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Weapon-Carrying Among Boys in US Schools by Race/Ethnicity: 1993-2019

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CONFLICT OF INTEREST DISCLOSURES

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ABBREVIATIONS:

AA – African American

BIPOC - Black, Indigenous and People of Color

CI – 95% Confidence Interval

GFSA - Gun Free Schools Act

NH – Non-Hispanic

US – United States

YRBS - Youth Risk Behavior Surveillance System

ARTICLE SUMMARY

Boys' weapon-carrying in schools has declined but remains linked to unsafe school climates. In safer school climates, Non-Hispanic White boys have carried weapons most often.

WHAT IS KNOWN ON THIS SUBJECT

Racist stereotypes portray males of color as more dangerous than White males. Previous pooled analyses concluded that Black high school students more often carried guns than White students, but pooling could have hidden different long-term trends by race/ethnicity.

WHAT THIS STUDY ADDS

Our study contradicts racist stereotypes. When comparing all schools, we found no differences in weapon-carrying by race/ethnicity. Weapon-carrying was associated with unsafe school climates. In schools perceived as safer, Non-Hispanic White boys carried weapons more often than boys of color.

CONTRIBUTORS' STATEMENT

Drs. Jewett, Borowsky, and Gangnon conceptualized and designed the study and study methods, analyzed and interpreted the data, drafted the initial manuscript, and reviewed and revised the manuscript.

Drs. Kafka, Areba, and Malecki analyzed and interpreted the data, contextualized the findings, and critically reviewed and revised the manuscript for intellectual content.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

ABSTRACT

Background: High adolescent gun-related mortality, gun-violence, pro-gun policies, white supremacy, and the long-term socioeconomic and other effects of racial oppression are intricately linked in the United States. Racist prejudice depicts male individuals of color as more prone to criminality than White males. We described long-term patterns of weapon-carrying in US schools among Non-Hispanic White, Non-Hispanic Black/African American, and Hispanic boys, hypothesizing that in contrast to racist stereotypes, boys of color did not bring weapons into schools more often than Non-Hispanic White boys in recent years.

Methods: We conducted a time series analysis using 1993-2019 Youth Risk Behavior Surveillance System data comparing boys' self-reported weapon-carrying in a nationally representative sample of US high schools by race/ethnicity and age, and by self-reported experience of safety and violence at school.

Results: Weapon-carrying in schools has declined among all boys. Comparing all schools, we found no significant differences in weapon-carrying (4-5%) by race/ethnicity in 2017/2019. Boys who reported experiencing violence or feeling unsafe at school were at least twice as likely to bring a weapon into school, and such negative experiences were more common among boys of color (8-12%) than Non-Hispanic White boys (4-5%). In schools perceived as safer, Non-Hispanic White boys have been more likely to bring weapons into schools than Non-Hispanic Black/African American or Hispanic boys in the past 20 years.

Conclusion: Our findings contradict racist prejudice with regards to weapon-carrying in schools, particularly in more favorable school environments. Making school safer may reduce weapon-carrying in schools where weapon-carrying is most common.

INTRODUCTION

Gun-related deaths are the second leading cause of mortality among children and adolescents in the United States (US);¹ 2010 gun homicide rates among 15-24 year-olds were 49 times higher than in other high-income countries.^{2,3} In the past decade, there has been a growing epidemic of mass shootings in the US, including in schools.⁴ In other countries, mass shootings have led to bans of assault weapons, for example in New Zealand after the Christchurch massacre, or in Australia after the Port Arthur massacre.⁵ However, US federal legislation has not curbed access to guns, including access to military-style weapons that can kill a large number of people within seconds. The vast majority of perpetrators in US mass shootings have been White males.⁶

There are known connections between White supremacy groups and gun-lobbying,⁷ and gun ownership rates are highest among White males.⁸ In contrast, gun-related mortality is higher among Black, Indigenous, and People of Color (BIPOC) than among White people,⁹ with stronger support for stricter gun control in Black than in White communities.¹⁰ Racial bias, and distorted perceptions of criminality and violence are evidence of societal racism,¹⁰⁻¹³ including media coverage which often frames incidents of violence with victims of color in ways that suggest moral shortcomings among victims, while emphasizing the presumed innocence of White victims of violence.¹⁴ The consequence of such continued racialized misrepresentations of violence is that BIPOC are treated with greater suspicion and severe repercussions, often with threats to their lives and incarceration.¹⁵ Conversely, White individuals receive relative leniency; with the clement treatment of overwhelmingly White armed insurgents at the US Capitol in January 2021 as a salient example, which was in sharp contrast to police brutality which BIPOC communities often experience.¹⁶ Historic and continuing racism affects all racial groups in our

society and remains a root cause for greater poverty rates, fewer opportunities, and poorer health outcomes among many BIPOC communities.^{13,17-19}

The biennial cross-sectional Youth Risk Behavior Surveillance System (YRBS) survey has been conducted by the Centers for Disease Control and Prevention since 1991, collecting data on adolescents' risk behaviors, including self-reported gun carrying and bringing weapons to school among high school students in the US. A recent study based on 1993-2017 YRBS data found a decline in self-reported gun-carrying among adolescents since 1993. This study found that in a pooled analysis, being Black was associated with increased odds of carrying a gun.²⁰ In contrast, a study based on 2005 YRBS data found that Black students were less likely to report bringing a weapon into school than White students.²¹ This apparent contradiction may be explained by differences in methodology, or reflect differential impacts of policies on racial/ethnic groups since the 1990s. The 1993-2017 study examined self-reported gun-carrying, not weapon-carrying in schools; furthermore, pooling data over twenty-five years may hide differential trends by race/ethnicity over time. Findings from these two studies suggest more in-depth analyses examining self-report of weapon-carrying at school are needed.

We used 1993-2019 YRBS data to describe time trends in weapon-carrying at US high schools, comparing racial/ethnic groups. To better understand the association between school environments and weapon-carrying behaviors, we differentiated between schools by students' self-reported violence and safety experience at school. We hypothesized that weapon-carrying at school, similarly to gun-carrying, declined since 1993, and that weapon-carrying would be linked

to experiences of violence and unsafe school environments. Given stronger support for gun control in populations of color vs. stronger gun-lobbying in White populations, we hypothesized that in recent years, we would find no evidence that non-Hispanic (NH) Black/African American (AA) and Hispanic students were more likely to bring weapons into schools than NH White students. Since perpetrators of school shootings have been overwhelmingly male in the US, we restricted our analyses to boys.

