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Engaging Agribusinesses: Feasibility and Cost of an ATV Safety Poster Project

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ABSTRACT

Objectives: All-terrain vehicle (ATV)-related deaths and injuries continue to be a significant problem. Influential change agents such as agribusinesses could be important partners for improving safety behaviors among rural ATV users. Our objective was to determine how effectively an injury prevention project could engage agribusinesses through the postal service and to assess their willingness to display a safety poster. **Methods:** One thousand two hundred forty-four agribusinesses received an ATV safety poster and a postcard survey by mail. A randomized sampling of these businesses was surveyed by telephone 4–7 weeks later. Telephone survey questions included whether they recalled receiving the poster, and if so, whether, where and how long the poster was displayed. **Results:** One hundred six postcards were returned. Of the 192 eligible business persons contacted by telephone, 89% agreed to participate. Approximately one-third of telephone survey participants recalled receiving the poster. Among these, 81% with walk-in customers posted it, and 74% still had it displayed 1 month later. Of participants who did not recall receiving the poster, 83% stated they would have displayed the poster. The cost of displaying each poster in a business was 16.6 cents/day during the first month. Final costs/day would be much less because of continued display. **Conclusion:** A high percentage of agribusinesses displayed or would have displayed an ATV safety poster, and most displayed it beyond 1 month. Unfortunately, participant recruitment via postal delivery alone was challenging. Nevertheless, mass mailing of injury prevention materials to be displayed in the retail setting may be a low cost method for raising safety awareness.

KEYWORDS

Agribusiness; all-terrain vehicle; farm; injury prevention; rural

Introduction

Deaths and injuries associated with all-terrain vehicles (ATVs) have been a significant problem in rural areas for decades. Riding these vehicles is especially concerning for youth, as children under 16 years-of-age have a 12 times greater risk of injury as compared to older adults.¹ In fact, more children in the United States each year are killed while riding ATVs than in crashes related to bicycles.² A number of factors contribute to this increased risk to youth including lack of training and experience, riding as or with a passenger, operating adult-size vehicles, riding on public roads (both paved and unpaved), lack of helmet use, and physical and mental immaturity.^{3–10}

Many families own or have access to ATVs in rural areas, especially on farms.¹¹ A study of over 4,600 Iowa school children 11–16 years of age found that 78% from rural areas had ridden on an ATV, with nearly two-fifths reporting at least

weekly use.¹² Of those that had been on an ATV, 57% reported having been in at least one crash (rolled over, had a collision, or was ejected) in their lifetime. Other studies of rural and agricultural groups have found similarly high percentages of youth ATV exposure.^{6,11,13–16} Although children and teens do operate ATVs for occupational purposes, a majority of their riding is recreational.

Rural states have a large number of agribusinesses whose customers frequently own or drive ATVs. Therefore, these businesses are potentially trusted places to provide ATV injury prevention information to the target audience. Many safety programs often fail to take advantage of influential agents of change that could positively impact their project.

Agribusinesses have traditionally been supportive of many farm-related health and safety initiatives. They have played an important part in the financial support of many farm safety organizations including

Farm Safety for Just Kids¹⁷ and Progressive Farmer Farm Safety Day Camps.¹⁸ Major agribusinesses contributed more than a million dollars to the National FFA Foundation in 1997 to implement Partners for a Safer Community, which included a component specifying that local agribusinesses encourage implementation of the program.¹⁹ Leaders of agribusinesses were among the founding members of the Agricultural Safety and Health Council of America.²⁰ Moreover, agribusinesses have often been important developers and distributors of information and teaching tools on farm safety topics.²¹ Thus, we believed agribusinesses at the local level would be interested in helping share an ATV safety message with their customers and could be a strong partner in reaching our goals.

The purpose of this project was to provide ATV safety information to a large number of people as economically as possible. To accomplish this goal,

we mailed ATV safety posters to Iowa agribusinesses and encouraged the businesses to post them. This study was performed to determine how effectively an ATV injury prevention project could reach and attract the attention of a large number of agribusinesses through the postal service and to assess their willingness to display an ATV safety poster in the workplace.

