Disaster Social Service Volunteers: Evaluation of a Training Program

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Abstract

This article presents the results of an evaluation of a volunteer training program that prepares participants to enter postdisaster settings to work with affected children and families. The evaluation, which uses a knowledge-skills-attitudes (KSA) approach, draws on the results of a telephone survey with 46 randomly selected program volunteers. Volunteers reported statistically significant *knowledge* gains in the three primary training areas: program-specific knowledge, disaster-specific knowledge, and child-specific knowledge. The respondents who had deployed to a disaster after becoming a certified volunteer connected three major training goals to their *skills* in the field. Specifically, they recalled and used training materials in terms of helping facilitate children's play, setting up and running a disaster child care center, and remaining flexible and adaptable in the highly uncertain postdisaster context. The research also revealed uniformly positive *attitudes* toward the trainers who conduct the 27-hour training sessions and high levels of satisfaction with the program itself. The article concludes with recommendations for further improving the program and discusses ways that universities can work with nonprofit disaster relief organizations to ensure timely and effective program evaluations.

Keywords

evaluation research, program evaluation, disaster, volunteers, volunteer training program, child care, children, families

In this article, we present the results of an evaluation of a volunteer training program of a disaster social service organization.[1] This Organization offers assistance to children and families affected by disaster in the United States and, most notably, provides free child care during the emergency response and early recovery phases of disaster. Organization volunteers assist families by establishing temporary child care centers—often within shelters or other emergency relief settings—that offer a safe and comfortable space for young children[2] to play while adult family members stand in lines, fill out paperwork, and otherwise tend to immediate needs in the aftermath of disaster. Since the Organization's inception in 1980, approximately 83,000 children have been cared for by over 2,800 volunteers in more than 200 disaster responses.

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In the event of an impending or recent disaster, the Federal Emergency Management Agency (FEMA) or state or local disaster response organizations identify a need for child care and subsequently request the services of the Organization. Organization staff then mobilize trained and certified volunteers and coordinate their travel to the disaster area.[3] In sudden-onset disasters, such as tornadoes and earthquakes, volunteers are called immediately following the event. For disasters with a longer warning period, such as hurricanes and slow-onset floods, volunteers are contacted before the event to determine their availability to serve and then contacted again after the disaster to deploy as needed. Volunteer teams typically include four to eight trained individuals with one volunteer leader who directs the rest of the team and coordinates with other response organizations in the field.

The length of time that the Organization offers free child care is determined by the level of need within the stricken community and the scale of the disaster. Thus, for example, the Organization often operates child care centers for days or weeks after small-scale events and for months after large-scale catastrophes that affect heavily populated areas. Although Organization child care centers are typically open as long as disaster relief shelters and family assistance centers are operating, volunteers serve at the site for a maximum of two weeks.[4] If continued child care is needed after this period, a new wave of volunteers is deployed to the site by Organization staff.

To prepare new volunteers, each year the Organization coordinates 8 to 10 training workshops in different regions of the country. These workshops are scheduled based on identified need for new volunteers on the part of the Organization and in response to requests from local groups, such as churches, community interfaith groups, and disaster response organizations. The Organization and the local sponsoring group then collaboratively organize a 27-hour overnight workshop. The Organization provides planning assistance to the sponsoring group, a team of certified trainers, and a binder of training materials to all participants. The sponsoring group provides the meeting facility, coordinates all logistical arrangements, and helps recruit participants.

During the Training Program, volunteers are taught about the unique needs of young children following a disaster. For example, volunteers learn about identifying child traumatic stress reactions, understanding the importance of play to children following disasters, developing empathetic listening skills, and dealing with child and familial grief due to loss. Training Program participants also learn about various disaster response organizations and typical disaster response and recovery activities. Part of the Training Program is dedicated to having participants practice setting up a temporary child care center. Participants share meals and sleep on Red Cross cots during the Training Program, with the goal of simulating the experience of working and staying in a disaster affected area. After completing the Training Program, participants must submit three reference letters and complete a criminal background and sex offender check before they become certified by the Organization to volunteer in a disaster response.

Over the past three decades, the Organization has regularly updated and revised its training materials and training process based on postdisaster field experience, informal feedback from volunteers and team leaders, and developments in disaster and early childhood education scholarship. Although the Organization has worked to keep its Training Program current, it has never been formally evaluated to determine whether the training materials and process actually work. This represents an important gap as evaluations are used to assess the effectiveness of training programs in terms of benefits to the trainees and to the organization as a whole as well as to identify areas in need of improvement (Rossi, Lipsey, and Freeman 2004). Indeed, a formal evaluation of the Training Program is necessary to understand the central point of training: effective transference of information to the trainees. Although there are many aspects of disaster volunteer organizational response that can be evaluated (Steinke-Chase and Tranzillo 2010), one specific area that has been understudied is volunteer training. Volunteers play centrally important

roles in disaster response for many organizations, and thus their ability to adequately perform is important to organizational success.

In the fall of 2008, a graduate-level evaluation research methods class in our Department of Sociology at Colorado State University was asked by Organizational leadership to evaluate the Training Program from the perspective of participants.[5] As members of the evaluation team, we accomplished this task using an approach inspired by Kirkpatrick's (1976) training evaluation schema. In this article, we report the results of a telephone survey with Training Program participants about their attitudes toward the program, self-assessed knowledge gains, and for the volunteers in the sample who had been deployed to a disaster response, their perception of the applicability of program content to their skills and performance in the field. To situate our study in the literature, we begin by reviewing prior research on disaster volunteers and the evaluation of training programs. Then, we describe our results organized around the knowledge-skills-attitudes (KSA) schema. We conclude with recommendations for improving the Training Program and reflect on ways that universities can work with nonprofit disaster relief organizations to ensure timely and effective program evaluations.

