State Firearm Laws, Firearm Ownership, and Safety Practices Among Families of Preschool-Aged Children

Kate C. Prickett, MPAff, Alexa Martin-Storey, PhD, and Robert Crosnoe, PhD

Family firearm safety practices are a major public health concern, with firearm-related deaths being one of the leading causes of injury-related fatalities among young children.¹ Recent media attention on accidental shootings involving young children has heightened public and policy debate over the role of government in restricting access to firearms and the effectiveness of firearm laws.^{2,3} Some states have implemented laws-often referred to generally as child access prevention (CAP) lawsthat legislate safe firearm storage practices among families with children and make adults criminally liable for children's unsupervised use of firearms. Studies examining the effects of CAP laws, however, report mixed findings, suggesting that they have a greater effect on child morbidity and mortality when instituted in states with higher levels of pediatric firearm incidents and when the penalties associated with firearm usage are more stringent.⁴⁻⁸ One explanation for the lack of consistent findings is that most studies have not directly measured the behavior CAP laws intend to regulate. That is, little is known about how these access laws are associated with factors beyond mortality and morbidity, such as firearm storage behaviors. We addressed this gap by empirically testing the relationship between CAP laws and firearm storage behaviors in a nationally representative

Currently, limitations of this literature constrain the ability to draw strong conclusions about the effects of state-level policies on firearm ownership and storage practices. ^{4,9} For example, because person-level data on firearm-related behavior is scarce, many studies that rely on macrolevel statistics (e.g., state firearm ownership, firearm-related mortality) run the risk of creating ecological fallacies, whereby associations at the aggregate level are erroneously extrapolated to the individual level. ¹⁰ Similarly, aggregate-level data do not allow the examination of the specific populations that the policies address and, hence, may not be sufficiently

Objectives. We investigated how state-level firearms legislation is associated with firearm ownership and storage among families with preschool-aged children. *Methods*. Using 2005 nationally representative data from the Early Childhood Longitudinal Study-Birth Cohort (n = 8100), we conducted multinomial regression models to examine the associations between state-level firearms legislation generally, child access prevention (CAP) firearms legislation specifically, and parental firearm ownership and storage safety practices.

Results. Overall, 8% of families with children aged 4 years living in states with stronger firearm laws and CAP laws owned firearms compared with 24% of families in states with weaker firearm laws and no CAP laws. Storage behaviors of firearm owners differed minimally across legislative contexts. When we controlled for family-and state-level characteristics, we found that firearm legislation and CAP laws interacted to predict ownership and storage behaviors, with unsafe storage least likely among families in states with both CAP laws and stronger firearm legislation.

Conclusions. Broader firearm legislation is linked with the efficacy of child-specific legislation in promoting responsible firearm ownership. (Am J Public Health. 2014;104: 1080–1086. doi:10.2105/AJPH.2014.301928)

sensitive to directly test these policies' effects. A lack of data that can be used to compare ownership and specific aspects of that ownership, such as safety practices, also makes it difficult to determine if stronger laws generally affect firearm ownership or laws directed at specific unsafe behaviors work. Furthermore, the potential for state policies to be a product of the selectivity of the residents of the state complicates disentangling the effects of state-level firearm laws.11 Lawmakers in states with a high proportion of firearm owners may be more reluctant to pass laws that regulate firearm practices; consequently, observed correlations between laws and state-level firearm ownership may reflect state population characteristics or state "gun culture" to a greater extent than states' firearm policy (or lack thereof).

In line with the American Academy of Pediatrics' recommendation that parents who own firearms store them locked and unloaded, with ammunition locked and stored separately, ¹² we examined how laws aimed at firearm storage practices—along with general state-level firearm laws—are associated with firearm ownership and storage behaviors among families with preschool-aged children.

Previous research has suggested a theoretical framework emphasizing the importance of both situational and individual characteristics in understanding patterns of firearm ownership.¹³ For example, studies link higher socioeconomic status, being White, and having a man in the house with higher levels of firearm ownership. 14,15 We anticipated that (1) families in states with stronger general and child-specific firearm legislation would have the lowest rates of firearm ownership and the highest rates of safe firearm storage, (2) families in states with weaker firearm legislation would report the highest levels of ownership and the lowest levels of storage safety, and (3) families in states with a relatively strong set of laws in one domain but not in the other would fall between these 2 groups, with higher levels of ownership and safer storage practices in states with CAP laws but weaker general laws than in states with the opposite combination of laws.

