



# Juvenile Gun Ownership in the USA: Current Knowledge and Future Directions

**Lee Michael Johnson<sup>1</sup>**

University of West Georgia, USA

**Todd L. Matthews<sup>2</sup>**

University of Maryland-Eastern Shore, USA

**David Jenks<sup>3</sup>**

University of West Georgia, USA

**Christy W. Bass<sup>4</sup>**

Carroll County Public Defenders Office, USA

## Abstract

*In this paper, published research and some existing data are analyzed to assess the current state of empirical knowledge on juvenile gun ownership and identify areas in need of future research. Limited research has been conducted on juvenile gun ownership, identifying only a few consistent correlates or predictors. Studies suggest that some owners are more criminally problematic than are others. The data analysis is largely consistent with past research in showing that 1) results of studies examining juvenile gun ownership will differ according to type of ownership, namely protective versus recreational (hunting and sport) or handgun/sawed off long gun versus regular rifle or shotgun 2) variables associated with violence and delinquency—self-protection motive, gun carrying by family members, and gun carrying by peers—are associated more with concealable than long gun ownership and 3) the threat of victimization does not appear to be a major force behind juvenile gun ownership.*

Keywords: Juvenile, Gun, Firearm, Handgun, Long Gun, Ownership.

<sup>1</sup> Associate Professor, Department of Criminology, University of West Georgia, Carrollton, GA, United States 30118-3010. Email: [ljohnson@westga.edu](mailto:ljohnson@westga.edu)

<sup>2</sup> Associate Professor and Coordinator, Organizational Leadership PhD Program, 1106 Spaulding Hall, University of Maryland-Eastern Shore, Princess Anne, MD, United States 21851. Email: [tmatthews@umes.edu](mailto:tmatthews@umes.edu)

<sup>3</sup> Professor and Chair, Department of Criminology, University of West Georgia, Carrollton, GA, United States 30118-3010. Email: [djenks@westga.edu](mailto:djenks@westga.edu)

<sup>4</sup> Investigator, Carroll County Public Defenders Office, 306 Tanner Street, Carrollton, GA, United States 30117. Email: [cbass@gapublicdefender.org](mailto:cbass@gapublicdefender.org)

## **Introduction**

Youth gun violence in the United States during the 1980s and early 1990s generated interest in research on juvenile gun ownership behaviors. Much of this research associated gun possession with juvenile violence. However, the body of knowledge produced by this research is quite limited. Relatively few multivariate analyses of juvenile gun ownership were conducted during this time (Brown, 2004), and few studies of juvenile gun behaviors, especially gun ownership, can be found in more recent literature.

It may seem that less attention to juvenile gun possession is warranted since juvenile gun violence decreased in the late 1990s and has remained relatively low. However, this does not suggest that it has dropped to an acceptable level. The problem of violent delinquency continues to be more severe in the US when compared to other industrialized countries. Even after juvenile homicide rates in the US fell, they were still higher than other industrialized countries (Brown, 2004). While the arrest rates for most juvenile violent crimes held fairly steady or slightly decreased during the 2000s, those for robbery—a crime frequently involving the use of a gun—increased in the second half of the decade; the rate was at 73 per 100,000 juveniles in 2002 and then 97/100,000 in 2009 (OJJDP, 2012). Today, youth still have fairly easy access to guns and often carry them or other weapons, and the literature shows that there are many questions about juvenile gun behaviors yet to be answered (Brown, 2004).

Thus, it can be argued that juvenile gun violence continues to be a major threat to public safety and therefore, a major social issue deserving of significant scholarly attention. In this paper, published research and an existing data set are analyzed to assess the current state of empirical knowledge on juvenile gun ownership and identify areas in need of further inquiry.

## **Research on Juvenile Gun Ownership**

Lizotte and Sheppard (2001) pointed out that most studies of gun ownership and use had focused on adults, though some collected retrospective data on childhood experiences. Wright and Rossi (1986) conducted the first extensive investigation into patterns and factors of gun behaviors, using a sample of adult prisoners. They found, for example, that childhood family influences were associated more with legitimate aspects of gun behavior while peer influences were associated more with illegitimate aspects. This study and others revealed that adult gun owners could be identified as those who are either at low or high risk of committing violent crime (Lizotte et al., 1994; Lizotte & Sheppard 2001). Low-risk owners tend to have been socialized into gun ownership by their families, own guns legally, and own for socially approved reasons like hunting whereas high-risk owners tend to have been socialized into ownership on the street, own guns illegally, and own for criminal purposes (Lizotte & Sheppard, 2001). Juvenile gun owners may also be identified as low or high risk (Lizotte et al., 1994). However, it is important that juvenile gun behaviors and adult gun behaviors be distinguished in the body of literature as patterns and factors may differ between the two. Using a sample of adult and juvenile arrestees, Watkins, Huebner, and Decker (2008) found that gun-involved behaviors were prevalent among juveniles and adults, but juveniles were more likely to carry and fire guns. Also, juvenile gun behaviors were associated more with gang membership while adult gun behaviors were associated more with perceived access to guns, fear of the street, and perceived risk of arrest.

## *Factors of juvenile gun ownership*

### *Victimization and protection*

Like adults, juveniles can be motivated to obtain weapons in response to threats of victimization. Neighborhood crime and violence at school are genuine threats that may increase desire for self-protection, acquisition of firearms, and perceived need to carry guns for protection. If so, then actual, threatened, and feared victimization may be expected to be positively correlated with gun possession. Protection is indeed among the top reasons given by juveniles for obtaining guns (Bilchik, 2000; Sheley & Wright, 1995, p. 67). However, protection is not necessarily a “legitimate” reason for owning and carrying a gun as some youth carry guns to protect themselves while engaging in delinquent acts such as drug-dealing. Research shows that delinquent juveniles are more likely than non-delinquent juveniles to own and carry guns and other weapons (Brown, 2004).

Sheley and Wright (1995) found that juveniles who engaged in violent crime were more likely to own, carry, and use a gun (pp. 58-61). The researchers examined juvenile gun ownership using samples of incarcerated juveniles and inner city high school students from four states in the US. They report that 80% of the incarcerated juveniles who reported carrying guns during crimes cited self-defense as a very important reason for carrying a weapon (p. 62), and that 69% of those who reported firing their guns claimed to do so in self-defense (p. 68). They also report that high-risk illegal activities including weapon carrying and gang membership (along with dangerous environment factors) increased the risk of victimization for student respondents (pp. 132-133). May and Jarjoura (2006, p.78) also found that a large majority of respondents cited self-defense as an important reason to carry a gun (84.1% of the full sample and 93.1 % of those who committed gun crimes) in their study of incarcerated juveniles in Indiana. They also found that youth who carry guns for protection were much more likely than those who do not to use a gun in a crime and engage in other violent activity (pp.93 and 116). Finding also that living in a criminogenic neighborhood increases protective gun carrying, May and Jarjoura (2006, p. 125) concluded that “carrying a gun for protection and engaging in violent activity are part of a lifestyle and context for some adolescents, making it hard to separate one from the other.”

