

Boosting Restraint Norms: A Community-Delivered Campaign to Promote Booster Seat Use

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Objective: The objective of this study was to evaluate the effectiveness of a theoretically grounded community-delivered marketing campaign to promote belt-positioning booster seat (BPB) use among vulnerable populations when disseminated by community members.

Methods: A prospective, nonrandomized community intervention trial was conducted to evaluate the “Boosting Restraint Norms” social marketing campaign delivered by community partners in Norristown, Pennsylvania (intervention community), between October 2008 and November 2008. York, Pennsylvania, served as the comparison community. In total, 800 vehicles with 822 children aged 4 to 7 years were observed for BPB use, the primary outcome of interest, at baseline (September 2008) and at 6 months after intervention (April 2009).

Results: During the study period, a 28 percent increase in the prevalence of BPB use at 6 months was observed in the intervention community with no change in the prevalence of BPB use in the comparison community. After adjustment for child age and gender, vehicle type, driver gender, and driver level, BPB use increased from 39 to 50 percent in the intervention community.

Conclusions: The “Boosting Restraint Norms” social marketing campaign, distributed through community organizations combined with caregiver education and a one-time free distribution of BPBs, was effective in increasing BPB use. This study demonstrates the feasibility of utilizing community organizations with established audiences to spread the “No Regrets” messaging of the campaign in the community. This study also indicates that spreading evidence-based messages in this manner may effectively change behavior in populations that are often hard to reach. Future studies are needed in which this methodology is tested in additional communities and rural settings.

Keywords: social marketing, prevention, community, seat belts, child restraint systems, accident prevention, community health education, intervention studies, injury, behavioral research

Introduction

Between 2000 and 2009, the rate of childhood motor vehicle traffic-related deaths declined 41 percent; however, they remain the leading cause of unintentional injury death for this age group (Gilchrist et al. 2012). This reduction can be largely attributed to an increase in restraint use, but gaps still remain in age-appropriate restraint use, particularly for older children. As a result, motor vehicle crashes (MVCs) remain the leading cause of death and acquired disability for children older than age 3 years (Centers for Disease Control and Prevention 2011). According to the Partners for Child Passenger Safety study (Center for Injury Research and Prevention

2008), among children under age 9 involved in crashes, child restraint system use increased to 80 percent by 2007. However, at the same time, only 43 percent of 6- to 8-year-olds in crashes were restrained appropriately for their age and size (Center for Injury Research and Prevention 2008; Durbin 2011), as recommended by the National Highway Traffic Safety Administration and the American Academy of Pediatrics (Durbin 2011; National Highway Traffic Safety Administration 2011).

Designed for children who have outgrown child safety seats, belt-positioning booster seats (BPBs) ensure that the lap and shoulder portions of the seat belt fit a child's anatomy, restraining the child without applying potentially injurious forces to vulnerable regions of the body. Given the known effectiveness of BPBs in reducing injuries among children aged 4 to 7 years (Arbogast et al. 2009) and the low use of BPBs, the Agency for Healthcare Research and Quality called for more interventions to promote BPB use (Williams et al. 2007).

Recent efforts have increased awareness of the need for BPBs, which resulted in improved use and recent reductions

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in MVC injuries. However, disparities continue to exist, with special focus needed to develop evidence-based interventions to improve BPB use among non-white populations. Hispanic and non-Hispanic black children use child restraints at lower rates than white children (Daniels et al. 2002; Garcia et al. 2007; Pickrell and Ye 2009b). Previous studies indicated that low rates of BPB use are related to differences in risk perception, awareness, knowledge, and parenting styles (Simpson et al. 2002). Successful interventions reported to increase BPB use in this population include legislation, mass media education, and incentives or the distribution of free BPBs combined with caregiver education (Durbin and the Committee on Injury Violence and Poison Prevention 2011; Ebel et al. 2003b; Ehiri et al. 2006; Thoreson et al. 2009; Winston, Kallan, et al. 2007). Though these studies demonstrated that interventions could be successful in improving BPB in minority populations, the sustainability of these programs requires models that rely on community member delivery rather than dependence on researcher-led efforts.