METHODS

Data source and study population

We used data from the 1993-2019 YRBS surveys. Methods for recruitment and administration of the YRBS have been previously published.²² In brief, eligible YRBS participants include a representative sample of students among US public and private high schools. Students complete the surveys during the school day, administered by teachers and school administrators. All data are self-reported and remain confidential. Annual and the combined 1991-2019 data are publicly available, including questions on weapon-carrying at schools added in 1993. We used the publicly available combined 1993-2019 national YRBS dataset with responses from 205,068 students, of which 100,097 identified as male. Of those, 88,393 boys were NH Black/AA, Hispanic, or NH White with non-missing data on weapon-carrying at school.

Measures

We categorized race/ethnicity as NH White vs. NH Black/AA vs. Hispanic (the latter including the YRBS categories “Hispanic/Latino” and “Multiple-Hispanic”). Small sample sizes prohibited quantitative analyses of other racial/ethnic groups.

Our main outcome was self-reported weapon-carrying at school in the past 30 days (“During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?”). We used the dichotomous version: never (0 days) vs. ever bringing a weapon into school (1 day, 2 or 3 days, 4 or 5 days, 6 or more days).

We stratified by age, perceived safety at school, and school violence. Age was dichotomized as ≤ 16 years versus ≥ 17 years. Participants’ safety and violence experience at school (termed ‘school climate’ in this manuscript) was derived from the following: 1) perceived school safety (“During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?”); 2) having been threatened/injured (“During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?”), and 3) getting into physical fights (“During the past 12 months, how many times were you in a physical fight on school property?”). We categorized each of these variables as never (0 times) vs. ever (1 or more times) vs. more often (2 or more times).

Statistical analyses

We conducted a time trend analysis using weighted frequencies of carrying a weapon at school in the past 30 days (1993-2019) by survey year, race/ethnicity, and age group. We depicted joint

probabilities of race/ethnicity in each age group with self-reported weapon-carrying at school, aggregated over all schools and differentiating between schools according to students' self-reported school climate (safety, injuries or threats, physical fights). Rather than pooling the data, disaggregating by survey year, racial/ethnic group, and school climate captures variations in time trends that may be traced to policy and other structural changes over time. We visualized these time series using the R ggplot2 and tidyverse packages, showing smoothed curves, weighted based on the inverse variance of the point estimates.^{23,24} We visualized school climates by age and racial/ethnic group from 1993-2019 in the same manner. We used logistic regression by survey year to determine linear time trends in weapon-carrying at school. All quantitative analyses accounted for the YRBS survey weights, which make the sample representative of US high schools, using the SURVEYFREQ and SURVEYLOGISTIC procedures in SAS 9.4, Cary, NC.²⁵

RESULTS

Overall prevalence of weapon-carrying in schools dropped substantially between 1993 and 2019. These trends were consistent across all racial/ethnic and age groups. Stratified analyses by students' experience of safety and violence in schools also showed consistent declines in weapon-carrying (linear time trend, $P < .0001$ for all groups; Figures 1-4). In 2017/2019, 4.6%, 95% confidence interval (CI) 3.9-5.4, of all boys reported bringing a weapon into school (across all schools), without evidence for significant differences in weapon-carrying by race/ethnicity; Table 1.

In 2017/19, 93.3% (CI 92.5-94.1) of all boys reported that they never missed school in the past 30 days because they felt unsafe, 92.3% (CI 91.6-92.9) that they were never threatened or injured at school in the past 12 months, and 88.6% (CI 87.6-89.5) that they were never in a physical fight at school in the past 12 months; Table 1.

Higher levels of negative school experience were associated with more frequent weapon-carrying in all racial/ethnic and age groups. Prevalence of weapon-carrying was at least two times higher among students who reported ever feeling unsafe or ever experiencing violence at school compared to those who did not (Table 1). Such negative experiences were more common among NH Black /AA and Hispanic boys compared with NH White boys. For example, 10.2% (CI 7.5-12.8) of NH Black/AA and 9.7 (CI 8.2-11.1) of Hispanic boys missed school at least once because of safety concerns compared to 4.5% (CI 3.8-5.3%) of NH White boys; and 10.2% (CI 8.3-12.0) of NH Black/AA boys compared to 7.1% (CI 6.3-7.8) of NH White boys were threatened or injured at school at least once in the past 12 months, Table 1. Experiences of perceived unsafety and threats/injuries at school have not substantially changed over time, especially for NH Black/AA and Hispanic boys (supplemental Figures 1-3).

We found that at schools in which students reported never missing school due to safety concerns, never being threatened or injured, or never being in physical fights - meaning in the vast majority of schools – NH White boys have been more likely to bring weapons into school compared with NH Black/AA and Hispanic boys since the late 1990s, especially among boys aged ≥ 17 years (Figures 2-4). In 2017/19, there were no significant differences in weapon-carrying at schools where students reported never missing school because of safety concerns, Table 1; but NH White boys were more likely than NH Black/AA or Hispanic boys to report bringing weapons into

schools where they had never been threatened/injured (NH White 4.0% [CI 3.0-5.1] vs. NH Black/AA 2.9% [CI 1.7-4.1] vs. Hispanic, 2.4% [CI 1.7-3.1]), as well as in schools where they reported never having been in physical fights (NH White 3.8% [CI 2.7-4.8] vs. NH Black/AA 2.6% [CI 1.5-3.7] vs. Hispanic, 2.4% [CI 1.7-3.1]), Table 1.

At schools in which students reported safety concerns or being in physical fights, differences in weapon-carrying by race/ethnicity were not significant in 2017/2019, Table 1. In schools where students reported having been threatened or injured, NH Black/AA and Hispanic boys more often reported bringing weapons into schools than NH White boys (2017/2019; NH Black/AA 28.7% [CI 18.8-38.5] vs. Hispanic, 24.5% [CI 17.6-31.4] vs. NH White, 13.2% [CI 8.7-17.7]; Table 1). In further examination of these results, we found that within the ‘ever threatened’ category, NH White boys more often reported being threatened/injured only one time, compared to NH Black/AA and Hispanic boys who more often reported being threatened/injured ≥ 10 times in the past 12 months; and more frequent threats/injuries were associated with greater odds of weapon-carrying, Supplemental Tables 1 and 2.