Further, inconsistent findings on the impact of victimization—actual, threatened, or subjectively interpreted—upon juvenile weapons possession in past research (May & Jarjoura, 2006, p. 90) offer reasons to doubt the legitimacy of the protection motive. For example, research finds inconsistent support for the proposition that youth obtain guns and other weapons as an adaptation to their fear of becoming criminally victimized (May & Jarjoura, 2006, pp. 89-90). In fact, May and Jarjoura (2006, pp. 92 and 115) found that actual and perceived victimization did not significantly predict protective gun carrying specifically. Further, Wilcox, May, and Roberts (2006) found that while victimization did not increase in-school gun carrying, gun and other weapon carrying increased fear, perceived risk, actual victimization, and offending, using longitudinal data on middle and high school students in Kentucky. Also, Watkins, Huebner, and Decker (2008) found that gang membership, but *not* “fear of the street,” significantly predicted gun ownership or possession, carrying, and use in a sample of detained juveniles in St. Louis. Thus, there is reason to doubt that protection from victimization is a major intention behind gun ownership even for delinquent juveniles. In short, research thus far suggests that

protection is a major correlate of juvenile gun possession while victimization, especially among youth not engaged in serious delinquency, is not.

#### *Peers/Gangs*

Research has shown that peers are a major influence upon juvenile gun possession (Bilchik, 2000; Lizotte et al., 2000; Sheley & Wright, 1995, pp. 95-112; Wilkinson et al., 2009). Delinquent peers are a possible source for obtaining guns, and youth may acquire pro-gun beliefs and attitudes from their peers. Cunningham et al. (2000) found high-risk peer gun ownership—to gain respect or frighten others—to be the strongest predictor of adolescent high-risk gun ownership in their study. In studying the impact of peers, gangs may be of particular interest. Past research shows that gang members are more likely than non-gang members to own and carry guns and other weapons, although there is evidence showing that gun ownership predicts gang membership more than vice versa—that gangs attract gun owners more than create them (Bjerregaard & Lizotte, 1995). However, gang affiliation is but one type of deviant peer association. Youth who collectively engage in illegal activities are often not gang members; the phenomenon of group delinquency, including gun violence, extends well beyond gang collectivities (Wilkinson et al., 2009). It is therefore important to test for peer influences beyond gang membership. Further, while gangs are popularly associated with guns, and indeed gangs can be shown to be highly involved in gun possession, gang membership may not be associated with gun ownership when controlling for other factors such as drug sales, drug use, and other criminal activity (Sheley & Wright, 1995, pp. 95-117). Using RYDS data, Lizotte et al. (2000) found that as adolescents grow older, illegal peer gun ownership along with drug dealing replace gang membership as primary determinants of hidden gun carrying. Still, Bjerregaard and Lizotte (1995) were able to find that gang membership, along with peer gun ownership, predicted gun ownership in their multivariate analysis of RYDS data.

Protective gun possession in particular can be connected to peer groups. Wilkinson et al. (2009) found that self-protection was frequently cited as a reason for personal and peer gun possession, as well as associating with gun-possessing peers, among a sample of violent urban adolescent male offenders. They also found that guns and armed peers increased one's risk for involvement in gun violence, and that peers were involved as co-offenders in a majority of "gun events." Wilkinson et al.'s (2009) study suggests that youth more embedded in networks of peers who carry and use guns are more likely to be involved in serious gun violence. Further, Lizotte et al. (1994) found that peer gun ownership and delinquent values increased adolescents' protective gun ownership. Regarding gangs, the belief that one must carry a gun for protection may be promoted within the gang (May & Jarjoura, 2006, p. 71). May and Jarjoura (2006, p. 115) found that gang membership greatly increased protective gun carrying. Lizotte and Sheppard (2001) found that 55% of boys in the RYDS who owned guns for protection, compared to 11.1% of boys who owned for sport and 7.2% of non-gun owners, indicated gang membership, and that 77.8% of current gang members had peers who owned guns for protection compared to just over 50% for those not ever or currently in a gang.

#### *Family and school*

In addition to peers, family and school contexts contain risk or protective (delinquency reducing) factors of problematic juvenile behaviors. Perhaps they impact juvenile gun ownership as well. Freed et al. (2001) found peer and family opinions to be among factors

discouraging gun acquisition or carrying in a sample of incarcerated boys. Family and school involvement variables have been infrequently studied as correlates or predictors of juvenile gun ownership. One factor that stands out is guns possessed by adults in the family. Cunningham et al. (2000) found that high-risk family gun ownership increased high-risk adolescent gun ownership, although they did not find school conduct variables to be significant. Vites and Sorenson (2005) found that guns in the home, but not school attendance, increased adolescent recreational gun use. May and Jarjoura (2006, p. 115) found that school attachment (“social control index”) did not predict juvenile protection gun carrying, and Wilcox, May, and Roberts (2006) found that school attachment decreased only non-gun weapon carrying at school. It may be surprising that research has not found school variables to be significant predictors of juvenile gun ownership. However, the impact of academic performance (e.g. grades) itself has rarely been tested.

#### *Demographic variables*

Finally, a great deal of research has explored demographic predictors of juvenile gun involvement, thus far without identifying clear relationship patterns. However, gender is an exception, as research consistently shows that boys are more likely than girls to own or carry guns (Brown, 2004; May & Jarjoura, 2006). Cunningham et al. (2000) found that boys were more likely to engage in high-risk gun ownership and Vites and Sorenson (2005) found that boys were more likely to be involved in recreational gun use. In their inner-city student sample, Sheley and Wright (1995) found that girls owned guns much very infrequently. For example, Girls’ self-reports (N > 800) of ever owning a gun were 3% for hunting rifles, 7% for regular shotguns, 9% for revolvers, and 5% for automatic or semi-automatic handguns (p. 123). However, female ownership was similar to that of males in that it was highly associated with self-protection, drug crime, and gang affiliation. Higher compared to boys, 89% of girls who reported obtaining a gun cited self-protection as a very important reason and 10% cited it as a somewhat important reason (p. 124). Of female gun owners, 57% reported hard drug use, 26% reported selling drugs, and 58% reported structured gang affiliation (p. 125). Also, Sheley and Wright’s (1995) suburban student sample included 218 girls and 200 boys. In it they found that 6.9% of girls and 19.5% of boys reported owning a revolver, 2.3% of girls and 16.5% of boys reported owning an automatic or semi-automatic handgun (p. 136), and being threatened with a gun increased female but not male handgun ownership (p. 139).

Race, ethnicity, socio-economic status indicators, residential area, and age on the other hand, inconsistently predict juvenile gun possession (Brown, 2004). May and Jarjoura’s (2006) review (pp. 13-14) and research (pp. 119-125) revealed no consistent race and SES patterns in juvenile gun behaviors. Sheley and Wright (1995) found only occasional impacts of race/ethnicity and geographic location upon gun ownership and carrying throughout several multivariate models. They also found evidence suggesting that juvenile gun possession is also a problem in suburbs (p. 141). However, Sheley and Brewer (1995) found urban and suburban differences in factors associated with juvenile gun possession, and Sheley and Wright (1998) note descriptive urban, suburban, rural, and regional differences in gun possession in the data set used in the later analysis; for example, youth in more rural areas tended to possess more of each type of gun. Some studies find that older juveniles are more likely to possess guns while others find the opposite direction or no significant relationship at all, and some studies find that lower SES youth are more likely



to possess guns while others find no significant relationship here as well (Brown, 2004; May & Jarjoura, 2006).