Disaster Volunteers

Helping behavior in disasters may take a variety of forms, ranging along a continuum from spontaneous and informal efforts to more organized emergent group activity to formal organizational response (National Research Council 2006). In the immediate aftermath of a disaster, survivors are most likely to be rescued and offered aid first by other survivors in close proximity (Noji 1997). As time passes, emergent groups begin to perform many different types of activities, including providing emergency assistance, identifying and registering survivors, and engaging in cleanup and community restoration efforts (Forrest 1978). Within a matter of hours or days after a disaster, paid emergency responders as well as volunteers affiliated with formal relief organizations also arrive on the scene. These responders and volunteers may include firefighters, police, paramedics, search and rescue workers, and those associated with a variety of other governmental and nongovernmental aid groups. Although much classical as well as contemporary scholarship has focused on spontaneous volunteers in disaster (e.g., Barton 1969; Fritz 1961; Steffen and Fothergill 2009) as well as formal and informal organizational response (e.g., Dynes 1974; Kendra and Wachtendorf 2003), the literature on professionally trained, but unpaid, volunteers who are affiliated with formal disaster response organizations is limited. This is especially true of the volunteers for organizations that provide social services and other forms of family-oriented assistance to disaster survivors like those within the Organization that we evaluated.

Understanding and evaluating disaster volunteer programs is important, we argue, for four primary reasons. First, disaster volunteering differs from more general types of volunteering (e.g., mentoring students, providing meals to the elderly or homeless). In a volunteer typology discussed by Britton (1991:402), disaster volunteers "fall outside the normal action set and organizations structure" of general volunteer activities because of the trepidation they may feel before entering the disaster zone, potential risks they face while in the field, and the costs of volunteering in terms of time, effort, and potential emotional and physical risks. Thus, content covered during training programs for disaster volunteers differs from general volunteer training in that it often focuses on preparing these individuals for the rapidly changing and potentially stressful emergency response context. Second, it is important to evaluate disaster volunteer training programs because volunteers represent an important link between informal community resources and established government response organizations (Britton 1991). Third, as government social services continue to be transferred to nongovernmental entities, responsibility is increasingly falling to volunteers to meet the needs of vulnerable populations (Brudney and Gazley 2009).

Indeed, according to FEMA (2012), volunteers will play a central, rather than supporting, role in disaster response by the year 2030. Fourth, the demand for services such as those offered by the Organization we evaluated is likely to increase significantly in the future, as disaster risk rises in the United States. Population growth, unsustainable development, environmental degradation, and a number of other factors will shape these trends and all but ensure that there will be an even greater need for this type of volunteer service postdisaster (Peek, Sutton, and, Gump 2008).

Despite the important role that trained volunteers play after a disaster, and will certainly continue to play in the future, their knowledge, skills, and attitudes have not been studied extensively in the disaster research field (Ritchie and MacDonald 2010; Steinke-Chase and Tranzillo 2010). Indeed, as Tierney, Lindell, and Perry (2001:113) noted, "We know relatively little about spontaneous volunteers and even less about the other patterns of volunteer behavior" such as institutionalized, unpaid volunteering in postdisaster contexts. Moreover, and as described below, few have evaluated the training of disaster volunteers, and even fewer focus on disaster social service volunteers who are tasked with providing compassionate care and assistance to children who just survived a traumatic experience. Children represent an especially vulnerable segment of the population, and young children, in particular, have special medical, emotional, educational, and developmental needs (Peek 2008, 2010). Recent calls for more technical assistance and training for organizations serving children in disasters reflect the tremendous gap in knowledge and urgent need for systematic program evaluation (National Commission on Children and Disaster 2010).

Volunteer Training Evaluation

Training entails the acquisition of knowledge, skills, and attitudes that improve the performance of a trainee in a specific job or volunteer role (Steensma and Groeneveld 2010:319). Evaluations of training programs aim to determine the effectiveness of such programs for the trainee, the organization where the trainee works or volunteers, and the clientele that the organization serves, as applicable. Kirkpatrick's (1976, 1996) training evaluation schema is the most commonly used method of training evaluation (Aguinis and Kraiger 2009; although for a recent critique, see Giangreco, Carugati, and Sebastiano 2010). Kirkpatrick (1976, 1996) defines four levels to assess training impacts: (a) reaction (i.e., response of the trainee to the training), (b) learning (i.e., acquisition of new knowledge and skills), (c) behavior (i.e., application of new knowledge and skills in the job or volunteer role), and (d) results (i.e., organizational outcomes related to training).

Kraiger, Ford, and Salas (1993) modified Kirkpatrick's original model to highlight three components of learning related to the effectiveness of training. Their model, often referred to as the KSA framework, entails evaluation of *knowledge, skills*, and *attitudes*. Knowledge gain is the mission of any training, and this framework calls for testing the knowledge—including information, facts, and principles—obtained by trainees during a training program. The skill-based aspect of the framework focuses on the application of the training material in trainees' roles and in terms of their actual behaviors. The affective or attitudinal component of the framework calls for evaluation of trainees' feelings about the training. Research has shown that trainees who feel a training program is useful and have positive attitudes about the training experience are more likely to apply the material learned. Good training sessions increase trainees' feelings of competence and level of comfort with the skills taught (Cauble and Thurston 2000).