DISCUSSION

As hypothesized, we found significant declines in weapon-carrying in schools among high school-aged boys between 1993 and 2019 across all racial/ethnic and age groups, and no differences in weapon-carrying by race/ethnicity when comparing all schools in 2017/2019. Experiences of unsafety were linked to more frequent weapon-carrying, and NH Black/AA and Hispanic boys more often reported such negative school experiences than NH White boys. We found that in schools perceived as safer, NH White boys have been more likely to carry weapons

than NH Black/AA or Hispanic boys since the late 1990s, with the opposite pattern in schools where students experienced threats/injuries.

Racist prejudice continues to shape our perceptions of males of color as more threatening and prone to criminality than White males. Contrary to such stereotypes, when looking at weapon-carrying behaviors among high-school-aged boys, our findings point to the opposite: aggregated over all schools, we could not find significant differences in weapon-carrying by race/ethnicity in recent years; and more compellingly, we found that in more favorable school climates, NH White boys have been more likely than NH Black/AA or Hispanic boys to bring weapons into school in the past 20 years. NH White boys, especially aged ≥ 17 , and not NH Black/AA or Hispanic boys, have posed the greater threat with regards to bringing weapons into schools that were perceived as safer.

Our findings are consistent with a previous study on 2005 YRBS data,²¹ but do not allow us to draw causal conclusions. However, we can provide some context. Violence and crime rates peaked in the US in the early 1990s. Since then, crime and violence have declined dramatically in all spheres of life in the US.²⁶ In 1994, the Gun Free Schools Act (GFSA) was passed, with a federal mandate that students who bring weapons into schools be suspended for a year.²⁷ However, neither the GFSA, nor general declines in crime explain why NH White boys have been more likely than boys of color to bring weapons into safer school environments in the past 20 years. In conjunction with the GFSA, “zero tolerance” policies were implemented in US schools. These policies are characterized by severe punishment for small and serious infractions,

and are unevenly distributed across schools and student populations, with BIPOC students often experiencing harsher punishments than White students.^{28,29} Not only have these policies been criticized as racist and counterproductive,^{30,31} but our study also suggests that these policies may be ineffective in identifying a small group of White boys who have been bringing weapons into relatively safer schools at higher rates than students of color.

We found that in schools where students experienced unsafety and violence, weapon-carrying was more common; and NH Black/AA and Hispanic boys were more likely to bring weapons into schools where they were threatened/injured. We contextualized the latter finding by revealing that the ‘ever threatened/injured’ category disguised on average more violent school experiences among NH Black/AA and Hispanic boys than among NH White boys. Together, these findings suggest that addressing school climates may be effective at reducing weapon-carrying at schools.

Do our observations suggest that weapon-carrying has been more restricted among boys of color than among NH White boys? This hypothesis seems plausible given persistent racism, policing of persons of color, and evidence that White individuals are often allowed to openly carry guns whereas individuals of color merely suspected of carrying any weapon have to fear for their lives.^{12,13,32} Furthermore, Black students are more often affected by school shootings; however, school shootings in primarily White schools tend to result in a greater number of casualties per incident,⁴ suggesting different intent or more dangerous weapons. School shootings that received wide media attention such as Sandy Hook and Stoneman Douglas were carried out by White

perpetrators, but we were unable to find published summary data on perpetrator demographics or weapons used of all shootings in the US.

Interventions to improve school climates are necessary at multiple levels, not just at schools, and must acknowledge that US schools are racialized institutions.³³ Interventions include federal and state policies such as permit-to-purchase and extreme risk laws, raising the minimum age for gun purchases, secure firearm storage, and background checks;³⁴⁻³⁶ investment into low-income neighborhoods;¹⁹ prosecuting hate crimes, and holding police accountable for unnecessary force against and over-policing of BIPOC communities.³⁷ At a societal level, we must root out white supremacy in military and law enforcement institutions,³⁷ stop pitting different racial/ethnic population groups against each other,³⁸ close opportunity gaps through access to educational resources,^{18,39} and expand mental health services, trauma-informed and positive youth development,⁴⁰ conflict resolution programs, and antiracist curricula which normalize and center the life experiences of BIPOC communities. Often, we can draw from what already works: nationwide, community initiatives have successfully reduced local violence and addressed the impact of white supremacy.^{41,42}

Our knowledge on gun violence is limited even after decades of mass shootings in the US. Until 2019, research on gun violence was impeded by the Dickey amendment,⁴³ and state laws continue to prohibit research that could help prevent future violence. For example, the Minnesota statute 144.05⁴⁴ blocks the state commissioner of health “from collecting data on individuals regarding lawful firearm ownership in the state or data related to an individual's right to carry a

weapon”. Given unabated suffering from gun violence in the US, we are left to wonder for whose benefit such laws are in place.

Limitations

Our study has limitations. These cross-sectional data allow for examining time trends in weapon-carrying but do not allow causal conclusions. Instead, we provided historical context and highlighted unanswered questions and gaps in the literature, which will have to be further examined in future studies. We examined perceptions of safety and violence in school, but other potential confounders (for example socioeconomic status) were unavailable, as were measures of experiences of racism. There is a growing recognition of racism as a priority public health issue.⁴⁵ The YRBS measures describing safety and violence at school, for example, never having missed school in the past 30 days due to safety concerns, do not adequately describe ‘safe’ schools: many factors can contribute to students feeling unsafe before they miss a day of school. Furthermore, implications of safety and violence measures may vary by race/ethnicity: our supplemental analysis demonstrated that having ever been threatened disguised on average worse school experiences for students of color. Future research should probe the types of threats experienced by different racial/ethnic groups which may have important implications for school programs and policies.

CONCLUSIONS

This systematic assessment of weapon-carrying in US high schools over the past 26 years highlights important areas for future research. The patterns of weapon-carrying we found confirmed that unsafe school environments are linked to increased weapon-carrying and contradict prevailing racist stereotypes: in schools perceived as safer, NH White boys have been most likely to carry weapons in the past 20 years. We found it disturbing how few reliable data we were able to find to contextualize our findings, for example, aggregated demographic data on gun perpetrators and gun sales. That such basic information is not easily accessible in the US where guns kill almost 40,000 individuals each year⁴⁶ demonstrates the vast knowledge gaps left behind by 25 years of suppressed public health research on gun violence. Neither general declines in crime rates, nor the GFSA or zero tolerance approaches have prevented an epidemic of mass shootings and every-day gun violence, in schools and elsewhere. We believe this work offers an important foundation for much needed research to disentangle the intertwined phenomena of racism, toxic environments of violence, and gun- and weapon-culture in the US.