This study is the second phase of a previous multisite study that aimed to develop and test a theoretically grounded educational intervention to improve BPB use in children cared for by persons with lower educational attainment and minority ethnicity. In the first phase of the study, we conducted focus groups of white, black, and Hispanic parents with low educational attainment eliciting contributing factors to BPB nonuse. Guided by the results of the focus groups and the theory of planned behavior (Ajzen 1991), a resultant behavior change model informed the development of a motivational video called *No Regrets* (Winston, Erkoboni et al. 2007). Six weeks after viewing the video and receiving a BPB, 98.9 percent of participants reported using the BPB on all trips and 74.6 percent reported recommending BPB use to others (Erkoboni et al. 2010). Most participants credited this video with motivating them to use BPBs.

Building upon these results, the current study adapted the intervention (video and BPB give-away) to a community-based grassroots campaign, “Boosting Restraint Norms.” The aim of this study was to evaluate the effectiveness of the “Boosting Restraint Norms” campaign, delivered by community partners in increasing observed BPB use in a community with a high prevalence of low-income parents with a lower level of educational attainment.

Development of Campaign Materials

The content and delivery of the “Boosting Restraint Norms” campaign was grounded in the formative research conducted during the first phase of the study (Winston, Erkoboni, et al. 2007) and adapted based on suggestions from the Norristown community partners. Central to the campaign was a 3-min video for parents called *No Regrets* (Winston, Flaura, et al. 2007), which was developed as part of the previous study and was also translated into Spanish. The video utilized a family’s story to pair a threat appeal (description of the injuries that children could sustain in crashes when not using BPBs) with response efficacy (how BPBs protect children) and self-efficacy (BPB ease of use).

Using information elicited from caregivers during the first phase of the study, additional materials were developed that addressed barriers and promoted booster seat use (The Children’s Hospital of Philadelphia 2010). Community outreach kits were created to include the video, brochures, audio public service announcements, posters, active displays, and flyers that were intended for use by the partners for delivery to community groups, schools, and parents. All visual and written materials were written at a fifth-grade reading level and images were of children of racial and ethnic minority origin.

During the implementation phase, the research team partnered with the previously identified community-based organizations in the intervention community to distribute a kit composed of the video, posters, public service announcements, and other materials. Research staff conducted train-the-trainer sessions to teach correct use of BPBs (to ensure informed, community-based resources) and to prepare the partners for distribution of the community outreach kits. Other broad community outreach efforts included (1) placing posters in locations identified by the partners as “high traffic”: beauty salons, health departments, and faith-based organizations; (2) conducting educational sessions with parents at schools and day cares; and (3) disseminating audio and print news releases. In addition, a well-publicized, one-time event occurred at a local fire department where the first 250 attendees received a free BPB after watching the *No Regrets* video. No other media campaigns or messages took place during the study period.

To our knowledge, no previous study has utilized community partners to deliver the campaign utilizing a systemic marketing application in order to achieve a change in behavior that would result in reduced injuries from MVCs. This research supports 2 of the goals in the recently released National Action Plan for Child Injury Prevention (Centers for Disease Control and Prevention and National Center for Injury Prevention and Control 2012): (1) conduct research to reduce disparities in child injury and (2) strengthen and engage local, state, and national partnerships and coalitions to support the implementation of communication strategies (Centers for Disease Control and Prevention and National Center for Injury Prevention and Control 2012).

