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Collaboration Between Extension and Industry: Coordination and Assessment of Technical Large Animal Emergency Rescue Training

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Abstract

Rescuing large animals from emergency situations can be fraught with dangers not only to the animals but also to the rescuers. People involved at the scene of such an emergency are most likely to include first responders, horse owners, and veterinarians. These groups need to be aware of how they can best work together to effect a safe and efficient rescue as none typically has all the knowledge and skills that are necessary. Extension training programs that bring together such groups can be beneficial in supporting emergency and disaster preparedness in the local community.

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Introduction

Following media attention on the plight of large animals in distress after natural disasters and other emergency situations, animal-based emergency preparedness training has become a priority in many communities. Unfortunately, the misconception exists that emergency responders know how to handle animals or that veterinarians and large animal owners know the best way to get large animals out of various emergency situations. Such beliefs are often untrue (Gimenez, Gimenez, & May, 2008). Very few emergency responders are trained to handle large animals (Gimenez et al., 2008; Porr, Brown, & Splan, 2011), and very few veterinarians are trained to manage emergency and disaster scenes or to perform rescues from entrapment situations (Gimenez et al., 2008). These circumstances can lead to confusion at an emergency scene, potentially resulting in injury or death to the would-be rescuers and/or the animal(s) being rescued.

Cooperative Extension has a responsibility to educate key individuals and industry professionals about emergency response situations. Websites have been shown to be effective in distributing emergency preparedness information to Extension agents and emergency response personnel (Miller, Grisso, & Lambur, 2006; Federal Emergency Management Agency, 2014). However, some training requires hands-on experience by participants to be effective. Combinations of classroom

and hands-on activities have been used effectively by Extension agents, allowing them to become more engaged in emergency and disaster preparedness in the local community by planning, participating in, and evaluating exercises (Smith, Black, & Williams, 2012). Efforts can often be collaborative, building on resources available through other agencies, such as the Extension Disaster Education Network (Smith, Black, & Williams, 2012).

After successful development and implementation of a 1-day horse handling training for emergency responders (Porr et al., 2011), students requested more advanced training. Thus, a 3-day Technical Large Animal Emergency Rescue (TLAER) training was conducted in Virginia seven times between 2009 and 2011. Training was offered at the Awareness level. This level of training involves lectures, demonstrations, and discussions of relevant topics, including surface-ice and floodwater rescue, wildfire and barn fire incidents, trailer overturns, large animal behavior related to response, and implementation of the Incident Command System used by emergency responders across the United States. An Operations-level training was also offered. This level of training involved hands-on skills development using live large animals and included handling live animals, practicing techniques on how to safely move a recumbent animal, practice lifting a live animal using an A-frame and pulley system, a trailer overturn exercise, a simulated barn fire exercise, and a simulated mud rescue. Though a course may have been offered as Operations level, participants could register as auditors and receive credit for an Awareness-level program. The objective of the study reported here was to evaluate the impact of the TLAER training on the participants of the program.

Materials and Methods

A 15-question online survey instrument was developed and distributed by using Dillman, Christian, and Smyth's (2009) technique. It was made available via email to previous participants of the TLAER training, although it was not constrained to those who had taken the course in Virginia. It was also posted on an official TLAER social networking website (Facebook), allowing it to be circulated by coordinators of the TLAER programs in other states and countries.

In addition to general demographic information (age, race, and gender) and occupation, questions solicited information on such topics as experience handling horses prior to attending the TLAER training, when and where the course was completed, level of participation (Awareness vs. Operations) and course level offered (Awareness vs. Operations), other large animal rescue training received, whether or not the skills and knowledge learned during the training were subsequently put to use in a rescue setting, and involvement in a community animal response team (CART). The survey also asked how well participants felt they remembered the knowledge and skills taught during the course. Many questions required a yes/no response and allowed for an open-ended explanation of that response when appropriate. Other questions used a 4-point scale or blocked answers into predesignated categories. The survey was available for 6 weeks, and reminders were sent at 2 weeks and 4 weeks. Data were evaluated using descriptive statistics and chi-square analysis.

Results and Discussion

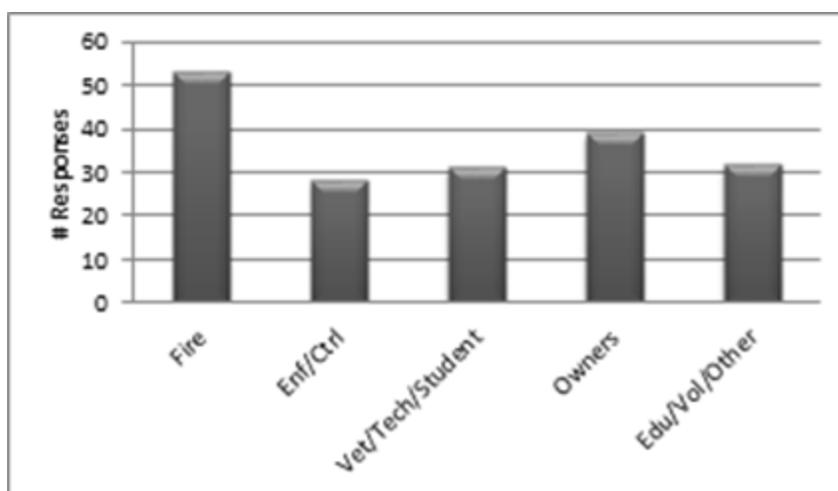
The use of social media sites as a research tool is becoming a more popular method of conducting marketing and opinion-based surveys. The advantages and limitations of using Facebook as a

