

**Cleaning up after the storm:
Lessons learned from the experiences of Disaster Volunteers
after the May 2004 storms in Southeast Nebraska**

Executive Summary

A survey was sent to clean-up volunteers 17 months after they helped with debris removal from an area in Nebraska devastated by tornadoes. The survey asked about their experiences and perceptions related to that volunteer work. The 622 respondents offered suggestions to enhance the processes used to deploy and supervise disaster clean-up volunteers. These respondents were generally older and more educated than the demographics of the area would suggest. They reported being motivated to volunteer primarily for altruistic reasons and generally had positive experiences. Those volunteers who reported experiencing some distress as a result of their disaster volunteer experience were more likely to report experiencing personal growth than those who experienced no distress. The volunteers that reported personal growth were more likely to report being satisfied with their disaster volunteer experience. Specific recommendations for improving the volunteer experience, enhancing recruitment, and sustaining future clean up efforts are offered at the end of this report.

**Cleaning up after the storm:
Lessons learned from the experiences of Disaster Volunteers
after the May 2004 storms in Southeast Nebraska**

After the May 2004 storms in Southeast Nebraska, literally thousands of volunteers were processed and deployed through an emergency volunteer center managed by Volunteer Partners Inc. Of these volunteers, many volunteered once. Though clean up was not complete, it became increasingly difficult over time to recruit volunteers for this role. This situation is not unusual, and can be instructive. The factors that limited or enhanced the act of volunteering after a disaster can be addressed if known. This project, funded by the City of Lincoln through the Lincoln Metropolitan Medical Response System, explores the organizational practices, individual and situational factors that impacted individuals' disaster volunteer experience and subsequent decisions to be part of future disaster volunteer efforts.

This project was formulated with the involvement of the Steering Committee for the Lincoln Metropolitan Medical Response System (LMMRS). Questions on the volunteer survey were created after consultation with the LMMRS Steering Committee and a review of previous literature on volunteer experiences. Several questions were chosen to examine volunteer recruitment and retention after a disaster, as well as the actual experiences of volunteers. The literature review suggested additional question categories such as motivations for and effects of volunteering. Two standardized scales which measure distress symptoms (Impact of Events Scale; Horowitz, Wilner, & Alvarez, 1979) and personal growth (Posttraumatic Growth Scale; Tedeschi & Calhoun, 1996) were included in the survey as indicators of the longer-term psychosocial impact of volunteering after a disaster.

The survey content, recruitment of respondents, and consent forms were approved by the University of Nebraska Institutional Review Board at the start of the project. The list of volunteers was obtained from Lancaster County Emergency Management.

Surveys were sent in October 2005 to 2640 people who were storm clean up volunteers in Lancaster County Nebraska after the May 2004 tornados. The survey mailing included the approved survey and a letter from Emergency Management thanking the volunteers for their service. The age of the volunteers was not available with the original list, so surveys were sent to everyone with instructions that asked only people age 19 or over to fill out the survey. An internet survey option was offered to those who did not wish to complete a paper survey. The total number of surveys completed was 622 (a response rate of 24%, which is a typical response rate for mail surveys).

Survey respondents providing demographic information were about evenly split between male (48.2%) and female (51.8%), which matches U.S. Census data for Lancaster County. The vast majority of respondents classified themselves as non-Hispanic Caucasian (99.2%). Ethnic minorities were underrepresented as volunteers compared to the 10% ethnic minority makeup of the county.

Half of the respondents (49.9%) were between the ages of 45 and 64. Over half (52%) had at least a 4-year college degree with most reporting they had some higher education (83.1%). The May 2004 storm clean-up volunteers were older and more educated than the general population of Lancaster County. See Appendix A for additional details on respondent characteristics.

About half of the respondents indicated that they engage in regular volunteer work. For most volunteers (82.8%) this was the first time they volunteered as part of a disaster response. Those who had responded to disaster in the past (17.2%) generally had responded to other Nebraska events – tornados, floods, ice storms. Some had responded to events in neighboring states (Iowa and Missouri), and a few were involved national responses (hurricanes) through organized deployment with churches or disaster response organizations.

