Firearms on College Campuses: Research Evidence and Policy Implications

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Executive Summary

Restrictions on legal gun owners carrying firearms in public places have been removed or greatly weakened in most states over the past three decades. Colleges and universities, however, have been locations that have commonly been allowed to prohibit otherwise legal gun carriers from bringing guns onto campuses. This exception, however, has recently begun to change. Eight states now have laws that, generally, allow individuals who can legally carry guns elsewhere to bring guns onto college campuses. In 24 states, colleges and universities have the authority to allow or forbid civilians from having firearms on their campuses. A number of additional states considered new laws relevant to carrying firearms on college campuses during their 2015-2016 legislative sessions.

This report reviews the evidence surrounding the relationship between civilian gun carrying and violent crime and mass shootings and factors that are unique to public safety on college campuses. Policies removing restrictions on civilian gun carrying are based on claims or assumptions about civilian gun use, the impact of state Right-to-Carry (RTC) laws, and the nature of mass shootings that are not supported by or are contrary to the best available research. The incidence of civilian self-defensive gun use (SDGU) is difficult to discern as available data are based on self-report, and distinguishing aggressor from victim in interpersonal altercations can be highly subjective. Nonetheless, data from the National Crime Victimization Survey indicate that SDGU is relatively rare (about 102,000 self-reported incidents per year affecting 0.9% of all violent crime victimizations) and is no more effective in reducing victims' risk of injury than other victim responses to attempted violent crimes. Research led by John Lott, author of *More Guns, Less Crime*, suggesting that RTC laws prevent violent crime has important flaws that biased his findings. The most recent and rigorous research on RTC laws that corrects for these flaws consistently finds that RTC laws are associated with *more* violent crime. These findings may seem counterintuitive because concealed-carry permit holders have, as a group, low rates of criminal offending and must pass a background check to ensure that they do not have any condition, such as a felony conviction, that prohibits firearm ownership. But, in states with low standards for legal gun ownership, legal gun owners account for the majority of persons incarcerated for committing violent crimes with firearms.

As mass shootings and casualties from those shootings have risen sharply over the past decade, one rationale for allowing more civilians to carry firearms, both on and off college campuses, is to avert rampage shootings or stop rampage shooters before additional victims are shot. Central to these arguments are the notions that "gun-free" zones attract individuals set on mass murder and that armed civilians frequently thwart or interrupt such shootings. New research on mass shootings involving six or more victims murdered that occurred in the United States from 1966 to through June 2016 contradicts these claims. Only 12% of these shootings took place, in whole or in part, in a truly gun-free zone (no armed security or police or armed civilians) and 5% in a gun-restricting zone (civilian gun possession prohibited). A separate study of mass shootings involving four or more fatalities, that included domestic incidents during 2009-2015, found that only 13% occurred in a gun-free or gun-restricting zone. Successful civilian uses of guns to stop a mass shooting were incredibly rare and about as common as armed civilians being shot while attempting to respond to mass shooting incidents. Furthermore, the data show no evidence that RTC laws – which, it is argued, lead to more armed citizens ready to defend against a mass shooting – reduce mass shootings or the number of people shot in those incidents.

This report also reviews research relevant to the unique context of college campuses, especially student demographics and characteristics, and the implications for increased access to firearms among college students. Late adolescence and early adulthood is marked by increases in a variety of risky behaviors including violence, binge drinking, and drug abuse. Binge drinking, a common behavior among college students, especially elevates risks for involvement in violent altercations. Risky decision-making in adolescence and early adulthood is due, in part, to on-going brain development during that stage of life that can compromise emotional and behavioral regulation, impulse control, and judgment – all of which are essential for avoiding the circumstances in which firearm access leads to tragedy. Age-specific homicide offending peaks around the age when youth reach the minimum legal age for purchasing, possessing, and carrying handguns (19-21 years).

Suicidal behavior that leads to death or hospital treatment peaks at age 16, but remains high through age 25, covering the age span of most college students. Mental illnesses, such as depression, that commonly emerge during adolescence and young adulthood, coupled with restricted impulse control and the stressors that many college students experience, increases the risk of suicidal behavior among college students. Research demonstrates that access to firearms substantially increases suicide risks, especially among adolescents and young adults, as firearms are the most common method of lethal self-harm.

Proposals to allow guns on college campuses must consider the fact that serious assaults and suicide attempts – which are more likely to be lethal when firearms are present – are far more common than are the rampage shooting incidents that the policies are purported to prevent. Inserting more firearms into those assaults and suicide attempts by allowing more people to have firearms on campuses is likely to lead to more deaths and serious injuries. A recent study identified 85 incidents of shootings or undesirable discharges of firearms on college campuses in the U.S. from January 2013 through June 2016. Only two of these 85 incidents (2.4%) involved a shooter on a rampage. The most common incidents were interpersonal disputes that escalated into gun violence (45%), premeditated acts of violence against an individual (12%), suicides or murder/suicides (12%), and unintentional shootings or discharges (9%). Campus police much more commonly respond to a variety of violent and non-violent incidents than to rampage shootings. If those campus officers must assume that any given student is armed, this may compromise their ability to effectively respond to, and de-escalate, these incidents.

In summary, available data indicate that policies that allow individuals to bring firearms onto college campuses are unlikely to lead to fewer mass shootings or fewer casualties from those shootings. Mass shootings are a growing concern, but are still very rare events. Increasing gun availability in campus environments could make far more common acts of aggression, recklessness, or self-harm more deadly and, thus, have a deleterious impact on the safety of students, faculty, and staff.

Aims of this Report

The purpose of this report is to review relevant research and implications associated with policies that allow the carrying of firearms on college and university campuses. During the past 30 years, a growing number of states have passed laws that make it easier for civilians to legally carry loaded firearms in public places. However, even as more states adopted so-called right-to-carry (RTC) laws, these laws generally set aside certain places such as bars, courthouses, schools, and college campuses where gun carrying is prohibited or that allowed businesses or institutions to declare that civilians are not allowed to bring firearms onto their premises. Deregulation of civilian gun carrying has accelerated in recent years in many states including new laws that allow or require state colleges and universities to allow those who can legally carry firearms in public to bring guns onto college campuses.

Policies that allow civilians who are not explicitly prohibited from carrying firearms in public to carry concealed loaded firearms onto college campuses are based, in part, on beliefs that such policies with enhance campus safety including reducing risks of mass shootings. Because there have been no formal evaluations of policies to allow guns on college campuses – many of these policies are relatively new – we sought to summarize research relevant to civilian use of guns, the impact of RTC laws on violent crime and mass shootings, and common patterns in public mass shootings to determine how well available research aligns with the assumptions underlying policies to allow civilians to bring guns onto college and university campuses. We also sought to summarize research that is relevant to the potential increased firearm access among college students and the college campus environment.

Relevant Law Governing Guns on College Campuses

In the United States, laws regulating the purchase, possession, and carrying of firearms -- including on college or university campuses -- may originate at the federal, state, or local levels. Federal law is primarily codified as part of the Gun Control Act of 1968 and its amendments.[1] The Gun Control Act specifically includes language stating that Congress does not intend the Act to preclude state gun laws unless there is a "direct and positive conflict" between federal and state law. As a result, federal law acts as a "floor" -- imposing minimum standards applicable everywhere -- rather than as a ceiling for U.S. gun laws.[2]

One federal law, the Gun Free School Zones Act, forbids the carrying of firearms in school zones -- subject to certain exceptions.[3] A "school," however, is defined as one "which provides elementary or secondary education, as determined under state law."[4] As a result, colleges and universities are not covered by this federal law.

Most U.S. law regulating the carrying of firearms originates at the state level. Every U.S. state permits the carrying of weapons, either concealed or open, under some circumstances. These laws establish the terms under which a lawful gun owner may obtain a carry permit as well as the places and circumstances in which the gun may be carried. For example, these laws may allow or forbid carrying of firearms in places that serve alcohol, churches, or college and university campuses. (See the section of this report devoted to concealed carrying permit research for more information about these laws).

