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4-H Teen Community Emergency Response Team (CERT)

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Abstract: *The Community Emergency Response Team (CERT) program is designed to train Americans to safely help themselves and their community in the event of a widespread disaster. This program is designed for adults. Despite youth increasingly becoming recognized as valuable resources, able to equally partner with adults in leadership and decision-making roles (Zeldin, Petrokubi, & MacNeil, 2007), they remain a largely untapped resource in disaster preparedness where they could play an important role before, during, and after a disaster. 4-H Teen CERT is a program that empowers youth to prepare for, stay safe during, and respond after a major disaster.*

Throughout our nation's history, large-scale disasters have seized our attention—the September 11th, 2001 terrorist attack; hurricanes Katrina and Rita; wildfires; and pandemic flu. As seen in these major disasters, professional emergency responders

are quickly overwhelmed. Following the September 11th terrorist attack, then President Bush requested the aid of all Americans to help safeguard our country (Bush, 2002). The Department of Homeland Security (DHS) created Citizen Corps, a program that includes Community Emergency Response Teams (CERT). CERT teams across the United States have adults trained to safely help their community before, during, and after widespread disasters. However, most CERT trainings overlook an important population: high-school aged youth. Though 4-H youth are involved in disaster preparedness through GIS technology (Sallee & Allen, 2011) and despite youth increasingly becoming recognized as valuable resources, able to equally partner with adults in leadership and decision-making roles (Zeldin, Petrokubi, & MacNeil, 2007), they largely remain an untapped resource in disaster preparedness and response.

Program

The 4-H CERT Program follows required DHS and Federal Emergency Management Agency (FEMA) curriculum. However, this 4-H program expands training to include leadership, communication, and career exploration for high-school youth. It is designed as an after-school activity taught by Extension personnel and/or community volunteers with disaster expertise. Lessons are approximately 2 hours in length, for a total of 40 hours. A final exercise culminates skills and knowledge learned by students, having them respond to a simulated disaster.

Evaluation of Pilot Program

The pilot program was taught at two Oregon high schools. One school is located in a rural community, with a student body living predominantly on small farms (N= 20). The second school is metropolitan (N= 13). Of the 36 total participants, 33 (92%) completed both pre- and post-surveys. All youth were 15 years of age or older, 18 males and 15 females.

Immediately prior to training, youth completed a 29-question survey to measure knowledge, attitude, and behavior related to training topics, using a 5-point Likert-type scale (1-low and 5=high). The pre-survey included demographic questions.

Immediately following training, instructors administered a post-survey identical to the pre-survey. The post-survey also asked youth about their interest in disaster service organizations and if and how they had used knowledge gained in training and requested training feedback.

Surveys were coded to assure accurate pre-post comparison. Pre- and post-responses were analyzed using a paired T-test, comparing pre-test mean scores and post-test mean scores for each topic evaluated. Cronbach's coefficient alpha was used to estimate reliability of the Likert-type scale survey items for the quantitative measure. The Cronbach's score was .838, indicating a high level of reliability for the items used (Santos, 1999).

Results

Survey results revealed statistically significant increases in participant knowledge, skill development, attitude, and behavior based upon a paired t-test comparison of mean pre-test and post-test scores for 18 of the 29 survey questions. Table 1 below shows the ranked mean scores for these 18 questions. The greatest change occurred in areas of disaster related knowledge and skill development.

Table 1.

Ranking in Score Improvement on Topics Taught in a Five High School-4-H Teen CERT Program

Topics Used to Evaluate 4-H Teen CERT Training	N Matched Pairs	Pre-Test Mean Score	Post-Test^a Mean Score	Difference between pre and post	SD	t-test	Ranking
I understand the Incident Command System.	33	1.88	4.03 ^a	2.15	1.35	-9.16	1
If a person is trapped, I can use cribbing to get them out.	33	2.06	3.88 ^a	1.82	1.87	-5.56	2
I know four safe ways of			a				

moving an injured person.	33	2.48	4.27	1.79	1.39	-7.41	3
My family has a designated out-of-state person as an emergency contact.	33	2.67	4.15 ^a	1.48	1.66	-5.14	4
If I were involved in a disaster, I would seek mental health counseling afterwards.	33	2.58	4.06 ^a	1.48	1.44	-5.92	5
I know when and how to turn off my home's utilities.	33	2.88	4.30 ^a	1.42	1.32	-6.18	6
I would likely enter a building that was knocked off its foundation if I heard cries for help inside.	33	3.12	1.94 ^a	-1.18*	1.16	5.86*	7
If a disaster							

happened tomorrow, I would know what to do.	33	2.97	4.12 ^a	1.15	.16	-7.04	8
I know when and how to put out a small fire.	33	3.76	4.67 ^a	.91	1.13	-4.63	9
If I saw someone in need of first aid, I am confident I could help them until professionals arrived.	33	3.27	4.18 ^a	.91	.72	-7.22	10
I have a disaster kit for each of my animals.	33	3.18	4.00 ^a	.82	1.04	-4.5	11
If I were in a leadership role during an emergency, others would follow my directions.	33	3.48	4.3 ^a	.82	1.00	-4.86	12
It is important to review my family's emergency plan yearly.	33	3.82	4.64 ^a	.82	1.49	-3.16	13