The training evaluation literature focuses primarily on paid employee training, with little attention to volunteer training programs. Employees and volunteers very well may have different motivations for learning and applying the training material; yet, no research has addressed any differences between these two training settings. There are, however, a limited number of relevant

studies related to disasters, child welfare, and/or volunteer training evaluations. For example, Wilkinson and Wilkinson (1986) evaluated a hospice volunteer training program with a focus on attitudinal changes created by the training. Comparing pretest and posttest results, the authors concluded that the training program was successful and increased volunteer self-assessment of attitudes toward dying patients and their families and enhanced their understanding of hospice clients. The volunteers also reported stronger feelings of being able to cope with death. Other researchers have argued that training in social service organizations can positively influence volunteer attitudes toward their abilities, their volunteer role, and the organization as a whole; knowledge of material needed for their volunteer role; performance in their volunteer role; and retention as a volunteer (Kagan et al. 2001; Karwalajtys et al. 2009; Kinnane, Waters, and Aranda 2011; Sharpe et al. 1996).

Leung and Cheung (1998) found that training improved child welfare workers' knowledge, skills, and attitudes, but there was no evidence that trained individuals performed better on the job than untrained workers. Similarly, Patterson (2004) discovered that police recruits who participated in a child abuse training program acquired more knowledge, developed more skills, and felt more caring and sympathy toward abusive parents than recruits who did not receive the training. Kleemeier et al. (1988) reported that teachers who attended a child abuse training session had more knowledge of child abuse indicators and prevention strategies than teachers who did not receive the training. Within the disaster training evaluation literature, Paton (1994) assessed the effectiveness of training for firefighters compared with volunteers who were specifically trained for disaster response. He discovered that the volunteers' specific training was more effective than the firefighters' general training in terms of emotionally preparing these individuals for search and rescue activities and in helping them to feel less stressed in the postdisaster context. These prior evaluations of training programs for those working with children and in stressful situations serve as useful guides for the evaluation we conducted.

Method

Building on well-established methods of training evaluation (Kirkpatrick 1996; Kraiger et al. 1993), we[6] designed this project to gather data on disaster child care volunteers' *knowledge* of key training points, their use of the *skills* in the field that were taught during the training, and *attitudes* toward the Training Program. Our use of the KSA framework allowed us to assess how much participants learned in the Training Program and how their learning shaped their behaviors and attitudes.

We measured volunteers' knowledge, skills, and attitudes using a posttest design. Because Training Program sessions are conducted a limited number of times per year and involve a relatively small number of participants (~6–10) in each session, gathering traditional pretest/posttest measures of attitudes and knowledge from a reasonable number of volunteers would have been impossible to complete within the established four-month evaluation time frame.[7] We therefore augmented the posttest knowledge assessment with retrospective pretests to measure self-reported change in knowledge before and after the training (Pratt, McGuigan, and Katzev 2000). The use of retrospective self-reporting of knowledge can (a) reduce response set bias that affects internal validity and (b) provide a more accurate evaluation of program effectiveness as respondents often realize after finishing a program that they overestimated their knowledge on traditional pretests (Pratt et al. 2000). In terms of understanding skills, we use self-assessment (see Sims 1993) in this evaluation because the unique nature of the disaster setting and nature of deployment, as well as timing and budget limitations, prevented us from observing volunteers in practice.

Data Collection

We conducted structured telephone surveys with program volunteers in November 2008. The survey, which was developed by the evaluation research team and in consultation with Organizational leadership, was designed with three broad Training Program foci in mind: disaster, child care, and organizational operations. These foci were drawn from the specific training goals provided by Organizational leadership and from a careful review of the program training manual. After identifying the Training Program foci, we developed questions in the following areas:

1. Disaster-specific knowledge: types of disasters (e.g., natural, technological, terrorist), emotional responses to disasters, and recovery processes from disasters.
2. Child-care-specific knowledge: general stages of child development and the care of children in nondisaster settings, children's responses to stress and traumatic events, and care of children following such events.
3. Organization-specific knowledge: Organization's mission, goals, activities, and programs, and its function and role in postdisaster response.

In addition to assessing the program foci, we gathered demographic data from the volunteers and information on their prior experiences with disasters and their personal or professional experiences with child care.

The final questionnaire included both open- and closed-ended scaled items. The open-ended qualitative items addressed volunteers' attitudes regarding preparedness to respond, their understanding of program guidelines, and, for volunteers who had deployed to a disaster setting, their perception of their own skills, and the applicability of the training in light of their experiences in the field. The quantitatively scaled items addressed the knowledge component of the evaluation by asking volunteers to rate their knowledge on scales of 1 to 10 (1 = *very little knowledge* and 10 = *very knowledgeable*) at three different time points: before the training, after training, and, if applicable, after deployment.

The graduate student interviewer read each question exactly as it was worded on the survey questionnaire and then waited for the interviewee to respond. Verbatim close- and open-ended responses were typed into a spreadsheet during the telephone interviews and proofread immediately after to ensure accuracy of the response set. The interviews took between 20 and 60 minutes to complete.

Sample

Survey respondents were randomly selected by their volunteer number from the approximately 600 active volunteers in the Organization's Training Program directory as of the summer of 2008. The original sample included 180 volunteers, of which 46 volunteers were actually interviewed, for a response rate of 26 percent. Of the 46 interviewed, 25 had been deployed at least once following a disaster by the Organization.