Methods

An ATV injury prevention poster was designed and printed (Figure 1) as part of a collaborative effort by the Iowa ATV Injury Prevention Task Force (<https://uichildrens.org/health-library/all-terrain-vehicle-atv-safety>). Iowa farm supply stores, feed stores, and farm equipment dealers were identified through a search of yellowpages.com in May 2009 and their telephone numbers and

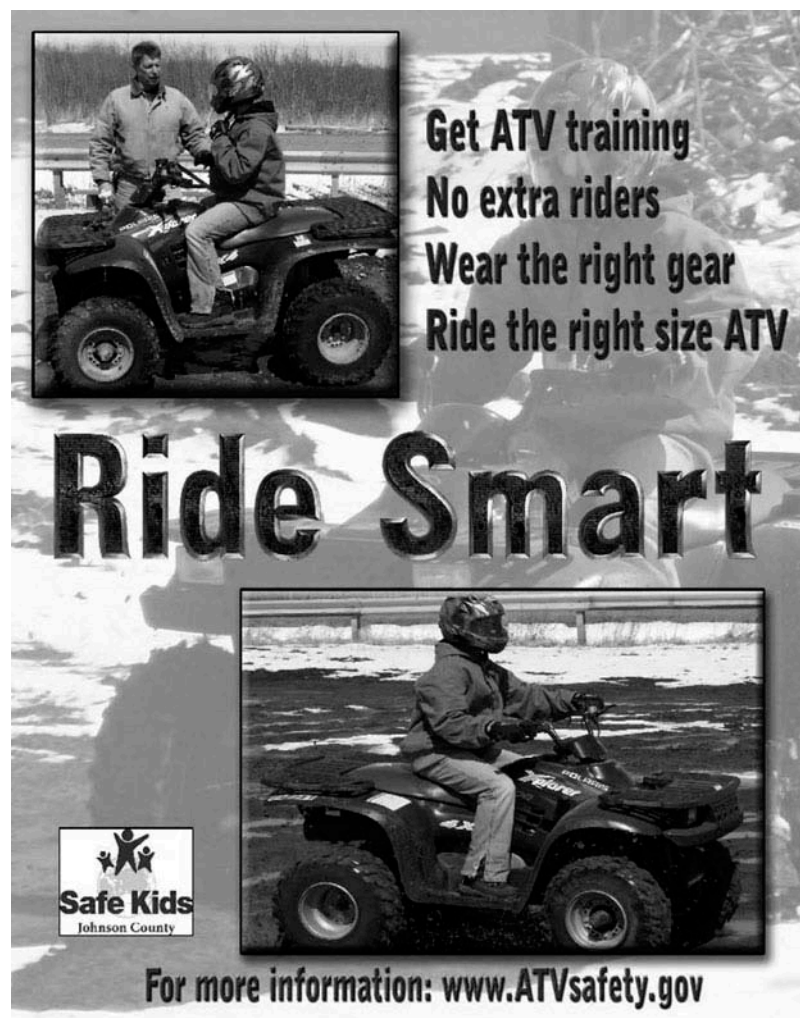


Figure 1. ATV safety poster mailed to agribusinesses.

addresses were compiled. Duplicate businesses and listings most likely not to have in-store customers were removed. The University of Iowa Institutional Review Board approved this project.

The ATV safety poster (11" × 17") was mailed to a total of 1,345 agribusinesses with "Address Service Requested" as we wanted to verify that our posters arrived at their destination. The U.S. Postal Service notified us via postcard that 28 businesses had a new or different address, and that the mailing had been forwarded to the appropriate location. However, 101 posters were returned as undeliverable with no additional address information. The reasons for the inability to deliver included that there was no mail receptacle at the address, no such address existed, the address listed was insufficient, and the business no longer existed. In all, 1,244 posters (92%) were successfully delivered by mail.

Along with the poster, the mailing included a cover letter and a postage paid pre-addressed postcard with a brief survey for feedback. The cover letter informed the business of the high number of ATV injuries that are occurring and the importance of ATV injury prevention. The letter asked the business to participate in our project and to display the poster in a prominent location. They were also requested to send back the project evaluation postcard which had several questions about the project including whether they displayed the poster and if they had any comments. See Table 1a for postcard survey questions.

All agribusinesses with a deliverable address were then numbered and randomized. The businesses were called in the order of their numbering (from 1 to 214) 4–7 weeks after the posters were mailed and asked to participate in a telephone survey. Eligible study subjects were the owner or a manager of the business; all others were excluded. Businesses were periodically called again until a response was received and an eligible subject was contacted, or the study enrollment ended. The goal was to enroll 10–15% of those businesses that received the poster. Verbal consent was obtained over the telephone via a script.