Fifty-seven percent of those who volunteered did so as part of a group or organization. The table below indicates the types of groups people volunteered with.

	Frequency	Percent
Alone	264	42.6
Family member(s)	103	28.5
A work group	97	26.8
Friend(s)	91	25.1
A religious group	66	18.2
Another volunteer group	21	5.8
A school group	15	4.1
A civic group	5	1.4
Other	36	9.9

Note: Numbers in the percent column add to more than 100 because multiple responses were allowed for those who volunteered as part of a group.

As is shown by this table, the most common groups for people to volunteer with were family, people from work, friends, and religious groups.

The number of days people reported volunteering ranged from 1 to 30 days, with the majority of people volunteering on 1 (64%) or 2 (20%) days. Thirty-eight

percent of those who volunteered took time off from their job to do so, primarily because their employer let them off work to volunteer (49% of those who took time off) or by using vacation time (25% of those who took time off).

Forty-seven percent of respondents indicated they were not able to volunteer as many days as they wanted to. Reasons given for not being able to volunteer as many days as wanted are presented in the following table.

	Frequency	Percent
I needed to return to my job	243	57.6
Conflict with family time/ child care	94	22.3
I did not have a good volunteer experience	31	7.3
The time of emergency seemed over	30	7.1
Health issues	21	5.0
Other	78	18.5

Note: Numbers in the percent column add to more than 100 because multiple responses were allowed.

As can be seen from the table, the majority of people were prevented from volunteering additional days because they had to return to work. Several respondents commented that workplaces should be encouraged to adopt policies that allow workers to do disaster volunteer work close to home. Some specifically asked that the State of Nebraska revise its personnel policy (currently allowing administrative leave under American Red Cross auspices) to include leave to work under emergency management as a volunteer.

Two-thirds (20 of 31) who reported they stopped volunteering because they did not have a good volunteer experience, only volunteered one day. The respondents who indicated they were dissatisfied with their volunteer experience and would not volunteer again were asked to explain why. Their answers varied, but several cited disorganization and feeling that their time was wasted. Some did not believe their skills and resources were put to good use and cited examples like sorting debris by hand when bulldozers were later brought in to raze entire areas. They also noted that they gave up entire days for volunteer work, only to be on the job site for an hour or two due to perceived inefficiencies in the deployment process. One respondent indicated that later clean up efforts at Norris school were much more organized and fulfilling than the clean up in the Hallam area. This theme was reflected by other respondents who indicated that their future disaster volunteer work would be done under the auspices of organizations with more clearly defined disaster missions and structures (e.g. Red Cross). Generally, those who had a bad experience volunteering were disheartened by the disorganization and perceived lack of leadership or coordination in deployment and work assignment. It is unknown if these respondents were volunteers in the early or later stages of clean up effort.

Why People Volunteered

Respondents were asked to rate the importance of a series of statements in their decision to volunteer after a disaster, on a 1 to 5 scale where 1 = not at all important and 5 = very important. The following table indicates the average rating of importance and the number of people who responded to each statement. The statements are listed in order from most important to least important.

	N	Mean	Std. Deviation
Q10f. I feel it is important to help others.	618	4.68	.597
Q10d. I feel compassion toward people in need.	617	4.43	.807
Q10e. I am concerned about those less fortunate than myself.	613	4.34	.878
Q10j. Volunteering allows me to gain a new perspective on things.	613	3.99	1.090
Q10m. Volunteering makes me feel better about myself.	611	3.57	1.267
Q10o. Volunteering makes me feel needed.	614	3.31	1.415
Q10L. I can learn how to deal with a variety of people.	610	2.98	1.325
Q10k. I can explore my own strengths.	607	2.95	1.315
Q10i. Volunteering is an important activity to the people I know best.	606	2.85	1.369
Q10n. Volunteering makes me feel important.	609	2.45	1.360
Q10g. My friends volunteer.	607	2.30	1.311
Q10h. People I'm close to want me to volunteer.	605	2.10	1.261
Q10a. Doing volunteer work relieves me of some of the guilt over being more fortunate than others.	609	1.89	1.144
Q10c. Volunteering is a good escape from my own troubles.	607	1.85	1.186
Q10b. By volunteering I feel less lonely.	609	1.79	1.162

Altruism is cited in past studies and literature as a primary motivation for volunteerism (Adams, 1980; Clary, 1998; Clary & Snyder, 1999; Meier & Stutzer, 2004; Mowen & Sujun, 2005). The highest rated reasons in this survey for volunteering (10f, d, e) are examples of altruistic motivations. Respondents echoed this sense of altruism in their comments. For example, several people made references to doing their “civic duty” or to “doing the right thing” as a community member. Some noted that their volunteer experience was related to modeling volunteerism for their children.