Localities within a state may sometimes also enact their own gun laws. However, since the late 1980s, many states have enacted firearm preemption laws forbidding localities from enacting some or all types of gun laws. Today, more than 40 states forbid localities from enacting most types of gun laws.

In fact, just five states generally allow local regulation of guns: Connecticut, Hawaii, Massachusetts, Illinois, and New York.[5] Even in these states which lack express preemption of local firearm laws, some local laws may nevertheless be deemed subject to implied preemption if a court determines that existing state law evidences an intent by the legislature to occupy the field of regulation or if the local law would otherwise conflict with state law. Therefore, local law plays little role in regulating carrying of firearms on college or university campuses.

According to the National Conference of State Legislatures, eighteen states currently ban carrying a concealed weapon on campus. In twenty-four states, individual institutions have the power to allow or forbid firearm carrying on campus. In the remaining eight states, firearms must generally be allowed on campus. In addition, during the 2015-2016 state legislative sessions, similar laws were considered in other states. None have yet been enacted. [6]

College and university firearm restrictions have been the subject of several recent lawsuits brought by individuals or groups seeking the ability to carry guns on campus. The results of the lawsuits have been mixed, often based on the specific language of state law. In Regents of the University of Colorado v. Students for Concealed Carry on Campus, a student group brought a complaint in 2008 alleging that a University of Colorado policy forbidding the possession of firearms on campus violated a Colorado state law, the Concealed Carry Act (CCA) enacted in 2003.[7] The CCA preempts localities from enacting their own laws regarding concealed carrying of handguns and allows concealed permit holders to carry their handgun anywhere not specifically excluded by the law. Public elementary, middle, and high schools are excluded but universities are not. In Regents, the Colorado Supreme Court concluded that the 2003 state law "divested the Board of Regents of its authority to regulate concealed handgun possession on campus."[8]

Similarly, in 2011 in Oregon Firearms Educational Foundation v. Board of Education and Oregon University System, the Oregon Court of Appeals concluded that an administrative rule promulgated by the State Board of Higher Education forbidding the possession of firearms on campus was preempted by a prior Oregon state law.[9] The Oregon preemption law states, in part, that "the authority to regulate in any manner whatsoever the sale, acquisition, transfer, ownership, possession, storage, or use of firearms ... is vested solely in the Legislative Assembly." Because the carrying rule promulgated by the Board of Education had the force of administrative law, it was preempted by this language.

In 2006, the Supreme Court of Utah also struck down a University of Utah policy prohibiting students, faculty, and staff from carrying guns on campus. In University of Utah v. Shurtleff, the Court held that Utah's firearm preemption statute -- which specifically applied to "state institutions of higher education" -- was constitutional within the meaning of the Utah state constitution and prevented the University from enforcing its policy.[10]

By contrast, in at least two cases, courts have upheld a college or university's ability to ban the carrying or possession of firearms on campus. In Florida Carry, Inc. v. University of Florida, the plaintiffs argued that a Florida law permitting the possession of firearms in a person's home or business should supersede a different Florida law prohibiting firearms on school property (including colleges and universities). The plaintiffs argued that university dormitories were essentially the students' homes. The Court concluded that the law forbidding guns on university property should prevail despite a state preemption law.[11] In a related Florida case, however, a court concluded that a state university could not forbid the possession of a firearm in a vehicle parked on school property, as long as the gun was securely encased in the vehicle.[12] Finally, in Digiacinto v. The Rector and Visitors of George Mason University, a non-student but frequent visitor to the George Mason University campus challenged a

University rule forbidding firearms in campus buildings or at campus events. The Virginia Supreme Court concluded that the University policy violated neither state law nor the federal constitution.[13]

As these cases demonstrate, the outcomes are very fact and state law dependent. In addition, the case law may or may not address whether the campus or university policies violate the Second Amendment to the U.S. Constitution. In 2008, the U.S. Supreme Court, in District of Columbia v. Heller,[14] concluded that a Washington, D.C. law essentially banning the possession of handguns by civilians in their homes violated the Second Amendment.[15] However, the Supreme Court has yet to determine whether this right extends to carrying firearms in public.[16]

Table 1: Status of State Campus Carry Laws as of May 2016

STATE	BANS CONCEALED CARRY ON CAMPUS	ALLOWS CONCEALED CARRY ON CAMPUS	DECISION LEFT TO INSTITUTION
Alabama			√
Alaska			√
Arizona			√
Arkansas			√*
California	√		
Colorado		√	
Connecticut			√
Delaware			√
Florida	√		
Georgia	√		
Hawaii			√
Idaho		√	
Illinois	√		
Indiana			√
Iowa			√
Kansas		√****	
Kentucky			√
Louisiana	√		
Maine			√
Maryland			√
Massachusetts	√		
Michigan	√		
Minnesota			√
Mississippi		√	
Missouri	√		
Montana			√
Nebraska	√		
Nevada	√		
New Hampshire			√
New Jersey	√		
New Mexico	√		

STATE	BANS CONCEALED CARRY ON CAMPUS	ALLOWS CONCEALED CARRY ON CAMPUS	DECISION LEFT TO INSTITUTION
New York	√		
North Carolina	√		
North Dakota			√
Ohio	√		
Oklahoma			√
Oregon		√	
Pennsylvania			√
Rhode Island			√
South Carolina	√		
South Dakota			√
Tennessee	√*		
Texas		√**	
Utah		√	
Vermont			√
Virginia			√
Washington			√
West Virginia			√
Wisconsin		√***	
Wyoming	√		

Adapted from information provided by National Conference of State Legislatures, Guns on Campus: Overview. Available at: http://www.ncsl.org/research/education/guns-on-campus-overview.aspx.
* Certain faculty members may carry weapons on campus but not students or the public.
** Effective August 2016. Private institutions may still choose to ban concealed carry.
*** May prohibit weapons in specific buildings if appropriate signs are posted at every entrance.
****Law takes effect in July 2017. Institutions may prohibit carrying in a campus building if all entrances have adequate security measures

Legal Context and the Potential for Armed Citizens to Reduce Casualties from Mass Shootings

John Lott, author of the book *More Guns, Less Crime*, popularized the notion that "gun free zones" invite mass shootings and contribute to the number of casualties from those events because there are no armed defenders to interrupt rampage shootings. Specifically, Lott purports that perpetrators of mass shootings intentionally seek out places where people are barred from carrying firearms in order to maximize casualties and minimize their risk of being shot. He claims that allowing civilians to legally carry loaded guns in public places increases the odds that an attempted rampage shooting will be interrupted and the number of casualties reduced; however, Lott's claims are inconsistent with available evidence.[17]

The most prominent justification in support of campus-carry policies relates to the potential for armed civilians to intervene to reduce the carnage of active shootings. According to the advocates of allowing civilians to carry firearms on college campuses, some individuals considering perpetrating a mass shooting will be deterred from attacking places where they stand a likelihood of being confronted by private citizens carrying firearms. In instances when deterrence fails and attacks are initiated, campus-carry advocates claim that armed students and staff will be able to intervene and halt gun rampages and thereby minimize the number of victims killed or wounded in the attack.[18]

Below, we assess the evidence of the three underlying arguments for the campus-carry movement relevant to mass shootings. First, the occurrence and lethality of mass shootings is drastically reduced in so-called Right-to-Carry (RTC) jurisdictions.[i] Second, mass shootings occur almost exclusively in "gun-free zones," where civilians are prohibited from carrying loaded firearms on their person. Third, when shooting rampages do occur, the active shooters are often stopped by armed civilians who confront the perpetrators.

As campus-carry is a relatively new phenomenon, there is little evidence that confirms or refutes the thesis specifically in the context of college campuses. However, there are several studies that assess the three underlying propositions that form the foundation of the campus-carry thesis. Examining each tenet individually offers valuable insights.

