (N=3036)					
Police Officer at School	74%	69%	90%	78%	79%
No Police Officer at School	25%	28%	6%	11%	10%
Unknown	1%	3%	4%	11%	11%
Personal contact with police?	18%	31%	19%	19%	19%
Vicarious contact w/ police?	82%	84%	77%	64%	78%
Personal Contact	22	18	12	14	16
Age at first stop	12.66	13.09	13.23	12.28	12.69
SD (Age first stop)	[1.45]	[1.57]	[1.43]	[2.05]	[1.61]
Range (Age first stop)	8-14	10-15	11-15	8-14	10-14
% with no age reported	0%	5%	0%	0%	0%
Number of stops recorded	1.57	1.84	1.28	1.95	2.97
SD (N stops recorded)	[0.94]	[1.76]	[0.97]	[1.62]	[3.34]
Range (N stops recorded)	1-5	1-10	1-5	1-5	1-15
% with N stops not reported	0%	6%	0%	14%	9%
Location of stop					
On the street	78%	77%	87%	95%	69%
In a car	37%	42%	5%	34%	26%
On a bike	17%	12%	0%	9%	23%
At school	9%	31%	39%	9%	38%
Some other place	40%	11%	35%	18%	8%
No location given	0%	0%	0%	0%	0%
Intrusion of critical stop					
Frisked?	11%	23%	11%	32%	20%
Searched?	16%	30%	33%	36%	27%
Harsh Language	2%	15%	4%	14%	15%
Racial Slurs	2%	10%	0%	0%	0%
Threatened Force?	11%	15%	9%	7%	8%
Used Force	9%	19%	4%	0%	0%
Intrusion Index (N=798)	0.39	1 1/9	0.61	0.89	0.70
SD (Intrusion Index)	[1.17]	[1.44]	[1.08]	[1.29]	[0.86]
Range (Intrusion Index)	0-6	0-5	0-4	0-4	0-3
Intrusion Unknown	5%	0%	0%	0%	0%

Note: Adolescents can select multiple locations in which stops took place, and multiple forms of intrusion they may have experienced in their critical stops.

Table 3: Police Exposure and Contact by Race and Sex

Boys	All Races (N=1556)		White (N=282)		Black (N=760)		Hispanic (N=391)		Other Race (N=38)		Multiple Races (N=85)	
	Mean/ %	[SD]	Mean/ %	[SD]	Mean/ %	[SD]	Mean/ %	[SD]	Mean/ %	[SD]	Mean/ %	[SD]
<i>School Safety Environment (Teen Self-Report)</i>												
Police Officer at School	79%		78%		81%		82%		64%		70%	
No Police Officer at School	19%		18%		18%		17%		25%		29%	
Unknown	2%		4%		1%		1%		11%		1%	
<i>Police Contact (Rate among Population)</i>												
Personal contact with police?	32%		26%		45% *		24%		18%		40%	
Vicarious contact with police?	76%		74%		78%		78%		63%		72%	
<i>Details of Personal Police Contact</i>												
Age at first stop	12.8 [1.8]		13.3 [1.5]		12.9 [1.7]		13.2 [1.3]		10.4 [1.6]		10.5* [2.3]	
Number of stops recorded	2.6 [4.0]		2.6 [7.1]		2.4 [2.6]		2.5 [2.4]		1.1 [0.4]		4.1 [3.8]	
<i>Location of Stop (respondents can select more than 1)</i>												
On the street	80%		67%		90%		72%		18%*		93%	
In a car	22%		17%		15%		20%		85%		58%	
On a bike	17%		13%		21%		16%		4%		10%	
At school	18%		13%		18%		25%		6%		17%	
Some other place	34%		57%		28%		35%		12%		13%	
<i>Intrusion of critical stop</i>												
Frisked?	35%		7%		43% ***		39% ***		9%		59% **	
Searched?	43%		19%		46% *		59% ***		11%		59% *	
Harsh Language	21%		7%		18% *		22%		80% ***		45%	
Racial Slurs	10%		<1%		16% *		9%		2%		8%	
Threatened Force?	18%		4%		19% *		13%		78% ***		49% *	