Table 1 provides demographic information on the respondents. Our sample was mostly female, white, highly educated, and middle to upper income. Many were retired or working in educational fields. Respondents from 17 states were represented in the final sample. The demographics of our sample align closely with the current volunteer base for the Organization, which is made up predominantly of middle-aged or older white female adults (many of whom are retired).[8] Although the Organization is officially open and accepting of all people above the age of 18, the gender, age, and employment characteristics of the group are shaped by the volunteer structure, which requires volunteers to serve on location for one to two weeks at a time. Those without young children at home and retired persons are clearly more able to commit to volunteering for this length of time.

Table 1. Survey Respondent Demographics

	Respondents ($n = 46$)
Gender	
Female	91%
Male	9%
Race	
White	92%
Nonwhite	4%
No response	4%
Mean age	61.3 years (10.7)
Occupation	
Retired	42%
Education-related field	29%
Child care/elder care	9%
Other social service	7%
Homemaker	2%
Other	11%
Household income	
Less than $25,000	11%
$25,000–$50,000	15%
$50,001–$75,000	28%
$75,001–$100,000	11%
$100,001–$125,000	4%
No response	31%
Education	
High school diploma	15%
Some college	20%
College degree	20%
Some postgraduate	11%
Postgraduate degree	34%
Completed a deployment	
Yes	54%
No	46%
Previous disaster experience	
Yes	37%
No	63%
Previous child care experience	
Parent only	18%
Educator only	28%
Both parent and educator	54%

Note: Standard deviation in parentheses.

Data Analysis

We analyzed the quantitative results on knowledge using comparison of means for three time points: before the Training Program (referred to as the *pretest*), following completion of the program (referred to as the *posttest*), and following deployment, as applicable, to a disaster response (referred to as the *postdeployment*). Specifically, we compared self-reported knowledge changes between the time points using related-measures one-directional *t*-tests. These tests

compare knowledge at two different points in time (posttest compared with pretest, postdeployment compared with posttest) within the same sample of volunteers to allow us to infer the effect of the Training Program and deployment, respectively, on knowledge change. Stata 9.2 was used for all quantitative analyses. We used a two-cycle coding method (Saldaña 2009) to review open-ended qualitative responses for common themes related to strengths, weaknesses, and attitudes toward the training program. The first cycle involved open coding and assigning codes to all phrases and short sections. We reviewed and refined these initial codes, then moved to the second cycle of coding in which we developed more general themes related to perceptions of the training program.

Limitations

An obvious limitation of this study is the relatively low (26 percent) survey response rate. We believe the response rate was affected by two primary factors. First, the survey was initiated at the height of the 2008 election season. We assume that some individuals may have declined to answer our phone calls due to "polling fatigue." Second, although Organizational leadership sent out a newsletter notice regarding the survey to all volunteers in the database, some individuals had not received or had not paid attention to that notice, thus diminishing their willingness to speak with us. Although not ideal, the completion rate of 26 percent is understandable in context and acceptable given generally declining rates of participation in telephone surveys (Curtin, Presser, and Singer 2005). Another limitation of the study is our reliance on self-reporting among the volunteers regarding, especially, their knowledge and skill gains. In the conclusion, we offer suggestions for how additional measures, such as volunteer leader assessments, could be integrated into future evaluations.

Results

The following results are organized around the KSA framework used to guide our data collection efforts. First, we analyze the data on self-reported knowledge using the pretest, posttest, and postdeployment means. Second, based on the open-ended responses from the 25 volunteers who had been deployed to a disaster setting, we discuss reported usefulness of skills gained during the training and as used during disaster deployment. Finally, we present open-ended responses regarding volunteers' impressions and general feelings about the Training Program.

Knowledge

In the survey, we asked volunteers to rate their level of knowledge and understanding of disasters, child care, and of the Organization on a scale of 1 to 10, with higher numbers indicating higher perceived competency. As illustrated in Table 2 and Figure 1, volunteers perceived that the Training Program increased their knowledge, to varying degrees, on all six indicators that we assessed.

The largest perceived knowledge gains from the Training Program were in the realm of Organization-specific knowledge. Self-reported understanding of the role of the volunteer within the Organization increased, on average 133 percent (or 4.6 points on the scale), from pretest to posttest, and then nearly another 18 percent (1.4 points) following deployment. Related-measures one-directional *t*-tests show that the increase in perceived knowledge from pretest to posttest is statistically significant as is the increase in perceived knowledge from posttest to postdeployment. Organizational knowledge, including understanding how the disaster child care center is set up and operated, increased almost 6 points from pretest to posttest and another point after deployment. These represent the largest perceived gains in knowledge for volunteers, and the

Table 2. Volunteers' Reported Knowledge Pretest, Posttest, and Postdeployment

	Pretest (*n* = 46)	Posttest (*n* = 46)	Postdeployment (*n* = 25)
Disaster knowledge			
Disasters and response	3.65 (2.73)	7.43*** (1.83)	8.76*** (1.13)
Child care knowledge			
Characteristics and needs of children	7.70 (1.93)	8.80*** (1.07)	9.00** (1.00)
Characteristics and needs of children postdisaster	4.87 (2.28)	8.00*** (1.52)	8.84*** (1.11)
Appropriate responses to children suffering from stress and loss	5.63 (2.10)	7.96*** (1.43)	8.56*** (1.36)
Organization knowledge			
Role of Organization volunteer	3.43 (2.16)	8.00*** (1.46)	9.44*** (0.65)
Organizational operation	1.78 (1.46)	7.73*** (1.47)	8.92*** (1.06)