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Table 1 Characteristics of the study population of boys, by race/ethnicity, YRBS 2017-2019

	All weighted % (95% CI)	Non-Hispanic White weighted % (95% CI)	Non-Hispanic Black/AA weighted % (95% CI)	Hispanic weighted % (95% CI)	P- value*
Age					0.04
<17	61.5 (60.1-62.8)	60.1 (58.6-61.7)	63.5 (60.3-66.8)	63.2 (60.6-65.8)	
17+	38.5 (37.2-39.9)	39.9 (38.3-41.4)	36.5 (33.2-39.7)	36.8 (34.2-39.4)	
Missed school in past 30 days because felt unsafe					
0 times	93.3 (92.5-94.1)	95.5 (94.7-96.2)	89.8 (87.2-92.5)	90.3 (88.9-91.8)	<0.0001
1+ times	6.7 (5.9-7.5)	4.5 (3.8-5.3)	10.2 (7.5-12.8)	9.7 (8.2-11.1)	<0.0001
2+ times	3.5 (3-3.9)	2.3 (1.8-2.7)	6.3 (4.4-8.1)	4.6 (3.7-5.6)	<0.0001
Was threatened/injured at school in past 12 months					
0 times	92.3 (91.6-92.9)	92.9 (92.2-93.7)	89.8 (88-91.7)	92.2 (91-93.4)	0.002
1+ times	7.7 (7.1-8.4)	7.1 (6.3-7.8)	10.2 (8.3-12)	7.8 (6.6-9)	0.002
2+ times	4.5 (4-4.9)	3.8 (3.2-4.4)	6.7 (5.1-8.3)	4.6 (3.7-5.6)	0.0003
In physical fight in past 12 months					
0 times	88.6 (87.6-89.5)	89.9 (88.8-90.9)	82.3 (79.6-85.1)	89.1 (87.4-90.8)	<0.0001
1+ times	11.4 (10.5-12.4)	10.1 (9.1-11.2)	17.7 (14.9-20.4)	10.9 (9.2-12.6)	<0.0001
2+ times	4.3 (3.7-4.9)	3.5 (2.8-4.1)	6.9 (5.2-8.6)	4.8 (3.5-6.1)	<0.0001
Weapon-carrying at school in past 30 days					
Any school	4.6 (3.9-5.4)	4.7 (3.6-5.8)	5.4 (3.7-7.1)	4.1 (3.4-4.9)	0.39
In schools where student reported missing school in past 30 days because they felt unsafe					

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0 times	3.8 (3.1-4.6)	4.2 (3.1-5.3)	3.5 (2.0-4.9)	3.1 (2.4-3.9)	0.21
1+ times	13.6 (9.7-17.6)	11.9 (6.4-17.4)	18.8 (8.7-28.8)	12.8 (7.4-18.2)	0.33
2+ times	20.3 (14.4-26.3)	16.7 (7.6-25.8)	22.1 (8.9-35.2)	23.1 (13.7-32.5)	0.59
In schools where student reported being threatened/injured in past 12 months					
0 times	3.4 (2.7-4.2)	4.0 (3.0-5.1)	2.9 (1.7-4.1)	2.4 (1.7-3.1)	0.01
1+ times	19.2 (15.5-22.8)	13.2 (8.7-17.7)	28.7 (18.8-38.5)	24.5 (17.6-31.4)	0.001
2+ times	23.6 (18.2-28.9)	15.8 (9.1-22.5)	34.1 (22.5-45.7)	29.4 (20-38.8)	0.005
In schools where student reported being in physical fight in past 12 months					
0 times	3.2 (2.6-3.9)	3.8 (2.7-4.8)	2.6 (1.5-3.7)	2.4 (1.7-3.1)	0.04
1+ times	14.2 (11.7-16.7)	12.6 (9.4-15.7)	15.3 (9.2-21.4)	16.6 (11.5-21.8)	0.4
2+ times	25.9 (20-31.8)	22 (13.3-30.8)	30.4 (17.6-43.3)	28.7 (17.6-39.9)	0.48

* Bold values indicate P-values <.05

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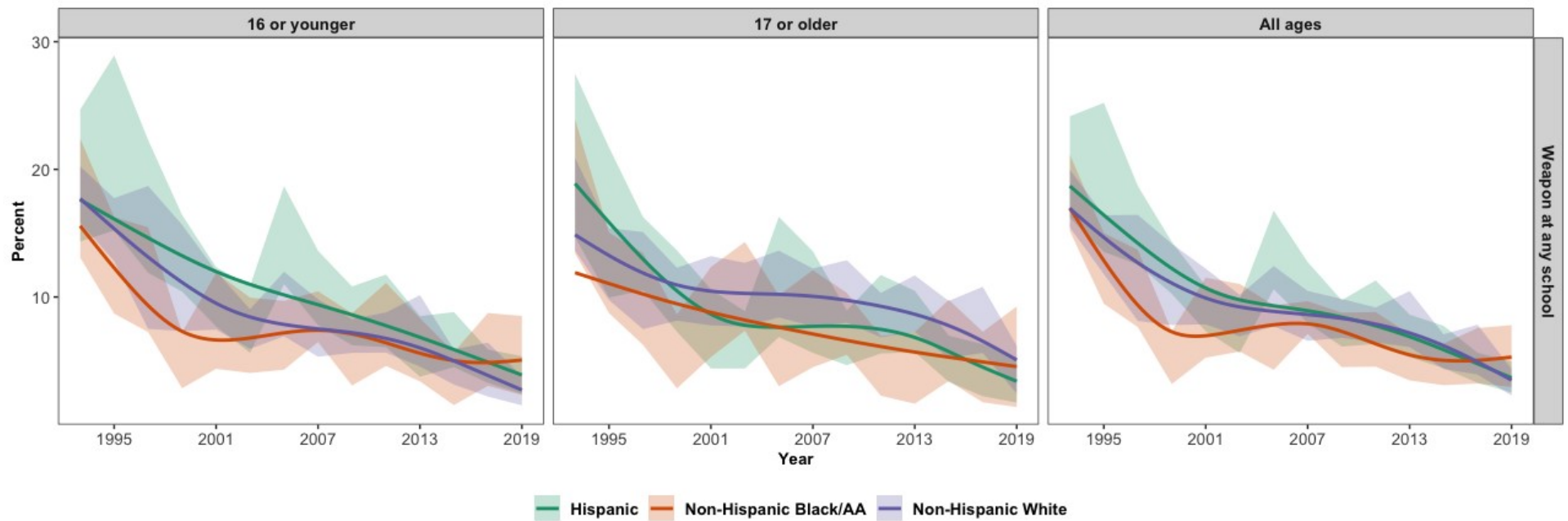