Many respondents cited personal connections with the affected area as a motivation for volunteering. Some had past personal disaster or crisis experiences, and many indicated that they volunteered because they had a skill, ability, or tool they thought would be needed in the clean up effort.

Faith or religious beliefs were also cited as motivations for volunteering. This is separated from the broad category of altruism because some people directly linked their motivation to biblical principles or religious reasons.

Some people indicated that their motivation was curiosity and a desire to see the tornado's aftermath. A small number indicated they volunteered to fulfill a volunteer requirement or expectation.

It is interesting to note that some respondents reported being offended that the list presented for rating contained reasons for volunteering that directly benefited the individual. These items were generally rated lower than those of a more altruistic nature.

Volunteer Satisfaction

Respondents were asked to rate overall satisfaction with their volunteer experience after the May 2004 storms on a 1 to 5 scale where 1 = very dissatisfied and 5 = very satisfied. Overall, 88% of respondents reported being somewhat (4) or very (5) satisfied with their experience, while 12% were neutral (3), somewhat dissatisfied (2), or very dissatisfied (1) with their experience. The ratings on this scale averaged to 4.36 (std dev = 0.928).

Volunteers were also asked to rate how willing they would be to volunteer after another disaster on a 1 to 5 scale, with 1 = not at all willing and 5 = very willing. These results indicate 92.5% would be willing to volunteer again (rating of 4 or 5). The average rating was 4.63 (std dev = 0.732).

Ratings on these two scales are related to each other. Based on the 602 people who answered both questions, those who gave higher ratings of satisfaction with their experience also tended to be more willing to volunteer again after a disaster ($r(600) = .454, p < .001$).

Respondents were also asked to indicate how much they agreed or disagreed with a series of statements about the volunteer registration process. (Scale: 1 = disagree strongly, 2 = disagree somewhat, 3 = neither agree nor disagree, 4 = agree somewhat, 5 = agree strongly.) For most of the items, greater agreement with the statements corresponded with a greater satisfaction and greater willingness to volunteer in the future after a disaster. Listed in the table below is the average agreement with each of these responses in order of strongest agreement, along with number of people who responded to each item. Lower

ratings to the last four items are indicative of a good volunteer registration process.

	N	Mean	Std. Deviation
Q11n. I was treated with respect.	610	4.57	.709
Q11f. I felt my service was appreciated.	608	4.52	.785
Q11g. The process of registering to volunteer was easy.	612	4.26	.899
Q11c. My role as a volunteer was explained well.	611	4.19	.925
Q11r. The risks of my job were made clear to me.	608	4.19	.927
Q11p. Procedures were communicated clearly to volunteers.	614	4.15	.989
Q11q. I had the resources needed to complete the job I was given.	611	4.12	1.011
Q11d. I received adequate support in my volunteer tasks.	608	4.09	.934
Q11o. The volunteer processing center was organized.	609	4.09	1.112
Q11i. My task assignment was clear.	609	4.02	1.077
Q11h. I was adequately prepared for what I would see and experience while volunteering after a disaster.	608	4.01	.952
Q11a. I was adequately prepared for the work I did.	603	3.87	.989
Q11b. I knew who to talk to if I encountered problems while volunteering.	613	3.78	1.166
Q11t. I had the opportunity to talk with people not involved with the volunteer effort about my experience.	606	3.67	1.124
Q11k. My skills were well-utilized.	607	3.64	1.091
Q11s. After I was done volunteering I had a chance to talk with other volunteers about my experience.	609	3.38	1.208
*Q11j. I waited too long at the volunteer processing center.	602	2.63	1.417
*Q11m. I was not given enough to do.	605	2.42	1.337
*Q11e. I felt like I was assigned more work than I could get done.	601	1.82	1.014
*Q11L. I had too many demands put on me.	609	1.43	.697

Impact on Volunteers

Respondents were asked to respond to a series of statements about possible results of their volunteer experience, using a scale of 1 to 5 where 1 = does not

apply at all and 5 = applies very much. The following table presents the average score for these statements, from highest to lowest rating of applicability.