Note: Standard deviations are in parentheses. Scale 1 to 10 (1 = *very little knowledge*, 10 = *very knowledgeable*).
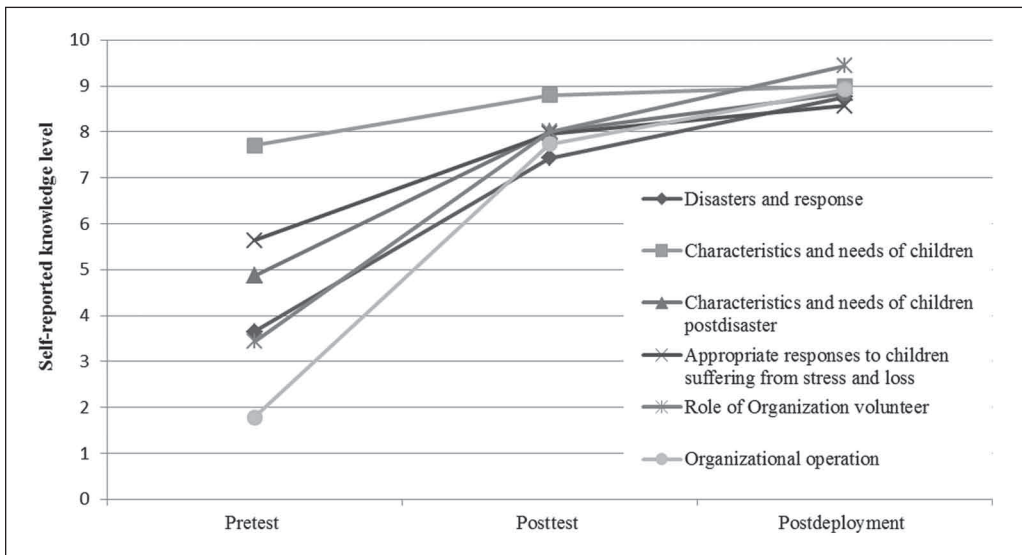**$p < .01$. ***$p < .001$.

Figure 1. Volunteers' Mean Self-Assessed Knowledge of Six Training Areas

statistically significant results indicate that we can generalize that the Training Program and deployment increase Organizational knowledge for all volunteers who received the training.

Analysis of the two other Training Program foci areas, disaster knowledge and child care knowledge, also revealed gains in self-reported knowledge. As shown in Table 2, average understanding of disaster settings and general disaster response increased 104 percent (3.8 points) from pretest to posttest, and another 18 percent (1.3 points) following deployment. Following Organizational knowledge, increases in knowledge of disasters showed the largest gain from the deployment experience and were also statistically significant.

Because providing care for children is the central volunteer function, the Training Program conveys general information on caring for young children and more specific information about the range of children's responses to disaster (i.e., common emotional and behavioral reactions,

Table 3. Disaster Knowledge Gains from the Training Program for Volunteers with and without Prior Disaster Experience

	Pretest (*n* = 46)	Posttest (*n* = 46)	Group comparison
Disaster experience			
No (*n* = 29)	2.75 (2.05)	7.28*** (2.34)	
Yes (*n* = 17)	5.18 (2.72)	7.71*** (1.40)	1.99** (0.69)

Note: Standard deviations are in parentheses.
One-directional *t*-test **$p < .01$, ***$p < .001$.

how to identify serious emotional problems, etc.). We assessed gains in knowledge about caring for children who have experienced a disaster through two questions: understanding these children's postdisaster needs and identifying the appropriate responses to children experiencing stress and loss. After completing the training, volunteers on average reported a 64-percent (3.1 points) gain in understanding the postdisaster needs of children and nearly another 11 percent (0.8 point) gain following deployment. They also reported a 41-percent (2.3 points) gain following training in understanding children suffering from stress and loss, with an 8-percent (0.6 point) gain after deployment. Respondents reported a smaller, although statistically significant, 14 percent (1.1 points) gain in understanding children in general after the Training Program and a 2-percent (0.2 point) gain following deployment.

The pretest means, especially related to general child care knowledge, imply that volunteers' prior experiences affect their reported levels of pretraining knowledge and thus the amount of knowledge that can be obtained from participation in the Training Program. Anticipating the influence of background knowledge on the impacts of training and the competence of volunteers in deployments, we assessed both prior experience with disasters and with children and then compared responses based on volunteer experience.

Prior to participating in the Training Program, more than one-third (37 percent) of respondents had experience with disasters, including personally living through a disaster, volunteering in the aftermath of an event, or working in a disaster-related field. As shown in Table 3, respondents' reported pretest knowledge of disasters and the change in knowledge from participation in the Training Program differ based on their previous disaster experiences. Predictably, before the Training Program, respondents *without* disaster experience reported less knowledge of disaster situations than respondents *with* previous disaster experience. Yet, both groups reported statistically significant knowledge gains from the training, indicating that the Training Program increased the reported knowledge of participants no matter what their past disaster-related experience. There is a statistically significant difference in the two groups' knowledge gains from pretest to posttest, and therefore we may infer a greater effect of training on the disaster knowledge of those without previous disaster experience than those with disaster experience.

Although less than half of the volunteers sampled had disaster experience prior to the training, all 46 respondents reported experience with children either as parents, educators, or a combination of the two. Specifically, 8 respondents were parents only, 13 respondents were educators only without children of their own, and 25 respondents had experience as both parents and educators. This experience with children may explain the high level of reported knowledge about general child care before participating in the Training Program and the comparably limited increase in that knowledge area after the training (see Table 2).