Right-to-Carry Firearm Laws Do Not Reduce Mass Shootings or Casualties from Such Shootings

Advocates for allowing civilians to bring guns onto college campuses and to deregulate carrying of guns in public places in general commonly cite research and statements by John Lott, an economist widely known for his claims that deregulating gun possession reaps significant reductions in violent crime.[17,19] Lott supports his claims with data and analytic methods that others have consistently found to have important flaws. In the 2nd edition of *More Guns, Less Crime*, Lott reported to have assembled a dataset of all mass shootings in the United States from 1977 to 1997. He found that the adoption of RTC laws was associated with a 67% reduction in mass shootings, completely eliminating mass shootings within five years of enactment. He also claimed RTC laws led to a 75% reduction in deaths from such shootings and an 81% reduction in persons injured in these shootings. However, an independent team of researchers tried to reproduce Lott's findings on RTC laws and mass shootings, and found no association between such laws and such shootings.[20]

Lott's claims pertaining to mass shootings and RTC laws are also inconsistent with evidence about mass shootings assembled in Louis Klarevas's forthcoming book on the topic.[21] Klarevas collected data on 111 high-fatality mass shootings (6 or more people murdered with a gun) from 1966 through 2015. He found that in the 41 states that currently have RTC laws or no regulation of concealed carrying of firearms for legal gun owners, the average death toll in high-fatality mass shootings *increased* following the implementation of a RTC law from a mean of 7.5 before to 8.4 after the law. Moreover, this pattern of over eight fatalities per incident, on average, held well after five years, contradicting Lott's assertion that mass shootings stop occurring within five years of the enactment of RTC laws. When Klarevas expanded his data set to include all 50 states and the District of Columbia, the average death toll in gun massacres was slightly higher in states and years where RTC laws were in place (8.4) than in states and years where there were no RTC laws in place (8.0).

[i] Right-to-Carry (RTC) laws are those that remove discretion from law enforcement in issuing licenses to carry concealed firearms, provided that applicants are legally permitted to possess guns in their homes and meet any additional conditions, such as safety training. Laws of this type are also referred to as "Shall Issue" laws because law enforcement discretion is removed from the decision to issue the permits.

There is No Evidence that "Gun-Free Zones" Facilitate Mass Shootings

When John Lott's book was reissued in its 3rd edition in 2010, he introduced a new concept that characterized places "where private citizens are not allowed to carry guns": gun-free zones. He maintained that in locations where someone is bound to be armed, rampage gunmen will be thwarted. Further, he claimed that mass shooters—knowing they will face far less resistance in places where their potential victims are unarmed—consciously target gun-free zones. Unfortunately, the concept of a gun-free zone has never been properly defined. Initially, Lott described gun-free zones as locales "where private citizens are not allowed to carry guns." Subsequently, Lott began embracing a looser conceptualization that deemed entire cities and counties to be gun-free zones, if they were extremely restrictive in issuing concealed-carry permits.[22]

Another problem with the term "gun-free zone" relates to how proponents of unrestricted gun carrying define areas as gun free when there are law enforcement officers and armed security guards on the premises, though civilians are prohibited from carrying their personal firearms on site. Lott characterized military installations like Fort Hood and the Washington Navy Yard, which have been attacked by rampage gunmen, as gun free despite the presence of significant armed security personnel. The implication of this notion of "gun free" is that rampage shooters are only deterred by armed civilians, not by armed guards and law enforcement. But a bullet fired from a police officer's firearm has similar stopping power to a bullet from a civilian's firearm, and it is probably more likely to hit its intended target since security and law enforcement personnel are likely to be better trained and prepared to respond to a rampage shooting than is the average civilian gun carrier.

Sharpening definitions can alleviate the ambiguities and inconsistencies surrounding gun-free zones and their relationship to mass shootings. In Klarevas's study of rampage shootings, he argues that it makes more sense to distinguish between truly gun-free zones – places where there are never armed personnel stationed on the property *and* private citizens are prohibited from being armed with personal firearms by law or appropriate notice – and "gun-restricting zones" – places where private citizens are barred from carrying personal firearms by law or appropriate notice, yet armed security is routinely present. Most military bases and college campuses are gun restricting, as they typically have armed guards and/or armed police on regular patrol, but prohibit civilians from bearing arms. To round out the possibilities, Klarevas identified "gun-allowing zones" as places where private civilians are not legally prohibited from carrying personal firearms.[21]

A review conducted by Klarevas of the 111 high-fatality mass shootings (six or more victims murdered) that occurred in the U.S. since 1966 found that only eighteen have taken place, in whole or in part, in a gun-free zone or gun-restricting zone. (Three of these eighteen incidents occurred, in part, in gun-allowing zones.) Of these eighteen high-fatality mass shootings in gun-free or gun-restricting zones, thirteen took place in bona fide gun-free zones. The remaining five incidents occurred in gun-restricting zones. Contrary to what Lott argues, 84% of all gun massacres occurred in whole or in part where there is no evidence that civilian guns were prohibited, and nearly 90% occurred in whole or in part in locations where civilian guns were allowed or there was armed security or law enforcement. These 111 incidents did not include the mass shooting of police officers in Dallas on July 7 that obviously occurred in a gun-allowing zone where there were numerous Dallas police officers, campus police, and civilians

openly carrying firearms. Among the wounded were two El Centro College police officers. These data do not suggest that gun-allowing zones deter gun massacres.[ii]

There is also little evidence that perpetrators of mass shootings intentionally seek out their targets based on whether or not civilians are prohibited from having guns. Most targets of mass shootings are directed at a specific person, group, or institution with whom the perpetrator has a grievance.[21] Everytown for Gun Safety analyzed data on mass shootings using a slightly less conservative definition than that employed by Klarevas – four persons killed with a firearm, not including the shooter – for the period 2009-2015 and found that the majority (57%) of the incidents involved a shooter's current or former intimate partner or family member. Seventy-one percent of the incidents occurred in a private dwelling and only 13% occurred in a public location that could qualify as a gun free or gun restricting zone.[23]

Effective Neutralization of Active Shooters Requires Skills and Experience that Most Civilians Lack

There is an unsupported assumption of campus carry advocates that armed students or staff on campus will shoot accurately enough to stop the shooter in an active shooting incident without wounding or killing innocent victims. Shooting accurately and making appropriate judgments about when and how to shoot in chaotic, high-stress situations requires a high level of familiarity with tactics and the ability to manage stress under intense pressure. Shooting accuracy in such situations is influenced by distance, the opponent shooter's actions, lighting, use of cover, type of gun, and more.[24] Ability to shoot accurately are also affected by heart rate, breathing, fatigue, and mental stress.[25]

Effective and responsible use of a firearm under the conditions of an active shooting requires significant training. Yet most RTC laws require only that carry permit holders have weapon familiarity, perform basic range shooting and, in some cases, minimal crisis-shooting training to qualify to legally carry a gun. Of course, there are no training or performance requirements in states that do not require civilians to obtain a permit to carry concealed firearms. There is well-documented research citing the inaccuracy of police officers who use firearms in crisis encounters, although they receive extensive training and readiness preparation. [26] There is no reason to believe that college students, faculty and civilian staff will shoot accurately in active shooter situations when they have only passed minimal training requirements for a permit to carry. Generally, college and university students function at a high rate of mental and emotional stress, with over 50% reporting that they feel so depressed that it is difficult for them to function.[27]

[ii] In addition to the July 7, 2016, mass shooting in Dallas, since January 1, 2015, there have been at least four mass public shootings (as defined by Lott) that occurred in gun-allowing zones: Christopher Harper-Mercer's shooting spree that claimed nine lives at Umpqua Community College in Roseburg, Oregon; William Hudson's rampage that claimed six lives at the Tennessee Colony campsite near Palestine, Texas; Syed Rizwan Farook and Tashfeen Malik's attack that claimed fourteen lives at a holiday party being held at the Inland Regional Center in San Bernardino, California; and Jason Dalton's murder spree that left six dead in Kalamazoo, Michigan. At two of the four locations (Umpqua and Inland)—and possibly at the other two locations—there were armed civilians present at the time of the shootings.