	N	Mean	Std. Deviation
Q15p. I was happy to be able to help others.	604	4.60	.693
Q15m. It was enjoyable to help people.	603	4.41	.827
Q15a. I found the experience rewarding.	604	4.19	.984
Q15q. I felt proud of the work I did.	602	3.99	1.049
Q15b. I felt I made a difference.	598	3.88	.980
Q15h. I felt a deeper sense of community after volunteering.	593	3.66	1.180
Q15r. I felt a sense of solidarity with other volunteers.	596	3.46	1.159
Q15i. The experience was empowering.	591	3.09	1.278
Q15o. The experience increased my satisfaction with life.	591	3.01	1.211
Q15g. I experienced personal growth.	592	3.01	1.239
Q15e. I learned about different types of problems and how to help people in those situations.	591	2.82	1.246
Q15c. I gained increased skills in helping people.	593	2.55	1.232
Q15f. I improved my ability to communicate with those who have experienced trauma.	593	2.55	1.227
Q15n. I experienced spiritual growth.	587	2.43	1.256
Q15j. Volunteering was a source of healing for me.	592	2.32	1.262
Q15d. I understood myself more after the experience.	590	2.30	1.157
Q15L. I realized that I had skills which I had not used before.	595	2.17	1.203
Q15k. I felt less like a victim after volunteering.	588	2.04	1.175

The most commonly endorsed statements reflected a positive experience for most volunteers. As noted in the previous discussion of why people volunteered, the most powerful motivator and result of volunteering was a sense of altruism. Most people enjoyed the experience of helping others and felt like they made a difference. Few respondents reported personal gain from the experience, though some commented on positive personal experiences and experiences related to being part of a group of volunteers.

It was a very rewarding and for me, a life altering, positive, experience.

It made me want to volunteer more often from now on.

I was proud of myself that I could go on my own and work with new people and felt comfortable about it.

Proud of my organization for allowing employees to volunteer, show a sense of community

Many of the comments reflected frustration that the manual labor was ineffective. Respondents indicated they were pleased that they were helping, but later questioned whether the duties they were asked to perform were ever necessary.

I wanted to help and had hoped to make a difference, but after 4.5 hours, felt like I hadn't done a thing to help. We weren't taken to Hallam, but to field to pick up trash, which would have been fine except we only got to do that for 5-10 minutes and were told to leave. I don't feel like I made a bit of a difference

Instead of sorting glass/ceramic, metal, wood, etc it would have been far more effective use of volunteers to just bulldoze the debris and use us volunteers to help people recover/salvage household items.

Two composite measures were used to examine the impact on those who volunteered: the Impact of Events Scale (IES) which measures subjective distress, and the Posttraumatic Growth Scale (PTGS), which indicates changes for the better in relationships or outlook on life. Each scale has a range of 1 to 5, with higher scores indicating greater distress or greater growth attributed to the volunteer experience. Both scales had averages in the lower half of the range. The average IES score was 1.6 (SD = 0.56), and the average PTGS score was 2.5 (SD = 0.83). These scores indicate low overall subjective distress for the volunteers, and low levels of personal growth as a result of volunteering after the May 2004 storms.

The relationship of volunteer ratings of overall satisfaction with the volunteer experience (discussed above under the section Volunteer Ratings) with the IES and PTGS were examined. Overall satisfaction was not related to IES scores ($r(525) = .042, p = .338$). Overall satisfaction was related to posttraumatic growth scores ($r(513) = .199, p < .001$), however this relationship is small, with satisfaction ratings relating to only 4% of the variation in PTGS scores.

