

Gun Carrying Among High School Students: Does Overestimation of Student Gun Carrying Matter?

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Introduction

- Five percent of U.S. high school students carried a gun during previous 30 days (CDC YRBS 2005)
- Gun carrying:
 - Male
 - Drug use/sale
 - Violence perpetration/victimization
 - Hopelessness about the future (Bolland et al 2001)
 - Neighborhood unsafe (Molnar et al 2004)
 - School unsafe, TV watching (McNabb et al 1996)

Introduction (2)

- Social influence on weapon carrying
 - Those who perceive gun carrying as norm over twice as likely to carry a weapon of some sort (Martin et al 1996)
 - Increased risk of weapon carrying if exposed to peers who carry weapons (Simon et al 1997)
- Perception vs. misperception of social norms
 - Alcohol (Kypri & Langley 2003; Perkins et al 2006)
 - Smoking (Weiss & Garbanati 2006)
 - Marijuana use (Kilmer et al 2006)
 - Gun carrying?

Our Research Questions

1. Do youth overestimate gun carrying by their schoolmates?
2. Does the risk of gun carrying increase along with the perception that others carry?

2006 Boston Youth Survey (BYS)

- Stratified random sample of 9th-12th grade students in the 18 sampled city schools
- Administered to 1,253 high school students
 - Only 70 refusals
 - 1,233 sufficiently completed the survey
- The ~170-item survey included information on:
 - Demographic characteristics
 - Diet and exercise
 - Depression
 - After-school activities, social support
 - Adolescent risk behaviors
 - Violence: Perpetration, experienced, witnessed, fear, weapon access, gang membership

Methods

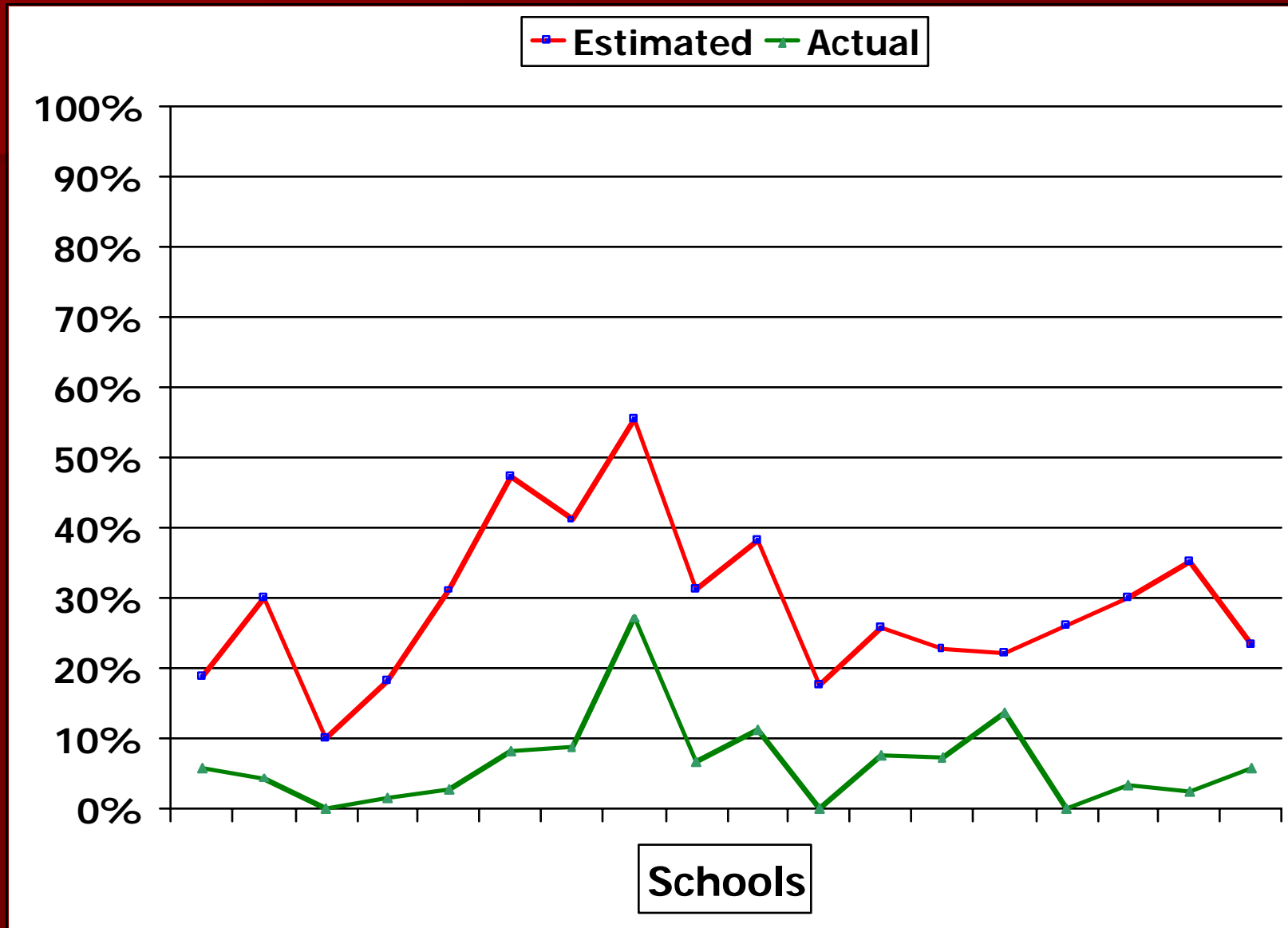
- **Gun carrying:** "In the past 12 months, have you carried a gun?" (yes or no)
- **Schoolmate gun carrying:** "What percent of students in your school do you think have carried a gun in the past 12 months?"
- **Gun access:** "How difficult is it, or would it be, for you to get a gun?" (very easy, fairly easy, difficult, impossible)
- Restricted sample (N=809)
- Bivariate (chi-square) and multivariate (logistic regression) analyses
- Adjusted for clustering by school