Used Force	11%	2%	14% *	16% *	0%	5%
Intrusion Index	1.38 [1.52]	0.38 [0.75]	1.56*** [1.56]	1.57*** [1.45]	1.8*** [0.70]	2.28* [1.96]
Girls	All Races (N=1480)	White (N=264)	Black (N=745)	Hispanic (N=356)	Other Race (N=16)	Multiple Races (N=99)
	Mean/ % [SD]	Mean/ % [SD]	Mean/ % [SD]	Mean/ % [SD]	Mean/ % [SD]	Mean/ % [SD]
<i>School Safety Environment (Teen Self-Report)</i>						
Police Officer at School	76%	65%	76%	81%	77%	88% **
No Police Officer at School	21%	27%	22%	18%	20%	9%
Unknown	3%	8%	2%	1%	3%	2%
<i>Police Contact (Rate among Population)</i>						
Personal contact with police?	11%	8%	18% ***	4%	9%	11%
Vicarious contact with police?	74%	71%	81%	68%	76%	72%
<i>Details of Personal Police Contact</i>						
Age at first stop	(N=238) 13.1 [1.9]	(N=31) 12.7 [2.4]	(N=143) 13.1 [1.8]	(N=43) 13.7 [1.1]	(N=1) 13.	(N=20) 13.4 [2.0]
Number of stops recorded	(N=241) 1.9 [1.5]	(N=31) 1.5 [0.9]	(N=144) 2.0 [1.6]	(N=44) 1.9 [1.5]	(N=1) 1.	(N=21) 2.3 [2.5]
<i>Location of Stop (respondents can select more than 1)</i>						
On the street	77%	70%	89%	43%	0%	62%
In a car	42%	46%	40%	44%	100%	37%
On a bike	4%	5%	4%	1%	0%	2%
At school	25%	15%	27%	29%	0%	35%
Some other place	25%	15%	24%	51%	0%	23%
<i>Intrusion of critical stop</i>						
Frisked?	12%	<1%	16% ***	9%	0%	7%
Searched?	19%	22%	21%	13%	0%	7%
Harsh Language	18%	2%	24% ***	19%	0%	10%

Racial Slurs	8%	2%	11%	<1%	0%	5%
Threatened Force?	8%	2%	11% *	<1%	0%	5%
Used Force	6%	0%	8% **	8%	0%	2%
Intrusion Index	0.71 [1.33]	0.27 [0.63]	0.92** [1.55]	0.5 [0.83]	0*	0.40 [0.85]

Note: All statistics weighted to be representative of FFCWS cities. Age at first stop, number of stops experienced, location of stops, and intrusion of critical stop all measured for teens reporting personal, rather than vicarious, contact.

*P<.05, **P<.01, ***P<.001, comparing minority groups to white group.

DRAFT

Table 4: Results from Logistic Regression Models Predicting Binary Indicator of Adolescent Stop Experience, Odds Ratios and SE's