The IES and the PTGS are highly related to each other ($r(497) = .607, p < .001$). Interestingly, this relationship is such that as IES scores increase, so do PTGS scores. Previous research on posttraumatic growth (Tedeschi & Calhoun, 1996) has indicated that the more distressing a situation is, the more personal growth is promoted. Likewise, the more distressing a situation, the more likely a person is to have at least some symptoms of post traumatic stress disorder. Distressing situations, then, can have both “good” and “bad” impacts on a person.

Respondent Suggestions for Improving Volunteer Processes

An open ended question about suggestions for improvement of organizational processes related to their volunteer experience stimulated lengthy responses. Examples of specific suggestions made by respondents are contained in Appendix C. Many of the responses were positive, thanking organizers for the experience and recognizing the inherent chaos of disaster response. Most suggestions could be grouped under the general theme of wanting the process to be more organized. Respondents identified three areas that could positively affect the level of organization: addressing transportation issues in advance of an event, streamlining processes and paperwork for volunteers, and more effectively matching volunteer skills and resources with assignments.

The most often cited transportation issue was related to transporting volunteers to and from work sites. Many volunteers commented about the need for more reliable and efficient transportation.

More vehicles to transport to cleanup sites, so the wait to get going wasn't so long

Have transportation arrangements in order-several of us waited 30 minutes or so to be taken back to the volunteer command post

Respondents gave a number of suggestions related to streamlining processes and paperwork at the volunteer center. Most understood the need to have paperwork, but most desired a simpler, faster check in and check out process. Several suggestions related to having a simplified check-in procedure for volunteers who return for a second or third day of volunteering.

I suggest that after a person has sat through one orientation they could go to work the next morning without going through another orientation each morning-(a lot of time wasted)

A number of people wanted the volunteer recruitment process to more effectively match volunteer skills and resources with work assignments. This included giving more notice of tools and equipment that could be used at the work site, asking about skills and resources of volunteers at check-in and matching work assignments to use them. Volunteers with special skills or equipment (e.g. contractors, chainsaws) proposed that more effort be made to use these assets.

I called the day before I arrived. I specifically asked if they needed chainsaws or Bobcat skid loaders. I was told no. When I arrived, the first thing they asked for were chainsaws and skid loaders. Since I live 150 miles away, I couldn't just run out and grab mine.

A second general theme emerging from respondent comments and suggestions is a clear desire from volunteers to have competent, informed leadership on site during the disaster volunteer experience. Communication among team leaders and between leaders and volunteers was perceived as inconsistent and inadequate by many of the volunteers. Many of the van drivers and ham radio operators were perceived as the clean up team leaders by the volunteers, though that may not have been the role they were in. Respondents indicated that they wanted these team leaders to have more authority and knowledge of the work they were to do in the field. Repeat volunteers expected team leaders to have consistent approaches in working with volunteers doing clean up work.

Pre-trained team leaders in the field could implement some of the specific recommendations made by respondents. For example, they can ensure that water is available at work sites, volunteers take adequate rest/meal breaks, and that volunteers receive on-site information.

If possible, there could be some type of experienced volunteer team that patrols while clean-up is in progress, stopping briefly at each group site to ensure that everyone understands the clean-up procedures.

The importance of reconnaissance prior to sending clean-up teams to the field was also noted. Several volunteers noted that their work could be started sooner if someone had obtained permission to clean up from land owners prior to taking work teams to the site.

Perhaps it would make sense to send a volunteer or 2 out ahead of time so an agenda could be set up by the time volunteers are deployed.

Need strong leadership. Need to be better organized. Someone needs to know what needs to be done first.

Several volunteers suggested that arrangements be made for equipment at work sites to make clean up more efficient. Some indicated that bringing heavy equipment in early would have been more efficient while others believed their work would have been made easier if wheelbarrows and small tools were available.

Several clean up volunteers suggested that a minimum age be set for some volunteer activities. They also noted that youth may require additional supervision on the job from team leaders or experienced volunteers who are used to working with youth.

Discussion

The practical aim of this survey was to obtain feedback from clean up volunteers that may ultimately contribute to making the emergency volunteer center processes and operations more efficient and to increase the likelihood that a ready supply of volunteers can be accessed for future disaster relief efforts. A second aim of the survey was to use the Nebraska disaster volunteer experience as a way to contribute to the disaster literature, increasing knowledge about the impact of disaster work on volunteers. To this end, a second scholarly document will be prepared to complement this report.