Figure 1 Time trends in weapon-carrying at school by age and race/ethnicity (any school), YRBS 1993-2019

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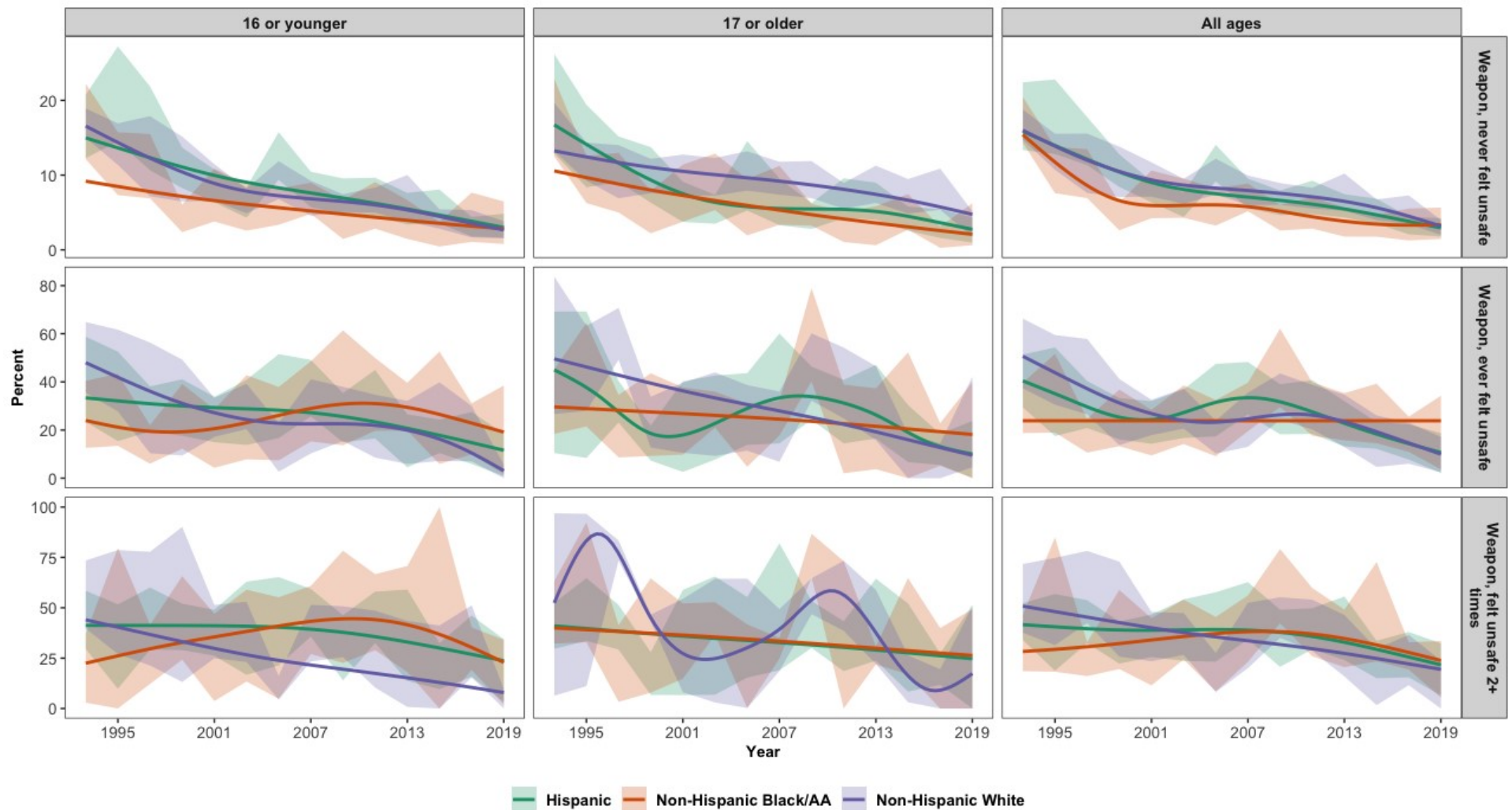


Figure 2 Time trends in weapon-carrying at school by age and race/ethnicity (by safety experience at school in past 30 days), YRBS 1993-2019

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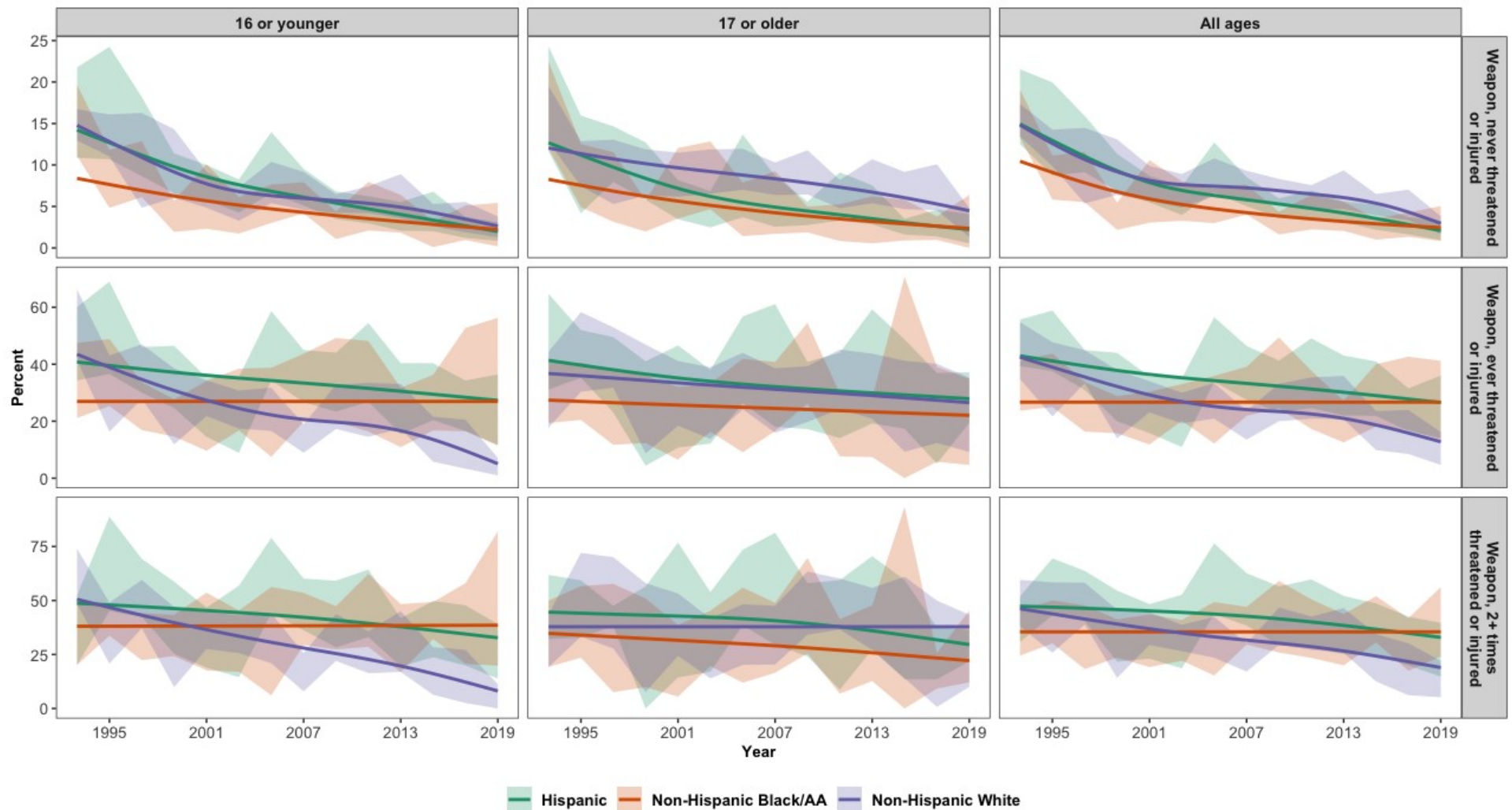