### ***Handguns and sawed-offs vs. long guns***

One of the controversies in the literature has to do with whether or not certain types of guns tend to be more safely owned by juveniles. Even if they support heavy restrictions upon juvenile handgun possession, gun ownership advocates point out that it seems unfair and unwarranted to prohibit juveniles from owning guns that are used in legitimate activities such as hunting and target shooting. Also, perhaps it is juveniles with handguns or sawed-off long guns that cause problems, not those with regular rifles and shotguns.

There is indeed evidence that handguns and to a lesser extent sawed-off long guns are associated with delinquency and trouble with the law more than regular rifles and shotguns. Ruddell and Mays (2003) found that of 1,055 firearms confiscated by police from juveniles in St. Louis from 1992-1999, 821 were handguns, 69 were sawed-off shotguns, and 27 were sawed-off rifles (together making up about 87% of the guns). Ruddell and Decker (2005) found in national samples that 86.9% of crime-involved firearms recovered from juvenile offenders between 1997 and 2000 were handguns, and of firearms confiscated by police from juveniles in St. Louis from 1992 to 2000 and Washington DC between 1991 and 1995 combined, 84.38% were handguns and 6.42% were sawed-off shotguns or rifles. In a sample of incarcerated juveniles in Indiana, May and Jarjoura (2006, p. 63) found that the percentages of youth reporting the use of handguns in crimes are much larger than those of shotguns and rifles. Also, in samples of incarcerated juveniles and inner city high school students in four states, Sheley and Wright (1995) found that youth involved in violent crime and theft owned handguns and sawed-off shotguns more frequently than regular shotguns and automatic and semiautomatic rifles (pp. 58-61). Handguns, especially the more lethal semiautomatic pistols, played the largest role in the noticeable rise in juvenile homicides from the mid-1980s to the mid-1990s (Bilchik, 2000; Cornell, 2006, p. 54).

Other evidence links violence, delinquency, and protection more specifically to ownership of handguns and sawed-off long guns. Sheley and Wright (1995, pp. 69-70) also found among students that criminal activity predicted sawed-off shotgun ownership and gun carrying and "need for protection" predicted handgun ownership and gun carrying, and among incarcerated juveniles that criminal activity and need for protection consistently predicted handgun and sawed-off shotgun ownership, gun carrying, and firing a gun at someone. Using Rochester Youth Development Study (RYDS) data, Lizotte et al. (1994) found that juveniles who owned guns for protection were more likely than others to own handguns and sawed-off long guns, carry guns, use guns in crimes, and engage in other delinquency, while those who owned for sport were more likely to own regular rifles and shotguns, carry guns infrequently, and engage in delinquency at rates closer to that of non-gun owners. Similarly, in a non-metropolitan sample of middle school students in a Southeastern state Cunningham et al. (2000) found that students who owned pistols and handguns were more likely to engage in anti-social behavior than those who owned rifles or shotguns, pellet and BB guns, or no guns (the least anti-social group), and were the most likely to identify "to feel safe" as a reason for gun ownership.

The use of general gun ownership measures in criminological research has been questioned. Lumping all types of guns together present a problem as different types—handguns versus hunting rifles for example—are often obtained and possessed for different

reasons and under different circumstances (Brown, 2004). Many youth legally own and use shotguns and rifles, while legal ownership of handguns by youth is much less common and sawed-off shotguns are generally illegal. In the general U.S. population, hunting and sport are the primary reasons given for long gun ownership and protection is the primary reason given for handgun ownership (Kleck, 2005). Further, factors of gun ownership likely differ depending on the type of gun studied—protection versus sport and hunting for example (Lizotte et al., 1994).

A global gun ownership measure may seem appropriate to some extent given that legally possessed guns can be used in crimes as well. However, it is also reasonable to expect that legally possessed guns will be preferred more by pro-social youth gun owners, who have a lower propensity to crime, and illegally possessed guns to be preferred more by anti-social youth gun owners, who have a higher propensity to crime (Brown, 2004). Brown (2004) points out that it is important in theory, research, and policy to distinguish between juveniles who own and carry guns legitimately from those who do so for crime-related reasons. However, Brown notes that research has not shown that most juvenile gun owners, or carriers for that matter, use their guns for illegal purposes or engage in other delinquency. Perhaps most juvenile gun ownership is legitimate. At any rate, it is apparent that not all types of juvenile gun ownership constitute a major *criminal* threat to society (Brown, 2004).

Very few studies have examined correlates or predictors of separate types of juvenile gun ownership. These include studies by Lizotte and colleagues, who differentiated between types of gun ownership in analyses of Rochester Youth Development Study (RYDS) data. Bjerregaard and Lizotte (1995) studied the relationships between different types of gun ownership and gang membership. They did not separate ownership according to specific type of firearm. Rather, they measured according to respondent-reported purpose of the gun owned—protection vs. sport (regardless of whether a handgun or long gun)—on the basis of prior evidence associating protection ownership more with handguns and sawed-off long guns and sport ownership more with rifles and shotguns. The researchers found that gang members were more likely to own guns for protection and carry guns than non-gang members but not more likely to own guns for sport. They also found that peer gun ownership increased both protection and sport gun ownership by youth, more so for protection, and that parent sport gun ownership increased their sport but not protection gun ownership (Bjerregaard & Lizotte, 1995). Using the same gun ownership measures, Lizotte et al. (1994) found that peer gun ownership and delinquent values increased adolescents' protection gun ownership but not sport gun ownership. Lizotte et al. (1994) concluded that socialization into protective gun use tends to take place within peer groups whereas socialization into sport gun use tends to take place within the family.

In a unique study, Vittes and Sorensen (2005) used a specific “recreational gun use” outcome measure in their survey of California adolescents. However, they too used a measure defined by the use of the gun—“a gun for hunting or target shooting”—not the nature of the gun. Some of the youth in their sample may have used handguns or sawed-offs for recreational purposes, namely target shooting. It cannot be assumed that recreational use means legitimate use. Regardless, the researchers found that some variables associated with violent gun use in past research were associated with recreational gun use, although they found differences as well.

### **Analysis of an existing data set**

This section reports on an analysis of one of the few existing sources of data on juvenile gun ownership in the US. The analysis tests if peer gun possession increases different types of gun involvement in a general sample. As noted later, this data set has major limitations that prevent it from serving as a basis for conclusions. It does however provide an empirical basis for formulating arguments and informing future research.