Methods

Design

The effectiveness of a community-based social marketing campaign called “Boosting Restraint Norms” to improve BPB use was evaluated via a quasi-experimental design—a prospective, nonrandomized, comparison community intervention trial. Two community sites were identified on the outskirts of Philadelphia. The intervention community (IC) of Norristown, Pennsylvania, received the “Boosting Restraint Norms” video and educational component as delivered by community partners intervention. The comparison community (CC) of York, Pennsylvania, did not receive the intervention. According to the 2000 U.S. Census, these communities were comparable in population size, ethnicity, educational level, and vehicle ownership (see Table 1). The primary outcome

Table 1. Settings and participants

Variable	Intervention community (%) (n = 30,337)	Comparison community (%) (n = 40,862)
Education		
Less than or high school graduate	65.6	71.8
Race		
White	49.4	54.2
Black	34.3	24.0
Hispanic	10.5	17.2
Other	5.8	4.6
Socioeconomic status		
Families below poverty level with children <18 Years old	20.3	29.3
Vehicles available		
Owner-occupied housing units		
No vehicle	12	10
1 Vehicle	40	41
2+ Vehicles	48	49
Renter-occupied housing units		
No vehicle	25	32
1 Vehicle	46	47
2+ Vehicles	19	21

Source: 2000 U.S. Census.

of interest was change in directly observed BPB use from baseline to 6 months after the intervention period. There were 4 phases to the study: (1) baseline data collection (September 13, 2008–September 29, 2008); (2) design of the social marketing campaign, “Boosting Restraint Norms”; (3) implementation of “Boosting Restraint Norms” in the intervention community (October 2008); and (4) follow-up data collection (April 5, 2009–June 23, 2009). The media markets for the IC and CC did not overlap. The study was approved by the institutional review board at the Children’s Hospital of Philadelphia.

Recruitment of Community-Based Partners

For community outreach, including developing and displaying campaign materials, we partnered with various local groups with which the targeted population was in frequent contact, including the Women, Infants, and Children (WIC) office; the Head Start program; the Department of Transportation; the Department of Social Services; the local fire department; local churches; and local elementary schools. Although the campaign message was centered around the *No Regrets* video, we also sought input from partners to develop supplemental educational materials. Marketing 4 Change developed campaign posters based on feedback from these groups. Research staff conducted train-the-trainer sessions utilizing the *No Regrets* video for partnering organizations prior to the implementation of the campaign. The campaign culminated with a one-time booster seat giveaway hosted by the local fire department.

Direct Observational Survey of Belt-Positioning Booster Seat Use Behavior

In both the IC and CC, direct observational surveys of BPB use on arrival were conducted according to the methods of Decina and Lococo (2004), adapted to the setting, at baseline

and 6 months after the completion of the intervention period. In each community, BPB use was directly observed by trained observers during daytime hours in a variety of locations frequented by children and their caregivers, including grocery markets, schools, day cares, churches, and local businesses. Observations continued in each community until at least 200 vehicles were observed. During the study period, Pennsylvania had a secondary BPB law and no community outreach activities sponsored by law enforcement took place in either community. Observers underwent standard training about the aims of the study and the observational methods. Teams of 2 or more trained observers visited locations and approached drivers as families arrived at or departed from the site. After obtaining consent from the drivers, the observers asked demographic questions about themselves, as well as their child passengers. The observers also visually inspected and recorded the type of restraint used by the drivers and the children in the vehicles, as well as documented the vehicles’ make and model. The observers were not blinded but different for each community.

Statistical Methods

The adjusted prevalence of BPB use in each community, before and after the “Boosting Restraint Norms” campaign was estimated to evaluate the effectiveness of the intervention using a generalized linear model. The model was adjusted for child variables (age, gender), vehicle-level variables (vehicle type, driver gender), and driver-level variables (safety belt use, race/ethnicity, and educational attainment) and incorporated the clustering of the observation at the car level and ZIP code level. The adjusted prevalence of BPB use was calculated using model-based direct adjustment, employing the combined population of all studied children as the standard population. Because the main outcome is common, marginal standardization using logistic regression was used to estimate risks within the [0, 1] bound and relative risks with appropriate confidence intervals. The marginal estimates are direct estimates of the prevalence. Each adjusted prevalence may be interpreted as the prevalence of BPB use that would have been observed in a certain study group at a certain time if such children had had the same distribution of covariates as did the study population as a whole. A robust variance estimator, implicit Taylor series linearization using generalized estimating equations with a sandwich estimator, was used. Analyses were performed with SUDAAN 10.0 (RTI International, Research Triangle Park, NC).