Survey questions included whether they recalled receiving the poster, and if so, whether, where, and how long the poster was displayed. See Table 1b for telephone survey questions. Comments regarding the project, including its effectiveness and how it could be improved, were also solicited. Of the 214

Table 1. Survey tools. (a) Postcard survey mailed to agribusinesses along with an ATV safety poster, $N = 106$ postcards returned. (b) A telephone survey administered to a random sample of agribusinesses 4–7 weeks after poster mailing, $N = 171$ survey participants.

a. Postcard survey mailed with poster

1. Will you display this poster in your business? Yes, No, We are not a business with walk-in customers
2. If yes, where will you display the poster? On or near entrance door, Near counter, Bulletin board near entrance, Wall in the store, Other (Describe)
3. Do you believe this is a worthwhile project? Yes, No, Maybe
4. Do you think the poster will make people think about ATV riding safety? Yes, No, Maybe
5. Do you think the poster will change ATV riding safety behavior? Yes, No, Maybe

Please provide Comments/Suggestions

b. Phone survey of randomized sample

- (1) Do you recall receiving in the mail an ATV Safety Poster? Yes, No
- (2) Was the ATV Safety Poster ever posted in your business? Yes, No
- (3) If yes, where in your store was the poster displayed?
- (4) Is the poster still displayed? Yes, No
- (5) Did you receive any comments or overhear any comments with regard to the ATV Safety Poster from customers? Yes, No
What were they?
- (6) Did you receive any comments or overhear any comments with regard to the ATV Safety Poster from employees? Yes, No
What were they?
- (7) Do you have any comments yourself about the project? Yes, No
What are they?
- (8) Do you have any ideas about how to improve such a project? Yes, No
What are they?
- (9) How would you rate the effectiveness of this project to reach a large number of people about ATV safety? Rate the effectiveness from #1–5 with #1 being very effective and #5 being not effective at all? 1, 2, 3, 4, 5

agribusinesses called, an individual answered the phone at 95% of them. Of those 204 businesses, an eligible subject was available at 192 (94%) and 171 of the eligible subjects (89%) consented to participate.

For analysis, the agribusinesses were classified by location as being "Rural" or "Urban." Rural businesses met one of the following criteria: (a) located in a county not designated as part of a Metropolitan or a Micropolitan Area (MA) by the Office of Management and Budget,²² or (b) located in a census tract within a MA with a Rural Urban Commuting Area Code of 4 through 10 as per the Office of Rural Health Policy.²³ Response frequencies were calculated and comparisons of categorical responses were performed using chi-square analysis or the Fisher exact test for low frequency responses. Significance was defined as $p < 0.05$ for a two-tailed test.

Responses to requests for comments and how to improve the project (See Table 1b, questions 5–8) were compiled. Qualitative analysis of the responses with theme and sub-theme creation, as

well as placement of individual comments, was performed independently by Drs. Jennissen and Denning. They reviewed and discussed the coding and then through an iterative process resolved all differences. The number of comments for each theme, each sub-theme, and the total were calculated. Representative comments are included in this report.

Results

Of the 1,244 agribusinesses that were delivered an ATV safety poster, 36% were farm supply stores, 23% were feed stores, and 41% were farm equipment dealers. See Table 2. Nearly three-quarters of the agribusinesses that received the poster were classified as being in a rural area. The characteristics of the businesses returning the postcards mailed with the survey (agribusiness type and rural/urban breakdown) were not significantly different from the agribusinesses receiving the posters, nor were the agribusinesses that consented to participate in the telephone survey relative to the overall population, $p \geq 0.21$ for all comparisons.

Postcard survey results

A total of 106 postcards sent with the posters were returned (8.5%). In addition, among those that returned the postcard, eight businesses (7.5%) reported they did not have walk-in customers. Excluding businesses with no walk-in customers, 97% of the agribusinesses that returned the postcard stated that they would display the ATV safety poster in their workplace. See Table 3. Almost half

of farm equipment dealers stated they were placing the poster near the counter, while farm supply and feed store postcard respondents had higher proportions (58%) stating they would place the poster on a bulletin board near the entrance, or on/near the entrance door.

Overall, 95% stated that they believed the safety poster distribution project was a worthwhile project. When asked whether they thought the poster would make people think about ATV riding safety, about one-third said “yes” and nearly two-thirds chose “maybe.” Less than 5% stated “no.” With regard to whether they thought the poster would change ATV riding behavior, postcard feedback respondents were more guarded with only 6% saying “yes” and three-quarters stating “maybe.” Nearly one-fifth felt the poster would not change riding behavior.