METHODS

The Early Childhood Longitudinal Study-Birth Cohort is a nationally representative survey of children born in 2001 designed to

RESEARCH AND PRACTICE

examine early home and educational experiences that may be associated with children's early development and school readiness.¹⁶ More than 10 600 children and their parents were interviewed when the children were aged 9 months, with follow-up interviews when the children were aged 2, 4, and 5 years. We used data collected at the preschool age (aged 4 years) interview, in which parents were asked about firearms in the household and safety practices. Because of attrition, the final analytical sample included approximately 8100 children who lived with their biological mother (aged 15 years or older at the time of the birth). We used sample weighting and missing data estimation to address potential biases from this selection and attrition.

Measures

The outcome variable was a categorical measure of firearm ownership and storage safety practices, indicating whether parents reported not having a firearm in the household, having a firearm in the household that was stored in a locked cabinet, or having a firearm in the household that was not stored in a locked cabinet.

The 2 main independent variables—an index of the overall strength of state-level firearm legislation and whether states had a specific CAP law-measured state-level laws. We determined the index using 2004 data from the Brady Center to Prevent Gun Violence, which creates scorecards that provide grades (from A+ to F-) to states on a variety of areas of firearm laws, including juvenile possession, concealed weapons, secondary sales background checks, and transfer laws.¹⁷ These grades have a valence attached to them, which we employed to measure prevalence and frequency. We created an index of firearm legislation, ranging 0 to 6, with states receiving a point for scores of C or higher in each of the 6 firearm legislative areas. We conducted additional analyses using a weighted coding system on the basis of the letter grades for the overall legislative index and CAP legislation variables to check the robustness of our findings. The significance and general conclusions of our results were unaffected by these coding approaches.

Figure 1 displays the index scores for all states. Montana and Wyoming had the fewest

firearm restrictions, with an index score of 0, whereas California, Connecticut, Hawaii, Illinois, Maryland, Massachusetts, New Jersey, and New York had the most, with an index score of 6. In addition to this index, a binary variable indicated whether states were scored as a C or higher on the presence and strength of CAP laws. Singling out CAP laws from other firearm legislation is important because these laws most closely address firearm storage practices.

We included a wide range of family- and state-level variables to control for factors that may be associated with both individual firearm safety practices and residence in states with firearm laws. Family characteristics included annual household income (ranging from ≤ \$25 000 to >\$100 000), family structure (married parents, cohabiting parents, or single mother), and number of siblings in the household. Maternal characteristics included mother's age at the child's birth (measured in years), mother's educational attainment (from less than a high school diploma or general equivalency diploma to a college degree or more), and maternal depression (a scale from 1-4 as determined by the Center for Epidemiologic Studies-Depression Scale).¹⁸

We included maternal race/ethnicity (i.e., non-Hispanic White, non-Hispanic Black, Hispanic White, or some other race/ethnicity) in the multinomial regressions as a control because of known associations with firearm ownership. We captured parents' history of problem behavior through 2 binary variables indicating whether the mother or father has or had a substance abuse problem and whether the mother or father had ever been arrested. Child characteristics included indicators for whether the child was a girl, whether the child had ever witnessed or been a victim of violence, and a scale from 0 (never) through 4 (very often) to measure parents' reports of the children's externalizing behavior (including how often the child threw tantrums or had temper outbursts, bothered or annoyed other children, were physically aggressive, and acted impulsively). Finally, we controlled for whether families lived in an urbanized area, inside an urban cluster (a less densely populated urban area), or in a rural area.

