

Discussion & Conclusion

What is first apparent from the results of this study are the discrepancies between outcomes. While Castle Doctrine legislation is associated with increases in the number of NICS weapons checks, just the opposite is the case for the percentage of suicides attributable to firearms. How can these findings be reconciled? NICS checks only indicate the number of individuals making a weapons purchase or, in some cases, applying for a concealed carry permit. As discussed previously it is estimated that 10% of American adults in 1994 owned more than 75% of the nation's firearms (P. J. Cook & Ludwig, 1996). Further, the Pew Research Center reported that 33% of American households had a gun in 2013 (Gewurz, 2013b). From these figures we can infer that a sizeable number of gun sales are to those who already have a gun in the household. It is unclear just how many gun purchases actually result in additional households with weapons, a figure FS/S is meant to approximate.

In the case of NICS checks, it may be the case that the legislation is encouraging more residents to carry weapons (resulting in a weapons check) rather than acquire new weapons. According to a report by the Crime Prevention Research Center (2014), there are currently over 11 million conceal carry permit holders in the U.S.; this number is an underestimate as data are not available for all states. This same report estimated that there were 2.7 million conceal carry permits in 1999, 4.6 million in 2007, and 8 million at year-end 2011 (Crime Prevention Research Center, 2014). This trend has implications for violent crime. Lott's (2010) analyses found that states that passed "shall issue" conceal carry laws experienced a decrease in crime rates. According to John Lott (2010), violent crime decreased since armed citizens increased risk for would-be offenders. Lott's work in *More Guns, Less Crime* generated a great deal of controversy. While some authors corroborated his findings (Helland & Tabarrok, 2004; Plassmann & Whitley, 2003), others found fault with Lott's analytic techniques and argued that such laws actually increased violence (Ayres & III, 2003; Donohue, III, 2003; Duggan, 2000). Regardless of whether crime rates increase or decrease, however, the number of conceal carry permit holders does seem to be associated with violent crime.

Increased gun ownership has implications for violent crime as well. As stated in the Introduction, a number of past studies found a positive association between rates of gun ownership and homicide rates (Philip J. Cook & Ludwig, 2006; Matthew Miller et al., 2002; Siegel et al., 2013). This association was apparent internationally as well (Killias, 1993). According to Killias (1993) there was no evidence that other means of violence were substituted when there was decreased gun availability. Positive associations have also been found between gun ownership and suicide

(Kleck, 2004; M. Miller et al., 2006), leading me to use the percentage of suicides attributable to firearms as a proxy for gun ownership .

Not all research, however, has concluded that gun availability leads to increased crime or victimization. Kleck and Gertz (1995), for instance, found that using a gun for protection decreased the likelihood of certain violent crimes being completed or resulting in victim injury. Cook and colleagues (Philip J. Cook, Ludwig, & Hemenway, 1997) concluded that there were approximately 110,000 annual incidents of defensive gun use in the 1992 to 1994 time period, although many existing estimates are believed to be too high (Philip J. Cook & Ludwig, 1998; Hemenway & Azrael, 2000). Although these estimates cannot clearly indicate whether there is a net benefit of increased gun ownership, they again demonstrate that any law affecting gun ownership or acquisition may have real effects for violent crime, albeit positive or negative.

Although these implications are important to consider, some caveats are in order. First, as noted previously, my outcome measures are only approximations and may not assess the same underlying trends. Also, states are large units of analysis; it is possible that there is within-state heterogeneity in Castle Doctrine effects that merits looking at more localized approximations of gun ownership or acquisition. Second, given the recency of the Castle Doctrine legislation trend, I cannot assess whether effects are or will continue to be long term. At best, I can only speak to the five-year trends among states passing legislation early in the 2000-2010 time frame. Time series estimation is improved with longer time intervals because “noise” and pre-intervention trends can be better accounted for statistically. While there is no firm requirement for the number of time points in a time series analysis, balanced data (equal number of measurements before and after intervention) and a reasonably large number of time points are ideal (McCleary, Meidinger, & McDowall, 1980).

Third, my study does not assess the individual-level effects of Castle Doctrine legislation on gun ownership and acquisition. As a result one cannot infer why an individual may choose to obtain a gun post-legislation. Is it because the laws reduce citizen fear of lawsuits? Does publicity improve individual perceptions of gun ownership? Do the laws imply that gun ownership is a deterrent to criminal victimization? Further, we do not know how many new gun households resulted from the legislation. Future interview or survey-based research may be able to assess these perceptions, attitudes, and behaviors.