There were no significant differences in the distribution of agribusiness type, nor in the rural/urban location of the business, with regard to postcard respondents’ willingness to display the poster, belief in the project being worthwhile, and whether they thought the poster would make people think about ATV safety or change riding behavior, $p \geq 0.1$ for all comparisons.

Telephone survey results

Just over one-third of the telephone survey participants recalled receiving the poster. See Table 4. Nearly three-quarters of those who recalled receiving the poster posted it. Of those agribusinesses with walk-in customers, an even higher percentage of

Table 2. Demographics of the agribusinesses that received the ATV safety poster ($N = 1266$), those that returned the postcard mailed with the poster ($N = 106$), and those of the participants in the telephone survey ($N = 171$).

	Poster delivered	Returned postcards		Participated in telephone survey	
	<i>n</i> (col %)	<i>n</i> (col %)	<i>P</i> value ^a	<i>n</i> (col %) ^a	<i>P</i> value ^b
Agribusiness type					
Supply stores	448 (36)	33 (31)	0.21	64 (37)	0.41
Feed stores	286 (23)	32 (30)		45 (26)	
Equipment dealers	510 (41)	41 (39)		62 (36)	
Location type					
Rural	896 (72)	76 (72)	1.0	124 (73)	1.0
Non-Rural	348 (28)	30 (28)		47 (27)	

^aChi square comparison of businesses that returned postcards vs. businesses that had posters delivered.

^bChi square comparison of businesses that participated in telephone survey vs. businesses that had posters delivered.

Table 3. Results from postcard surveys mailed to agribusinesses along with an ATV safety poster. *N* = 106 participants.

	All	Agribusiness type			Rural/urban	
		Supply store	Feed store	Equipment dealer	Rural	Urban
1. Will you display this poster in your business?^a						
Yes	95 (97%)	30 (97%)	29 (97%)	36 (97%)	71 (99%)	24 (92%)
No	3 (3%)	1 (3%)	1 (3%)	1 (3%)	1 (1%)	2 (8%)
2. If yes, where will you display the poster?^a						
Entrance door	21 (22%)	9 (30%)	8 (28%)	4 (11%)	17 (24%)	3 (13%)
Bulletin Board	24 (25%)	10 (33%)	7 (24%)	7 (19%)	15 (21%)	9 (39%)
On Wall	17 (18%)	4 (13%)	5 (17%)	8 (22%)	14 (20%)	8 (35%)
Near Counter	29 (31%)	5 (17%)	7 (24%)	17 (47%)	21 (30%)	3 (13%)
Other	4 (4%)	2 (7%)	2 (7%)	0 (0%)	3 (4%)	0 (0%)
3. Do you believe this is a worthwhile project?						
Yes	98 (95%)	30 (94%)	30 (97%)	38 (95%)	72 (97%)	26 (90%)
No	5 (5%)	2 (6%)	1 (3%)	2 (5%)	2 (3%)	3 (10%)
4. Do you think the poster will make people think about ATV riding safety?						
Yes	33 (32%)	10 (30%)	10 (31%)	13 (33%)	27 (35%)	6 (21%)
No	4 (4%)	3 (9%)	1 (3%)	0 (0%)	3 (4%)	1 (4%)
Maybe	67 (64%)	20 (61%)	21 (66%)	26 (67%)	46 (61%)	21 (75%)
5. Do you think the poster will change ATV riding safety behavior?						
Yes	6 (6%)	1 (3%)	2 (6%)	3 (7.5%)	5 (7%)	1 (4%)
No	18 (17%)	7 (21%)	8 (25%)	3 (7.5%)	11 (14%)	7 (24%)
Maybe	81 (77%)	25 (76%)	22 (69%)	34 (83%)	60 (79%)	21 (72%)

^aQuestions 1 and 2 excluded businesses with no walk-in customers, *n* = 8.

Table 4. Results from telephone surveys of a randomized sampling of agribusinesses mailed an ATV safety poster. *N* = 171 survey participants.