The impact of this experience on knowledge gain is apparent in the open-ended question responses from participants. Volunteers with professional training in early childhood education indicated that the information provided about general child care principles was "redundant" for them. One volunteer suggested a separate training session for those with early

childhood education experience would benefit them through reducing the training time and their "boredom" during these sections of the training. Volunteers who had deployed acknowledged that the Training Program was important in increasing their knowledge regarding caring for children in disasters. However, they indicated that their much more extensive prior experience with children as parents and/or educators gave them the most valuable knowledge that they brought to the disaster setting. For instance, one woman responded that her experience as a mother was most meaningful as a volunteer, noting that it helped her to approach the children with "loving care." Another volunteer suggested, as many did, that prior experiences with children helped her occupy children with "spontaneous ideas of child play . . . experience with silly games and songs." Overall, the responses to the open-ended questions indicate that the Training Program was most valuable in terms of increasing disaster-specific child care knowledge, as opposed to more general child care knowledge outcomes.

Skills

During the telephone interviews, we asked a series of open-ended questions about skills learned during the Training Program and used during deployment. Only those 25 volunteers who had served the Organization in a disaster setting were asked to respond to these questions. We asked them about their general postdisaster experiences, whether they had any issues or concerns during deployment, and what specific skills from the training they used during deployment. Our analysis of their responses revealed three Training Program skills that were the most salient for volunteers while actually in the field: (a) how to use play as a therapeutic activity for children following a disaster, (b) how to set up and run the child care area, and (c) how to be flexible and adaptable in a disaster environment.

The Training Program emphasizes specific techniques for helping children process trauma, including practicing empathetic listening and allowing children the space to draw or act out their experiences in the disaster. An entire module during the Training Program is dedicated to teaching participants how they can most effectively listen and respond when children express troubling disaster memories or stories. Participants in our study were amazed to see firsthand how the children worked through their emotions and disaster experience with play and drawing, often stating that they were unaware of this approach to caring for children prior to taking part in the Training Program and then actually watching the process unfold in the field. Almost half ($n = 12$) of the 25 deployed volunteers whom we surveyed mentioned that they specifically remembered these points from the Training Program and found the skills they had learned particularly valuable during deployment. One volunteer said,

> [The] easy part was being able to talk to kids and play with them and let them act out their frustrations with the cars. Let them use towns to act out destruction and draw destruction, black stuff or fires or broken homes or turn over toy cars.

Another commented,

> [The children] were fearful to leave [their] parents. We didn't force this, of course. But if they stayed, they got busy right away and played. You just basically play with them. You're never supposed to ask them about their experiences, but they often just tell you and you just listen and assure them life will go on.

The volunteers also identified operational procedures associated with actually running the child care area as useful skills learned during the Training Program. Nine of the 25 deployed volunteers discussed setting up the child care center, checking children and family members into

the center following Organizational protocol, cleaning up, and/or working with other disaster response agencies as specific operational skills that they attained as a result of the Training Program. For example, when asked what skills from the training were useful during deployment, one volunteer responded, "Well, of course, how to set up, how to set up regardless of where you are." All the deployed volunteers indicated that they understood how the child care area worked before entering the field, as exemplified by one woman who said, "[You] always have a leader who helps, but training prepares you for this well."

One skill that is part of working in disaster response and is strongly emphasized during the Training Program is the importance of flexibility in a rapidly changing and often unfamiliar postdisaster environment. Volunteers found the importance of flexibility and adaptability during the disaster response especially salient. "Every time is different, you don't know where you will set up or stay," one volunteer responded when asked about how the Training Program prepared her for working in a disaster setting. The volunteers were not surprised by situations they encountered, noting that the training had prepared them for having to set up and operate the center in unusual environments (volunteers have established child care centers in tents, partially damaged buildings, and outdoor areas) and how to work within the entire disaster response setting, including coordinating with other response organizations. In describing this Training Program skill, one volunteer noted, "The trainers super-emphasized to be flexible . . . and to be careful about where you fit into the total group setting."

In addition to the skills obtained as part of the Training Program, we also asked deployed volunteers whether their experience in the field led them to believe that other skills should be added as part of future training sessions. A majority of deployed volunteers (56 percent) could not identify any additional knowledge or skills that the Training Program should cover. Among the rest who made suggestions, respondents identified a need for the following: (a) training regarding the challenges associated with staying in close quarters with other volunteers for an extended period because, as one respondent observed, "personalities sometimes clash"; (b) retraining of longtime volunteers, so all volunteers can share a common knowledge base and work effectively under the most recently established Organization guidelines; and (c) training modules on authority and working with and without the volunteer leader, as some respondents observed that conflict would occasionally arise among the volunteers while the leader was busy coordinating with other agencies.

Attitudes

In general, the volunteers reported positive attitudes toward the trainers and the Training Program. Specifically, they found the trainers to be helpful and knowledgeable and felt—tentatively—prepared to respond to a disaster.

The volunteers were impressed with the trainers personally and professionally. Responses to our question regarding the respondents' opinion of the trainer were overwhelmingly positive, with only 1 of the 46 respondents indicating that there was any room for improvement. Trainees felt that the trainers were knowledgeable in areas related to Organizational efforts (i.e., disaster, child care, and operations) and exuded traits that encouraged learning, including compassion, respect, patience, kindness, and dedication. As one respondent elaborated, the trainers were viewed as highly competent and well suited for the responsibilities:

> All were excellent, very positive and compassionate people and dedicated and intelligent and articulate. [They] explained things well and made things interesting. They had some wonderful interactive activities to visualize what it would be like for a child to go through a disaster situation or be like to care for that child or set up a child care setting. Those were excellent.