Results

In total, we observed 822 vehicles carrying child passengers aged 4 to 7 years. Table 2 presents the characteristics of the observed vehicles and driver study participants from the IC and CC at the 2 time points of data collection. At baseline, drivers were more likely to be female and most were restrained in both groups. Drivers from the CC were more likely to be white and to have attended at least some college than drivers

Table 2. Characteristics of the vehicles and driver participants

Characteristic	Intervention community (n = 30,337)		Comparison community (n = 40,862)		P
	T1: Baseline	T2: 6 Months	T1: Baseline	T2: 6 Months	
Total vehicles (n)	221	201	201	199	
Vehicle type (%)					.084
Passenger car	47.0	45.6	40.1	35.5	
Minivan	30.5	26.9	22.5	29.7	
SUV	17.5	25.4	34.6	31.4	
Pickup truck	5.0	2.1	2.8	3.5	
Driver gender (%)					.001
Female	67.6	56.0	77.1	73.6	
Driver education level (%)					.001
Less than or high school graduate	54.5	51.1	36.4	39.2	
Some college	45.4	48.9	63.6	60.8	
Driver race/ethnicity (%)					.001
White	36.0	36.7	73.8	61.2	
Black	33.6	30.6	14.4	18.6	
Hispanic	27.0	29.6	10.2	19.1	
Other	3.3	3.1	1.6	1.1	
Driver safety belt use (%)					.440
Restrained	71.0	80.8	74.7	72.3	

from the IC. Children were restrained in an even distribution across all ages in both groups.

Table 3 presents the characteristics of the observed children and their restraint status. At baseline, BPB use was higher in the CC (58%) than in the IC (31.5%); this level remained unchanged in the CC at 6 months (time 2). In contrast, the IC demonstrated a 14.3 percent increase in observed BPB use after the “Boosting Restraint Norms” campaign was implemented (at time 2, 6 months after the intervention period). This increase in BPB use was associated with a concomitant decline in children riding unrestrained in the IC.

Table 4 presents the adjusted prevalence of BPB for the IC and CC and observation time. The adjusted prevalence

Table 3. Characteristics of the child participants and their restraint status

Characteristic	Intervention community (n = 30,337)		Comparison community (n = 40,862)		P
	T1: Baseline	T2: 6 Months	T1: Baseline	T2: 6 Months	
Total child participants (n)	204	173	144	199	
No. of children < 8 years old per vehicle (mean)	1.3	1.4	1.8	1.3	
Child age, years (%)					.001
4	22.2	21.9	48.3	44.3	
5	23.6	22.4	26.7	34.6	
6	26.3	28.9	13.3	14.1	
7	27.8	26.6	11.7	7.0	
Child gender (%)					.044
Female	53.8	55.6	43.5	49.4	
Child restraint use (%)					.001
Unrestrained	28.1	13.9	12.5	15.3	
Restrained					
Booster	31.5	45.7	58.3	59.7	

Table 4. Booster seat use prevalence^a in intervention and comparison communities

Community	Baseline adjusted booster seat use (%) (SE)	Follow-up adjusted booster seat use (%) (SE)	Change in booster seat use (%)
Intervention	38.9 (4.0)	50.0 (4.6)	28.5
Comparison	57.9 (7.7)	59.8 (6.0)	3.3

^aAdjusted for child age and gender, vehicle type, driver gender, and driver-level variables (safety belt use, race/ethnicity, and educational attainment).

of BPB use in the IC was 38.9 percent at baseline and rose to 50.0 percent at follow-up (28.5% increase). In the CC, the adjusted prevalence of baseline BPB use was 57.9 percent and 59.8 percent at follow-up.