### **Data**

Data were retrieved from the *National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth in the United States, 1996* (ICPSR 2580). The original study incorporated surveys of both students and administrators in an attempt to gather “generalizable and detailed information on weapon-related behaviors among American youth” (Sheley & Wright, 1996, p. 3). The current analysis utilized mostly data from the student survey which included 733 tenth and eleventh grade males. The survey included various questions regarding ownership and possession of weapons including different types of guns, as well as exposure to violence and victimization, actual and perceived threats of violence, attitudes and beliefs toward weapons and violence, gun ownership by peers and family members, gang membership, delinquency, and pro-social behaviors for all related incidents for the 12 month period prior to the survey. Students were selected from a random sample of 132 high schools drawn from a complete listing of every secondary school in the United States. Schools were drawn using proportionate sampling based on their populations. Fifty-three of the 132 (40%) selected schools chose to participate. Surveys were then administered to randomly selected students in those schools using two types of sampling. The first type involved samples that were drawn by the researchers and resulted in a response rate of 33 percent. The second type involved samples that were drawn by administrators at the schools and resulted in a response rate of 46 percent. Both samples were distributed in accordance with standard research techniques. Census data were then combined with the surveys as a source for demographic data about the areas.

The low response rates unfortunately make generalization impossible. Thus, this analysis is merely an attempt to use available data to help begin exploring new approaches to studying juvenile gun ownership, not to make broad generalizations. Also, the data are cross-sectional so the causal order of variables cannot be determined. The principal researchers outlined other limitations. First, the student sample was not representative of United States youth. There were no female respondents selected based on the premise that the majority of weapon related offenses were committed by males and therefore they chose to focus their research on that sex exclusively. Second, because the data were collected in schools, any and all individuals who dropped out or otherwise did not attend were excluded. Third, as with any research that involves self-reported delinquency there is a possible self-selection bias for those who avoid such behavior. The researchers recognized this problem prior to data collection and attempted to garner a larger proportion of those involved in illegal behaviors by utilizing repeated mailings and direct requests. Lastly, those schools who randomly selected their own students were more likely to induce bias (Sheley& Wright, 1996).

### **Analysis**

This analysis uses two separate outcome measures of juvenile gun ownership: *concealable* (owns a handgun or sawed-off shotgun) and long gun (owns a rifle or regular shotgun).



For both, logistic regression analysis was used to test four models that progressively add groups of variables associated with delinquency and illegal gun ownership. Throughout all models, an identical set of demographic variables are included: race, low income status, U.S. Census region, and urbanicity. The two sets of models can then be compared to reveal similarities and differences in correlates of the two types of gun ownership.

The first model tests for an association with delinquency. If youth obtain long guns for illegal purposes, then delinquency should be positively related to long gun ownership. The second model adds known correlates of gun behaviors and delinquency. These include a group of peer and family risk variables—gang membership, gun-carrying by men in the family, and gun carrying by friends—and a group of school and community-based protective variables—planning to attend college, school activities, earning high grades, and church attendance. Past studies did not find that school-based protective variables reduced gun ownership but they have been associated with reduced delinquency. Also, the impact of grades has not been sufficiently studied. Church attendance is included to explore the possibility that a community-based variable will be negatively associated with gun ownership. The third model adds three victimization variables—threatened with a weapon, assaulted with a weapon, and fear of violence—to test if victimization can be associated with long gun ownership. The fourth model adds gun carrying for protection to crudely identify a possible self-protection motive for, not as a predictor of, gun ownership. (A direct measure is unavailable.) Carrying will of course follow ownership, except when carrying someone else's gun or another type of gun owned.

### Variables

Descriptive statistics for all study variables are reported in Table 1. All variables were dichotomously coded except for three control variables: race-ethnicity, region, and urbanicity.

Two outcome variables are studied. *Long gun ownership* is defined as ownership or possession of at least one (non-sawed-off) rifle, automatic or semi-automatic rifle, or regular shotgun. *Concealable gun ownership* is defined as ownership or possession of at least one sawed-off shotgun, hand revolver, or automatic or semi-automatic handgun.

Several variables are examined as possible correlates. *Delinquency* is defined as engagement in any delinquent activities in the past year: if the respondent reported engaging in any of nine activities from a common delinquency check list at least once in the past twelve months. Delinquency risk measures included: 1) considers oneself to be a *member of a gang* 2) having *males in the family who regularly carry guns* outside the home but not for hunting or sport and 3) having *friends who regularly carry guns* outside the home but not for hunting or sport. Protective items include 1) *plans to attend college* in the future 2) any *participation in athletics, band, drama, or other school organizations or clubs* 3) regular *church attendance* (i.e. once a week or more) and 4) *earning mostly A's or B's* in school. Victimization variable questions asked respondents 1) if they have ever been *threatened with a weapon* (gun, knife, or "other sharp object") while on or off school grounds in the last twelve months 2) *assaulted with a weapon* (shot at, been shot, "stabbed with a knife or other sharp object," or "beaten or hit with a bat, board, or other such weapon") while on or off school grounds in the last twelve months and 3) *feared violence* in their school or neighborhood. *Protection gun carrying* is identified by the respondent's choice of "I needed protection" in response to the question "If you have carried a gun outside your home,

including in your car, in the past 12 months, what was the reason? Again, don't count the times you carried a gun for hunting or target shooting.”

The demographic control variables include 1) race-ethnicity (categorical measure with whites as the reference) 2) receipt in the home of welfare, AFDC, food stamps or other government assistance in the past twelve months (dichotomous) 3) region of the United States (categorical measure with South as the reference) and 4) level of urbanicity in the school district (a nine-point measure ranging from completely urban to completely rural).

**Table 1. Descriptive statistics**

	<b>Percent or Mean (SD)</b>	<b>N</b>
<b>Own handgun or sawed-off (1=Yes)</b>	9.6%	70
<b>Own rifle or shotgun (1=yes)</b>	25.9%	189
<b>Race-ethnicity</b>		
White	69.4%	509
Black	7.0%	51
Hispanic	16.0%	117
Other race-ethnicity	7.1%	52
<b>Welfare recipient (1=Yes)</b>	14.0%	102
<b>Region</b>		
Northeast	11.2%	82
South	33.6%	246
Midwest	13.8%	101
West	41.5%	304
<b>Urbanicity (1-9 range)</b>	4.48 (2.71)	669
<b>Any delinquency (1=Yes)</b>	33.4%	245
<b>Member of a gang (1=Yes)</b>	8.3%	60
<b>Men in family carry guns (1=Yes)</b>	19.8%	140
<b>Friends carry guns (1=Yes)</b>	14.0%	99
<b>Plan to attend college (1=Yes)</b>	90.0%	658
<b>In school clubs (1=Yes)</b>	77.3%	564
<b>Attend church weekly or more (1=Yes)</b>	34.6%	253
<b>Grades mostly A's or B's (1=Yes)</b>	64.5%	471
<b>Threatened with weapon (1=Yes)</b>	18.5%	135
<b>Assaulted with weapon (1=Yes)</b>	11.3%	82
<b>Afraid of violence (1=Yes)</b>	47.6%	347
<b>Carry gun for protection (1=Yes)</b>	3.6%	26

## Results

Logistic regression results for concealable gun ownership are presented in Table 2. Regarding significant demographic controls, Hispanic race slightly reduced ownership in the second and third models only, Northeast region had slightly lower odds compared to the South until the fourth model, and rural youth were noticeably more likely than urban youth to own but only in the first model. Engaging in delinquency significantly increased odds of ownership in the first model nearly three times but became and remained insignificant after risk-protection variables were added in the second model. Only three risk-protection variables were significant. Earning mostly A's or B's reduced the odds of ownership 44.2%, while having men in the family who carry guns outside the home and having friends who carry guns outside the home increased it 3.3 and 4.8 times respectively. Assaulted with a weapon was the only significant victimization variable added in the third model, increasing the odds of ownership 2.8 times. This addition brought about no other notable changes from the second model. Carrying a gun for protection became the strongest correlate when added in the fourth model, increasing the odds of ownership by about 50 times. Assaulted with a weapon became insignificant while men in the family carry guns (increased odds 3.05 times), friends carry guns (increased odds 3.56 times), and high grades (decreased odds 37%) remained significant.