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Race/Sex Only	Race/Sex Interactions	Model 1 + Age and Y9 Delinquency	Model 3 + Y15 Delinquency	Model 4 +Personal Context	Model 5 +School Context	Model 6 + City FE
Black	2.406 ** [0.664]	2.667 ** [0.877]	2.147 ** [0.622]	1.945 * [0.629]	1.906 * [0.625]	1.829 + [0.613]	1.898 + [0.630]
Hispanic	0.828 [0.258]	0.558 [0.226]	0.708 [0.226]	0.558 + [0.197]	0.527 * [0.172]	0.501 * [0.167]	0.388 * [0.149]
Other Race	0.674 [0.523]	1.147 [1.274]	0.643 [0.514]	0.755 [0.660]	0.77 [0.679]	0.862 [0.792]	0.841 [0.790]
Multiple Races	1.751 [0.812]	1.397 [0.674]	1.456 [0.739]	0.733 [0.366]	0.88 [0.469]	0.902 [0.450]	0.836 [0.433]
Male	4.224 *** [0.739]	4.184 *** [1.741]	4.281 *** [0.801]	4.427 *** [0.908]	4.99 *** [1.015]	4.868 *** [1.008]	5.07 *** [1.058]
Black x Male		0.852 [0.411]					
Hispanic x Male		1.611 [0.895]					
Other Race x Male		0.543 [0.774]					
Mult. Races x Male		1.376 [1.084]					
Age			1.088 [0.188]	0.967 [0.185]	0.92 [0.175]	0.887 [0.168]	0.937 [0.259]
Y9 Delinquency			1.053 [0.062]	0.995 [0.046]	1.002 [0.048]	0.998 [0.048]	0.998 [0.048]
Y15 Delinquency				1.594 *** [0.082]	1.582 *** [0.116]	1.575 *** [0.115]	1.623 *** [0.111]
Y15 Peer Delinquency					1.009 [0.080]	1.008 [0.079]	1.008 [0.074]
Mother < HS					1.054	1.113	1.129

	[0.279]	[0.295]	[0.295]
Mother Some	1.034	1.017	1
College	[0.324]	[0.318]	[0.309]
Mother	1.445	1.446	1.361
College Grad	[0.606]	[0.600]	[0.556]
Mother Ed.	0.045 **	0.044 **	0.052 **
Unknown	[0.043]	[0.045]	[0.051]
Father More	0.718	0.708	0.638 +
Educated	[0.187]	[0.185]	[0.173]
Father Less	0.852	0.884	0.863
Educated	[0.272]	[0.284]	[0.255]
Father Ed.	0.956	1.003	0.96
Unk.	[0.509]	[0.533]	[0.546]
Cohabiting	2.191 *	2.15 *	2.113 *
	[0.680]	[0.669]	[0.649]
Nonresident	1.323	1.294	1.25
	[0.455]	[0.443]	[0.424]
Police at		1.518	1.585
School		[0.454]	[0.487]
<i>City FE (Ref. = Oakland)</i>			
Austin			2.181
			[1.230]
Baltimore			2.671 +
			[1.470]
Detroit			1.895
			[1.081]
Newark			1.073
			[0.614]
Philadelphia			2.707 +
			[1.440]
Richmond			1.993
			[1.165]

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Corpus Christi Indianapolis							3.11 +
							[2.020]
Milwaukee							2.178
							[1.369]
New York							2.627
							[1.621]
San Jose							3.037 +
							[1.893]
Boston							2.483
							[2.103]
Nashville							7.379 **
							[5.419]
Chicago							0.615
							[0.492]
Jacksonville							1.911
							[1.268]
Toledo							1.083
							[0.747]
San Antonio							2.933
							[2.099]
Pittsburgh							4.232 +
							[3.202]
Norfolk							1.095
							[0.969]
Constant	0.084 ***	0.084 ***	0.025	0.094	0.143	0.188	1.262
	[0.021]	[0.024]	[0.066]	[0.276]	[0.418]	[0.542]	[0.922]
N	3036	3036	2811	2792	2618	2555	2555

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Note: All Regression Models weighted to represent 20 FFCWS cities. +P<.10, *P<.05, **P<.01, ***P<.001.

Table 5: Results from OLS Regression Models Predicting Stop Intrusion, Conditional on Personal Stop Experience, Coefficients and SE's