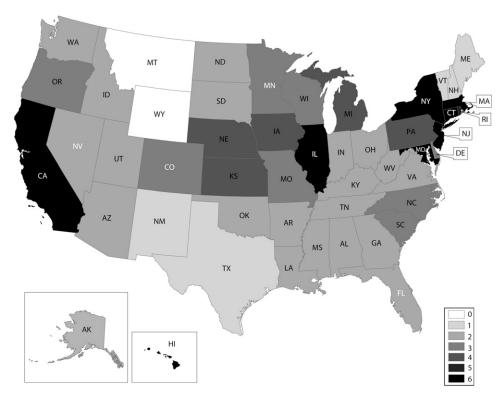
State-level characteristics fell broadly into 3 main areas: sociodemographic and geographic, political, and firearm ownership. First,

sociodemographic and geographic factors included a continuous measure of the 2005 state poverty rate (percentage of state population living below the poverty line, ¹⁹ the 2005 annual unemployment rate (percentage of state population unemployed),²⁰ the 2005 violent crime rate (incidents of violent crime per 1000 people),²¹ the 2005 property crime rate (incidents of property crime per 1000 people),²¹ and the proportion of the population within a state living in rural areas in the year $2000.^{22}$ We also included controls for US region (i.e., Northeast, South, Midwest, or West).²³ Second, political factors included state-level percentage of voters who voted for President George W. Bush (R) in the 2004 presidential election²⁴ and whether state legislatures were Democrat controlled, Republican controlled, or both Democrat and Republican controlled in 2005.²⁵ These factors were important to control because of their potential to be endogenous to the strength of statelevel firearm laws. Third, firearm-related factors included the household firearm ownership rate, measured as the proportion of households within a state owning a firearm in 2004 on the basis of estimates by the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System.²⁶

Analytical Plan

We first investigated the bivariate associations of family- and state-level characteristics with firearm ownership and storage safety. Next, we estimated 3 multinomial logistic regressions to test whether state firearm laws were associated with family-level firearm ownership and storage safety behaviors, with and without family- and state-level controls. Finally, we added interaction terms between the legislative index and the presence of CAP laws to these models to test whether the presence of the overall firearm legislative context moderated the associations of the CAP laws with the firearm ownership and storage outcomes.

We performed the analyses using Stata,²⁷ with the suite of mi commands to perform multiple imputation for missing data (approximately 0.9% of all data). Weights accounted for the complex survey design and differential attrition across waves.



Note. 0 = weakest firearm restrictions, 6 = strongest firearm restrictions. The following states had child access prevention laws: CA, CT, DE, FL, HI, IA, IL, MA, MD, MN, NC, NH, NJ, NV, RI, TX, VA, and WI.

FIGURE 1-US legislative firearm index: 2004.

RESULTS

Table 1 presents a description of the sample by firearm ownership and storage safety practices. Overall, 21.6% of families with preschoolaged children in 2005 had firearms in the home. Of these families, more than two thirds (68.6%) reported storing their firearms in a locked cabinet. Notably, parents of preschool-aged children with firearms in the household were less likely than were families who did not own firearms to live in states with more comprehensive firearm laws (an average index score of 2.9 vs 3.7) and were less likely to live in states with specific CAP laws (32.6% vs 56.8%). We found no statistical difference in the proportion of families who lived in states with CAP laws when comparing families who locked their firearms in a cabinet with families who did not (approximately one third of families). Firearm owners in this sample were more likely to live in states in which a greater proportion of the population lived in rural areas (27.1% vs 19.8% of non-firearm owners), had a lower violent crime rate (4.5 incidents per

1000 people vs 4.7 incidents), had a higher property crime rate (3.6 incidents per 1000 people vs 3.4 incidents), had a greater proportion who voted for President Bush in the 2004 presidential election (54.7% vs 51.3%), had a legislature that was Republican controlled (49.1% vs 43.0%), and had higher overall household firearm ownership (38.9% vs 31.4%). These differences in state-level characteristics between families with and without firearms in the home support our need to control for state-level variables in the multivariate analyses.

Table 2 presents the associations between the state firearm legislative strength index, the presence of CAP laws, and firearm ownership and storage safety among families with preschool-aged children on the basis of the results from the multinomial logistic regressions (model coefficients for the covariates are available as a supplement to the online version of this article at http://www.ajph.org). Model 1, which included no controls, indicated that on average each additional point on the legislative strength index was associated with a 14%

decrease in the likelihood of having a firearm in a locked cabinet and a 20% decrease in the likelihood of having an unlocked firearm in the home compared with not having a firearm in the home. In addition, families who lived in states with CAP laws were more than half as likely to own a firearm than were those who did not. These firearm laws, however, appeared to make no statistical difference in the likelihood of having a locked versus unlocked firearm in the home.