Logistic regression results for long gun ownership are presented in Table 2. Race-ethnicity and urbanicity were the only significant demographic controls. Across all four models, blacks and Hispanics were less likely than whites to own, and rural youth were more likely than urban youth to own. Very few of the focal variables were significantly related. Delinquency, victimization variables, and friends carry guns were insignificant in every model in which they appeared. Men in the family carry guns increased the odds of long gun ownership about 2.5 times and high grades decreased it about 60% in models 2-4. In the fourth model, protective gun carrying became the strongest correlate of gun ownership (OR = 4.644).

In comparing the two types of gun ownership, more focal variables are associated with concealable guns than long guns and having men in the family who carry guns and carrying a gun for protection both increased the odds of concealable gun ownership more than they increased the odds of long gun ownership across all models. Also, of the variables insignificantly associated with handgun/sawed-off ownership, none were significantly associated with long gun ownership. Sample and data limitations mean that these results must be viewed with caution. Also, as with several analyses, this one holds the potential for multi-collinearity (though diagnostics do not suggest this to be a major issue in this analysis).

## Discussion

As with Vittes and Sorensen (2005) long gun ownership in this analysis share some correlates of general or concealable gun ownership identified in past research but also greatly differ. To begin, much like past research (Brown, 2004; May & Jarjoura, 2006; Sheley & Wright, 1995), few consistent relationships regarding demographic variables were found. Rural juveniles were more likely to own long guns but not concealable guns after variables were added. Also, whites were more likely than blacks and Hispanics to own long guns but there were no clear racial-ethnic differences in concealable gun ownership. This result is partially consistent with Lizotte et al. (1994) who found that white juveniles were more likely to own both protection and sport guns and Bjerregaard

and Lizotte (1995) who found that whites were more likely to own sport but less likely to own protection guns. The data used in this analysis are from a general national sample and the only residential area measures available were the rural-urban continuum and US region. Results will likely differ when using more specific samples (e.g. institutionalized and at-risk youth) and geographic variables (e.g. inner city or other specific neighborhoods).

**Table 2. Logistic Regression Models: Likelihood Adolescent Male Owns a Concealable Gun**

	Model 1		Model 2		Model 3		Model 4	
	b	Odds	b	Odds	b	Odds	B	Odds
<b>Race-ethnicity (White reference)</b>								
Black	0.096	1.101	-0.836	0.433	-0.856	0.425	-0.938	0.391
Hispanic	-0.397	0.673	-1.203	*0.300	-1.285	*0.277	-1.190	0.304
Other race-ethnicity	-0.458	0.632	-1.379	0.252	-1.510	0.221	-1.532	0.216
<b>Welfare recipient</b>	-0.794	0.452	-0.433	0.648	-0.354	0.702	-0.514	0.598
<b>Region (South reference)</b>								
Northeast	-1.930	*0.145	-1.617	*0.198	-1.748	*0.174	-1.476	0.229
Midwest	-0.144	0.866	0.074	1.076	-0.025	0.975	-0.106	0.899
West	-0.201	0.818	0.057	1.059	-0.023	0.977	0.011	1.011
<b>Urbanicity</b>	0.157	**1.171	0.095	1.099	0.095	1.100	0.132	1.141
<b>Any delinquency</b>	1.078	***2.938	0.447	1.564	0.459	1.583	-0.020	0.980
<b>Member of a gang</b>			0.291	1.338	0.338	1.402	-0.299	0.742
<b>Men in family carry guns</b>			1.196	***3.307	1.234	***3.436	1.116	***3.051
<b>Friends carry guns</b>			1.563	***4.773	1.415	***4.116	1.270	***3.560
<b>Plan to attend college</b>			-0.221	0.802	-0.243	0.784	-0.047	0.954
<b>School activities</b>			0.233	1.263	0.297	1.346	0.382	1.465
<b>Attend church weekly or more</b>			0.216	1.241	0.249	1.282	0.105	1.110
<b>Grades mostly A's or B's</b>			-0.817	*0.442	-0.735	*0.480	-0.995	*0.370
<b>Threatened with weapon</b>					-0.606	0.546	-0.234	0.791
<b>Assaulted with weapon</b>					1.032	*2.808	0.453	1.574
<b>Afraid of violence</b>					0.233	1.262	0.119	1.127
<b>Carry gun for protection</b>							3.930	***50.913
Constant	-3.062	***	-2.870	***	-3.339	***	-3.269	***
N	664		605		602		601	
-2 log likelihood	381.059		291.906		285.262		251.775	
Nagelkerke R <sup>2</sup>	0.112		0.273		0.293		0.384	

Note: \* p <.05, \*\* p <.01, \*\*\* p < .001

**Table 3. Logistic Regression Models: Likelihood Adolescent Male Owns a Long Gun**

	Model 1		Model 2		Model 3		Model 4	
	b	Odds	b	Odds	b	Odds	b	Odds
<b>Race-ethnicity (White reference)</b>								
Black	-1.185	*0.306	-1.449	**0.235	-1.504	**0.222	-1.513	**0.220
Hispanic	-1.992	***0.136	-2.154	***0.116	-2.072	***0.126	-2.077	***0.125
Other race-ethnicity	0.096	1.101	-0.092	0.912	-0.070	0.932	-0.027	0.974
<b>Welfare recipient</b>	0.014	1.014	0.014	1.014	0.022	1.022	0.023	1.023
<b>Region (South reference)</b>								
Northeast	-0.432	0.649	-0.314	0.731	-0.339	0.713	-0.287	0.751
Midwest	-0.251	0.778	-0.253	0.776	-0.285	0.752	-0.306	0.736
West	-0.073	0.930	-0.010	0.990	-0.072	0.930	-0.051	0.950
<b>Urbanicity</b>	0.230	***1.259	0.213	***1.238	0.220	***1.246	0.229	***1.258
<b>Any delinquency</b>	0.205	1.227	-0.090	0.913	0.007	1.007	-0.068	0.935
<b>Member of a gang</b>			0.075	1.078	0.105	1.111	-0.057	0.944
<b>Men in family carry guns</b>			0.936	**2.549	0.949	***2.582	0.898	**2.454
<b>Friends carry guns</b>			0.178	1.195	0.207	1.230	0.014	1.014
<b>Plan to attend college</b>			0.425	1.529	0.427	1.532	0.456	1.578
<b>School activities</b>			-0.289	0.749	-0.271	0.762	-0.285	0.752
<b>Attend church weekly or more</b>			0.367	1.444	0.311	1.364	0.290	1.337
<b>Grades mostly A's or B's</b>			-0.498	*0.608	-0.520	*0.594	-0.546	*0.579
<b>Threatened with weapon</b>					-0.260	0.771	-0.198	0.821
<b>Assaulted with weapon</b>					0.024	1.025	-0.233	0.792
<b>Afraid of violence</b>					-0.082	0.922	-0.094	0.911
<b>Carry gun for protection</b>							1.536	*4.644
Constant	-1.904	***	-1.943	***	-1.795	**	-1.809	**
N	664		605		602		601	
-2 log likelihood	662.495		569.482		561.849		553.410	
Nagelkerke R <sup>2</sup>	0.185		0.222		0.226		0.238	

Note: \* p <.05, \*\* p <.01, \*\*\* p < .001

When added, delinquency was not associated with long gun ownership in any of the models, but it was positively associated with concealable gun ownership in model one. These findings are consistent with other research associating handguns and other concealable firearms with illegal activities much more so than regular rifles and shotguns (Cunningham et al., 2000; Lizotte et al., 1994; Sheley & Wright, 1995, pp. 69-70). However, delinquency became insignificant after other variables were added to the model which suggests that the relationship between juvenile gun ownership and delinquent behavior is complex.