recruiting tool have been discussed, and while there are still some obstacles to overcome, this resource does show promise in reducing costs and increasing response rates from target audiences (Samuels & Zucco, 2013; Tan, Forgasz, Leder, & McLeod, 2012). Given the nature of this training—that it has been conducted across the United States as well as internationally—it was decided to use the Facebook site as a means of distributing the link to the survey.

A total of 184 responses were received. Given the method of distribution, it was impossible to calculate a response rate. Participants tended to be female ($n = 116$, 63%), between the ages of 41 and 50 ($n = 64$, 34.8%), and White ($n = 154$, 83.7%). Emergency responders, including firefighters, law enforcement, and animal control, made up 44.3% ($n = 81$) of course participants; horse owners and veterinarians accounted for 38.3% ($n = 70$). Educators and volunteers for search and rescue (SAR) teams or CARTs made up the remainder of the participants ($n = 32$). For data analysis, professions were grouped into firefighters ("Fire"); enforcement and control ("Enf/Ctrl"); veterinarians, veterinary technicians, and veterinary students ("Vet/Tech/Student"); horse owner ("Owners"); and educators, volunteers, and others ("Edu/Vol/Other"). Fire comprised the largest segment ($n = 53$, 28.8%), with Owners falling in second ($n = 39$, 21.2%) (Figure 1). Chi-square analysis revealed that females and males were not evenly distributed across job categories ($\chi^2 = 50.179$, $p < .01$). Firefighters were disproportionately male, and all other professions were disproportionately female. This is not surprising, given the increasing female student enrollment in animal science and veterinary programs at the university level (Reiling, Marshall, Brendemuhl, McQuagge, & Umphrey, 2003; Lyvers Pepper, 2011) and that more women are entering fields such as animal control (K. Miller, personal communication).

Figure 1.

Occupations Held by Participants of TLAER Training



Although the TLAER program has been offered since 1998 (R. Gimenez, personal communication), participation increased dramatically in 2008. No more than 2.7% of respondents reported attending a program in any specific year prior to 2008, yet 8.9% ($n = 20$) participated in 2008, and attendance peaked in 2011 with over 30% ($n = 68$) of respondents participating in training that year. Thirty-six respondents (19.6%) reported attending the training more than once. The majority of participants attended the program in Virginia ($n = 72$, 34.3%). This result may have been

associated with the fact that the primary author of this study conducted training in Virginia, perhaps causing course participants familiar with her to be more willing to respond to the survey. In all, 20 states and five countries were represented in the survey. Twice as many people reported attending Operations-level training versus Awareness-level training ($n = 85$, 46.2%, vs. $n = 43$, 23.4%), but 27% ($n = 49$) reported having attended both. Of those attending Operations-level training, over 77% ($n = 142$) attended the training as a participant. The majority of participants ($n = 126$, 68.5%) had one or more coworkers also attend the training. Chi-square analysis revealed a difference in which groups brought more participants to the training ($\chi^2 = 54.709$, $p < .01$). Fire tended to bring three colleagues, whereas Owners brought one. Relative to the firefighters, this circumstance may be related to an attempt by fire stations to ensure that at least one person familiar with large animal rescue techniques would be available for each of three daily shifts (D. Monoco, personal communication).

Only 14.7% ($n = 27$) of respondents had participated in large animal rescue training prior to the TLAER program, whereas 22.3% ($n = 41$) reported attending more training after their TLAER experience. Almost 25% ($n = 44$) said they had conducted a TLAER-type training at some point after they formally attended the program. Chi-square analysis revealed a difference in which groups had conducted trainings ($\chi^2 = 14.346$, $p = .006$), with Fire and Edu/Vol/Other conducting the most trainings relative to the number expected. Interestingly, Enf/Ctrl did not conduct any trainings. Given that animal control officers represented 20 of the 28 professionals in Enf/Ctrl and given the small number of animal control officers in most law enforcement units, it is possible that this circumstance is due to staffing shortages or minimal training budgets. Previous work has demonstrated that animal control officers typically receive minimal training for their jobs (American Society for the Prevention of Cruelty to Animals [ASPCA], 2010), and much of that is on-the-job training. Over 74% of law enforcement responding to the survey had not received any formal training regarding animal protocols, and over half (51%) indicated that they wanted more resources or training in responding to animal cases (ASPCA, 2010). Several of the other professions either have a responsibility for or interest in teaching and education or may have an annual requirement for continuing education that such training would fulfill.

Although only 25.4% ($n = 34$) were involved in a CART prior to TLAER training, 35.7% ($n = 65$) reported participating in CARTs afterward. Chi-square analysis revealed a difference in which groups had received training in large animal rescue before attending the TLAER program ($\chi^2 = 11.524$, $p = .021$). Edu/Vol/Other had received the most training prior to the TLAER event. This circumstance may be related to the requirements for individuals volunteering for SAR teams or CARTs or to an educator's requirement to be trained before teaching a particular subject.