The practical lessons learned from this survey can be distilled to several general concepts and recommendations. It is important to keep in mind that chaos is inherent in any disaster response. Given this assumption, and the fact that this was the first time that an emergency volunteer center was set up and operated by Volunteer Partners Inc., the general organization of the response was good. This survey tapped into volunteer perceptions that went beyond the emergency volunteer center to the clean up operation and its organization. While some emergency volunteer functions are actively organized in advance of a disaster, clean up has not enjoyed such a status. The implication from volunteer perceptions is that there may be benefits derived from pre-identifying individuals who could provide volunteer leadership in clean up efforts. Ideally, these individuals would be able to work with emergency management to pre-identify appropriate sequencing of clean up operations to maximize the use of manual labor. They could also help identify and publicize the type of tools and safety equipment that may be needed by volunteers doing manual clean up work.

Anticipating disaster clean up needs may lead to more effective use of unskilled volunteers by pacing their recruitment and deployment according to the clean-up phase. Past studies have indicated that over-mobilization of volunteers at the beginning of disaster relief is not uncommon, but can make it harder to sustain volunteer efforts needed for the long term recovery of an area (Clizbe, 2004; Dynas, 1970; Penner, 2002). Over-mobilization may also contribute to volunteers feeling that their skills, abilities, and time are not being fully used, as was voiced by respondents through this survey.

The people most likely to volunteer for disaster clean up duties in Lancaster County are educated, Caucasian men and women in their middle years. This is consistent with other disaster volunteer data (Wilson, 2000). The implications of this observation can be seen from two view points. First, if these are the most likely volunteers, recruitment efforts can be directed to that population. A second alternative viewpoint may be that other groups were not as well represented in the volunteer effort, pointing to a need for different recruiting strategies. Recruiting from other groups may also create new issues for planners to consider, such as transportation to the emergency volunteer center, a need for

linguistic competence at the center, child care for volunteers, and workplace incentives for volunteering.

Regardless of the demographic targeted for recruiting, it is evident that most people report volunteering for altruistic reasons. Future appeals for disaster volunteers should take advantage of this finding. The majority of the clean up volunteers reported volunteering alone or with family/friends. Some came with work or religious groups, but few came with service clubs or civic organizations. This can again be viewed as a way to narrow future recruitment efforts or as a call to broaden them to reach organizations that did not overwhelmingly contribute volunteers to the clean up effort.

Most respondents indicated they were satisfied with their experience, even when they contributed comments and suggestions to improve the process. The experience of volunteering impacted most respondents in some way. The level of distress reported by respondents was relatively low, but the survey was given more than a year after their experience. Preliminary data indicates that those volunteers who reported higher levels of distress also reported more positive growth experiences that they attribute to their disaster volunteer experience after the May 2004 storms. This association will be explored further to determine what, if any, generalizations can be made that may be helpful in the selection and management of future disaster volunteers. The implication of this finding is that it may be helpful to tell future clean up volunteers that they may expect to experience some subjective distress related to the sights, sounds, smells they are exposed to. They may also be given information about what to do if the distress becomes so great that it begins to interfere with everyday functioning. Our current findings are consistent with past research that suggests distress is positively correlated with personal growth (Armeli, Gunthert, & Cohen, 2001; Tedeschi & Calhoun, 1996; Tedeschi & Calhoun 2003). The May 2004 storm clean up, while presenting some stress to volunteers, did not overwhelm them and was generally a good experience for most.

The many suggestions and comments given by respondents will be forwarded to Volunteer Partners Inc., Lancaster County Emergency Management, and the Lincoln Metropolitan Medical Response System Steering Committee for review. This survey has allowed 622 disaster clean-up volunteers to participate in improving the organization and deployment of future emergency volunteers in Lancaster County. Lessons learned from their collective experience will be shared in a scholarly document that will be submitted for publication and shared with a national audience. The resulting publication will serve as a companion piece to this report.