Model 2 added family- and state-level variables related to the firearm ownership and storage safety practices of their populations. These control variables attenuated the correlation between the legislative strength index and firearm ownership, but CAP laws were still associated with a decreased likelihood of having locked firearms in the household versus no firearms. Counterintuitively, the addition of family- and state-level characteristics changed both the statistical significance and direction of the relationship between CAP laws and firearm safety behaviors, with families living in states with CAP laws being 86%

TABLE 1—Sample Characteristics by Firearm Ownership and Storage Safety Practices: Early Childhood Longitudinal Study-Birth Cohort, United States, 2005

	Non-Firearm Total Owners		Firearm Owners	
Variable		Non-Firearm Owners	Store Firearms in Locked Cabinet	Do Not Store Firearms in Locked Cabine
Proportion of total sample, %	100.0	78.4	14.9	6.8
State firearm laws				
Average state firearm legislative index (0-6)	3.5	3.7 ^{a,b}	2.9 ^{b,c}	2.8 ^{a,c}
Has child access prevention laws	51.5	56.8 ^{a,b}	32.4 ^c	33.2 ^c
Family-le	vel variable	es		
Mother or father has or had a substance abuse problem	11.2	10.3 ^b	12.8 ^b	17.5 ^{a,c}
Mother or father has ever been arrested	13.6	13.5 ^b	13.5	15.4 ^c
Maternal age at child's birth, average y	27.4	27.2 ^{a,b}	28.0 ^{b,c}	29.0 ^{a,c}
Maternal race/ethnicity				
Non-Hispanic White	57.2	49.6 ^{a,b}	82.8 ^{b,c}	88.9 ^{a,c}
Non-Hispanic Black	14.1	16.7 ^{a,b}	5.4°	2.2°
Hispanic Black	22.9	27.4 ^{a,b}	7.8 ^{b,c}	4.7 ^{a,c}
Other race/ethnicity	5.8	6.3 ^{a,b}	4.1 ^c	4.2 ^c
Family structure	0.0	0.0		2
Married	64.6	59.7 ^{a,b}	81.7 ^c	83.6 ^c
Cohabiting	13.8	14.7 ^{a,b}	10.6°	11.1°
Single	21.6	25.6 ^{a,b}	7.7°	5.3 ^c
Maternal education	21.0	23.0	1.1	3.3
Less than high school or general equivalency diploma	20.7	23.9 ^{a,b}	10.3 ^c	7.1 ^c
High school diploma or general equivalency diploma	31.2	31.3	32.2 ^b	7.1 27.9 ^a
Some college or associate's degree	24.8	22.7 ^{a,b}	30.3 ^{b,c}	35.5 ^{a,c}
· ·	23.3	22.1 ^b	27.2	29.6°
College degree	23.3	22.0	21.2	29.0
Annual household income, \$ ≤ 25 000	30.1	34.6 ^{a,b}	13.1°	15.2°
	28.2			
25 001-50 000		27.9	29.0	30.1
50 001-100 000	26.8	23.4 ^{a,b}	39.0 ^{b,c}	39.8 ^{a,c}
≥ 100 001	14.8	14.1 ^a	18.9 ^{b,c}	14.8 ^a
Maternal depression scale, 1-4	1.4	1.44 ^a	1.38 ^c	1.4
Number of siblings in household	1.4	1.4	1.4	1.3
Child ever witnessed or been a victim of violence	6.4	7.2 ^{a,b}	3.9 ^c	3.7 ^c
Child's externalizing behavior scale, 1-4	2.4	2.4 ^a	2.3 ^c	2.4
Child is female	48.6	47.2 ^b	53.4	54.7 ^c
Urbanicity		- 1	_	
Rural	15.6	10.5 ^{a,b}	32.1°	38.0°
Urban area, inside an urban cluster	12.3	10.6 ^{a,b}	17.6 ^c	19.3 ^c
Urban area, inside an urbanized area	72.1	78.8 ^{a,b}	50.4°	42.7°
	el variable			
Population living in rural areas, %	21.4	19.8 ^{a,b}	26.9 ^c	27.9 ^c
Poverty rate, %	13.3	13.1 ^a	13.8 ^c	14.0
Unemployment rate, %	5.1	5.1	5.2	5.2
Violent crime rate per 1000	4.6	4.7 ^{a,b}	4.4 ^c	4.6°
Property crime rate per 1000	34.6	34.3 ^{a,b}	35.3°	36.2 ^c
Voted for Bush (R) in 2004 presidential election, %	52.0	51.3 ^{a,b}	54.5 ^c	55.2°

Continued

more likely to have an unlocked (vs locked) firearm.