Child age, race/ethnicity, and driver safety belt use were found to be independent predictors of BPB use. Other child, vehicle, and driver factors were not significant predictors of BPB use.

Discussion

In this study, a theoretically grounded, evidence-based intervention was adapted into a successful community-based grassroots campaign to increase BPB use among low-income caregivers with a lower level of educational attainment. This study demonstrated the feasibility and effectiveness of utilizing organizations with established audiences to change BPB use behavior in populations that are often hard to reach. Six months after the campaign, the IC had experienced a 28 percent increase in BPB use over baseline, with no change in the CC. In the IC, use of restraints improved not only in the BPB age group but also in adults. The systematic approach characterizes a process of research and intervention development that could be used to adapt other theoretically grounded interventions to the community setting.

This is the third positive evaluation of the “No Regrets” message. The first 2 studies looked at the efficacy of the threat appeal message in the *No Regrets* video in a small group setting (Erkoboni et al. 2010; Winston, Erkoboni, and Xie 2007). The current study explored the effectiveness of this message when delivered in a community-based, community-delivered trial. The “Boosting Restraint Norms” campaign combined threat appeal and response efficacy messaging with improved self-efficacy by delivering education and improving access to resources in the community setting. Community partners were able to act as messengers, increasing the acceptance of the risk associated with improper restraint of children aged 4 to 7 years. Our study implemented the campaign through community-based organizations, conducted observations in a pre/post design in comparison communities, and utilized social marketing techniques to create and distribute information.

Similar to our experience, Will et al. (2009) confirmed the effectiveness of a threat appeal message to promote BPB use when delivered via a 6-min video at after-school programs and day care centers. Another study (Ebel et al. 2003b) found that a message based on the precede-proceed model,

focusing on increasing awareness and removing barriers to BPB purchase, was effective when delivered in community settings for populations with very low BPB use. This study built on the results of our previous research and these studies by combining both approaches: We delivered a threat appeal message via a community-based delivery model. In addition, this study demonstrated the effectiveness of the campaign when delivered by community members with only a one-time BPB giveaway. The effectiveness of the campaign, which combined a threat appeal with both self- and response efficacy, is consistent with previous research evaluating interventions to promote other protective health behaviors. When threat is high, a concomitant strategy is needed to prove the effectiveness of the promoted prevention intervention (response efficacy) and to ensure the ability of the individual to perform the behavior (self-efficacy; Witte and Allen 2000).

This research effort can help to inform implementation of some of the goals of the National Action Plan for Child Injury (Centers for Disease Control and Prevention and National Center for Injury Prevention and Control 2012). In the *National Action Plan*, the CDC highlighted that “injury-related death and disability are more likely to occur among males, children of lower socioeconomic status, those living in specific geographic regions, and in certain racial/ethnic groups” (p. 28). Therefore, 2 of the goals in the report address disparities and the need for community-involved communication strategies. This research specifically addressed populations of children in communities with lower socioeconomic status and found that an evidence-based campaign could be delivered effectively to improve safety behaviors—in this case, BPB use.

It was also notable that the adults in the IC demonstrated increased restraint use after the campaign. Previous studies have demonstrated higher child restraint when their drivers are restrained (Ebel et al. 2003a; Pickrell and Ye 2009a). Our study builds on those studies by suggesting a reciprocal relationship regarding restraint use: Focusing on improvements in child restraint use may have a positive benefit on adult belt use.