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Race and Sex Only	Race/Sex Interactions	Model 1 + Age and Y9 Delinquency	Model 3 + Y15 Delinquency	Model 4 + Personal Context	Model 5 + School Context	Model 6 + City FE
Black	1.082 *** [0.191]	0.65 ** [0.244]	1.051 *** [0.207]	1.035 *** [0.205]	0.884 *** [0.226]	0.885 *** [0.239]	0.606 * [0.235]
Hispanic	1.034 *** [0.241]	0.234 [0.216]	1.049 *** [0.252]	0.832 ** [0.262]	0.688 * [0.277]	0.711 * [0.287]	0.411 [0.324]
Other Race	1.141 *** [0.317]	-0.268 * [0.129]	1.171 *** [0.344]	1.233 ** [0.428]	1.46 ** [0.507]	1.535 ** [0.538]	1.313 * [0.539]
Multiple Races	1.541 * [0.658]	0.135 [0.208]	1.644 * [0.700]	1.159 * [0.485]	0.953 ** [0.346]	0.963 ** [0.352]	0.913 ** [0.291]
Male	0.707 *** [0.187]	0.114 [0.180]	0.703 *** [0.193]	0.763 *** [0.190]	0.888 *** [0.191]	0.867 *** [0.194]	0.841 *** [0.201]
Black x Male		0.528 [0.330]					
Hispanic x Male		0.959 ** [0.345]					
Other Race x Male		1.683 *** [0.264]					
Mult. Races x Male		1.764 * [0.802]					
Age			0.151 [0.174]	0.063 [0.162]	0.002 [0.143]	0.005 [0.145]	-0.049 [0.213]
Y9 Delinquency			-0.004 [0.043]	-0.063 [0.048]	-0.043 [0.041]	-0.045 [0.041]	-0.042 [0.043]
Y15 Delinquency				0.184 *** [0.036]	0.114 ** [0.038]	0.105 ** [0.038]	0.114 ** [0.041]
Y15 Peer Delinquency					0.075 * [0.038]	0.078 * [0.038]	0.069 + [0.038]

Mother < HS	0.521 + [0.271]	0.525 + [0.273]	0.535 * [0.272]
Mother Some College	0.305 [0.267]	0.32 [0.273]	0.214 [0.271]
Mother College Grad	-0.23 [0.276]	-0.213 [0.287]	-0.364 [0.287]
Mother Ed. Unknown	3.15 *** [0.304]	3.195 *** [0.308]	3.747 *** [0.323]
Father More Educated	0.54 + [0.292]	0.555 + [0.294]	0.5 + [0.283]
Father Less Educated	0.017 [0.201]	0.019 [0.206]	0.056 [0.238]
Father Education Unk.	0.09 [0.373]	0.089 [0.369]	0.191 [0.373]
Cohabiting	-0.107 [0.290]	-0.103 [0.291]	-0.098 [0.299]
Nonresident	-0.068 [0.273]	-0.052 [0.281]	-0.081 [0.291]
Police Officer at School		0.123 [0.193]	0.129 [0.208]
City FE (Ref. = Oakland)			.
Austin			0.088 [0.513]
Baltimore			0.308 [0.486]
Detroit			0.139 [0.527]
Newark			-0.087 [0.536]
Philadelphia			0.34 [0.485]

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Richmond							-0.414
							[0.493]
Corpus Christi							0.146
							[0.603]
Indianapolis							-0.121
							[0.498]
Milwaukee							0.108
							[0.599]
New York							0.297
							[0.530]
San Jose							-0.628
							[0.533]
Boston							0.092
							[0.558]
Nashville							0.599
							[0.795]
Chicago							0.415
							[0.603]
Jacksonville							-0.675
							[0.564]
Toledo							0.308
							[0.601]
San Antonio							-0.001
							[0.607]
Pittsburgh							-0.278
							[0.578]
Norfolk							-0.411
							[0.535]
Constant	-0.211	0.268 *	-2.509	-1.467	-0.785	-0.923	0.027
	[0.186]	[0.129]	[2.639]	[2.474]	[2.246]	[2.268]	[3.481]
N	798	798	749	741	688	672	672

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Table 6: Coefficients from Regression and IPT models predicting Y15 Anxiety, Coefficients and SE's