Model 3 revealed a strong pattern of moderation between the legislative strength index and the presence of CAP laws. Figure 2 displays the predicted probability of having an unlocked firearm versus no firearm in the home, taking the main and interaction effects into account. This figure shows that the presence of CAP laws was important but only once a certain threshold of firearm legislative strength was crossed. For example, CAP laws were associated with an increased likelihood of no firearm ownership versus owning firearms and not keeping them stored safely in states only as the score on the legislative strength index approached 4. Similarly, CAP laws were associated with an increased likelihood of owning firearms and keeping them in a locked cabinet versus owning firearms and not storing them in a locked cabinet in states with an index of 5 or more.

DISCUSSION

Our findings revealed a correlation between gun-related policy and safety behaviors but only when general restrictions were coupled with child-specific laws. After we controlled for family-and state-level factors associated with the overall firearm climate, we found that laws that target children's access to firearms may only be associated with firearm safety (and ownership more generally) in the presence of a more comprehensive spectrum of firearm laws. Families may be more aware of general firearm legislation than of that specifically relevant to children. Indeed, the publicity surrounding the adoption of CAP legislation in Florida may have accounted for the drop in child-related firearm incidents in this state following the adoption of these laws. 6 Similarly, families who own firearms in states with more comprehensive firearm legislation may be more rigorous in their safety behaviors, with the requirements and processes of acquiring a firearm potentially acting as a deterrent for parents who might otherwise have had a more lax approach to safety.

Interestingly, the presence of CAP laws is associated with an increased likelihood of unsafe firearm storage in states with fewer firearm policies. This finding may reflect the selectivity of states that have fewer firearm restrictions

TABLE 1—Continued

State legislature				
Democrat controlled	42.9	45.8 ^{a,b}	34.2 ^{b,c}	28.0 ^{a,c}
Republican controlled	44.3	43.0 ^{a,b}	47.6 ^c	52.6 ^c
Both Democrat and Republican controlled	12.8	11.2 ^{a,b}	18.3 ^c	19.5 ^c
Household firearm ownership, %	33.1	31.4 ^{a,b}	38.3 ^{b,c}	40.8 ^{a,c}
Region				
Northeast	16.7	18.5 ^{a,b}	12.3 ^{b,c}	6.9 ^{a,c}
South	37.5	35.2 ^{a,b}	46.5 ^c	45.2 ^c
Midwest	21.8	21.3 ^b	21.5 ^b	27.5 ^{a,c}
West	23.9	25.0 ^{a,b}	19.7 ^c	20.3 ^c
Sample, no.	8100	6400	1150	550

 $^{^{}a}t$ test and χ^{2} test: statistically different from firearm owners with safely stored firearm at P < .05.

but have specific CAP laws. When specific child access laws are enacted in these states, perhaps in response to an incident or specific behaviors, family-level safety practices may have been resistant to policy levers. Future research should examine this potential.

Strengths

We have expanded on the existing literature in several important ways. First, very little

information on firearm ownership and safety among families of young children is available beyond the occurrence of child mortality or morbidity (Okoro et al. 11 and Schuster et al. 14 provide exceptions). Although the Early Childhood Longitudinal Study-Birth Cohort was not designed to specifically address issues of firearm ownership, its inclusion of firearm-related questions in tandem with the rich array of family measures provides a unique opportunity

to explore firearm safety behaviors with nationally representative data.

Second, we considered both the breadth of the existing laws and CAP laws that specifically target firearm storage. Third, we attempted to control for a variety of the state-level characteristics that may have accounted for differences in both the policies enacted and the types of firearm ownership and safety behaviors practiced.