	All	Agribusiness type			Rural/urban	
		Supply store	Feed store	Equipment dealer	Rural	Urban
1. Do you recall receiving in the mail an ATV Safety Poster?						
Yes	59 (35%)	20 (31%)	22 (49%)	17 (27%)	44 (33%)	15 (32%)
No	112 (65%)	44 (69%)	23 (51%)	45 (73%)	80 (67%)	32 (68%)
2. Was the ATV Safety poster ever posted in your business?						
Yes	43 (73%)	16 (80%)	17 (77%)	10 (59%)	34 (77%)	9 (60%)
No	16 (27%)	4 (20%)	5 (23%)	7 (41%)	10 (23%)	6 (40%)
Would you have displayed the poster if you had noticed receiving it? ^a						
Yes	80 (71%)	33 (75%)	13 (57%)	34 (76%)	55 (69%)	25 (80%)
No	32 (29%)	11 (25%)	10 (43%)	11 (24%)	25 (31%)	6 (20%)
4. If posted, where was it displayed?						
Entrance door	15 (35%)	5 (32%)	4 (24%)	6 (60%)	6 (18%)	3 (33%)
Bulletin board	12 (28%)	4 (25%)	4 (24%)	4 (40%)	12 (35%)	0 (0%)
On wall	2 (5%)	2 (13%)	0 (0%)	0 (0%)	5 (15%)	3 (33%)
Near counter	7 (16%)	3 (19%)	4 (24%)	0 (0%)	6 (18%)	1 (11%)
Break room	7 (16%)	2 (13%)	5 (29%)	0 (0%)	5 (15%)	2 (22%)
5. Is the poster still displayed?						
Yes	32 (74%)	12 (75%)	14 (82%)	6 (60%)	26 (76%)	6 (67%)
No	11 (26%)	4 (25%)	3 (18%)	4 (40%)	8 (24%)	3 (33%)

^aAsked if answer to Question #1 was "No."

those who recalled getting the poster (81%) had displayed it. Overall, about three-quarters of posted posters were still being displayed at 1 month.

Of businesses with walk-in customers, 83% stated they would have displayed the poster had they received it. The perceived effectiveness of the project in reaching people about ATV safety had a mean of 2.74 on a 1–5 scale with 1 being very effective and 5 being not effective at all. As with the postcard surveys, there were no significant

differences in the distribution of agribusiness type, or in the rural/urban location of the business, with regard to telephone respondents' willingness to display the poster.

Qualitative data analysis

The agribusiness owners/managers were also asked to provide comments that they heard from customers and employees, as well as to provide their own

comments about the project and how it might be improved. Of the 43 participants whose businesses had displayed the poster, six provided comments from customers and 11 shared employee comments. Of all participants, 89 commented on the project with nearly 90% providing positive comments regarding the project and the effort to improve ATV safety awareness. Sixty-nine provided responses with regard to how the project could be improved. The most frequent comments included (a) the need to have a broad reach and frequent, recurrent messaging, (b) to especially reach out to children, and (c) to better identify the most appropriate businesses with customer traffic for poster display. In addition, the study participants suggested other partners to assist in ATV safety promotion efforts and other venues and methods to potentially share ATV safety information.

Table 5 summarizes the organization of the compiled comments into 6 major themes and 19 sub-themes, with a total of 236 individual comments. Visibility (Theme 1) included comments about the poster being noticed, being commented on, being

discussed, or raising questions. Positive comments (Theme 2) were related to poster content or study design and were divided into comments by employees (“One said it was a good poster”) and those by the survey respondent (“I think it’s a good project”). Critical comments (Theme 3) were divided into those related to the poster design or the study approach (“I don’t know that a poster would change behavior much”) and those related to the business itself not being the best venue for poster display (“I have no store front to put the poster in”).

For topic relevance (Theme 4), the three sub-themes were recognized dangers of riding ATVs, personal or community experiences with ATV crashes and injuries, and personal efforts and community need to encourage ATV safety. Examples of each sub-theme were “I have seen kids do scary things like fly out of a ditch” (Theme 4a), “We have a cousin who died because he wasn’t wearing a helmet. He died of head injuries” (Theme 4b), and “I have grandkids that ride on ATVs and I talk to them about safety” (Theme 4c).

From our question soliciting ideas for improvement, comments received included those for specific improvement in the poster or project (Theme 5) and additional suggestions for promoting ATV safety awareness and injury prevention (Theme 6). An example of a comment related to increasing poster display (Theme 5a) was “If I would have received a phone call (telling me a poster was being sent to us) I might have paid more attention. If it’s not directly related to our business I don’t really pay attention,” and a comment for improving distribution (Theme 5b) was “A good mailing list is key.” Comments related to additional venues (Theme 5c) and to improving the poster (Theme 5d) were “Give them (the posters) out to local country schools and see what response the schools have” and “Make the poster bolder and use big letters so it will catch your eye better,” respectively.