Legally Armed Citizens Very Rarely Successfully Intervene to Prevent or Interrupt Mass Shootings

One rationale for allowing guns on campus is that by increasing the number of armed civilians, you increase the ability of someone to effectively intervene with a gun to stop someone engaging in or attempting a mass shooting. Opponents of gun-free zones do not just argue that civilians carrying firearms can prevent mass shootings from occurring in the first place. They also maintain that, should deterrence fail, armed people will help reduce the bloodshed by neutralizing perpetrators before they can complete their rampages. In theory, this too sounds logical. Again, Lott is the source of this thesis. In particular, his central contribution to this debate is his effort to assemble an anecdotal compilation of thirty-one shootings since 1990 that involved armed civilians intervening and halting rampage gunmen from completing their objective of killing as many people as possible. Others have seized on his initiative, and the list of incidents now numbers 39.[19]

But there is one substantial problem with this list. When Klarevas scrutinized the specific instances where armed civilians purportedly intervened to end a mass shooting in progress, he found that, in reality, rarely did private citizens with personal guns stop rampages. Of the 39 incidents, the majority—22 incidents—did not involve mass-shooting scenarios. Instead, they were knife attacks, gun-brandishing episodes where the weapon was never fired, armed robberies where the criminals never tried to execute the customers present, and shootings that did not involve enough targeted victims to constitute a mass shooting. Seventeen of the 39 were actual mass-shooting situations. Out of this subset, the armed intervenor in six of these incidents was a law enforcement officer or armed security guard (not a private citizen). In two cases, armed civilians drew their weapons and helped detain the perpetrators, but only after the shootings had concluded. (Neither defender in these two incidents actually used his weapon to end the rampage.) In five shootings, the attempted defensive gun uses failed to stop the attacks, with the armed intervenors shot in three of these instances.[28, 18, 29] Over a 26-year period, only four incidents that were actual rampage shootings in progress were terminated by the actions of an armed civilian.

An FBI study that examined 160 active shootings in the United States during 2000-2013 also provides reason to be suspect of claims that civilian defensive gun uses figure prominently in terminating ongoing gun rampages. FBI researchers found only one incident that involved an armed civilian intervening to end an attack in progress. The civilian in that incident (which is also one of the interventions cited by Klarevas) involved a U.S. Marine with a concealed-firearms license shooting a man attacking patrons in a Nevada bar. In another four incidents, the attacks were brought to an end when armed security guards shot the perpetrators. By contrast, the FBI found that 21 of the 160 active shooting incidents were interrupted when unarmed civilians confronted and restrained the gunmen. The FBI's data suggest that unarmed civilians are more than twenty times likely to successfully end an active shooting than are armed civilians.[30]

Of course, some incidents could potentially have led to mass shootings had an armed civilian not intervened quickly to prevent more casualties. Klarevas's review of civilian-interrupted mass shootings would miss some instances of this sort. However, allowing more civilians to carry firearms into more public places could also facilitate more mass shootings. The Violence Policy Center has tracked incidents in which a concealed carry weapon (CCW) permit holder was alleged to have committed various crimes of violence and unintentional shootings. They identified 29 CCW holders who perpetrated non-defensive shootings that involved three or more deaths not including the shooter during the period 2007-2015.[31]

Defensive and Hostile Gun Use by Civilians

Debates surrounding policies about guns on college campuses hinge on differing views about civilian use of firearms including the likelihood that a person can successfully use a firearm to ward off a criminal assailant in comparison to the likelihood that a person carrying a gun might be prompted to use his or her gun in hostile or even criminal ways. Unfortunately, there are no surveillance systems designed to identify and verify acts of self-defense with guns. The best available data on the phenomena come from the National Crime Victimization Survey (NCVS) which interviews a nationally representative sample (after weighting) of approximately 90,000 households and over 158,000 individuals age 12 years and older. Households remain in the NCVS sample for three years and eligible individuals are interviewed every six months about their experiences in which they were a victim of crime, any actions that they took in response to the attempted or actual crime, and outcomes such as whether or not they were injured in the crime. Response rates for households and individuals within those households are typically around 85%, an exceptional rate for survey research.

David Hemenway and Sara Solnick recently published a study based on data from the NCVS for the five-year period 2007-2011 to examine the use of guns by crime victims and estimate the effects of victims using a gun in response to a crime versus others actions commonly taken by crime victims.[32] During the study period, there were 62 cases in which a NCVS respondent reported being a victim of a violent crime[iii] and used a gun in self-defense and an additional 65 who used a gun in property crimes or situations involving only verbal threat to the victim. These 62 incidents represented 0.9% of all violent crimes reported (6,663) and accounted for 8.1 incidents per 100,000 population per year or a total of 102,478 self-defense gun uses (SDGUs) against violent crimes annually. In less than one fifth of the incidents of reported SDGU, the offender was also armed with a gun. Seventy-three percent of SDGUs reported by men and 48% of SDGUs reported by women occurred away from their homes. None of the SDGUs over the five-year period involved sexual assaults.

Victim Gun Use in Response to Criminal Acts Do Not Affect Victims' Risk of Injury

In this study, Hemenway and Solnick also examined victims' risk of being injured after taking any of thirteen specific actions volunteered by NCVS respondents when asked what they did or tried to do about the incident while it was going on. Four percent of those who reported a SDGU reported being injured after attempting to protect themselves with a gun; a virtually identical odds of injury among all victims who took *any* act of self-protection. **After controlling for a host of contextual factors, self-defensive gun use did not significantly affect victims' risk of being injured in the criminal act.** Most victims who are injured in crimes are injured before they can take any protective action. Prior studies suggesting SDGU reduces victims' injury risk used NCVS data that did not distinguish victim injuries that occurred before versus after protective actions such as SDGU took place and, thus, could not ascertain causal connections between SDGU and injury risks.[33,34]

The NCVS does not ask respondents whether they used a gun in a hostile or unlawful manner. Drawing upon NCVS victimization data for the five years studied by Hemenway and Solnick (2007-2011)

[iii] Violent crimes examined include physical assaults, both sexual and non-sexual, and robberies.

and including firearm homicides for those years, there were 3.6 victimizations involving firearms for every self-reported SDGU in response to a violent crime.[iv] It is unknown what percentage of the criminal uses of guns nationally were committed by individuals who owned guns legally. **However, data from a nationally representative survey of state prison inmates and determined that of those who were incarcerated for committing a violent crime with a firearm in the thirteen states with the lowest legal standards, 60 percent legally possessed the firearms when they committed the crime.[35]**

The true incidence of SDGU may be significantly lower than indicated by the NCVS because the data are based on self-reports and determining who is the aggressor and who is the victim in interpersonal altercations can be highly subjective. Hemenway and colleagues fielded two surveys of a nationally representative sample of gun owners to ascertain gun owners' reports of both defensive uses of guns and hostile uses of guns against respondents. Respondents were asked to describe these incidents in some detail and five criminal court judges were asked to review the narratives and assess the probably legality of self-reported use of guns.[36] **In the majority of the self-reported SDGUs, most criminal court judges considered the actions taken by the respondent with their guns to be "probably illegal" due to inadequate justification for using deadly force.** The judges' were told to assume that the respondent had a valid permit to own and carry the gun, and that the respondent had described the event honestly.

An alternative source of data on SDGU to the NCVS is a national phone survey of 4,977 gun owners directed by criminologist Gary Kleck in the early 1990s. In this survey, 56 (1.1%) respondents reported having used defensively used a gun within the past 12 months in situations in which they report being the would-be victim of a crime. Kleck used these data to make a projection that 2.5 million times per year a U.S. citizen used a firearm defensively in situations when someone was committing or attempting to commit a crime – about 22 times higher than the estimate from the NCVS.[37] The projections from Kleck's survey are discordant with data from other sources relevant to crime and violence, calling into question the validity of the data. For example, Kleck's survey data extrapolate to over 200,000 assailants shot by civilians defending themselves against crime each year. During the early 1990s when the survey was conducted there were approximately 300 deaths per year that were recorded as justifiable homicides committed by civilians using firearms.[38] There is no direct measure of criminals suffering nonfatal wounds as a result of being shot by civilians defending themselves, but the CDC's surveillance systems for tracking all deaths and a nationally representative sample of nonfatal injuries treated in hospitals indicates that there are roughly four to five persons suffering nonfatal gunshot wounds in assaults or incidents of undetermined intent for every fatal gunshot wound with the same external cause. That would suggest that about no more than 1,800 persons shot by civilians defending themselves against criminal attacks for the period that Kleck's survey projects 200,000 – a wounding rate more than 100 times higher than indicated in hospital surveillance systems.