Limitations

Despite these advantages, this study also has several limitations. For example, the data were correlational; thus, causal inference is not possible. Future research exploring changes in firearm ownership and storage practices before and after implementation of state-level laws may clarify how these laws influence familylevel behavior. In addition, the survey questions used to address firearm behavior were brief: parents were asked whether they kept their firearms in locked cabinets but not about the purpose of their firearms or the types of firearms that they owned.²⁸ Questions on firearm ownership and storage may also lend themselves to social desirability bias, although the sensitivity analyses that we conducted

TABLE 2—Multinomial Logit Odds Ratios Predicting Firearm Ownership and Safety Practices: Early Childhood Longitudinal Study-Birth Cohort (n = 8100), United States, 2005

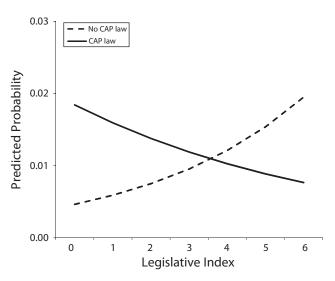
	Do Not Own F	Store Firearms in Locked Cabinet, AOR (95% Country) Do Not Store Firearms in Locked Cabinet	
State Firearm Laws	Store Firearms in Locked Cabinet Do Not Store Firearms in Locked Cabinet		
	Model 1,	no controls	
Legislative strength index (0-6)	0.86*** (0.82, 0.91)	0.80*** (0.74, 0.87)	0.93 (0.85, 1.02)
Child access prevention law	0.44*** (0.36, 0.54)	0.49*** (0.37, 0.65)	1.12 (0.81, 1.54)
Pseudo R ²	0.037	0.037	0.037
	Model 2, w	rith controls	
Legislative strength index (0-6)	0.99 (0.88, 1.13)	1.09 (0.90, 1.31)	1.09 (0.89, 1.33)
Child access prevention law	0.59** (0.44, 0.83)	1.39 (0.92, 2.09)	2.31*** (1.45, 3.69)
Pseudo R ²	0.176	0.176	0.176
	Model 3, w	rith controls	
Legislative strength index (0-6)	1.04 (0.90, 1.21)	1.27* (1.03, 1.57)	1.22 (0.98, 1.53)
Child access prevention law	0.78 (0.43, 1.42)	4.03** (1.82, 8.89)	5.14*** (2.15, 12.26)
Legislative strength index $ imes$ child access prevention law	0.92 (0.76, 1.09)	0.68** (0.53, 0.87)	0.74* (0.56, 0.98)
Pseudo R ²	0.177	0.177	0.177

Note. AOR = adjusted odds ratio; CI = confidence interval. Controls included family-level variables (mother or father has or had a substance abuse problem, mother or father ever been arrested, maternal age at child's birth, maternal race/ethnicity, family structure, maternal education, household income, maternal depression, number of siblings in the household, child's externalizing behavior, child ever witnessed or been a victim of violence, child's gender, and urbanicity), and state-level variables (proportion of population who live in rural areas, poverty rate, unemployment rate, violent crime rate, property crime rate, percentage who voted for Bush in 2004 presidential election, party-controlled state legislature, household firearm ownership rate, and region).

*P < .05; **P < .01; ***P < .01.

 $^{^{\}mathrm{b}}t$ test and χ^2 test: statistically different from firearm owners with unsafely stored firearm at P < .05.

^ct test and χ^2 test: statistically different from non-firearm owners at P < .05.



Note. CAP = child access prevention.

FIGURE 2—Probability of having an unlocked firearm in the home vs no firearm: Early Childhood Longitudinal Study-Birth Cohort, United States, 2005.

testing for possible misclassification of firearm storage behaviors indicated that a substantial proportion (approximately 20%) of parents who stated that they stored their firearms in a locked cabinet would need to have been misclassified to nullify our findings (results available upon request). Finally, the measure used to assess firearm policy has not been previously validated, although in light of scarce research on this topic, this measurement allowed an informative preliminary exploration. Although our findings were robust enough for different legislative index constructs, future research should examine specific firearm policies and the degree to which laws are enforced and lawbreakers penalized more closely.

Another limitation is that we conducted this cross-sectional study using data collected in 2005. Although few major federal legislative changes have occurred during this time, substantial CAP legislation has passed at the state level. In 2005, 18 states had CAP laws. Today, 27 states have CAP laws. Colorado, Georgia, Indiana, Kentucky, Mississippi, Missouri, Oklahoma, Tennessee, and Utah all passed CAP laws in recent years. ²⁹ All these states received overall firearm legislative grades of F, except for Colorado (C grade) and Indiana (D–), in the latest Law Center to Prevent Gun Violence state legislative scorecards. ³⁰ As the number of states with CAP laws but overall weaker

legislative firearm contexts becomes less selective, the counterintuitive relationship between CAP laws and unsafe storage practices among families living in these states may weaken.