	Model 1: OLS	Model 2: IPT	Model 3: IPT + N Stops	Model 4: IPT + N stops + Intrusion
	b/se	b/se	b/se	b/se
Ever Stopped	1.102 ** [0.406]	0.833 + [0.459]	1.07 + [0.562]	1.228 * [0.601]
N Stops			-0.136 [0.139]	-0.208 [0.180]
Intrusion				0.591 *** [0.156]
Y9 Anxiety/Depression	0.231 *** [0.062]	0.249 *** [0.069]	0.251 *** [0.069]	0.271 *** [0.071]
Black	-0.015 [0.475]	0.481 [0.577]	0.482 [0.577]	0.186 [0.565]
Hispanic	-0.001 [0.483]	0.27 [0.617]	0.273 [0.617]	0.082 [0.629]
Other Race	-0.269 [0.801]	-0.346 [0.805]	-0.366 [0.811]	-0.209 [0.966]
Multiple Races	0.807 [0.813]	1.013 [0.619]	1.019 + [0.618]	-0.148 [0.725]
Male	-0.543 + [0.307]	-0.067 [0.371]	-0.062 [0.372]	-0.16 [0.400]
Age	0.099 [0.310]	0.157 [0.329]	0.154 [0.329]	0.18 [0.328]
Constant	-0.259 [4.841]	-2.275 [5.309]	-2.266 [5.314]	-3.22 [5.315]
N	2741	2422	2414	2254

Note: IPT Models weighted by the product of FFCWS City Weights and the inverse probability of "ever stopped" estimated in Model 7 of Table 4.

Table 7: Coefficients from Regression and IPT models predicting Y15 PTSD, Coefficients and SE's

	Model 1: OLS		Model 2: IPT		Model 3: IPT + N Stops		Model 4: IPT + N stops + Intrusion	
	b/se		b/se		b/se		b/se	
Ever Stopped	3.595 *** [0.199]		2.711 *** [0.315]		2.596 *** [0.366]		2.605 *** [0.362]	
N Stops					0.056 [0.057]		0.056 [0.057]	
Intrusion							0.034 + [0.018]	
Y9 Anxiety/Depression	0.024 [0.023]		0.011 [0.009]		0.01 [0.009]		0.01 [0.010]	
Black	0.136 [0.129]		0.195 * [0.096]		0.187 + [0.096]		0.181 + [0.102]	
Hispanic	0.042 [0.127]		0.022 [0.072]		0.02 [0.072]		0.011 [0.079]	
Other Race	-0.352 [0.286]		-0.452 [0.307]		-0.441 [0.300]		-0.578 [0.363]	
Multiple Races	0.022 [0.212]		0.075 [0.073]		0.071 [0.073]		0.011 [0.086]	
Male	0.064 [0.062]		0.142 + [0.083]		0.136 + [0.082]		0.148 + [0.088]	
Age	-0.046 [0.087]		-0.031 [0.032]		-0.031 [0.031]		-0.029 [0.034]	
Constant	0.259 [1.299]		0.25 [0.456]		0.248 [0.452]		0.214 [0.490]	
N	2723		2408		2400		2240	

Note: IPT Models weighted by the product of FFCWS City Weights and the inverse probability of "ever stopped" estimated in Model 7 of Table 4.

APPENDIX 1. SURVEY ITEMS FOR KEY MEASURES

Table A1.1: Survey Items Used to Measure Stop Intrusion, Y15
“In the stop that stands out most in your mind, did the officer...”

- ...frisk you/pat you down?
 - ...search your bags or clothes?
 - ...use harsh or insulting language?
 - ...use racial slurs?
 - ...threaten physical force?
 - ...use physical force?
-

Note: Questions were asked of adolescents reporting either personal or vicarious contact with the police, and answered “yes” or “no”, referring to “the stop that stands out the most in their minds”. $\alpha=0.71$.

Table A1.2: Survey Items Used to Measure Anxiety, Y15
“To what extent do you agree or disagree with the following statements?”

- I have spells of terror or panic.
 - I feel tense or keyed up.
 - I get suddenly scared for no reason.
 - I get nervous or shaky inside.
 - I feel fearful.
 - I feel so restless I can't sit still.
-

Note: Respondents report whether they Strongly Disagree (0), Disagree (1), Agree (2), or Strongly Agree (3) with each statement, and items are added to form a scale. $\alpha=0.77$.