For Theme 6, comments included those related to use of other media (Theme 6a, “Multimedia seems to be effective. Studies have shown that billboards and radio in combination get the word out well”) and additional partners or venues (Theme 6b, “Ag teachers would be good to use”). Examples of other sub-theme related comments were “An ATV safety class closer to our area would be good” (Theme 6c), “Lobby to require

Table 5. Themes and sub-themes identified from comments received.

Themes/sub-themes	#Comments
Theme 1. Visibility (N = 12, 5%)	
1a. Among employees	4
1b. Among customers/salespersons	8
Theme 2. Positive comments (N = 82, 35%)	
2a. By employees	5
2b. By respondents	77
Theme 3. Critical comments (N = 21, 9%)	
3a. Study approach not effective	9
3b. Not best venue	12
Theme 4. Topic relevance (N = 41, 17%)	
4a. Recognized dangers of ATVs	8
4b. Personal or community experiences with ATV crashes and injuries	11
4c. Personal efforts and community need to encourage ATV Safety	22
Theme 5. Suggestions for improving project (N = 33, 17%)	
5a. Improve chances of poster being displayed	8
5b. Improve distribution of posters to agribusinesses	8
5c. Additional venues to send posters	11
5d. Ways to improve posters	6
Theme 6. Additional suggestions for ATV safety awareness and injury prevention (N = 47, 20%)	
6a. Using other media/multimedia	7
6b. Additional partners and venues	12
6c. Safety training suggestions	4
6d. Safety legislation/regulations	5
6e. Direct targeting/mailing	7
6f. More and specific safety information	12
Total	236

helmets for ATV use” (Theme 6d), “Send direct mailers to farmer’s homes” (Theme 6e), and “You should use small business cards or flyers so people can take them home and look at them later. That may be effective” (Theme 6f).

Postcard vs. telephone survey results

Of businesses with walk-in customers, the proportion of postcard respondents who stated they would display the poster in their business (97%) was significantly higher than the actual percentage posted (81%) by businesses that had recalled receiving the safety poster in the telephone survey (odds ratio, OR 12.7; 95% Confidence Interval, CI 3.7–42.9, $p < 0.0001$). There were also differences between telephone survey respondents and postcard survey respondents with respect to where the posters were displayed. The former had higher proportions for on or near the entrance door (35% vs. 22%) and lower proportions for posting on the wall (5% vs. 18%). The comparison had an overall p value of 0.009.

Estimated costs

The project’s overall cost to display an ATV safety poster in an agribusiness was calculated. Of all telephone survey respondents’ businesses, 25% displayed the safety poster. In the first month, 43 businesses had displayed the poster for a total of 1,245 days, an average of 29 days per business. If one assumes a similar percentage of all businesses receiving the poster displayed it for a similar period of time as the telephone survey group, then a total of 311 businesses (25% of 1,244) would have displayed the safety poster for a total of 9,019 days. Given that the cost of the project was \$1,500, each poster was displayed in the first month at a cost of 16.6 cents per day. However, since nearly three-quarters of businesses still had it posted at the time of the telephone follow-up 4–7 weeks after poster delivery, the final cost per day for displaying a poster was ultimately much less.

Discussion

An ATV safety culture in rural areas is largely missing. A focus group study by Aitken et al. found that ATV operators endorsed the need for

increased awareness by the general public, particularly parents, about the potential dangers of ATVs.³ Many of the agribusiness owners and managers in the study echoed this sentiment stating that it “was important to promote awareness” and that “we need to get people’s attention” and “just keep getting the word out.” Raising the community’s awareness of safe riding practices will be essential for building a broader ATV safety culture.

There are no ATV operator training requirements for adults in any state and so most adults are untrained. Youth ATV operators also receive little or no training, and studies have found that only 15–26% of young riders reported having any safety education.^{13–15} In addition, there are relatively few published reports on ATV safety and injury prevention programs. Most have been a smaller part of a broader effort such as a hunter safety education program²⁴ or farm safety day camps.^{25–28} Reports on the effectiveness of school-based ATV safety education programs in increasing safety knowledge are also available.^{14,29} There are no published studies on broader public ATV safety campaigns.