Next, delinquency risk and protection variables were associated more with concealable gun ownership. Men in the family and friends who carry guns are each significant and positive and are relatively strong correlates of concealable gun ownership. These findings



are consistent with other studies implicating family influences (Cunningham et al., 2000) and deviant peer influences (Cunningham et al., 2000; Lizotte et al., 2000; Lizotte et al., 1994; Wilkinson et al., 2009). Gang membership is not significant, which could be due to the inclusion of a peer influence variable. Delinquent peer influences may be the key variable behind juvenile gun possession rather than gang membership considering that much collective delinquency is committed by non-gang members (Wilkinson et al., 2009). Of the protective variables, only earning As and Bs in school significantly impacted the likelihood of owning a concealable gun—slightly reducing it. Like Vettes and Sorenson (2005), May and Jarjoura (2006, p. 115), and Wilcox, May, and Roberts (2006), this analysis struggled to locate school-based variables as correlates of juvenile gun behaviors. It was able to locate one, however, and the finding suggests that high academic performers are less interested in handguns and sawed-off shotguns.

Regarding long gun ownership, men in the family carrying guns was the only significant risk variable. While it had a lower impact compared to concealable gun ownership, it is interesting that having men in the family who carry guns outside the home, not for hunting or sport, increased long gun ownership—a seemingly more pro-social type of juvenile gun ownership. This is not necessarily a surprise, as men who carry guns for other reasons, including legitimate ones, may also promote hunting and sport gun possession. (Unlike juveniles, adults may at times legally carry concealed handguns.) In the same vein, Lizotte et al. (1994) found that parent's sport gun ownership predicted adolescent protection, not just sport, gun ownership. Friends carrying guns outside the home for non-hunting or sport purposes—a deviant peer influence variable—is not significant this time, which makes sense if rifles and shotguns tend to be pro-socially owned by youth. This finding is consistent with Lizotte et al. (1994) who found that peer gun ownership predicted protection but not sport gun ownership. Earning As and Bs was again the only significant protective variable, slightly reducing long gun ownership as well. This may suggest that high academic performers are generally less interested in guns.

Next, none of the victimization variables were related to long gun ownership while one was temporarily related to concealable gun ownership, suggesting that juveniles tend not to use long gun ownership to deal with threats of victimization. In the third model, assaulted with a weapon increased concealable gun ownership but threatened with a weapon and fear of crime were each insignificant. These results are nearly consistent with research by May (2001, cited in May & Jarjoura, 2006, pp. 14-16) and May and Jarjoura (2006, p. 115), which found that fear, perceived risk, threats, and actual victimization did not lead to defensive weapon possession.

Past research associates gun ownership with self-protection much more than victimization itself. When added in the fourth model, carrying a gun for protection became the strongest correlate of concealable gun ownership. This finding is consistent with several studies of juvenile gun possession (May & Jarjoura, 2006 and Sheley & Wright, 1995 for example). Being assaulted with a weapon then became insignificant. Of course, victimization could be a reason for acquiring and carrying a gun for protection, but the data do not allow for a test of this proposition. Carrying a gun for protection was also the strongest correlate of long gun ownership, but the association was not nearly as strong as that with concealable gun ownership. This makes sense considering the difference in utility between the two types of guns: rifles and regular shotguns are better designed for hunting and handguns and sawed off shotguns are better designed for carrying

on the person. Thus, the finding may suggest that youth who carry concealable guns for protection are more likely than those who do not to own long guns.

Protection is identified only as a possible motive for youth gun ownership. The use of limited measures and cross-sectional data prevents a causal ordering of victimization variables, desire for protection, and gun ownership, and the protective gun-carrying behavior measure does not distinguish between respondents' perceived practical need to carry a gun to ward off danger and a more general belief that one should carry a gun. In fact, protection gun carrying would likely follow ownership, except of long guns. Also, like others, this study does not reveal the threat of victimization as a major force behind youth gun ownership, as one would expect to be the case if youth were being driven toward protective gun possession. It cannot be assumed then that this threat is the driving force behind youths' claims that they carry guns for protection. Results of this analysis may portray protective gun ownership as more illegitimate gun ownership, as they are consistent with results of other studies associating protective gun ownership with delinquency and delinquent peer groups. Still, the correlation with protective gun carrying was strong even after controlling for several other variables, suggesting that it is a significant purpose of juvenile gun ownership. Further, since delinquency did not *directly* increase gun ownership, the analysis fails to provide evidence that juveniles obtain concealable guns primarily for offensive purposes. While the current study does not establish whether or not the desire for protection is an authentic and major determinant behind youth gun possession, including under illegal circumstances, it does suggest more complex relationships among victimization, protection, and gun possession.

The variables examined here are often associated with increased or decreased anti-social behavior in the literature. It stands to reason that if rifle or shotgun ownership tends not to be anti-social, criminogenic variables should not correlate with it very well. Indeed, the focal variables were associated with handgun/sawed-off much more than long gun ownership. Less of these variables were significantly related to long gun ownership, and those that were usually had weaker associations. Overall, these results are consistent with past research suggesting that some firearms are associated with crime more than others and that research should distinguish between certain types of gun possession. However, they do not suggest that juvenile long gun ownership is generally less dangerous or that juvenile ownership of regular rifles and shotguns presumably for the purposes of hunting or sport should not be scrutinized.

Prior studies used samples of system-involved or at-risk youth, often local, from specific environments characterized by increased crime and victimization risk. These samples include more problematic youth and produce more data on gun ownership but are insufficient for generalization. A suitable body of research cannot be based solely on studies utilizing these kinds of samples; samples of broader populations are needed as well. The researchers who collected the original data used in this analysis intended to produce a national sample that would allow for generalizations (Sheley & Wright, 1996). This was an ambitious undertaking, as it is difficult to gain participation in a survey on controversial personal information from a population requiring extensive consent procedures through several institutions across the entire country. (Higher return rates will be easier to obtain from local populations.) Despite aggressive efforts, the researchers were unable to secure a desirable response rate. Thus, it cannot be known if their sample is representative, and problems may include selectivity bias. For example, law-abiding long gun owners may have been more likely to participate in the study or delinquent concealable gun owners

may have been less likely to participate. Thus, the current study is better at suggesting possibilities that should be explored with further research. Interestingly, results of the current study are fairly consistent with those of past studies utilizing local or state samples (Bjerregaard & Lizotte, 1995; Lizotte et al., 1994; Vittes & Sorensen, 2005).