Recollection of knowledge and skills was assessed by using a Likert-type scale having the points Somewhat Remember, Mostly Remember, and Remember All. The majority of participants reported that they mostly remembered the knowledge (69.5%) and skills (66.1%) learned during training (Table 1). Knowledge would be expected to be retained more easily than skills, which may not be practiced after the training program. Although there was no difference among groups' retention of the skills learned during the training ($\chi^2 = 0.220$, $p > .10$), there was a trend for those who had

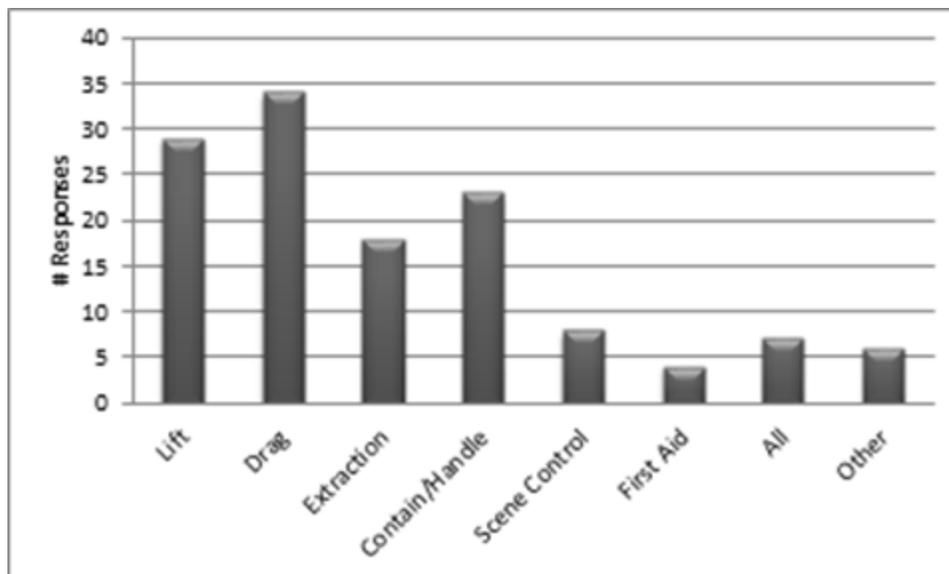
received previous training to feel that they retained the knowledge they had learned ($\chi^2 = 5.599, p = .061$). Indeed, twice as many participants responded that they felt they "remembered all" the knowledge as was predicted.

Table 1.
Recollection of Knowledge and Skills by
Participants of TLAER Training

	Knowledge (n, f)	Skills (n, f)
Remember All	27, 15.3%	29, 16.7%
Mostly Remember	123, 69.5%	115, 66.1%
Somewhat Remember	27, 15.3%	30, 17.2%

Only 42.9% ($n = 79$) reported using TLAER skills or knowledge during an actual rescue after attending the program. Of those, 57.8% ($n = 48$) used the skills within 6 months of training, and 54.3% ($n = 44$) used the training between one and five times in that time period. Chi-square analysis revealed that Fire and Edu/Vol/Other had a tendency to have used their training in a real-life situation more than other professions ($\chi^2 = 9.245, p = .055$). This finding is expected because firefighters are part of the 911 dispatch system in the United States, and volunteers for SAR teams or CARTs are more likely to be called out to respond during an event. The most commonly used skill was dragging an animal from a confined space or situation ($n = 34, 26.4%$), followed by lifting an animal ($n = 29, 22.5%$) (Figure 2).

Figure 2.
Skills Used in Actual Large Animal Emergency Rescue Events After TLAER Training



When asked what knowledge or skill they felt was most valuable, 25.4% ($n = 46$) reported that gaining a better understanding of the Incident Command System and how to coordinate a rescue scene ranked first. Horse handling ranked second ($n = 34$, 18.8%). Although horse handling would be an important part of a rescue involving horses or other large animals, simply understanding how the various agencies dispatch to a scene and cooperate during emergency situations contributes to coordinating a safe and effective rescue.

Implications

One of the unanticipated benefits of conducting the TLAER program was having emergency responders, veterinarians, and horse owners in the same training session. Not only was the ability of these groups to network enhanced, but each learned what the others' roles could or should be during an emergency situation. Although no one left the training event expecting emergency responders to be experts in large animal handling or horse owners or veterinarians to become technical rescue experts, most participants left with a higher level of comfort about when and how to respond to common emergency situations involving large animals.

Agricultural Extension agents, in particular, are often called on to assist during emergencies and natural disasters in their communities. Conducting or being involved with programs designed to better prepare emergency responders and animal and agriculture stakeholders—groups that typically may come together only during times of high stress—may improve outcomes. This situation could lead to saving money as well as saving animal and human lives. Given the feedback on this particular program and similar programs (Porr et al., 2011), training in this area should continue to be encouraged and supported by Extension as well as by local communities.

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