The Impact of Laws Expanding Civilians Ability to Carry Firearms in Public Places

In 2005 the National Research Council reviewed the then-current information with data through 2000 concerning the impact of state laws allowing citizens to carry concealed weapons.[39] Noting that the estimated effects of so-called right to carry (RTC) laws were highly sensitive to the particular choice of

[iv] The NCVS reported a total of 1,784,547 incidents in which respondents reported crime victimization by assailants wielding firearms and the CDC's vital records indicate a total of 58,450 homicides with firearms for an average of 368,599 victimizations per year over the five-year period.

explanatory variables, the report concluded that the evidence was too uncertain to determine the impact of RTC laws on crime.

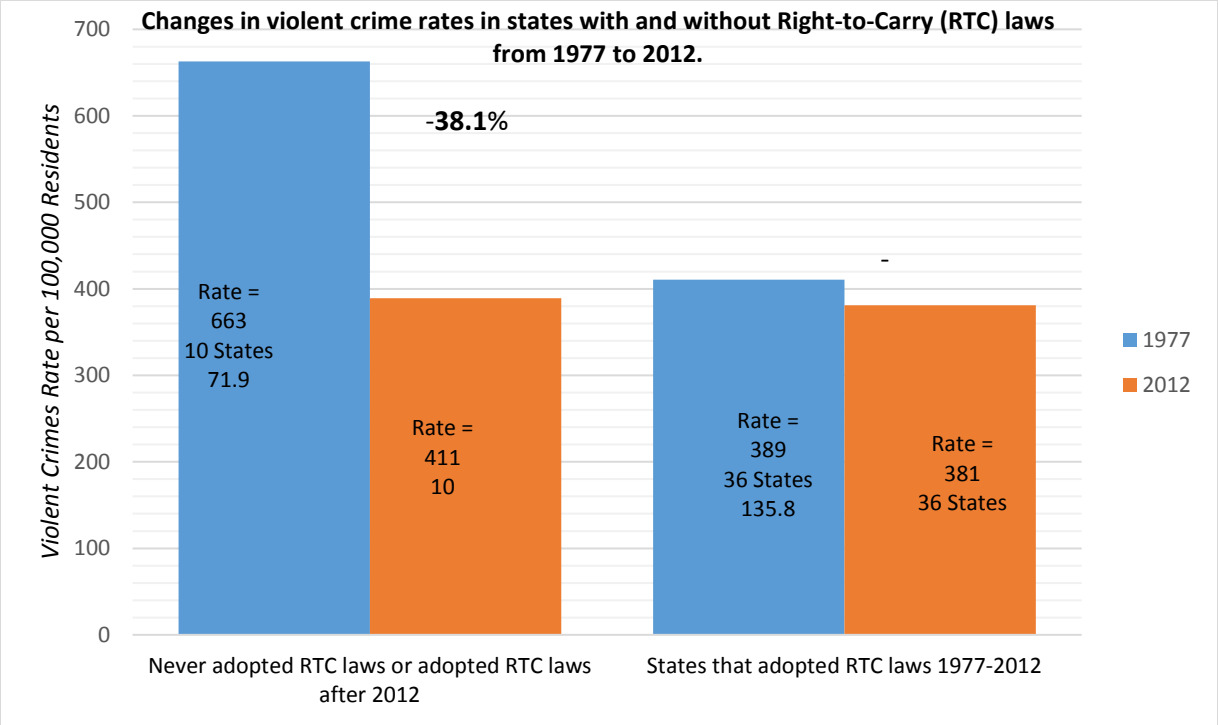
A major obstacle to generating a valid estimate of this impact was that most of the studies looking at this question included data for the period from 1985 through the early 1990s when violent crime rose sharply in certain areas, such as California, New York, and the District of Columbia, owing principally to the introduction of crack cocaine. Since all three of those jurisdictions and a number of other states with the worst crack problems (e.g., Maryland, New Jersey) also did not adopt RTC laws, any panel data analysis that did not control for the criminogenic influence of crack would necessarily generate a biased estimate of the impact of RTC laws that would make them appear to be either less harmful or more beneficial than they actually were in influencing crime. This was a major problem for the original study of RTC laws by John Lott and David Mustard and subsequent analyses by Lott.[17,19,40] But this problem plagues every panel data analysis of RTC laws, except for those that started *after* the impact of crack had been full dissipated in the very late 1990s or early 2000s.[v]

A quick but admittedly crude way to address this problem is to present a difference-in-differences comparison between the 36 states that adopted RTC laws over the period 1977-2012 and the ten states that did not adopt these laws. By comparing the change in crime from a period before crack emerged to a year well after its impact had dissipated, one can eliminate the impact of crack on crime (although of course this simple comparison does not control for other influences on crime that differed over this period for the two sets of states). Figure 1 shows that the ten non-RTC states enjoyed a 38.1% drop in their violent crime rate from 1977 to 2012, while the 36 adopting states had almost no change in violent crime over this period (a decline of 2% over a 35-year period).

This simple evidence is suggestive that RTC laws tend to exacerbate violent crime (controlling for the influence of crack but not for other explanatory variables). Obviously, this chart would overstate the harm of RTC laws if, say, the non-adopting states had increased their per capita rates of incarceration or police personnel more than the adopting states, thereby suppressing violent crime through those mechanisms (which could then potentially explain the relatively better experience with violent crime over the 1977-2012 period in the non-adopting states). In fact, the opposite is true. The adopting states had considerably larger percentage increases relative to the non-adopting states over this time period in their rates of incarceration (262% vs. 221%) and police staffing (61% vs. 26%). The relatively better crime performance of non-RTC-adopting states in the raw comparison of in the figure below could be even greater if one were to control for the influence on violent crime of police and incarceration.

Of course, many factors in addition to police, incarceration, and crack influence crime and the challenge for researchers who seek to find the impact of a single factor such as RTC laws is to account for those factors that may also be correlated with RTC adoption in an appropriately specified statistical model. A number of panel data analyses conducted since the publication of the NRC report have tried to control for a host of explanatory variables. These models, however, have not adequately controlled for the criminogenic influence of crack (thereby making RTC laws look better) as well as other factors that are likely to bias the estimated effects of RTC laws.

[v] See the discussion of Zimmerman (2015) below.



The Most Recent Rigorous Research Studies Find RTC Laws Linked to Increased Violence

Donohue, Aneja, and Webber attempted to address these deficiencies with state panel data analyses that extended the NRC data by twelve years, during which time eleven additional states adopted RTC laws, to 1979-2012. Two models were used to explore the relationship between RTC laws and crime. Model 1 estimated shifts in the level of crime after RTC adoption and model 2 estimated RTC laws' association with changes in crime trends or slopes. Both models indicated that violent and property crime both increased in response to the adoption of RTC laws. Specifically, violent crime was 12.3% higher after adoption of RTC laws and violent crime increases about 1.1% more for each year RTC laws are in effect.