Another respondent recalled being impressed by the respect portrayed by the trainer: "More than anything, I felt she was very respectful and emphasized how important it was to be respectful of other people's experiences." This combination of competence and compassion made the volunteers feel that the training was less "tedious" and more "fun." Three of the 46 respondents went so far as to indicate that the trainers made the program, "so interesting, that you wanted a disaster right then!"

When we asked whether they felt prepared to respond to a disaster after completing the Training Program, volunteers reacted with tentative agreement, indicating that they felt knowledgeable about their role, but slightly nervous about deployment to an actual disaster. One volunteer's reaction sums up the responses nicely: "I think as much as you could be prepared for something you haven't done before." The volunteers indicated that they felt ready, but could not truly judge their knowledge and skills until they were deployed to a disaster setting. Thus, the responses show an internalization of the Training Program lesson regarding the importance of flexibility and a "ready for anything" attitude. Any apprehension about their abilities to effectively respond likely emerged from the participants' new understanding of the highly variable nature of the disaster setting. As a volunteer said, "Nothing like hands-on, but the trainers did give you expectations."

We asked volunteers who had deployed to a disaster setting about their general feelings regarding the Training Program now that they had been exposed to a disaster. All 25 of these volunteers responded positively and indicated that the training was "adequate," "sufficient," or "very good" in terms of preparing them for the field. One previously deployed volunteer noted,

> Actually, you never know what you are going to experience, [but I] felt confident I understood their guidelines and [would] be open to all circumstances and be creative . . . [It was a] very well thought-out workshop for a hypothetical response.

Other deployed volunteers indicated that experience is "still the best teacher," but that the Training Program went a long way in preparing them for caring for children in the aftermath of disaster.

Conclusion

In this article, we reported the findings from a research project designed to evaluate the knowledge, skills, and attitudes of participants in a disaster volunteer training program. Our analysis of the open- and close-ended survey responses highlights three primary conclusions about the Training Program. First, the Training Program increased participants' knowledge of the volunteer Organization and its operational procedures, critical aspects of disaster response, and the characteristics of children who have experienced a disaster. Second, the Training Program provided volunteers with a number of skills that they drew on during deployment to a disaster. Specifically, volunteers who had cared for children in the aftermath of a disaster used skills that they had obtained during the Training Program to effectively facilitate children's play, to set up and run a child care center, and to remain flexible and adaptable in the highly uncertain postdisaster context. Third, the volunteers overwhelmingly reported positive attitudes toward the trainers and the Training Program, which according to Cauble and Thurston (2000) should contribute to their retention of training material and application of the knowledge in the disaster setting. Although the results indicate that the Training Program is working well in terms of increasing knowledge, strengthening skill sets, and generating positive attitudes among participants, the evaluation also revealed areas in need of further improvement.

First, we found that volunteers experienced the least substantial knowledge gains in the areas of child development and child care. This was likely because all of the respondents had prior

experience raising children and/or working with children in professional settings as educators (and, as we learned from Organizational leadership, this profile is typical of the volunteer pool as a whole). Thus, to more efficiently use the 27-hour training period, we suggest that the Organization gather demographic information and other details on trainees' previous life and work experience prior to initiating the Training Program. By collecting this information in advance, trainers can tailor training sessions to more closely fit with trainees' preexisting knowledge. This will save time and help the trainers to better emphasize the information that participants most need. Because participants reported the greatest knowledge gains in the areas of disaster-specific information, information about the Organization and its operational procedures, and specifics about caring for children following disaster, more time could likely be devoted to these aspects of the training. With greater understanding of trainees' demographic characteristics and educational and work backgrounds, for instance, trainers will be able to more readily encourage participants to draw on and share their experience as appropriate with other participants.

Second, our evaluation also highlighted a desire among volunteers for better preparation for working and staying in close quarters with others while in a disaster setting. We suggest incorporating team-building exercises into disaster volunteer training programs that can also be used while in the field. Team-based training is an effective training method (Salas and Cannon-Bowers 2001), and our results indicate that team-building exercises may be useful for training sporadic disaster volunteers. These volunteers are asked to work as a team on short notice and with volunteers previously unfamiliar to them. With the stressful and rapidly changing environment of disaster response, disaster volunteers need to be comfortable working as a group. They also need to learn to be accepting of others' personalities and adaptable within the confines of a disaster (e.g., a setting that may lack running water, may entail living in crowded quarters, and may have limited food and water). Stress experienced during disaster volunteering makes the ability to adapt and manage interactions and personnel issues a more central concern to training in these organizations than general volunteer organizations. As Wilson (2000) argued, volunteer training that includes team building and rapport development can improve knowledge transfer and volunteer attitudes toward the training, strengthen feelings of connection with the organization and fellow volunteers, and increase compassion and sensitivity for volunteers who work in emotionally difficult situations.