There were some limitations in this study. The study was conducted in only 2 communities in Pennsylvania. The success of the messaging in previous studies in rural, urban, and suburban communities in the United States and in Beijing, China, suggests that it will have broad appeal; however, evaluation is needed to determine its effectiveness when delivered in communities not previously studied. Although census demographics appeared to be similar in both communities in 2000 at the time of the actual intervention, there was a different demographic distribution among our participants in these communities and a higher use of BPB in the CC at baseline. However, our analysis took into account this difference by estimating the prevalence of BPB use that would have been observed in a certain study group at a certain time if such children had had the same distribution of covariates as did the study population—IC and CC—as a whole. Additionally, the target population was based on a child’s age rather than height, although both height and age are part of the most recent American Academy of Pediatrics Child Passenger Safety Guidelines (Committee on Injury Violence and Poison

Prevention 2011). Age was used as the single criterion because caregivers are more likely to be more accurate in estimating their child’s age than height. This limitation would likely not affect the results because few children reach the BPB height limit of 4 feet 9 inches by age 8 (National Center for Health Statistics and National Center for Chronic Disease Prevention and Health Promotion 2000). Though we observed at the same or very similar locations at both time points, there were fewer female drivers in the follow-up population of the IC. However, if anything, this would have likely negatively biased BPB use because females are more likely to use restraints than males (Ye and Pickrell 2008). In addition, though the census data indicated that the communities were similar in demographics, the study populations differed in that the population of the IC was more likely to include African Americans and people with lower education levels. This difference was unlikely to affect the results because the previous evaluation of the *No Regrets* video message demonstrated its efficacy in less educated caregivers, which was further confirmed in this effectiveness study.

Conclusion

The “Boosting Restraint Norms” social marketing campaign distributed through community organizations combined with education and one-time free distribution of BPBs was effective in increasing BPB use. Consistent use of “No Regrets” messaging in educational tools is effective for populations with less than optimal BPB use, most notably those with less highly educated drivers. The greater change in the IC suggests that community-delivered campaigns may be more successful in communities where there is a low level of BPB use at baseline. Future work for this intervention will include professional packaging of the materials and determining channels for dissemination.

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References

- Ajzen I. The theory of planned behavior. *Organ Behav Hum Decis Process*. 1991;50:179–211.
- Arbogast KB, Jermakian JS, Kallan MJ, Durbin DR. Effectiveness of belt positioning booster seats: an updated assessment. *Pediatrics*. 2009;124:1281–1286.
- Center for Injury Research and Prevention. *Partners for Child Passenger Safety: Fact and Trend Report*. Philadelphia, PA: The Center for Injury