New and sophisticated techniques are being employed to assist researchers in finding the best set of control states that have violent crime patterns most similar to the states adopting new laws. Research by Durlauf, Navarro, and Rivers attempts to sort out the different specification choices between Aneja, Donohue, and Zhang, and Lott and Mustard, using a Bayesian model averaging approach.[41] Applying this technique to analyze the impact of RTC laws using county data from 1979-2000, the authors find that in their preferred spline (trend) model, RTC laws *elevate* violent crime rates by 6.5% in the three years after RTC adoption, with the effects growing over time. A recent report from the Brennan Center based on state-level data for 1979-2012 indicates that violent crime increased, on average, 10% following RTC law adoption. [42] Zimmerman (2015) examined the impact of various crime prevention measures on crime using a state panel data set from 1999-2010. The findings from this study revealed statistically significant increases in murder, robbery and assault associated with RTC law adoption. Estimating so-called synthetic controls for states that adopt new policies is a relatively new technique to evaluate the impact of state policy changes on violent crime and other outcomes. This

approach addresses some of the challenges posed by regression analyses with panel data from 50 very disparate states. Webber, Donohue, and Aneja used this approach and found evidence that RTC laws increase violent crime by 12% to 18% over the ten years after adoption. These results are broadly consistent with the bulk of the panel data estimates cited above and are inconsistent with the outlier results generated using the Lott's model specifications. One difference between the two analytic approaches is that the panel data estimates typically found that RTC laws were associated with increases in both violent and property crime, while the synthetic controls estimates only found evidence that RTC laws increase violent crime.

Some final comments should be made about the likely mechanisms between adoption of RTC laws and increased crime, which the statistical studies do not directly address. First, the supporters of RTC laws frequently cite evidence that permit holders, as a group, are arrested for violent crimes at relatively low rates. [43] But the important policy question is whether having a CCW (and carrying a gun on one's person or in one's vehicle) affects CCW holders' risk of committing acts of violence and whether having more people carrying firearms will increase or decrease the incidents of violent crime and the lethality of those incidents. Ready access to a loaded firearm is likely to have a greater impact on risk of committing serious acts of violence among individuals with a history of violence, recklessness, substance abuse, or those prone to impulsivity or angry outbursts. Passing a background check when the principal criteria for denial are a convictions for either a felony crime or misdemeanor domestic battery, having a current domestic violence restraining order, or having been adjudicated mentally incompetent or a serious threat to self or others due to mental illness is no guarantee that a person is not prone to violence and can be trusted to carry a loaded concealed firearm in public places.[44,35] CCW holders do commit serious crimes with guns including murder and mass shootings.[31]

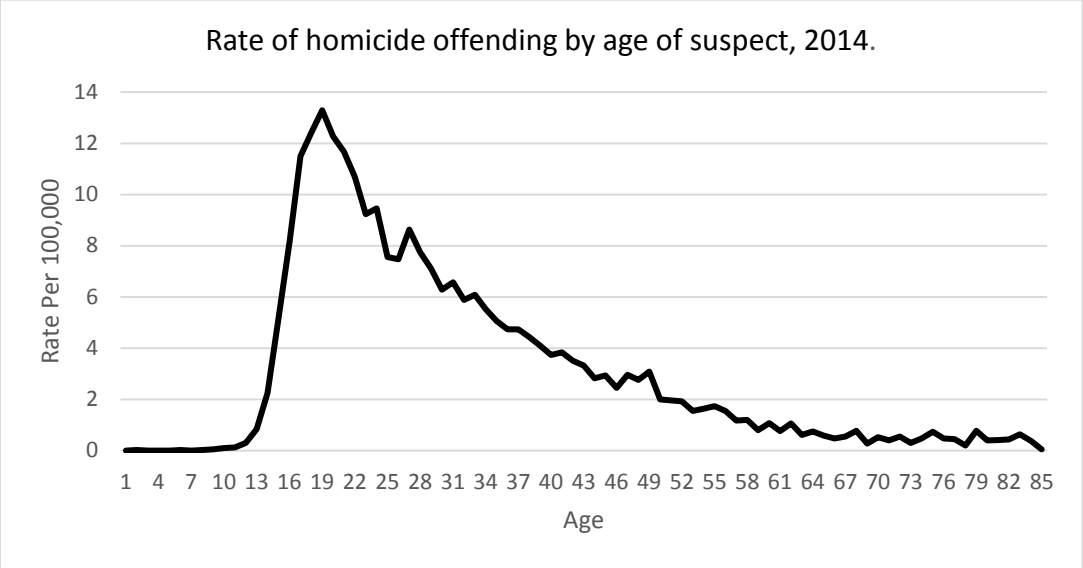
Second, RTC laws can increase crime in many ways even if the permit holders are not committing it. The ability to carry a gun may embolden some permit holders to incite criminal responses to their provocative behavior, as some have alleged in the George Zimmerman case leading to the death of Trayvon Martin. Criminals may also be more likely to carry weapons in response to RTC adoption and more likely to be aggressive towards their victims if they fear armed opposition. Guns carried outside the home because of RTC laws are potentially more likely to be lost or stolen, especially when left in motor vehicles, which can expand criminals' access to guns. Finally, the presence of more guns can complicate the job of police and simply take up more police time as they process applications and check for permit validity when they confront armed citizens. The recent July 2016 shooting by police of concealed carry permit holder Philando Castile in Minnesota underscores how the introduction of a gun by a law-abiding citizen can end in tragedy.

Why the College Campus Environment is Ill-Suited for the Civilian Gun Possession

The broader research literature on civilian gun use and policies that allow civilians to carry concealed firearms has not examined the experience or implications of policies that allow students, staff, faculty, or visitors to carry firearms onto college campuses. Relevant to this discussion is the frequency and nature of events where civilians might use firearms at their disposal, the capacity and proclivities of adolescents and young adults of typical college age to make prudent decisions about when or how to use firearms, the onset of severe mental illness during young adulthood, the frequency of binge drinking of alcoholic beverages among college students and the violence that stems from that drinking. In addition, suicidal ideation and behavior is common during late adolescence and early adulthood and increasing access to firearms through policies that allow guns onto college campuses

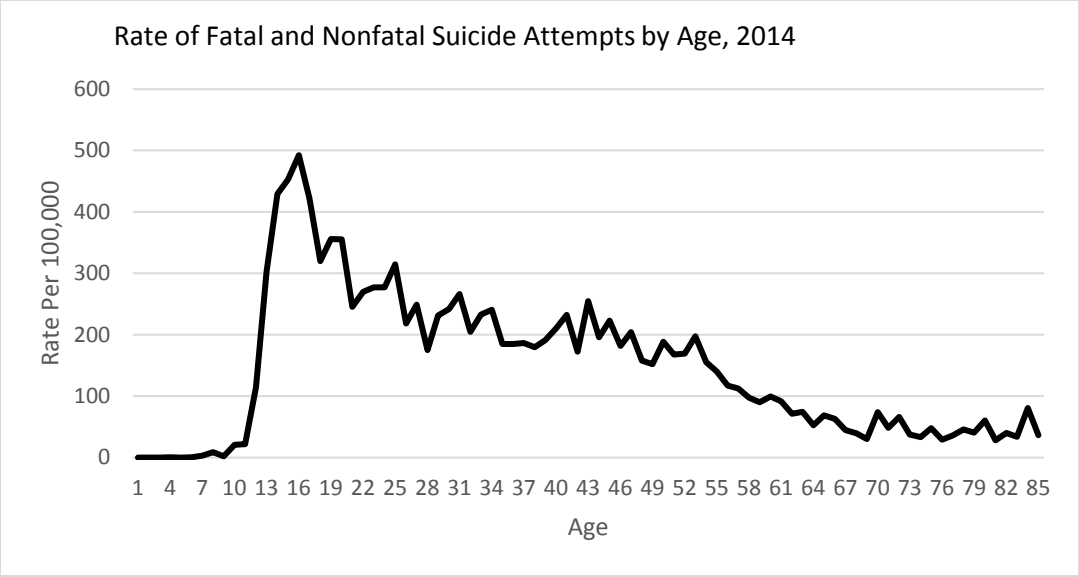
could increase risk of suicide among college students. Due to a variety of developmental, psychological, and sociological reasons, age-specific homicide offending rates increase dramatically during adolescence, peaking at age nineteen, and are highest during the age span of most college students (18-24 years). Suicide attempts that lead to hospital treatment or death also rise dramatically and peak during the years that most youth enter college.