An additional issue that I did not address in this paper is the possible impact of publicity on gun ownership and acquisition. Although Castle Doctrine legislation passed fairly quietly in some states, in others (Florida for example) it was a source

of contentious debate. As described previously, a Lexis-Nexis search for the phrase “Castle Doctrine” yielded more than 300 Florida newspaper article results as of August 2014. In some instances a landmark case drawing on the Castle Doctrine legislation prompted media interest and additional debates. The Trayvon Martin case noted in the Introduction is among the most publicized. It is quite possible that cases such as these increase or affect the timing of legislative impact. Ren, Zihang, and Zhao (2012), in their study of the Texas statute, found that a deterrent effect only emerged in the locality where a major case had occurred, and only when the case had occurred. It is possible that the effects of the legislation for gun ownership or acquisition might also be affected by such cases. Future research is needed to assess this possibility.

These limitations aside, my aim with this paper was to examine whether a highly publicized and debated form of legislation that provides extended protection for self-defense resulted in any sort of impact on gun ownership or acquisition. I find that these laws are associated with an increase in the number of monthly NICS weapons checks. However, effects are more limited and in the opposite direction for the proportion of suicides attributable to firearms. Although each outcome assesses a slightly different construct, both results demonstrate an unintended (or perhaps unanticipated) effect of popular legislation. Further research, particularly at the individual level, is needed to tease out effects. Given the potential impact of gun ownership for violence and other outcomes, this study, among many others, highlights the need for evidence-based policy in criminal justice.

References

- American Legislative Exchange Council. (2012, March 26). ALEC Statement on “Stand Your Ground” Legislation. Retrieved from <http://www.alec.org/alec-statement-on-stand-your-ground-legislation-32612/>
- Ayres, I., & III, J. J. D. (2003). The Latest Misfires in Support of the “More Guns, Less Crime” Hypothesis. *Stanford Law Review*, 55(4), 1371–1398.
- Blair, M. E., & Hyatt, E. M. (1995). The Marketing of Guns to Women: Factors Influencing Gun-Related Attitudes and Gun Ownership by Women. *Journal of Public Policy & Marketing*, 14(1), 117–127.
- Blalock, H. M. (1967). *Toward a Theory of Minority Group Relations*. Wiley & Sons.
- Boots, D. P., Bihari, J., & Elliott, E. (2009). The State of the Castle An Overview of Recent Trends in State Castle Doctrine Legislation and Public Policy. *Criminal Justice Review*, 34(4), 515–535.
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange Multiplier Test and its Applications to Model Specification in Econometrics. *The Review of Economic Studies*, 47(1), 239–253.
- Cao, L., Cullen, F. T., & Link, B. G. (1997). The Social Determinants of Gun Ownership: Self-Protection in an Urban Environment. *Criminology*, 35(4), 629–658.

- Catalfamo, C. (2006). Stand Your Ground: Florida's Castle Doctrine for the Twenty-First Century. *Rutgers Journal of Law and Public Policy*, 4, 504.
- Chamlin, M. B. (2013). An assessment of the intended and unintended consequences of Arizona's Self-Defense, Home Protection Act. *Journal of Crime and Justice*, 1-12.
- Cheng, C., & Hoekstra, M. (2013). Does Strengthening Self-Defense Law Deter Crime or Escalate Violence? Evidence from Expansions to Castle Doctrine. *Journal of Human Resources*, 48(3), 821-854.
- CNN Library. (2014, February 22). Trayvon Martin Shooting Fast Facts. Retrieved October 21, 2014, from <http://www.cnn.com/2013/06/05/us/trayvon-martin-shooting-fast-facts/index.html>
- Coke, E. Semayne's Case, 77 English Reporter 195 (1604).
- Cook, P. J., & Ludwig, J. (1996). *Guns in America: Results of a Comprehensive National Survey on Firearms Ownership and Use*. Washington, D.C.: Police Foundation.
- Cook, P. J., & Ludwig, J. (1998). Defensive Gun Uses: New Evidence from a National Survey. *Journal of Quantitative Criminology*, 14(2), 111-131.
- Cook, P. J., & Ludwig, J. (2006). The social costs of gun ownership. *Journal of Public Economics*, 90(1-2), 379-391.
- Cook, P. J., Ludwig, J., & Hemenway, D. (1997). The gun debate's new mythical number: How many defensive uses per year? *Journal of Policy Analysis and Management*, 16(3), 463-469.
- Crime Prevention Research Center. (2014, July 9). Concealed Carry Permit Holders Across the United States. Crime Prevention Research Center. Retrieved from <http://crimepreventionresearchcenter.org/wp-content/uploads/2014/07/Concealed-Carry-Permit-Holders-Across-the-United-States.pdf>
- Democracy Now. (2005, April 6). Florida Lawmakers Expand Law to Kill in Self Defense. Retrieved July 31, 2014, from http://www.democracynow.org/2005/4/6/florida_lawmakers_expand_law_to_kill
- Dixon, J., & Lizotte, A. J. (1987). Gun Ownership and the "Southern Subculture of Violence." *American Journal of Sociology*, 93(2), 383-405.
- Donohue, III, J. J. (2003). The Final Bullet in the Body of the More Guns, Less Crime Hypothesis. *Criminology & Public Policy*, 2(3), 397-410.
- Drukker, D. M. (2003). Testing for Serial Correlation in Linear Panel-Data Models. *The Stata Journal*, 3(2), 168-177.
- Duggan, M. (2000). More Guns, More Crime (Working Paper No. 7967). National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w7967>
- Federal Bureau of Investigation. (2014). Gun Checks/NICS. Retrieved July 30, 2014, from <http://www.fbi.gov/about-us/cjis/nics/nics>
- Flock, E. (2012, March 21). Sanford, Fla., explains why George Zimmerman was not arrested. Retrieved from http://www.washingtonpost.com/blogs/worldviews/post/sanford-fla-posts-letter-about-why-zimmerman-has-not-been-arrested-in-teens-death/2012/03/21/gIQAdm1ISS_blog.html
- Florida Legislature. (2013). Florida Statutes & Constitution: Justifiable Use of Force. Retrieved January 7, 2014, from