A third area that deserves continued emphasis in the Training Program has to do with the disaster setting itself and the resultant tentative feelings of readiness that the surveyed volunteers expressed. Indeed, Alexander (2010) suggested that the most important component of disaster volunteer training is knowledge about the nature of hazards, emergencies, and disasters and the processes involved in responding to these events. It is clear that organizations who train disaster volunteers face distinct challenges due to the inability to recreate a disaster response during a training session. The Training Program we evaluated attempts to simulate the disaster response experience by using an overnight training model, which acclimates trainees to the living conditions experienced during volunteer deployment (e.g., sleeping on Red Cross cots, sharing meals and bathrooms). Other exercises could be developed to further this model such as practicing setting up the child care area in unusual places like closets, kitchens, and small hallways, which, interestingly enough, are spaces that have all been used at some point in the history of the Organization. Moreover, the Training Program should continue to emphasize the knowledge that has been gained from decades of disaster research about individual and collective responses to stressful events and challenges associated with managing bureaucratic hurdles, while also encouraging volunteers to remain flexible and creative in the face of different disaster response settings.

Fourth, in terms of Organizational operation, as noted at the outset of this article, this represents the first time in the history of the Organization that the Training Program and its impact on volunteers has been evaluated. The lack of a systematic evaluation resulted not from a lack of desire or

an unwillingness to evaluate among Organizational leadership; instead, a lack of time, financial constraints, and a lack of access to those with evaluation expertise impeded the Organization from developing an evaluation plan. In the future, evaluation of this Training Program and training in other disaster response organizations should become standard (Ritchie and MacDonald 2010). Knowledge and skill data should be collected before and after each training with all participants to evaluate change based on training experience and to avoid the need to perform retrospective pre-tests, as we did in this evaluation. In addition, other methods of evaluating training impacts should be considered, such as having volunteer leaders assess the performance of volunteers during deployment, especially as related to the training they received. While the disaster response setting makes it problematic for evaluators to observe volunteer performance (Ritchie and MacDonald 2010), leader-based evaluations may provide the necessary information to assess training as needed and extend beyond the KSA framework to more objectively evaluate the transfer of training to the volunteer role (Salas and Cannon-Bowers 2001). Another inexpensive method of evaluating training would be to interview the volunteer leaders regarding their experiences with volunteers in the field and their observations of volunteer preparedness and competency. These leaders could likely assess which skills the volunteers perform either well or poorly and could offer insights into additional useful skills that should be added to the Training Program.

The collaboration between our university graduate-level evaluation class and the Organization may also serve as a model for connecting research and practice. We recommend that other non-profit disaster response organizations and university teams work together to ensure systematic and regular program evaluations. These kinds of partnerships are mutually beneficial in that they (a) allow graduate students and faculty to collaborate with organizational partners to complete a meaningful evaluation project over the course of an academic semester and (b) provide an opportunity for nonprofit organizations to engage in a rigorous evaluation process. We found this evaluation to be rewarding for all parties involved—the students and faculty in our program learned more about the realities of evaluation research methods than a classroom-only experience could have provided, whereas the Organization received a portfolio of research findings and recommendations from the class at no cost. As organizations such as the one we evaluated provide a broader array of social services for disaster survivors, there is a more pressing need to evaluate the effectiveness of such programs. We hope that the work we conducted can serve as one such model for future disaster evaluation research.

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Declaration of Conflicting Interests

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Notes

1. To ensure anonymity, we refer to the disaster social service organization as the "Organization" throughout the article. We refer to the program that we evaluated as the "Training Program."
2. The main focus of the Organization is on caring for young children between the ages of two and six years; however, caregivers are flexible and sometimes care for infants and older children depending

on the number of caregivers available, the number of children in the child care center, and the space and materials available. In some especially traumatic situations, caregivers have cared for older children to ensure that siblings would not be separated from one another.

3. The Organization's structure consists of a national office with paid staff, 10 regional coordinators who are experienced volunteers and are appointed by the national office to manage volunteers, and hundreds of unpaid volunteers from across the nation. Funding comes from individual and organizational contributions and annual fund-raisers.

4. Based on experience in disaster response, the Organization determined that two weeks is the maximum length of time that volunteers can effectively serve before fatigue sets in and separation from their own homes and families affects their caregiving.

5. Peek, the second author of this article, is a sociologist and a disaster child care volunteer through the Organization that we evaluated. Soon after she completed the Training Program, Peek inquired about whether the training process and materials had ever been evaluated for effectiveness. Organizational leadership responded that they had long wanted to evaluate the program, but did not have the time, money, or expertise to do so. When Peek notified leadership that a number of graduate students in an evaluation research methods course would be available to evaluate the program, leadership formally invited us to initiate the project. Lueck, the first author, was a graduate student in the class that completed the evaluation project. This article was developed from her final seminar paper.

6. The six graduate students in the evaluation research methods class, including Lueck, as well as the two faculty members, including Peek, participated in the research design. The analysis that is described in this article, however, was completed solely by Lueck and Peek.

7. The six graduate students completed the interviews. The graduate students, in collaboration with Peek and the other faculty member, developed the interview guide and protocol to ensure consistency across interviews. Because of the class setting, data collection was temporally bound to allow for preliminary analysis and project presentation at the end of the semester.

8. The Organization does not track race, income, education, or occupation of their volunteers. Age and gender of the entire volunteer base were drawn from the Organization's database, and generalizations about volunteer race and occupation were provided by experienced Organization staff.

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Bios

Michelle Meyer Lueck is a PhD candidate in the Department of Sociology at Colorado State University. Michelle's dissertation research focuses on the interrelation of individual and community resilience and social vulnerability in hurricane-prone communities. She has worked on research projects focusing on a variety of topics, including disaster risk perception, organizational energy conservation, volunteer training program evaluation, evaluation of disaster response plans for individuals with disabilities, and environmental attitudes and behaviors. Her research and teaching interests include environmental sociology and sustainability, sociology of disaster, research methods and statistics, social stratification, and community sociology.

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