A recent study identified 85 incidents of shootings or undesirable discharges of firearms on college campuses in the U.S. from January 2013 through June 2016. Only two of these 85 incidents (2.4%) involved a shooter on a rampage. The most common incidents were interpersonal disputes that escalated into gun violence (45%), premeditated acts of violence against an individual (12%), suicides or murder/suicides (12%), and unintentional shootings or discharges (9%).[45]



[vi]

Homicide data obtained from the FBI's, Uniform Crime Reporting Program, Supplemental Homicide Reports, 2014. Data on age-specific population estimates were obtained from the Centers for Disease Control and Prevention and generated by US Census Bureau. https://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm



Data obtained from the Centers for Disease Control and Prevention's Web-based Injury Statistics Query and Reporting System (WISQARS), Fatal and Nonfatal Injury Reports, 2014. https://www.cdc.gov/injury/wisqars/

Brain and Cognitive Development in Adolescence and Emerging Adulthood

Adolescence and emerging adulthood is a time of tremendous change in the biological systems that support decision-making, emotional and behavioral regulation, and motivation. As has been widely documented in the lay press and in the scientific literature, the brain's higher association areas (e.g., prefrontal cortex or PFC), among other areas, continue to change well into the third decade of life. [46-48] Areas of the PFC are part of the circuitry that supports self-control, including impulse control and inhibition, judgment, and long-range planning. [47,49] These skills are essential for safe firearm storage and use, and for appreciating and avoiding the circumstances in which firearm use is likely to lead to tragedy.

Risky decision-making in adolescence/early adulthood is due, in part, to changes in both frontal/limbic balance in the developing brain and changes in the connections between the PFC and limbic subcortical structures that support emotional and behavioral regulation.[49] While the PFC and other higher order association areas mature relatively late, limbic areas are dense with hormone receptors that are awakened during puberty. [50] Limbic areas play a key role in the circuitry that supports emotions, reward systems, and drives. When limbic influences predominate, drives toward sex aggression are heightened, and social relationships become particularly important. [51] Similarly, dopamine receptors proliferate in the striatum--part of the brain's motivational circuitry--before they proliferate in the PFC, which may also help explain why adolescent behavior is biased toward motivation rather than inhibition. [49]

Compared with adults and younger children, adolescent decision-makers are particularly sensitive to social and emotional cues in the environment, and are more sensitive to stress, both psychologically and biophysiologically. [52-55] A number of studies demonstrate that adolescents' self-control is vulnerable in the face of potential rewards (e.g., peer approval and acceptance). [56,57] Similarly, in laboratory studies, adolescents have been shown to demonstrate poorer emotional regulation in the context of threat than other age groups. For example, in a self-control task, Dreyfuss et al. found that compared to their older and younger peers, adolescents, particularly males, were more likely to react

impulsively to threat cues (compared to neutral cues); a finding that was mediated by differences in limbic activation in brain areas that support emotion regulation. [58]

In summary, typical developmental processes in adolescence are associated with more risk-taking, and poorer self-control in the transition to adulthood. Guns may be called on in the very situations in which adolescents are most developmentally vulnerable: in the context of high emotional arousal, situations that require rapid, complex social information processing, those that involve reinforcing or establishing peer relationships (i.e., showing off), or in conditions of perceived threat.

Onset of Mental Illness, Youth Suicide and Access to Firearms

College students are vulnerable to a range of mental health issues. The stress associated with the life transitions inherent in college attendance – leaving home, exploring new social identities, developing new peer groups, managing challenging coursework and extracurricular activities – place students at risk of conditions like depression and anxiety.[59] The majority of mental disorders have their onset by age 24.[60] Studies have demonstrated high prevalence of clinical depression and anxiety among college students: one study found that 14% of undergraduate students and 11% of graduate students at a large public University with a demographic profile similar to the overall U.S. student population screened positive for depression, and 4% of undergraduates and 5% of graduates met criteria for anxiety.[61,62] Despite the high burden of mental illness among college students, many go untreated. While mental illness treatment rates vary across campuses, one study of students on 26 campuses across the U.S. found that on average, only 36% of students who screened positive for mental illness had received treatment in the past year.[63]

Of particular concern in the context of proposals to allow students to carry firearms on campus is the risk of suicide associated with mental illnesses, especially depression, among this group. In a national survey of undergraduates conducted in 2015 about events within the past 12 months, 8.9% reported "seriously considering attempting suicide" and 1.4% had attempted suicide.[64] A study of students from 645 U.S. college campuses found increased rates of suicide among college students in 2008-2009 compared to 2004-2005: the suicide rate increased from 6.5 to 7.7 per 100,000 students.[65] **Importantly, a firearm was the leading method for suicide among males, accounting for nearly a third (31%) of all suicides among male college students**.[65] For females, firearms were the third leading cause of suicide (10% of all suicides in this group), behind hanging (29%) and poison (16%).[65] This gender differential in firearm suicide on college campuses mirrors the differential in the overall U.S. population.[66] **A large body of literature clearly shows that firearm access is associated with increased rates of suicide, suggesting that increased access to firearms on college campuses could significantly increase suicide in this vulnerable group.[67,68]**

The combination of challenges with impulse control, emotional regulation, and onset of mental illness contribute to high rates of suicide and suicide attempts among adolescents and young adults. In 2014, suicide was the second leading cause of death in the U.S. among college age youth 17-24 years old.[69] Between 1999 and 2014, the suicide rate in this age group increased 12% from 11.3 to 12.7 per 100,000.[69] Firearms represent an extremely lethal means of intentional self-harm; approximately 90% of suicide attempts with a firearm resulted in a fatality compared to 3% for poisoning attempts.[70] In 2014 among males age 17-24 who died by suicide, 49% used a firearm.[69]

Some suicide risk factors differ among those under age 25 compared to older populations. Emotional control, impulsivity, and decision making continue to develop into the mid-20s, which can put youth at higher risk for suicide.[71] In addition to being more impulsive, young individuals tend to be more vulnerable to a contagion effect after exposure to suicide within their community.[72] Suicide risk is often highest in the early stages of the onset of major psychiatric conditions and these symptoms often first develop in childhood or early adolescence.[60,73] The risk of suicide among youth also increases with age; 2.6 per 100,000 among boys age 10-14 compared to 22.9 per 100,000 among young men age 20-24.[69]

Suicide attempts (whether fatal or nonfatal) may occur in the context of an underlying mental health condition such as depression and/or alcohol or drug misuse.[74,75] Many suicides also have an impulsive quality and are often precipitated by an acute stressor (e.g. loss of a relationship, trouble with the law or school, humiliation, job loss).[67] The majority of those who survive an attempt do not go on to die by suicide; a suicide prevented is a life saved.

The lethality of a given means or method of suicide attempt accounts for a substantial portion of the variation observed in suicide mortality and points to the unrealized potential for means restrictions strategies to reduce suicide. The method used for a suicide attempt depends on availability; there is a strong association between the availability of firearms in households and death by suicide. Having ready access to firearms is linked with suicide not only for the gun owner but for all members of the household, especially for children and adolescents.[76-78]

Studies of the relationship between the presence of guns in the home and risk for suicide among younger populations have found that the risk of suicide is two- to five-fold higher for all household members in homes with firearms.[76,77,79,80] These studies have reported limited evidence of substitution of methods; restricting access to firearms did not lead to increased use of other methods of suicide attempt. An analysis of changes to Connecticut and Missouri's permit to purchase handgun purchaser licensing laws also indicate that these laws – which both screen out some individuals at high risk of suicide and reduce guns purchased in response to a suicidal impulse – play a role in reducing firearm suicide risk.[81] Reducing the availability of highly lethal and commonly used suicide methods has been associated with declines in suicide rates of as much as 30%–50% in other countries and can be especially influential in younger populations.[82]

Safe gun storage practices (e.g., using a gun safe or storing ammunition separate from an unloaded gun), which can be required by state law, are associated with a decreased risk for adolescent suicide.[78 83] This association is especially strong in the 15-19 year old age group, which implies that restricting access to a firearm is likely to have the biggest impact during the age characterized by higher impulsivity.[84] The potential for unsafe storage of firearms, if firearms were permitted in college dorms, is a concern and could elevate suicide risks to anyone who has access to a firearm owner's room.