Figure 3 Time trends in weapon-carrying at school by age and race/ethnicity (by being threatened/injured at school in past 12 months), YRBS 1993-2019

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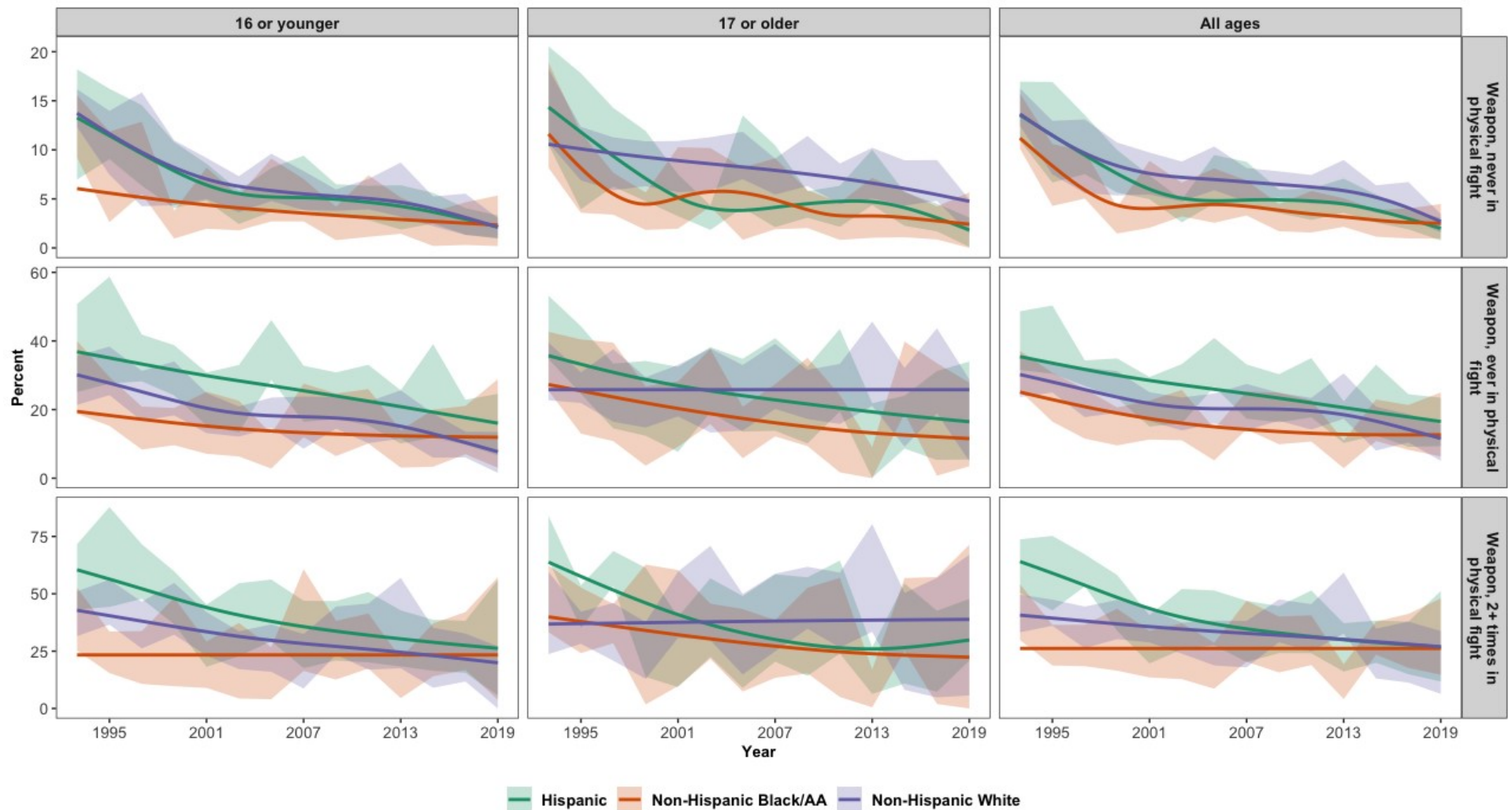
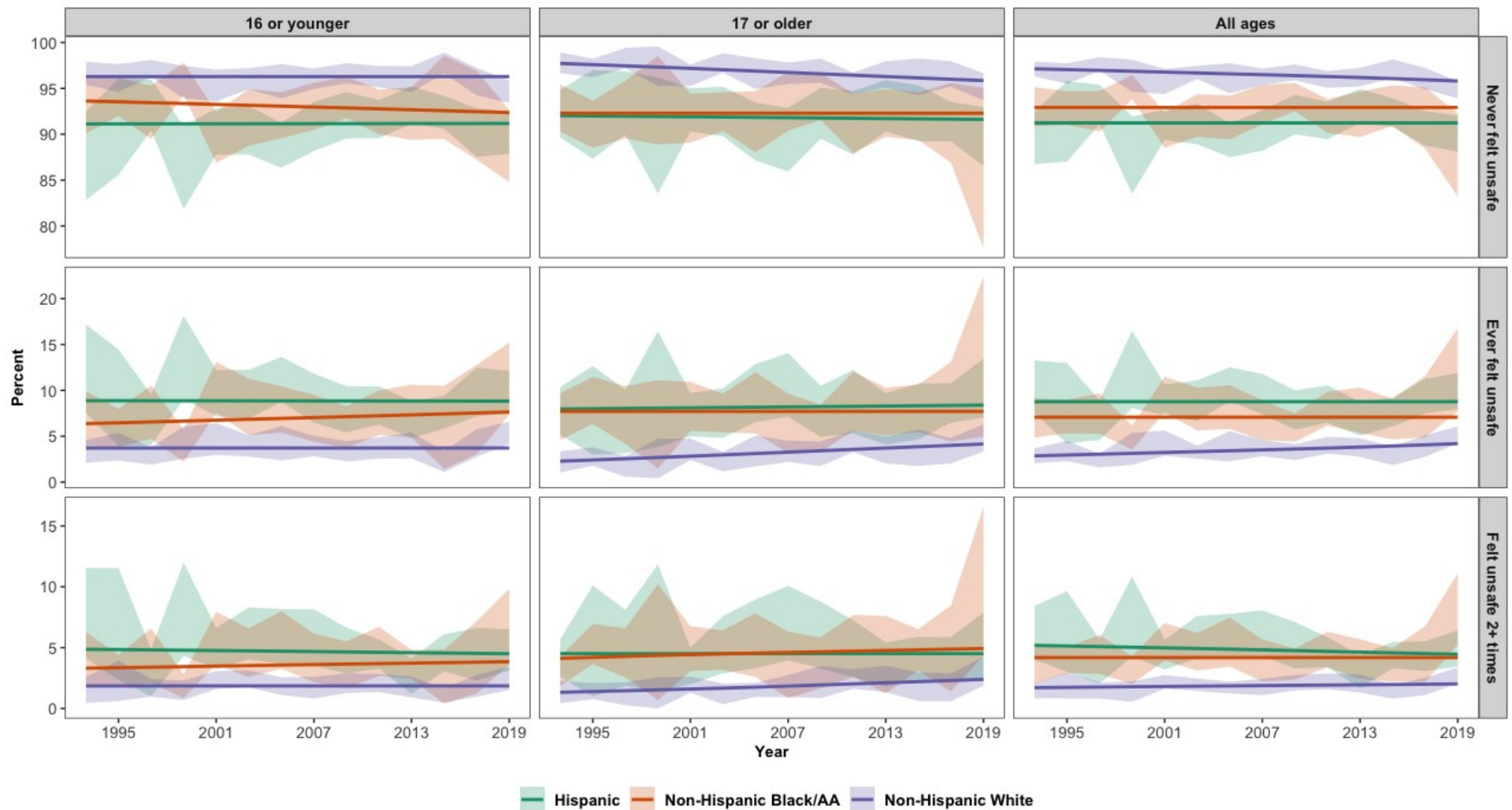