An upper Midwest agricultural health and safety forum concluded that the promotion of agricultural education to reduce illness and injuries would require the collaborative efforts of a diverse array of individuals and organizations, including agribusinesses.³⁰ Many groups, including the AgriSafe Network,³¹ Community Partners for Healthy Farming Intervention Research,³² the North American Agromedicine Consortium,¹⁸ and the National Children’s Center for Rural and Agricultural Health and Safety³³ to name a few, have recognized the value of agribusinesses as a partner in improving agricultural health and safety and have fostered their involvement in organizational activities. Agribusinesses at a regional and national level have been important financial supporters of agricultural safety and health efforts.^{17,19,32} Although agribusinesses at the local level are involved with and support community farm health and safety initiatives, their efforts are not well documented in academic publications.

The effectiveness of health and safety campaigns can be understood via several theoretical foundations that involve marketing, communication, and

behavioral change.³⁴ Concepts important to the effective communication of messages include channel selection and message placement.³⁵ Channel selection involves determining the type of media to be used to convey one's message, especially considering how it can be most effectively and efficiently delivered to the target audience.

A review of articles published from 1990–2013 that reported the outcomes of health campaigns focused on physical activity, healthy eating, smoking cessation, or drinking behavior found that that 66% of them utilized posters as at least one of their media channels for message delivery.³⁶ Only television and print media were utilized more frequently. Three of the studies used posters as their only messaging channel.

There is evidence that campaigns that utilize a combination of media channels to deliver their message may be more effective than those that use only one channel. However, campaigns utilizing multiple channels also require more funding. Since our money was limited, we chose to distribute a safety poster by mail to agribusinesses in order to reach our target audience.

Nearly 90% of agricultural producers at Iowa county fairs reported utilizing local equipment/implementation dealers, agribusiness supply stores, or grain elevators as a source to obtain safety and health information at least once a year.³⁷ Moreover, greater than half said they use them as a source more than once a month, and over three-quarters of these users reported mostly or completely trusting that information. In another study, farmers in focus groups indicated that they seek information from sources they most highly trust.³⁸

One of the strongest indicators of a person's willingness to adopt a health behavior is the credibility of the source,³⁵ which is related to expertise and trust.³⁹ A source considered highly credible can create a more positive attitude toward the delivered message and generate greater behavioral compliance than sources with low credibility, particularly if the message advocated is perceived as valid.⁴⁰ As people are more inclined to process in-group messages,⁴¹ safety information delivered by people with farming backgrounds or through trusted networks should enhance message uptake by farmers.

The owners and managers of local agribusinesses are trusted community members to farmers,

and safety messages displayed in their establishments may be more influential than placement in many other venues. In addition, farmers are likely to regularly frequent these businesses, increasing their chances of repeat exposure to the messaging. It has been shown that repeated exposure can increase the likelihood of message recall and related action in farmers.⁴²

In our study, we sent postcard surveys with the safety posters to see how many agribusinesses would respond. Not surprisingly, the response rate was low (8.5%), but of those who returned the postcard there was a very high percentage reporting that they would display the poster (97% that had walk-in customers). Such feedback methods are likely to result in a biased sampling. Consistent with this hypothesis, of the randomized businesses in the telephone survey group that recalled receiving the poster, a significantly lower percentage with walk-in customers had displayed the poster (81%).

Overall, the owners and managers of agribusinesses appeared interested in promoting ATV safety. Many of the telephone survey participants stated they thought the project was “a good idea,” “worthwhile,” “a good thing to do,” and “time well spent.” Some of the comments they shared demonstrated their recognition of a general lack of ATV safety awareness in their communities, and that ATV-related injuries are a significant problem. These statements by owners and managers included:

- A lot of people don't know about ATV safety.
- People need to be more informed on how ATVs operate.
- Your project makes a lot of sense. Those things are dangerous.
- The younger people need to pay attention to this stuff because they never think it will happen to them until they wreck and then it's too late.

Numerous agribusiness owners and managers shared personal experiences and knowledge of recent ATV-related deaths and injuries in their communities. For example:

- The timing was good. We just had a serious ATV crash in our town.

- We had a friend pinned underneath an ATV who could barely reach his cell phone to call for help.
- Not too long ago a child operating a vehicle ran over and killed another child in our area.
- A friend of ours had a daughter get in an accident shortly after we received the poster and it made me think about the poster.

We hoped that the project might make the customers of agribusinesses think about ATV safety and consider how they might change their riding behaviors on their farms and homes. Survey participants reinforced that this was indeed happening and that their customers were noticing the poster. Some reported that parents were showing their kids the poster and talking about the stated safety messages. However, one manager inferred that not everyone was accepting of the project and its goals, but he himself felt it was important. He stated that some customers asked him “what was going on here” related to the poster, and he simply told them “it was a safety bulletin.”