Conclusions

Recent events involving child firearm-related fatalities have highlighted the importance of firearm safety, and public opinion generally supports additional federal government firearm regulation. We found that firearm safety behaviors among families with preschool-aged children were associated with state firearm policies but only in the expected direction when states had a more comprehensive array of firearm restrictions accompanied by laws that specifically targeted children's access to firearms. Although CAP laws garner more public support than do many general firearm safety laws (and are more explicitly tied to safety than is ownership per se), 3,31 CAP laws alone may not provide a panacea for addressing firearm storage among families with young children.

About the Authors

Kate C. Prickett and Robert Crosnoe are with the Population Research Center and Department of Sociology, University of Texas, Austin. Alexa Martin-Storey is with the Département de Psychoéducation, Université de Sherbrooke, Sherbrooke, Canada.

Correspondence should be sent to Kate C. Prickett, University of Texas at Austin, Population Research Center, 305 E. 23rd Street, Stop G1800, Austin, TX 78712-1699 (e-mail: kate.prickett@utexas.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This article was accepted February 7, 2014.

Contributors

K. C. Prickett and A. Martin-Storey conceptualized and designed the study and drafted the article. K. C. Prickett designed and conducted the analyses. A. Martin-Storey aided in the design of the analyses. R. Crosnoe aided in the conceptualization and presentation of the study, contributed to writing the article, and critically reviewed the study. All authors approved the final article.

Acknowledgments

This study was supported by the National Institute of Child Health and Human Development (NICHD; grant T32 HD007081-35 to K. C. P.; grant R01 HD055359-01 to R. C.) and the Social Sciences and Humanities Research Council of Canada (SSHRC; award 756-2012-0877-A27 to A. M-S.).

An earlier version of this article was presented at the Association for Public Policy Analysis and Management's 2013 Fall Research Conference; November 7–9; Washington, DC.

Note. The content of this study is solely the responsibility of the authors and does not necessarily reflect the official views of the NICHD or the SSHRC.

Human Participant Protection

The University of Texas's Office of Research Support found that no protocol approval was necessary because the study relied on secondary data containing no personal identifiers.

References

- 1. Centers for Disease Control and Prevention. 10 leading causes of injury deaths by age group highlighting unintentional injury deaths. 2010. Available at: http://www.cdc.gov/injury/wisqars/pdf/10LCID_Unintentional_Deaths_2010-apdf. Accessed August 27, 2013.
- 2. Wintemute G. States take a public health approach to curb gun violence. \emph{JAMA} . 2013;310(5):468–469.
- 3. McGinty EE, Webster DW, Vernick JS, Barry CL. Public opinion on proposals to strengthen US gun laws: findings from a 2013 survey. In: Webster DW, Vernick JS, eds. *Reducing Gun Violence in America: Informing Policy With Evidence and Analysis.* Baltimore, MD: John Hopkins University Press; 2013:239.
- 4. Hahn RA, Bilukha O, Crosby A, et al. Firearms laws and the reduction of violence: a systematic review. *Am J Prev Med.* 2005;28(2):40–71.
- Hepburn L, Azrael D, Miller M, Hemenway D. The effect of child access prevention laws on unintentional child firearm fatalities, 1979–2000. J Trauma. 2006; 61(2):423–428.
- Webster DW, Starnes M. Reexamining the association between child access prevention gun laws and unintentional shooting deaths of children. *Pediatrics*. 2000;106(6):1466– 1469.
- Cummings P, Grossman DC, Rivara FP, Koepsell TD.
 State gun safe storage laws and child mortality due to firearms. JAMA. 1997;278(13):1084–1086.
- 8. Webster DW, Vernick JS, Zeoli AM, Manganello J. Association between youth-focused firearm laws and youth suicides. *JAMA*. 2004;292(5):594–601.