### **Conclusion**

The review of the literature accompanied by an existing data analysis reveal that much more research is needed to understand the role of guns in juvenile violence. The small amount of research conducted thus far identifies a few consistent predictors of juvenile gun ownership: self-protection, adult male family members, peers, and rural residence. Self-protection is as an often stated motive behind ownership, which implies that juveniles consider the threat of victimization when obtaining guns. Fathers and other male role models in the family can direct juveniles toward protective illegitimate/concealable gun ownership or toward legitimate/long gun ownership. Gangs and other deviant peers tend to direct them toward illegitimate/concealable gun but not legitimate/long gun ownership. School factors have yet to be strongly connected to ownership but more specific involvement variables like grades deserve further study.

Demographic variables play a part in predicting juvenile gun ownership but do so inconsistently and are likely sensitive to a variety of contexts. Significant relationships between demographic variables and juvenile gun ownership are quite possibly confounded by other factors, so more multivariate analyses are needed to disentangle the impacts of factors such as race and ethnicity, social class, and community characteristics (Brown, 2004; May & Jarjoura, 2006). Regarding sex or gender however, it is well established that girls are much less likely than boys to own guns. Because of this, some samples exclude females. However, female criminality is not an ignorable issue. It cannot be assumed that girls are uninvolved in gun behaviors (Sheley & Wright, 1995, p. 119). More studies should examine female gun ownership, especially among special populations such as system and gang involved girls. Further, while it is clear that most guns are owned by males, exactly how gender influences gun ownership—how masculinity promotes it and femininity reduces it—requires further study. Some important questions need to be answered. For example, is it just peers and families or specifically male peers and male family members who impact ownership? Are female juvenile gun owners influenced more by male peers and adult family members than female peers and adult family members? Are boys influenced by female peers and adults? Is the belief that one must have a gun for self-protection more of a masculine notion? It would be interesting to more fully discover the ways in which female juvenile gun ownership resembles or differs from male juvenile gun ownership.

Research also associates protection gun carrying and concealable gun ownership with violence and delinquency. Some victimological research even gives reason to doubt that protection from victimization is really a major factor of juvenile gun ownership, including concealable guns. If not protection, then what are the major factors? In the existing data analysis men in the family carrying guns, friends carrying guns, and earning high grades maintained significant positive relationships with concealable gun ownership even after victimization and self-protection variables were added to the model, alternatively suggesting that youth obtain handguns and sawed-offs in response to influences from family and peers, and/or alack of involvement in pro-social activities.

The relationships among juvenile victimization, protection, crime, and gun ownership require further exploration and scrutiny. Future studies should thoroughly examine victimization and protection against competing predictors of gun ownership, including among youth who are indeed at high risk of victimization and may have a more practical need for self-protection. It cannot be assumed that because juveniles face victimization threats and cite protection as a motive, protection from victimization is an actual driving force behind their gun possession. “Protection” may offer a rationale for gun possession that result more from other social processes. For example, acquiring a gun may be an expression of sub-cultural identity or of masculine identity in general. Or, perhaps protection is a justification offered when illegitimate reasons, such as intimidation and committing crimes, are actually behind gun ownership. So far, research does not identify victimization as a major force behind juvenile gun ownership. However, questions remain as to which motives and social influences better predict it.

There are likely several factors influencing the perceived need to possess guns for protection, some of which may have nothing to do with one’s assessment of victimization risk. For example, how much is gun ownership an expression of masculine identity? Do juveniles, especially those in hyper-masculine subcultures, view carrying a gun for protection as a “manly thing to do”? Do adolescents then learn the guns as protection principle from interactions with agents of gender socialization, such as family members and peers, more than they are practically induced by victimization threats? Does the excitement, fascination, or “coolness” attached to guns lure youth into owning them? Juvenile protective gun ownership was found to be increased by nonsocial reinforcement—the gratification associated with engaging in risky behaviors—along with perceived neighborhood incivility and gang membership in May and Jarjoura (2006, p. 115) and by peer gun ownership and delinquent values in Lizotte et al. (1994). Also, family members and peers are established correlates of concealable gun ownership; perhaps they impact juveniles’ perceptions of the need to carry guns for protection as well.

More multivariate analyses are needed to identify better sets of risk and protective factors associated with problematic juvenile gun ownership. Also, more prospective longitudinal research is needed to explore the causal ordering of variables and identify the social processes leading to gun ownership. Most research on juvenile gun ownership to date is based on cross-sectional or retrospective data. Prospective longitudinal data are needed to time-order variables such as victimization, acquisition of beliefs about guns as protection, and actual gun ownership. Also, samples should include both low and high risk gun owners. Though more representative of youth, general population samples will likely produce data inadequate for analyses of juvenile handgun and sawed-off long gun ownership as such ownership is an extremely low-occurring event; very few juveniles own these kinds of guns. General samples would be more appropriate for studies of juvenile long gun ownership as more juveniles own these types of guns, though studies of long gun ownership may also benefit from focusing on sub-populations of interest (rural youth for example). To avoid the “low base rate problem,” some studies have used samples of detained youth (Watkins, Huebner, & Decker, 2008). Because these studies focus on more serious offenders, results from them cannot be generalized to most juvenile gun owners who are generally lower-risk. Samples that include at-risk youth in the community are more likely to capture both low and high risk gun ownership. The Rochester Youth Development Study (RYDS) collected longitudinal data on gun behaviors from at-risk public school students (Lizotte & Sheppard, 2001). Similar studies

could be conducted in other parts of the country to collectively provide a better understanding of juvenile gun ownership.

The danger in juvenile gun possession may depend on the type of gun ownership. Very few studies have explored the possibility that the type of gun owned helps shape the threat of juvenile gun possession. Research so far tends to associate handgun and sawed-off long gun ownership with crime and regular rifle and shotgun gun ownership with sport and recreation. With this in mind, it seems that research using general gun ownership measures could improperly inform threat assessments regarding juvenile gun possession. Since some types of firearms tend to be owned legitimately by juveniles, it may not make sense to use general ownership measures in research exploring relationships between guns and violence/delinquency. It may be more informative at times to specifically locate predictors of concealable or illegal gun ownership. Thus, measures should differentiate between meaningful types of gun ownership. It is also possible that juveniles own long or legal guns for some of the same reasons behind owning concealable or illegal guns, such as protection, committing crime, and influences from peers and family members. Separate gun ownership measures allow these possibilities to be explored.