Table A1.3: Survey Items Used to Measure PTSD Symptoms, Y15

- Remembering this experience brings back your feelings about the time you were stopped.
 - Other events in your life lead you to think about the time you were stopped.
 - You think about the time you were stopped even when you do not mean to.
 - Pictures of the time you were stopped sometimes pop into your mind.
 - You try not to remember and think about the time you were stopped.
 - Your feelings about the time you were stopped are kind of numb.
 - You have tried to remove the time you were stopped from your memory.
 - You try not to talk about the time you were stopped.
 - Reminders about the time you were stopped cause you to have physical reactions, such as sweating, trouble breathing, or a pounding heart.
-

Note: Questions were asked of adolescents reporting personal contact with the police. Respondents are asked whether they “Agree” or “Disagree” with

each statement, referring to “the stop that stands out the most in their minds”. $\alpha=0.74$.

Table A1.4: Survey Items Used to Measure Early Delinquency, Y9
Have you ever...

- ...Purposely damaged or destroyed property?
 - ...Taken or stolen something?
 - ...Taken money at home?
 - ...Cheated on a school test?
 - ...Had a fist fight with another person?
 - ...Hurt an animal on purpose?
 - ...Gone into somebody’s garden/yard/house/garage when you were not supposed to?
 - ...Run away from home?
 - ...Skipped school without an excuse?
 - ...Secretly taken a sip of wine, beer, or liquor?
 - ...Smoked marijuana, grass, pot, or weed?
 - ...Smoked a cigarette or used tobacco?
 - ...Been suspended or expelled from school?
 - ...Written things or sprayed paint on walls or sidewalks or cars?
 - ...Purposely set fire to a building, car, or other, or tried to do so?
 - ...Avoided paying for things such as movies, bus or subway, or food?
 - ...Thrown rocks or bottles at people or cars?
-

Note: Respondents were asked whether they ever participated in each behavior, and gave answers of “yes” or “no”. $\alpha=0.70$

Table A1.5: Survey Items Used to Measure Delinquency, Y15
 In the past 12 months, did you do the following things never, 1 or 2 times, 3 or 4 times, or 5 or more times?

- ...Paint graffiti or signs on someone else's property or in a public place?
 - ...Deliberately damage property that didn't belong to you?
 - ...Taken something from a store without paying for it?
 - ...Get into a serious physical fight?
 - ...Hurt someone badly enough to need bandages or care from a doctor or nurse?
 - ...Drive a car without its owner's permission?
 - ...Steal something worth more than \$50?
 - ...Go into a house or building to steal something?
 - ...Use or threaten to use a weapon to get something from someone?
 - ...Sell marijuana or other drugs?
 - ...Steal something worth less than \$50?
 - ...Take part in a fight where a group of your friends was against another group?
 - ...Were you loud, rowdy, or unruly in a public place?
 - Have you ever smoked an entire cigarette?
 - Have you had a drink of beer, wine, or liquor... more than 2-3 times in your life while you were not with your parents?
 - Have you ever tried marijuana
-

Note: Responses were coded into a binary indicator of whether respondents had or hadn't done each activity. $\alpha=0.77$

Table A1.6: Survey Items Used to Measure Peer Delinquency, Y15
 In the past 12 months, have the friends you spend time with often, sometimes, or never...

- ...Smoked an entire cigarette?
 - ...Had a drink of beer, wine, or liquor... more than 2-3 times while they were not with their parents?
 - ...Tried marijuana?
 - ...Tried other types of prescription drugs or other substances to get high?
 - ...Asked you to go drinking with them?
 - ...Given or sold marijuana to you?
 - ...Deliberately damaged property that didn't belong to them?
 - ...Stolen something worth more than \$50?
 - ...Used or threatened to use a weapon to get something from someone?
 - ...Sell marijuana or other drugs?
 - ...Stolen something worth less than \$50?
-

Note: Responses were coded into a binary indicator of whether respondents' friends had or hadn't done each activity. $\alpha=0.76$

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