Alcohol Abuse and Violence on College Campuses

A large international literature has established a close association between alcohol use and violence.[85] Culture can structure and determine the strength of this relationship through such variables as frequency of drinking to intoxication or consumption of high-alcohol beverages, and expectations about drinking behavior or the situational appropriateness of aggression.[86] College drinking cultures possess all of these attributes. U.S. college students drink frequently and at high levels: nearly 60% of 18-22 year-old college students reported drinking the past month; 37.9% reported binge drinking (defined as five or more drinks within two hours).[87] Among young men in particular, research has found

that expectations about the acceptability of violent action while intoxicated may precede actual acts of violence while drinking.[88] Among college students, there appears to be a normative belief that abusive behavior is more common and less abusive when alcohol is involved for psychological and moderately severe physically abusive behaviors.[89]

The interaction between college drinking cultures and violent behavior helps to explain the high prevalence of alcohol-related violence in college populations. In the general population, CDC estimates that every year, there are 7,756 homicides attributable to alcohol use; 1,269 of these happen to persons younger than 21.[90] Hingson et al. have estimated that 600,000 college students annually are assaulted by another student who has been drinking.[91] The Bureau of Justice Statistics reported that alcohol was involved in 41% of on-campus violence and 37% of off-campus violence for students who lived on campus, and 18% of on-campus violence and 31% of off-campus violence for students living off campus.[92]

Sexual violence is another significant risk when alcohol is in the mix. On college campuses, 88%of male college rapists who used force to commit the rape also used alcohol or drugs, and college males who rape incapacitated women are more likely to drink right before the rape.[93] Alcohol use also increases the likelihood of assault occurring for women. A meta-analysis and systematic review have concluded there is a clear positive association between alcohol consumption and physical and sexual violence for women. Longitudinal data suggests this relationship is bidirectional, meaning that women who are victims of interpersonal violence tend to drink more and women who drink more are more likely to be victims of interpersonal violence.[94]

One factor that can moderate the relationship between alcohol use and violence on campus is the density of alcohol outlets around a college campus. According to one study of 32 colleges, on- and off-premise outlet densities were associated with campus rape-offense rates. Student drinking level was associated with both campus rape and assault rates, and mediated the effects of on- and off-campus alcohol outlet density. Campuses with greater densities of alcohol outlets had higher drinking levels, which in turn explained higher rates of violence on those campuses.[95]

Thus both culturally and ecologically, college campuses can present a “lit fire” in which interpersonal violence is prevalent (according to the Bureau of Justice Statistics, one in 10 college students has experienced a violent crime[92]), and worsened by the addition of alcohol use. To this potentially incendiary situation should be added data on the relationship between gun ownership on college campuses and alcohol use. Two studies from the 1990s looked at this relationship. **One found that students with guns were more likely to be binge drinkers and to need to start the day with alcohol;[96] the other revealed that those who self-reported binge drinking or engaging in risky or aggressive behavior after drinking were not only more likely to have guns at college but also more likely to be threatened by a gun while at college.[97]**

Implications of Guns on Campus for Campus Security and Law Enforcement

For a police officer, the decision to apply deadly force is taken seriously and discussed in training throughout his or her career.[98] The decision in a crisis, such as an active shooter event, occurs in an atmosphere of chaos and panic, and is often over in a matter of minutes, if not seconds.[99] Like police officers, students or faculty attempting to use a gun to end an active shooter situation would be expected to assess the situation, ensure a clear line of fire, shoot well, minimize loss, and bring the

situation to closure. While an entire active shooter situation may last longer, the actual shooting and opportunity to stop the suspect may be momentary.[24]

Police officers routinely experience high anxiety/high threat situations – including home invasions, intrusion alarms, armed robberies, suspicious circumstances, traffic stops, and prowlers – and are prepared to take whatever action is necessary to safely end these incidents. Despite their training and frequent exposure to high-risk and life-threatening events, evidence shows that police officers do not shoot accurately in a crisis encounter; though officers who participate in simulation or other high-stress training tend to shoot somewhat more accurately in a crisis than those who do not.[24,100-103] The idea that students or faculty could shoot as well as trained police officers in an active shooter situation is highly questionable given what we know about police performance in high stress situations. Additionally, consideration must be given to the possibility of police officers not being able to differentiate a student or faculty member with a gun from the perpetrator during the response to an active shooter situation. There are numerous examples of this happening, creating confusion and, in some instances, resulting in civilians being unintentionally shot by law enforcement.

Much of the discussion and debate about allowing the carrying of guns on campus revolves around this concern over active shooters; however, the issue is more extensive.[104] While active shooter situations are rare, colleges and universities have responded well to this threat by establishing policies and plans, conducting training and drills, implementing threat assessment teams, and embracing the national Incident Command System.[105-107] There are other situations that occur far more frequently on college campuses, such as disorderly conduct, abuse of alcohol and dangerous substances, intimate partner violence, suicide threat, faculty-student disputes, fights, and trespass. These types of incidents deserve more attention because response to these incidents will change based on the potential increase in the presence of guns due to laws allowing the right to carry on campus.

While there is no evidence to aid in predicting how many students will carry guns on campus if bans are lifted, campus police and security officers must assume that weapons may be present in many situations, especially those involving groups and crowds.[108] Most campus officers routinely respond to situations in which information is sparse. They respond to calls such as “suspicious person,” “suspicious circumstance,” “911- hang up,” and “alarm sounding” often with no additional information. If the presence of guns must be assumed, the level of seriousness, tactics used, and necessary precautions taken in response to such calls are elevated. Tactical changes may include greater reliance on back up officers, assessing and questioning individuals about the presence of weapons, scanning the environment for protective cover, and moving quickly to resolve aggression and threat without limiting the time spent to de-escalate. Local and state police who are called to assist in campus situations will implement similar precautions and changes in approach. The perception of increased likelihood of situations in which there may be a gun present could simultaneously increase the risk of shooting, intentional or otherwise, by police or campus security while responding to calls.

Conclusion

The best available research contradicts many claims and assumptions that underlie policies to allow civilians to bring firearms onto college campuses. Gun ownership and gun carrying in many states is common, but successful and warranted civilian defensive gun use is relatively rare. Concealed carry permit holders have passed criminal background checks and, as a group, commit crimes at a relatively low rate. But, in states with the most lax standards for legal gun ownership, 60%of individuals incarcerated for committing crimes with guns were legal gun owners when they committed their crimes.

Some who are legally allowed to own and carry firearms in public places have histories of violence and recklessness. Many states relaxed restrictions on concealed and open carrying of firearms based on claims that such policies reduced violent crime. But the best available evaluations of these policies indicate that these right-to-carry laws increase violence.

Some have blamed rampage shootings, including those on college campuses, on "gun free zones," and they have claimed that the best deterrent to such shootings is to remove virtually all restrictions on civilian gun carrying. Indeed, much of the impetus for policies to allow guns on college campuses has been to reduce mass shootings or the number of casualties from those shootings by enabling armed civilians to intervene. Yet the number of people shot in mass shootings in the U.S. has increased dramatically during the past decade – a period that coincides with the removal of restrictions on public gun carrying and a push to make gun carrying in public more normative. New research on fatal mass shootings demonstrates that: 1) right-to-carry laws do not decrease mass shootings or the average number of people shot in those incidents; 2) the overwhelming majority of fatal mass shootings occur in places where guns are allowed; and 3) when rampage shootings do occur, very rarely are they stopped by gun-wielding civilians.

While the net effect of right-to-carry gun policies have negatively impacted public safety broadly, their effects are likely to be far more deleterious when extended to college campuses. Risks for violence, suicide attempts, alcohol abuse, and risky behavior are greatly elevated among college-age youth and in the campus environment. The presence of firearms greatly increases the risk of lethal and near-lethal outcomes from these behaviors and in this context. Even if allowing more guns on college campuses did have some protective effect against rare mass shootings on campuses – and available evidence suggests that this is not the case – the net effect on the safety of college students, faculty, and staff is likely to be more deaths, more nonfatal gunshot wounds, and more threats with a firearm that are traumatizing to victims.

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