Actual vs. Estimated Gun Carrying

% Carry Gun
6

% Schoolmates Carry Gun
28

Actual vs. Estimated Gun Carrying, by School



Actual Carrying vs. Perception (1)

	N	% Carry Gun	Overestimated by (%)
Gender			
Male	325	10***	19~
Female	477	3	24
Race			
White, non-hisp	116	4	14
Black, non-hisp	352	7	24***
Hispanic/Latino	237	6	25***
Asian	62	0	8
Other/multi	39	10	24***
Nativity			
US born	589	7~	23***
Immigrant	212	3	16

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Actual Carrying vs. Perception (2)

	N	% Carry Gun	Overestimated by (%)
Grades in School			
As and Bs	251	2**	19*
Bs or below	523	8	22
Safety			
Feel safe most places	511	6	19***
Unsafe in 2+ places	290	6	27
Gun Access			
Very/Fairly Easy	322	13***	30***
Hard/Impossible	455	1	16
Violence Perpetration			
None/low	619	2***	19***
High	144	19	30

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Actual Carrying vs. Perception (3)

	N	% Carry Gun	Overestimated by (%)
Exposure to Violence			
Yes	551	8***	25***
No	240	1	14
Alcohol/Drug Use			
None/low	722	3***	20**
High	61	28	32
Ever in a Gang			
Yes	53	32***	35**
No	739	4	21
Carry a Gun			
Yes	47	---	40***
No	762	---	20

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Gun Carrying Regression (n=785)

Gun Carrying	Odds Ratio	95% CI
Male	3.1*	1.3-7.6
Gun carrying actual	1.1~	1.0-1.2
Perception gun carrying	1.02**	1.00-1.03
Easy gun access	3.4*	1.1-10.5
Victimization	2.7~	1.0-7.5
Witnessed violence	5.5*	1.5-20.4
Low perpetration	0.7	NS
Medium perpetration	2.2	NS
High perpetration	3.5*	1.1-11.2
Ever in gang	2.5~	1.0-6.2
High drug use	2.9*	1.3-6.5
Low grades	2.6*	1.2-6.0

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Limitations

- Cross-sectional data
- Survey given in English only
- Problems with survey administration
- 30% missing response
- No information on frequency of carrying

Conclusions

- Youth overestimate schoolmate gun carrying by 20% on average
- Overestimation of schoolmate gun carrying is associated with gun carrying
- Consistent with research on other risk behaviors
- Some factors not related to gun carrying are related to estimating schoolmate carrying
 - Costs of overestimating?