http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0700-0799/0776/Sections/0776.013.html

- Frees, E. W. (2004). *Longitudinal and Panel Data: Analysis and Applications in the Social Sciences*. Cambridge, MA: Cambridge University Press.
- Friedman, M. (1937). The use of ranks to avoid the assumption of normality implicit in the analysis of variance. *Journal of the American Statistical Association*, 32, 675–701.
- Gewurz, D. (2013a, March 12). Section 2: Opinions of Gun Owners, Non-Gun Owners. Retrieved from <http://www.people-press.org/2013/03/12/section-2-opinions-of-gun-owners-non-gun-owners/>
- Gewurz, D. (2013b, March 12). Section 3: Gun Ownership Trends and Demographics. Retrieved from <http://www.people-press.org/2013/03/12/section-3-gun-ownership-trends-and-demographics/>
- Goodman, D. N. (2014, August 8). Man guilty of murder in Michigan porch shooting. The Associated Press.
- Guarino, M. (2014, July 23). Trial begins in shooting of Renisha McBride. Does “Castle Doctrine” apply? *Christian Science Monitor*. Retrieved from <http://www.csmonitor.com/USA/Justice/2014/0723/Trial-begins-in-shooting-of-Renisha-McBride.-Does-Castle-Doctrine-apply-video>
- Helland, E., & Tabarrok, A. (2004). Using Placebo Laws to Test “More Guns, Less Crime.” *Advances in Economic Analysis & Policy*, 4(1). Retrieved from <http://www.degruyter.com/view/j/bejeap.2004.4.issue-1/bejeap.2004.4.1.1182/bejeap.2004.4.1.1182.xml>
- Hemenway, D., & Azrael, D. (2000). The Relative Frequency of Offensive and Defensive Gun Uses: Results From a National Survey. *Violence and Victims*, 15(3), 257–272.
- Holbert, R. L., Shah, D. V., & Kwak, N. (2004). Fear, Authority, and Justice: Crime-Related TV Viewing and Endorsements of Capital Punishment and Gun Ownership. *Journalism & Mass Communication Quarterly*, 81(2), 343–363.
- Justia. (2014). *Beard v. United States - 158 U.S. 550 (1895)*. Retrieved January 15, 2014, from <http://supreme.justia.com/cases/federal/us/158/550/case.html>
- Kennedy, M. (2013). Zimmerman Trial Information. Retrieved January 7, 2014, from <http://www.flcourts18.org/page.php?136>
- Killias, M. (1993). International correlations between gun ownership and rates of homicide and suicide. *Canadian Medical Association Journal*, 148(10), 1721–1725.
- Kleck, G. (2004). Measures of Gun Ownership Levels for Macro-Level Crime and Violence Research. *Journal of Research in Crime and Delinquency*, 41(1), 3–36.
- Kleck, G., & Gertz, M. (1995). Armed Resistance to Crime: The Prevalence and Nature of Self-Defense with a Gun. *Journal of Criminal Law and Criminology*, 86, 150.
- Krouse, W. J. (2012, November 14). Gun Control Legislation. Congressional Research Service. Retrieved from <http://fas.org/sgp/crs/misc/RL32842.pdf>
- Levin, B. (2010). Defensible Defense: Reexamining Castle Doctrine Statutes, A. *Harvard Journal on Legislation*, 47, 523.