- Research and Prevention, the Children's Hospital of Philadelphia; 2008.
- Centers for Disease Control and Prevention. *Web-Based Injury Statistics Query and Reporting System (WISQARS)*. 2011. Available at: <http://www.cdc.gov/injury/wisqars/index.html>. Accessed June 13, 2011.
- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. *National Action Plan for Child Injury Prevention*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2012. Available at: <http://www.cdc.gov/safechild/pdf/NationalActionPlanforChildInjuryPrevention.pdf>. Accessed April 2, 2012.
- The Children's Hospital of Philadelphia. Booster seat videos. 2010. Available at: <http://www.research.chop.edu/programs/carseat/boosterseatvideos.php>. Accessed June 13, 2011.
- Daniels F, Moore W, Conti C, et al. The role of the African-American physician in reducing traffic-related injury and death among African Americans: consensus report of the National Medical Association. *J Natl Med Assoc*. 2002;94:108–118.
- Decina L, Lococo K. *Misuse of Child Restraints*. Washington, DC: Office of Research and Technology, National Highway Traffic Safety Administration; 2004.
- Durbin, DR and Committee on Injury Violence and Poison Prevention. Policy statement – child passenger safety. *Pediatrics*. 2011;127:788–793.
- Ebel BE, Koepsell TD, Bennett EE, Rivara FP. Too small for a seat-belt: predictors of booster seat use by child passengers. *Pediatrics*. 2003a;111:e323–e327.
- Ebel BE, Koepsell TD, Bennett EE, Rivara FP. Use of child booster seats in motor vehicles following a community campaign. *JAMA*. 2003b;289:879–884.
- Ehiri JE, Ejere HOD, Hazen AE, et al. Interventions to increase children's booster seat use: a review. *Am J Prev Med*. 2006;31:185–192.
- Erkoboni D, Ozanne-Smith J, Rouxiang C, Winston FK. Cultural translation: acceptability and efficacy of a U.S.-based injury prevention intervention in China. *Inj Prev*. 2010;16:296–301.
- Garcia A, Patel K, Guralnik J. Seatbelt use among American Indians/Alaska Natives and non-Hispanic whites. *Am J Prev Med*. 2007;33:200–206.
- Gilchrist J, Ballesteros MF, Parker E. Vital signs: unintentional injury deaths among persons aged 0–19 years—United States, 2000–2009. *MMWR Morb Mortal Wkly Rep*. 2012;61:1–7.
- National Center for Health Statistics, and National Center for Chronic Disease Prevention and Health Promotion. 2 to 20 years: boys stature-for-age and weight-for-age percentiles. 2000. Available at: <http://www.cdc.gov/growthcharts/data/set1clinical/cj41c021.pdf>. Accessed May 21, 2012.
- National Highway Traffic Safety Administration. Child safety. 2011. Available at: <http://www.nhtsa.gov/Safety/CPS>. Accessed June 13, 2011. No Regrets. Available from <http://www.research.chop.edu/programs/carseat/boosterseatvideos.php> and <http://www.youtube.com/watch?v=emMZWpBFXG0> [in Spanish]. Accessed on.
- Pickrell T, Ye T. *Booster Seat Use in 2008*. Washington, DC: National Highway Traffic Safety Association; 2009a. DOT HS 811 121.
- Pickrell T, Ye T. *Seat Belt Use in 2008—Race and Ethnicity Results Among Occupants Traveling With Children*. Washington, DC: National Highway Transportation Safety Administration; 2009b.
- Simpson E, Moll E, Kassam-Adams N, Miller G, Winston F. Barriers to booster seat use and strategies to increase their use. *Pediatrics*. 2002;110:729–736.
- Thoreson S, Myers L, Goss C, DiGuseppi C. Effects of a booster seat education and distribution program in child care centers on child restraint use among children aged 4 to 8 years. *Arch Pediatr Adolesc Med*. 2009;163:261–267.
- US Census Bureau. Census 2000 Gateway. Washington DC: US Census Bureau; 2012. Available at: <http://www.census.gov/main/www/cen2000.html>. Accessed May 17, 2013.
- Will KE, Sabo CS, Porter BE. Evaluation of the Boost'em in the Back Seat Program: using fear and efficacy to increase booster seat use. *Accid Anal Prev*. 2009;41:57–65.
- Williams S, Whitlock E, Smith P, Beil T. *Primary Care Interventions to Prevent Motor Vehicle Occupant Injuries*. Rockville, MD: Agency for Healthcare Research and Quality; 2007. 07-05103-EF-1.
- Winston FK, Erkoboni D, Xie D. Identifying interventions that promote belt-positioning booster seat use for parents with low educational attainment. *J Trauma*. 2007;63:S29–S38.
- Winston FK, Kallan MJ, Elliott MR, Xie DW, Durbin DR. Effect of booster seat laws on appropriate restraint use by children 4 to 7 years old involved in crashes. *Arch Pediatr Adolesc Med*. 2007;161:270–275.
- Witte K, Allen M. A meta-analysis of fear appeals: implications for effective public health campaigns. *Health Educ Behav*. 2000;27:591–615.
- Ye T, Pickrell T. *Seat Belt Use in 2007—Demographic Results*. Washington, DC: National Highway Traffic Safety Association; 2008. DOT HS 810 932.