Implications

- Myth of high gun carrying
- Education around overestimation of schoolmate gun carrying may help reduce gun carrying
- Other reasons people carry guns

For More Information

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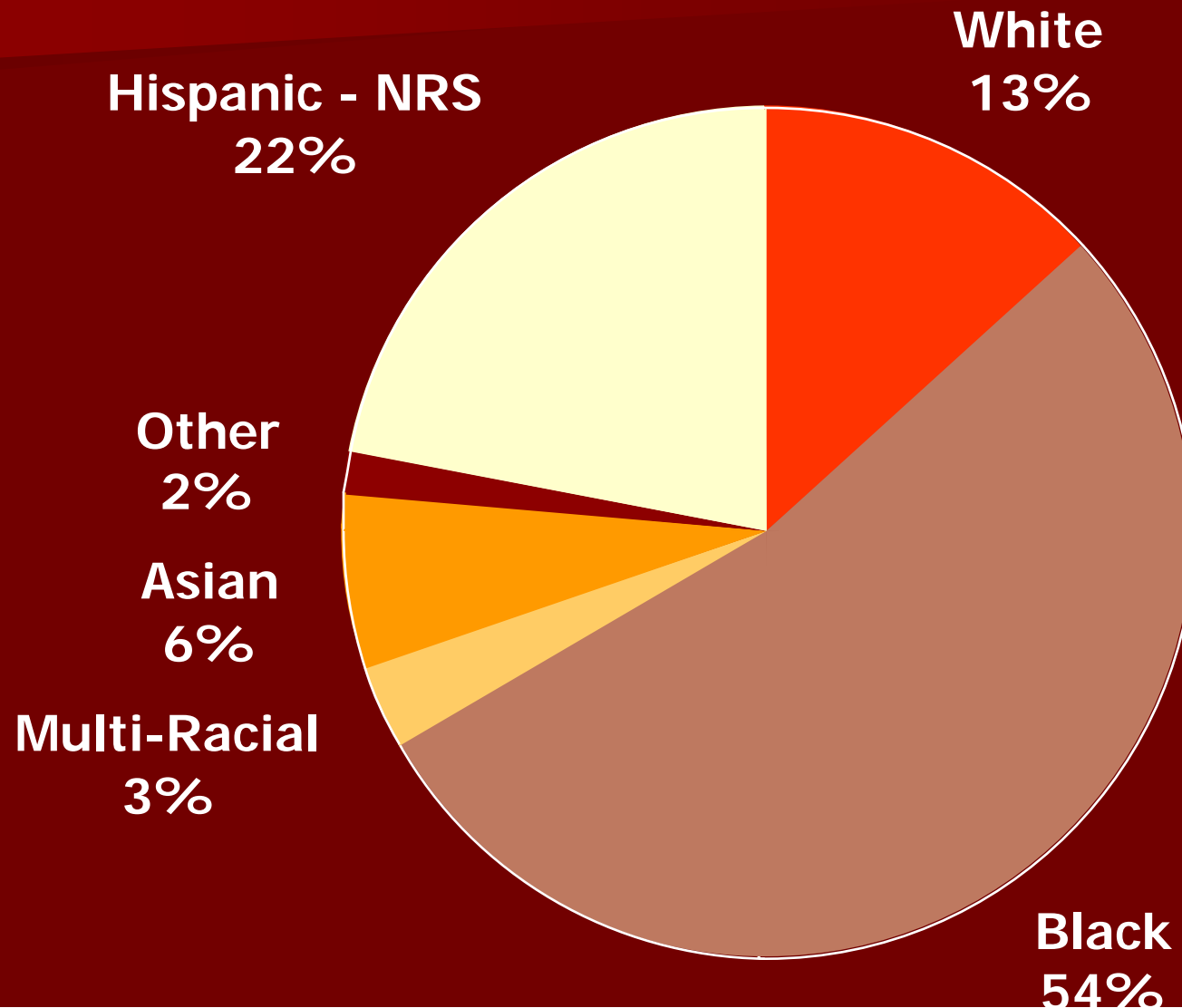
www.hsph.harvard.edu/hyvpc