- Lizotte, A. J., Bordua, D. J., & White, C. S. (1981). Firearms Ownership for Sport and Protection: Two Not So Divergent Models. *American Sociological Review*, 46(4), 499–503.
- Lott, J. R. (2010). *More Guns, Less Crime: Understanding Crime and Gun Control Laws* (3rd ed.). Chicago University Press.
- McCleary, R., Meidinger, E. E., & McDowall, D. (1980). *Applied Time Series Analysis for the Social Sciences*. Thousand Oaks, CA: Sage Publications.
- McDowall, D., & Loftin, C. (1983). Collective Security and the Demand for Legal Handguns. *American Journal of Sociology*, 88(6), 1146–1161.
- Miller, M., Azrael, D., & Hemenway, D. (2002). Rates of Household Firearm Ownership and Homicide Across US Regions and States, 1988–1997. *American Journal of Public Health*, 92(12), 1988–1993.
- Miller, M., Azrael, D., Hepburn, L., Hemenway, D., & Lippmann, S. J. (2006). The association between changes in household firearm ownership and rates of suicide in the United States, 1981–2002. *Injury Prevention*, 12(3), 178–182.
- National Rifle Association. (2006, July 28). This Train Keeps a Rollin`. Retrieved January 15, 2014, from <http://www.nra.org/news-issues/articles/2006/this-train-keeps-a-rollin%60.aspx>
- Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels, Cambridge Working Papers in Economics No. 0435. University of Cambridge, Faculty of Economics.
- Plassmann, F., & Whitley, J. (2003). Confirming “More Guns, Less Crime.” *Stanford Law Review*, 55(4), 1313–1369.
- Raffalovich, L. E. (1994). Detrending Time Series A Cautionary Note. *Sociological Methods & Research*, 22(4), 492–519.
- Ren, L., Zhang, Y., & Zhao, J. S. (2012). The Deterrent Effect of the Castle Doctrine Law on Burglary in Texas: A Tale of Outcomes in Houston and Dallas. *Crime & Delinquency*, (Published Online).
- Roman, J. (2013, June 5). Stand Your Ground laws and racial bias. Retrieved from <http://blog.metrorends.org/2013/06/stand-ground-laws-racial-bias/>
- Ross, L. P. (2007). Transmogrification of Self-Defense by national Rifle Association-Inspired Statutes: From the Doctrine of Retreat to the Right to Stand Your Ground. *Southern University Law Review*, 35, 1.
- Siegel, M., Ross, C. S., & King, C. (2013). The Relationship Between Gun Ownership and Firearm Homicide Rates in the United States, 1981–2010. *American Journal of Public Health*, 103(11), 2098–2105.
- StataCorp. (2013a). xtgls. In *STATA Longitudinal-Data/ Panel Data Reference Manual*, Release 13 (pp. 155–166). College Station, TX: Stata Press.
- StataCorp. (2013b). xtreg. In *STATA Longitudinal-Data/ Panel Data Reference Manual*, Release 13 (pp. 155–166). College Station, TX: Stata Press.
- Tobler, W. R. (1970). A computer movie simulating urban growth in the Detroit region. *Economic Geography*, 46, 234–240.
- U.S. Census Bureau. (2014). *Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios*:

April 1, 2010 to July 1, 2013. Retrieved August 13, 2014, from <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

Weaver, Z. L. (2008). Florida's Stand Your Ground Law: The Actual Effects and the Need for Clarification. *University of Miami Law Review*, 63, 395.

Wooldridge, J. M. (2002). *Econometric Analysis of Cross section and Panel Data*. Cambridge, MA: MIT Press.

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). MIT Press.

Young, R. L. (1985). Perceptions of Crime, Racial Attitudes, and Firearms Ownership. *Social Forces*, 64(2), 473-486.

About the Author

Lacey Wallace, Assistant Professor of Criminal Justice at Pennsylvania State University's Altoona campus, earned her doctorate at Pennsylvania State University. She previously served as a research assistant for D. Wayne Osgood and the PROSPER Peers Project at Pennsylvania State University, studying adolescent social networks and their effects on delinquency. Specializing in quantitative methods, families and juvenile delinquency, Lacey's research involves three foci: the influence of siblings through social networks, the role of family functioning in behavior and choosing peers, and the effects of intervention on these processes. She also studies the effects of Criminal Justice policy on individual behavior and families. Email: LNO106@psu.edu