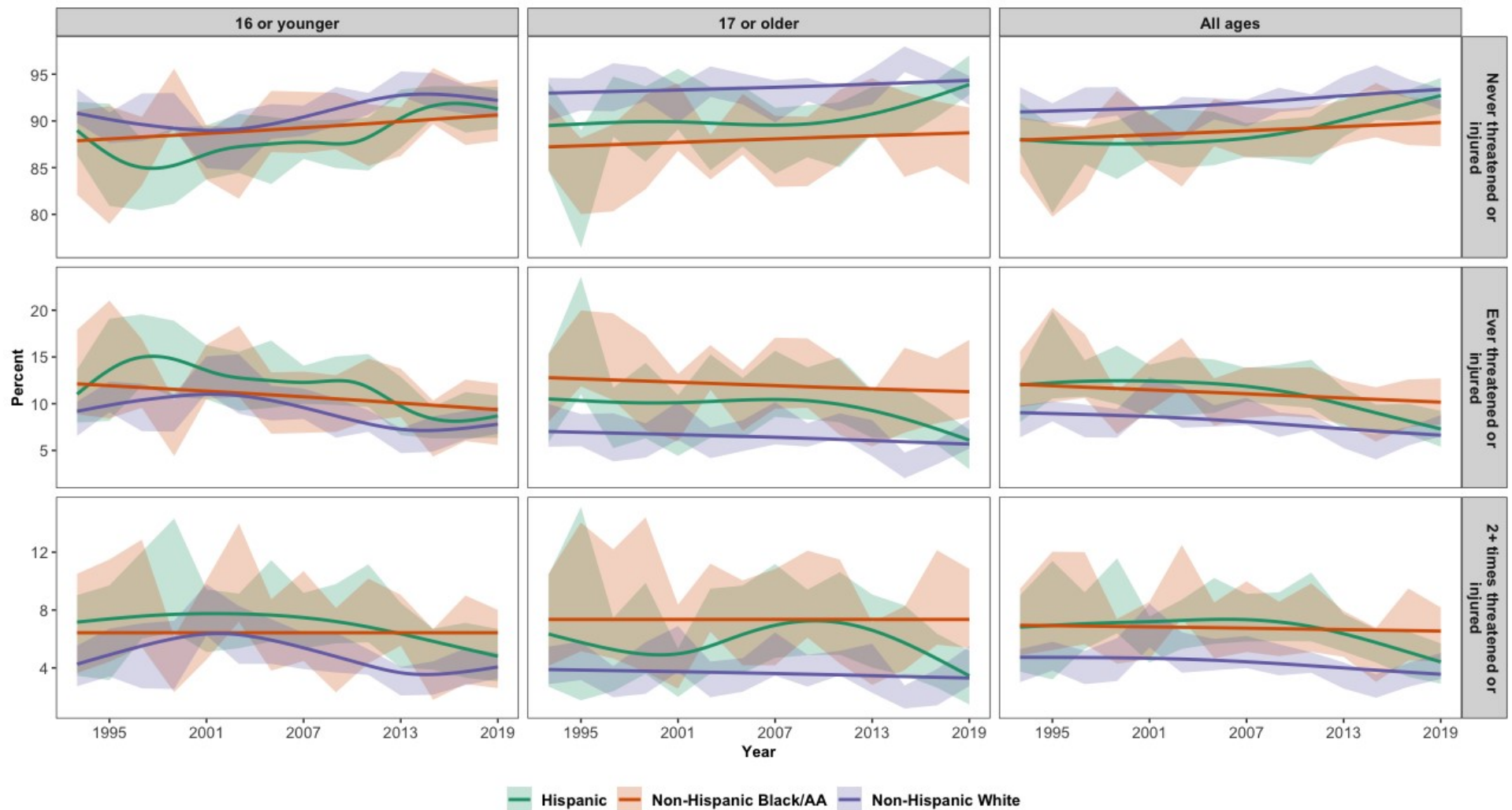
Figure 4 Time trends in weapon-carrying at school by age and race/ethnicity (by having been in physical fight at school in past 12 months), YRBS 1993-2019