THANK YOU!

2006 Boston Youth Survey (BYS)

- Demographics
- School
- Future plans
- Feelings about self
- After-school activities
- Community resources
- Relationships with others
- Alcohol/drug use
- Discrimination
- Gang activity
- Safety
- Police contact
- **Violence**
- **Guns**

Racial Composition of Sample



Results by School

School	N	% Carry Gun	% Schoolmates Carry Gun
1	68	6	19
2	22	5	30
3	60	0	10
4	60	2	18
5	66	3	31
6	77	9	41
7	60	7	31
8	44	11	38

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Results by School (2)

School	N	% Carry Gun	% Schoolmates Carry Gun
9	25	0	18
10	79	8	26
11	40	8	23
12	29	14	22
13	56	4	30
14	39	3	35
15	51	6	24

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Reasons for Gun Carrying*

	2004	2006
Felt unsafe in neighborhood	38%	37%
Someone had threatened me	29%	32%
Friends carried guns	14%	12%
Carried it for someone else	14%	32%
Felt unsafe at school	13%	17%
Self protection	10%	---
Felt like it/gave me power	10%	17%
Other	8%	37%

*Of those who provided a reason

Results

	N	% Carry Gun	Overestimated by (%)
Carry a Gun			
Yes	47	---	49***
No	762	---	26
% Schoolmates Carry			
<30	444	3***	---
30 or more	365	10	---

~P<0.1 *P<0.05; **P<0.01; ***P<0.001

Boston

- Population: 600,000
- Also 5% gun carrying
- 50% minorities
- Boston Public Schools: 16% white

Peer Gun Carrying (n=794)