One thing we did not anticipate was that the project would affect the employees, owners, and managers of the agribusinesses themselves. Participants in the telephone survey discussed how the poster generated discussion among their employees and salesmen who came to their businesses. It seemed to have encouraged them to talk to their own families about ATV safety. A number of owners and managers even put the poster up in their employee break rooms instead of other areas of their business. Participants provided other comments, questions, and actions by their employees including:

- Several employees said the poster was a good idea because they use ATVs and so do their kids.
- They agreed with your cause.
- They passed the poster around and talked about the way they use ATVs.
- My employees asked ‘Where did it come from? What is it about?’ I told them, ‘Nice people do these kinds of things.’

Comments were also solicited as to ways we could improve the project. The majority of agribusiness owners and managers relayed the importance of improving ATV safety in their rural

communities and were very encouraging to keep up the effort. Some felt the project might be improved by having more literature available to give out, and a manager suggested a safety information tear sheet that could accompany the poster. One business owner suggested being provided an ATV safety card or pamphlet that he could send out to their customers with their bills.

Many survey participants felt that a good mailing list for a project like ours was key. Despite our efforts to limit this problem, the poster was sent to a number of agribusinesses that did not have any or many walk-in customers. Although these subjects were supportive of the effort and thought we were targeting the right population, they felt that their business was not the most appropriate venue and that the poster could have been sent somewhere better suited such as schools, even at swimming pools. One person recommended utilizing the state agribusiness association to improve poster distribution.

Some survey participants said sending a poster in the mail was not enough to get their attention. A few owners and managers admitted that they probably threw the poster away without opening it. Some felt the most effective way, instead of mailing the poster, would be to “Go to the store and ask permission to hang up the poster.” Others recommended pushing them a little to “make certain we put the poster up” and another stated that a follow-up phone call before or after the poster was sent might be helpful.

The owners and managers provided a number of other suggestions regarding how one might approach increasing ATV safety awareness and practice. A number of them recommended other partners to reach the target population including 4-H clubs, FFA clubs, motorsport dealers, and insurance companies. They suggested being present at day safety camps, county and state fairs, and schools to provide education and live demonstrations. Many discussed the need to utilize multimedia including radio, billboards, agriculture newsletters, television, safety videos, and the internet. Some felt reaching farmers and ATV riders directly including mailing safety information to their homes may be more effective. As one business owner stated, “You need to establish direct contact with 4-wheeler owners, rather than just sticking a poster on a wall and expecting people

to look at it.” Still, our study demonstrated that many agribusinesses were willing to display an ATV safety poster delivered to them by mail and that the cost per day of displaying each poster was very reasonable. Agribusinesses have great potential in being important influential agents of change and in partnering with other organizations to affect rural and farm safety.

Limitations

Because our telephone survey subjects represented ~14% of the agribusinesses that were mailed the survey, we cannot rule out the possibility of bias in the sample. However, the businesses in the telephone study were randomly selected and their demographics closely matched the whole population. Thus, it seems likely that the study group was a representative sample. As with all surveys, there is the potential for both recall and social desirability biases. The telephone surveys were administered no more than 7 weeks after businesses would have received the poster, so recall bias seems unlikely. Our study addressed basic questions about the effectiveness of mailing posters and the willingness of businesses noticing the posters to display them. Some comments suggested the posters were indeed being seen by customers and others, but our study was not designed to measure reach or impact. Additional studies would be needed to address these questions.

Conclusions

Agribusinesses are aware of injuries and deaths related to ATVs and seem to be interested in promoting ATV safety. Overall, a high percentage of agribusinesses in the study that were aware of receiving the project’s safety poster displayed it. Although a significant percentage did not recall having received the poster in the mail, the vast majority of such businesses stated they would have displayed the poster as well. Once displayed in a business, safety posters may remain posted for prolonged periods of time as demonstrated by the results of our follow-up phone calls. Unfortunately, attracting the attention of agribusinesses and recruiting their participation through a mail-only approach appears to be challenging. Personalized mailings and/or follow-up phone

calls may have the potential to increase participation. Additional safety materials to be handed out or displayed may also be beneficial. Despite the limitations, however, mass mailing of injury prevention materials to be displayed in the retail setting could be a low-cost method for raising safety awareness.

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