RESEARCH AND PRACTICE

- 9. Grossman DC, Mueller BA, Riedy C, et al. Gun storage practices and risk of youth suicide and unintentional firearm injuries. *JAMA*. 2005;293(6):707–714.
- Wintemute GJ. Responding to the crisis of firearm violence in the United States: comment on "Firearm legislation and firearm-related fatalities in the United States." *JAMA Intern Med.* 2013;173(9):740.
- 11. Okoro CA, Nelson DE, Mercy JA, Balluz LS, Crosby AE, Mokdad AH. Prevalence of household firearms and firearm-storage practices in the 50 states and the District of Columbia: findings from the Behavioral Risk Factor Surveillance System, 2002. *Pediatrics*. 2005;116(3): e370–e376.
- 12. Dowd MD, Sege RD; Council on Injury, Violence, and Poison Prevention Executive Committee; American Academy of Pediatrics. Firearm-related injuries affecting the pediatric population. *Pediatrics*. 2012;130(5): e1416–e1423.
- Branas CC, Richmond TS, Culhane DP, Ten Have TR, Wiebe DJ. Investigating the link between gun possession and gun assault. *Am J Public Health*. 2009;99 (11):2034–2040.
- 14. Schuster MA, Franke TM, Bastian AM, Sor S, Halfon N. Firearm storage patterns in US homes with children. *Am J Public Health*. 2000;90(4):588–594.
- 15. DuRant RH, Barkin S, Craig JA, Weiley VA, Ip EH, Wasserman RC. Firearm ownership and storage patterns among families with children who receive well-child care in pediatric offices. *Pediatrics*. 2007;119(6):e1271–e1279.
- 16. Snow K, Derecho A, Wheeless S, et al. *Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), Kindergarten 2006 and 2007 Data File User's Manual (NCES 2010-010).* Washington, DC: US Department of Education; 2009.
- 17. The Brady Campaign to Prevent Gun Violence. 2004 Report Card—Detailed Grade Information. 2004. Available at: http://web.archive.org/web/20060104082755/http://www.bradycampaign.org/facts/reportcards/2004/details.pdf. Accessed February 20, 2013.
- 18. Radloff LS. The CES-D scale: a self-report depression scale for research in the general population. *Appl Psychol Meas.* 1977;1(3):385–401.
- 19. Webster BH Jr, Bishaw A. *Income, Earnings, and Poverty Data From the 2005 American Community Survey.* Washington, DC: US Census Bureau; 2005.
- 20. Bureau of Labor Statistics. *State and Regional Unemployment, 2005 Annual Averages.* Washington, DC: US Department of Labor; 2006.
- 21. US Department of Justice. *Table 301. Crime Rates by State, 2004 and 2005, and by Type 2005.* Washington, DC: Federal Bureau of Investigation; 2006.
- 22. US Census Bureau. *Urban and Rural Population, and by State:* 1990 and 2000. Available at: http://www.census.gov/compendia/statab/2008/tables/08s0029. Accessed October 23, 2013.
- 23. US Census Bureau. *Census Regions and Divisions of the United States*. Available at: http://www.census.gov/geo/maps-data/maps/pdfs/reference/us_regdiv.pdf. Accessed January 7, 2014.
- 24. Federal Election Commission. Election Results for the Federal Elections 2004: Election Results for the US President, the US Senate and the US House of Representatives. Washington, DC; 2005.

- 25. Table 401. Composition of State Legislatures, by Political Party Affiliation. Lexington, KY: The Council of State Governments: 2010.
- 26. Behavioral Risk Factor Surveillance System Survey Data. Atlanta, GA: Centers for Disease Control and Prevention; 2003.
- 27. Stata Statistical Software, Version 12.0. [computer program]. College Station, TX: StataCorp LP; 2011.
- 28. Connor SM. The association between presence of children in the home and firearm-ownership and storage practices. *Pediatrics*. 2005;115(1):e38–e43.
- 29. Law Center to Prevent Gun Violence. *Child Access Prevention Policy Summary*. Available at: http://smartgunlaws.org/child-access-prevention-policy-summary. Accessed January 10, 2014.
- 30. 2013 State Scorecard: Why Gun Laws Matter. San Francisco, CA: Law Center to Prevent Gun Violence and the Brady Campaign; 2013.
- 31. Smith TW. Public opinion about gun policies. *Future Child.* 2002;12:154–163.