The existing body of research tends to associate criminality and protection motives with handguns and sawed-off long guns more than regular rifles and shotguns. Studies suggest that anti-social juvenile gun owners engage in serious delinquency, carry concealed guns frequently, use guns for offensive and defensive purposes, and prefer handguns or sawed-off long guns, and that pro-social juvenile gun owners in contrast do not engage in serious delinquency, use guns for hunting and sport purposes, are much less concerned with guns for protection, and prefer regular rifles and shotguns. To be clear however, this research does not suggest a distinction between good and bad types of guns. Rather, it complements Vittes and Sorensen's (2005) implication that different approaches to preventing gun-related harm are warranted. The sheer fact that a juvenile owns a long gun, even legally, does not mean that one is necessarily a non-problematic gun owner. As Sheley and Wright (1995, p. 149) point out, whether a gun is good or bad depends more on the motives and intentions of its user. Type of gun ownership is but one factor which may impact the nature or level of threat posed by juvenile gun possession. Gun *carrying* and *use* are related outcomes that must also be explained for research to thoroughly distinguish between anti- and pro- social juvenile gun possession.

As recent tragic events in the U.S. demonstrate, instances occur in which legally obtained and owned long guns are used illegally by young people to inflict great harm. Accordingly, more research also needs to be done on mass gun violence committed by youth. While these cases are statistically rare, their lethal effects are far-reaching and have a major impact upon public opinion and political debates concerning risk of victimization and law and policy. In these cases, type of ownership may not be as important as *access* to guns, especially in the home. In-depth case analyses could produce more knowledge on the true risk and protective factors associated with mass shootings. Two studies of school shootings provide fine examples of such research. Cornell (2006) refutes several myths regarding school shootings and identified bullying victimization among many possible motives behind the acts. Newman et al. (2004) offers a large amount of evidence that school shootings happen because of a combination of factors which may include bullying victimization and easy, unsupervised access to firearms. These studies could be replicated and extended to mass shootings that occur in other contexts.



Finally, sport and hunting accidents must be taken into account when considering the social harm of juvenile long gun ownership. In terms of capacity to inflict harm, long guns are relatively more lethal than handguns (Kleck, 2005; Wright & Rossi, 1986). In the U.S., long guns cause more accidental deaths than handguns, and adolescents and young adults appear to be at higher risk of fatal gun accidents as victim or shooter (Kleck, 2005). Therefore, even if long gun ownership is shown to be less criminally problematic, future research should also examine factors associated with other problems associated with “legitimate” juvenile gun ownership.

More knowledge is needed to effectively inform juvenile gun violence theory, policy, and practice. Major questions that need to be answered include: Is protection a major motive behind juvenile gun ownership? Which variables best explain and predict juvenile gun ownership? Does explanation and prediction, as well as potential danger, depend on the type or purpose of gun owned? While the status of self-protection as a factor of juvenile gun ownership needs to be re-examined, it certainly makes sense to consider juveniles’ need for protection in gun violence prevention and intervention policies and programs. Providing safe environments for youth at home, school, and elsewhere in the community are viable strategies for reducing dangerous juvenile gun possession, but policies and practices must also respond to other factors. Research thus far implies that prevention and intervention efforts must also target relationships with family members and peers, and perhaps school involvement.

## References

- Bilchik, S. (2000). *Kids and guns*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, NCJ 178994.
- Bjerregaard, B., & Lizotte, A.J. (1995). Gun ownership and gang membership. *The Journal of Criminal Law & Criminology*, 86(1), 37-58.
- Brown, B. (2004). Juveniles and weapons: Recent research, conceptual considerations, and programmatic interventions. *Youth Violence and Juvenile Justice*, 2(2), 161-184.
- Cornell, D. G. (2006). *School violence: Fears versus facts*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cunningham, P. B., Henggeler, S. W., Limber, S. P., Melton, G. B., & Nation, M. A. (2000). Patterns and correlates of gun ownership among nonmetropolitan and rural middle school students. *Journal of Clinical Child Psychology*, 29(3), 432-442.
- Freed, L. H., Webster, D. W., Longwell, J. J., Carrese, J., & Wilson, M. H. (2001). Factors preventing gun acquisition and carrying among incarcerated adolescent males. *Archives of Pediatric & Adolescent Medicine*, 155(3), 335-341.
- Kleck, G. (2005). *Point blank: Guns and violence in America*. New Brunswick, NJ: Aldine Transaction.
- Lizotte, A. J., Krohn, M. D., Howell, J. C., Tobin, K., & Howard, G. J. (2000). Factors influencing gun carrying among young urban males over the over the adolescent-young adult life course. *Criminology*, 38(3), 811-834.
- Lizotte, A. & Sheppard, D. (2001). *Gun use by male juveniles: Research and prevention*. Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, NCJ 188992.
- Lizotte, A. J., Tesoriero, J. M., Thornberry, T. P. & Krohn, M. D. (1994). Patterns of Adolescent Firearms Ownership and Use. *Justice Quarterly*, 11(1), 51-74.

- May, D. C., & Jarjoura, G. R. (2006). *Illegal guns in the wrong hands: Patterns of gun acquisition and use among serious juvenile delinquents*. Lanham, MD: University Press of America.
- Newman, K. S., Fox, C., Harding, D. J., Mehta, J., & Roth W. (2004). *Rampage: The Social Roots of School Shootings*. New York, NY: Basic Books.
- Office of Juvenile Justice and Delinquency Prevention. Easy access to FBI arrest statistics: 1994-2009. Retrieved October 10, 2012 from <http://www.ojjdp.gov/ojstatbb/ezaucr/default.asp>.
- Ruddell, R. & Decker, S. H. (2005). Kids and assault weapons: Social Problem or Social Construction? *Criminal Justice Review*, 30(1), 45-63.
- Ruddell, R., & Mays, G. L. (2003). Examining the arsenal of juvenile gunslingers: Trends and policy implications. *Crime & Delinquency*, 49(2), 231-252.
- Sheley, J. F. & Brewer, V. E. (1995). Possession and carrying of firearms among suburban youth. *Public Health Reports*, 110(1), 18-27.
- Sheley, J. F. & Wright, J. D. *National Survey of Weapon-Related Experiences, Behaviors, and Concerns of High School Youth in the United States*, 1996 [Computer file]. ICPSR version. New Orleans, LA: Tulane University [producer], 1998. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [distributor], 2000.
- Sheley, J. F. & Wright, J. D. (1998). *High school youths, weapons, and violence: A national survey*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, NCJ 188992.
- Sheley, J. F., & Wright, J. D. (1995). *In the line of fire*. Hawthorne, NY: Aldine de Gruyter.
- Vittes, K. A., & Sorensen, S. B. (2005). Recreational gun use by California adolescents. *Health Education & Behavior*, 32(6), 751-766.
- Watkins, A. M., Huebner, B. M., & Decker, S. H. (2008). Patterns of gun acquisition, carrying, and use among juvenile and adult arrestees: Evidence from a high-crime city. *Justice Quarterly*, 25(4), 674-700.
- Wilcox, P., May, D. C., & Roberts, S. D. (2006). Student weapon possession and the "fear and victimization hypothesis": Unraveling the temporal order. *Justice Quarterly*, 23(4), 502-529.
- Wilkinson, D. L., McBryde, M. S., Williams, B., Bloom, S., & Bell, K. (2009). Peers and gun use among urban adolescent males: An examination of social embeddedness. *Journal of Contemporary Criminal Justice*, 25(1), 20-44.
- Wright, J. D. & Rossi, P. H. (1986). *Armed and considered dangerous: A survey of felons and their firearms*. Hawthorne, NY: Aldine de Gruyter.