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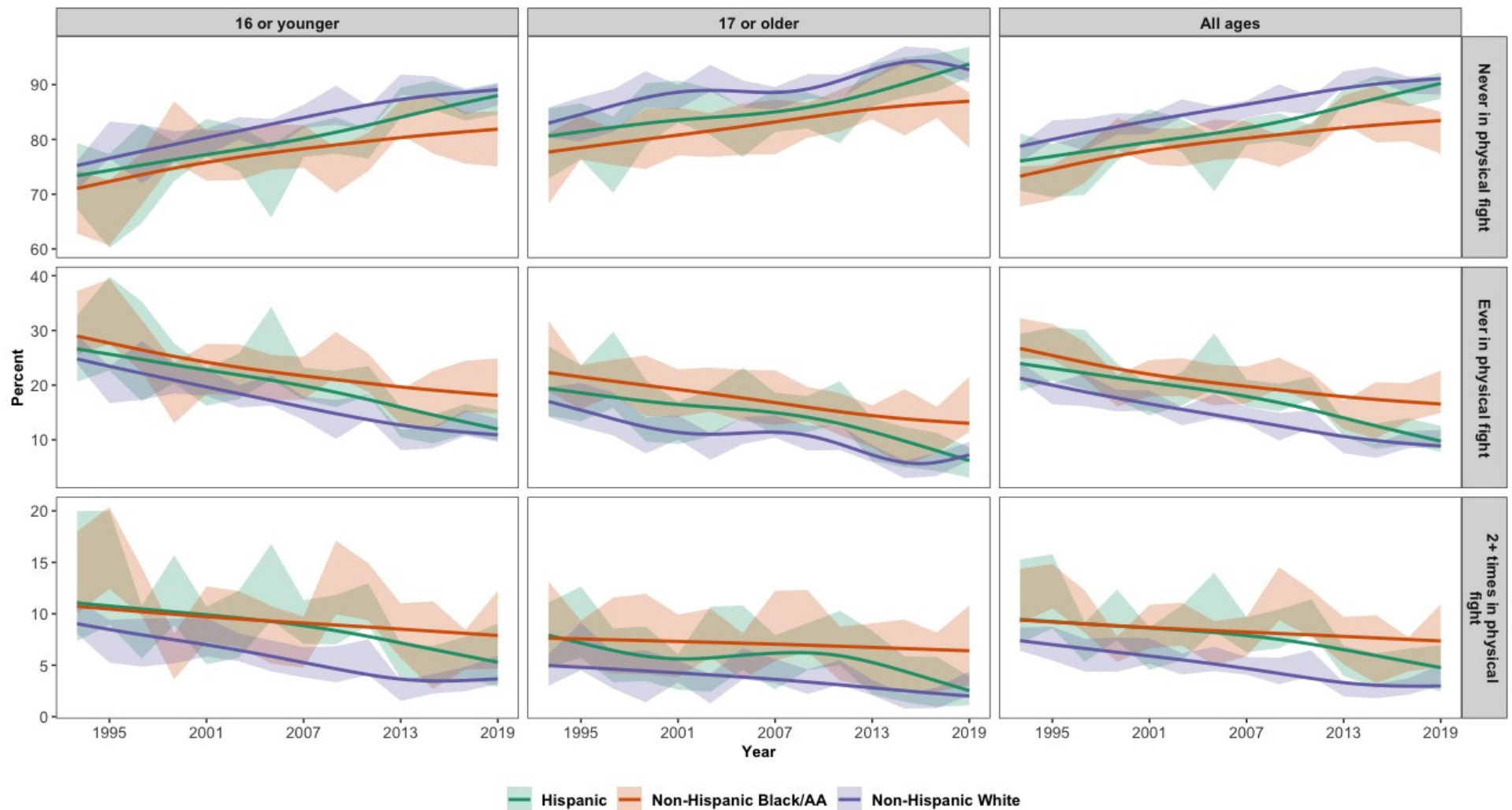
Supplemental Figure 1 Past 30-day school safety by age and race/ethnicity, YRBS 1993-2019

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Supplemental Figure 2 Being threatened/injured at school in past 12 months by age and race/ethnicity, YRBS 1993-2019

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Supplemental Figure 3 Having been in physical fight at school in past 12 months by age and race/ethnicity, YRBS 1993-20

Supplemental Table 1 Differences by race/ethnicity in how many times a student was threatened/injured if student reported being ever threatened/injured at school in past 12 months, N=1446, YRBS 2015-2019

How many times threatened / injured if ever threatened / injured?	NH White %	95% CI	NH Black/AA %	95% CI	Hispanic %	95% CI	P-value
1	46.8	42.0-51.6	37.6	29.2-46.0	38.4	32.8-44.0	0.04
2 to 5	36.4	31.0-41.8	37.7	29.9-45.5	34.9	29.6-40.3	
6 to 9	5.7	2.9-8.5	7.9	4.0-11.8	6.9	4.3-9.6	
10+	11.1	8.0-14.2	16.8	11.0-22.6	19.7	14.8-24.6	

Supplemental Table 2 Odds ratios of weapon-carrying by frequency of threats/injuries if student reported being ever threatened/injured at school in past 12 months, N=1446, YRBS 2015-2019

How many times threatened/injured if ever threatened/injured?	Odds Ratio	95% CI	P-value
1	1 (Ref.)		
2 to 5	1.29	0.76-2.16	0.11
6 to 9	3.37	1.65-6.86	0.004
10+	5.18	3.16-8.5	<.0001

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