My household is prepared for an emergency or disaster.	33	2.42	3.21 ^a	.79	1.45	-3.12	14
I am aware of the hazardous materials in my home.	33	3.73	4.45 ^a	.72	1.44	-2.90	15
I have a lot to offer my community as a volunteer.	33	3.85	4.48 ^a	.63	.99	-3.68	16
If I move away from my community, I will join CERT or a similar program in my new town.	33	2.97	3.58 ^a	.61	1.06	-3.29	17
I could evacuate my home if I had only 15 minutes' warning.	33	3.58	4.18 ^a	.60	.86	-4.03	18
Rating code: 5=strongly agree; 1= strongly disagree							
^a Differences between pre-test and post-test scores statistically significant at p<.01							

*Reverse coded item

Discussion

Evaluation results show increases in youth knowledge and skills in areas relating to disaster response, including Incident Command System (ICS), a standardized incident management approach used by disaster professionals; how to free a trapped person; moving a patient without causing further injury; and appropriate first-aid techniques. Youth indicated that as a result of the training they were more aware of hazardous materials in their home, were developing survival kits for family and pets, and felt their family was more prepared for a disaster.

Before the training, youth felt their physical health was more important than their mental health. After training, youth acknowledged possible effects of trauma, stating they would get counseling after experiencing a disaster. Results show a slight increase in the importance of "knowing their neighbors" and "saving as many human lives as possible." Interestingly, youth were less confident of their community's readiness after the training than before.

Despite the training and personal actions taken to prepare for a disaster, youth indicated they still do not believe there is any cause for concern regarding acts of terrorism or a pandemic flu, nor do they believe a disaster will occur in their community in the next 10 years.

When asked about future involvement in the emergency management field as a member of a CERT team, youth could see themselves involved with a CERT team in the immediate future, but that involvement may not continue if they move. Despite highlighting possible careers, youth did not have interest in emergency management careers. However, youth also indicated they felt more valued as a result of the 4-H Teen CERT program, have a lot to offer their community, have strong leadership abilities, and would be accepted as a leader by others.

Conclusion

Program participants indicated they are confident of their knowledge and skills and feel they know what to do if a disaster happens. They have prepared themselves and their families and are more aware of what their community needs to do and how to help their communities prepare. Although it may be years before the effects of the program are tested in a real disaster, 4-H Teen CERT has already demonstrated life-saving impact: one student shared on her evaluation that she recognized the signs

of shock in her mother and sought out immediate medical treatment.

Summary and Recommendations

The 4-H Teen CERT Program recognizes older youth as untapped resources in disaster response. This program uses age-appropriate learning guidelines and proven youth development delivery methods to train high school-aged youth how to prepare for, stay safe during, and respond following a disaster. Evaluations indicate the program resulted in knowledge and skill gains, as well as attitude and behavior changes for participants. With the foundational knowledge regarding disasters gained through the 4-H Teen CERT program, youth could serve on emergency advisory boards, work with administrators on school safety plans, and develop and implement disaster exercises.

As a 4-H activity, the Teen CERT program uses effective strategies to support developmental assets in a framework of experiential learning. The 4-H Teen CERT program's curriculum is available to Extension professionals by contacting Lynette Black.

References

Bush, G. W. (2002). President delivers State of the Union Address. Retrieved from: <http://georgewbush-whitehouse.archives.gov/news/releases/2002/01/20020129-11.html>

Sallee, J, & Allen, K. (2011). Youth GIS partnership in action: Alert, evacuate, and shelter. *Journal of Extension* [On-line], 49(5). Available at: <http://www.joe.org/joe/2011october/iw3.php>

Santos, J. (1999). Cronbach's alpha: A tool for assessing the reliability of scales. *Journal of Extension*, 37(2). Available at: <http://www.joe.org/joe/1999april/tt3.html>.

Zeldin, S., Petrokubi, J., & MacNeil, C. (2007). Youth-adult partnerships in community decision making: What does it take to engage adults in the practice? National 4-H Council. Retrieved from: <http://www.4-h.org/youth-development-programs/citizenship-youth-engagement/leadership-personal-development/governance/>

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