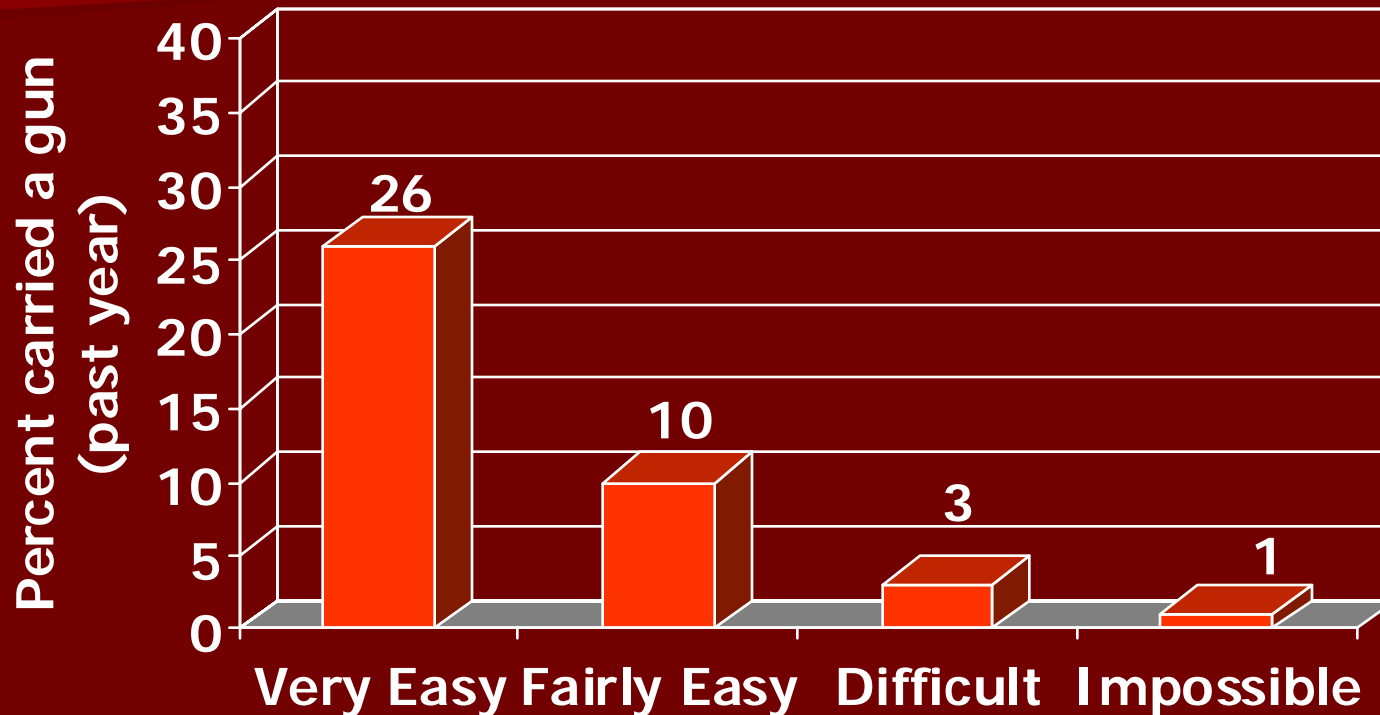
Peer Gun Carrying	Odds Ratio	95% CI
Female	1.6**	1.2-2.1
Black	2.8**	1.5-5.0
Hispanic	3.5***	1.9-6.6
Gun carrying	1.6	NS
Easy gun access	2.7***	2.0-3.8
Victimization	1.5*	1.0-2.1
Witnessed violence	1.1	NS
Felt unsafe 2+ places	1.5**	1.2-2.0
Low perpetration	1.5*	1.0-2.3
High perpetration	2.0~	1.0-4.2
Ever in gang	1.2	NS
Drug Use	1.3	NS

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Reasons for Carrying (2004 data)

- 78% had one reason
- 51% listed **only** protective reasons
 - Unsafe in neighborhood
 - Unsafe at school
 - Been threatened
 - Self-protection
- 67% listed **a** protective reason
- Differences (if any) between protective gun carriers and other gun carriers unclear

"In the past 12 months, have you carried a concealed gun?"



"How difficult is it, or would it be, for you to get a gun?"

Guns

	% Fairly or very easy to get a gun	% Carried a concealed gun in past year
Total	41	8
Gender		
Boys	50*	14*
Girls	33	3
Years Lived in the U.S.		
U.S. born	47*	9
Live in U.S. 5+ yrs.	32	7
Live in U.S. <5 yrs.	20	6

Exposure to Violence Questions

- All limited to exposure in the past year
 - Punched, kicked, choked, or beaten up
 - Attacked with a weapon other than a gun
 - Shot or shot at (excluding BB gun, paint ball, air rifle)
- Witnessing (4): Have you seen someone...
- Direct Victimization (4): Have YOU been...

Exposure to Violence (ETV)

■ In your school building	58%
■ In your neighborhood	58%
■ On your street	54%
■ On the way to/from school	49%
■ On public transportation	47%
■ At your home	18%
■ At your youth center or ASP	11%

“Do you feel safe...”

	<u>% No</u>
■ On public transportation	41%
■ In your neighborhood	32%
■ On the way to/from school	27%
■ On your street	26%
■ In your school building	21%
■ At your youth center or ASP	18%
■ At your home	4%

Trends: Weapons

	2004	2006
Attacked with weapon (not gun, past year)	13%	9%
Shot/shot at (past year)	11%	4%
Carried gun (past year)	8%	6%