References

- Adams, D. S. (1980). Elite and lower volunteers in a voluntary association: A study of an American Red Cross chapter. *Journal of Voluntary Action Research, 9*, 95-108.
- Armeli, S., Gunthert, K. C., & Cohen, L. H. (2001). Stressor appraisals, coping, and post-event outcomes: The dimensionality and antecedents of stress-related growth. *Journal of Social and Clinical Psychology, 20*, 366-395.
- Clary, Gil. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology, 74*(6), 1516-1530.
- Clary, G. E., & Snyder, M. (1999). The motivations to volunteer: Theoretical and practical considerations. *Current Directions in Psychological Science, 8*(5), 156-159.
- Clizbe, J. A. (2004). Challenges in managing volunteers during bioterrorism response. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, 2*(4), 294-300.
- Dynes, R. (1970). *Organized behavior in disaster*. Lexington, MA: D.C. Heath and Company.
- Horowitz, M., Wilner, M., and Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41*, 209-218.
- Meier, S. & Stutzer, A. (2004, February). *Is volunteering rewarding in itself?* (Working Paper No. 180). University of Zurich: Institute for Empirical Research in Economics.
- Mowen, J. C. & Sujan, H. (2005). Volunteer behavior: A hierarchical model approach for investigating its trait and functional motive antecedents. *Journal of Consumer Psychology, 15*(2), 170-182.
- Penner, Louis. (2002). Dispositional and organizational influences on sustained volunteerism: An interactionist perspective. *Journal of Social Issues, 58*(3), 447-467.
- Tedeschi, R. G., & Calhoun, L. G. (2003). Routes to posttraumatic growth through cognitive processing. In D. Paton, J. M. Violanti, and L. M. Smith (Eds.), *Promoting capabilities to manage posttraumatic stress: Perspectives on resilience* (pp. 12-26). Springfield, IL: Charles C. Thomas.

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455-471.

Wilson, John. (2000). Volunteering. *Annual Review of Sociology, 26*, 215-40.

Demographic Information

The Valid Percent column of the table reflects those volunteers who responded to the survey. This can be quickly compared to the make up of Lancaster County that is in the adjacent column. Overall the disaster volunteers were older, mostly Caucasian, and more educated than the general demographic makeup of Lancaster County would predict.

What is your gender?

		Frequency	Valid Percent	Lancaster County, 2000 U.S. Census
Valid	Male	289	48.2	49.9
	Female	311	51.8	50.1
	Total	600	100.0	100.0
Missing	Resp Skipped	20		
	Multiple Responses	2		
	Total	22		
Total		622		

Into which of these categories does your age fall?

		Frequency	Valid Percent	Lancaster County, 2000 U.S. Census
Valid	19-24	37	6.1	18.4
	25-34	79	13.1	20.1
	35-44	98	16.3	20.4
	45-54	172	28.5	17.6
	55-64	129	21.4	9.6
	65-74	74	12.3	7.2
	75+	14	2.3	6.7
	Total	603	100.0	100.0
Missing	Resp Skipped	18		
	Multiple Responses	1		
	Total	19		
Total		622		

What is the highest level of education that you have completed?

		Frequency	Valid Percent	Lancaster County, 2000 U.S. Census
Valid	Less than 9th grade	7	1.2	2.0
	9th to 12th grade, no diploma	12	2.0	5.8
	High school graduate (or equivalent)	83	13.7	25.6
	Some college, no degree	125	20.7	24.3
	Associate degree	62	10.3	9.0
	Bachelors degree	176	29.1	22.4
	Graduate or professional degree	139	23.0	10.9
	Total	604	100.0	100.0
Missing	Resp Skipped	17		
	Multiple Responses	1		
	Total	18		
Total		622		

What is your race or ethnicity?

		Frequency	Valid Percent	Lancaster County, 2000 U.S. Census
Valid	Non-Hispanic white/ Caucasian	599	99.2	90.1
	American Indian or Alaska Native	2	.3	1.0
	Asian/ Pacific Islander	1	.2	3.3
	Black or African-American	1	.2	3.3
	Other - Middle-Eastern/Israeli	1	.2	2.3
	Total	604	100.0	100.0
	Missing	Resp Skipped	18	
Total		622		

