

## Session No. 15

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**Course Title: Social Dimensions of Disaster, 2<sup>nd</sup> edition**

**Session 15: Victim Responses to Disaster**

**1 hr.**

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### **Objectives:**

- 15.1 Describe disaster victim responses as active goal directed behavior
- 15.2 Discuss at least five social factors that constrain initial responses
- 15.3 Explain the reasons why there is a lack of panic among disaster victims
- 15.4 Describe the myth of the “disaster syndrome” response
- 15.5 Identify two social factors that cause differential death rates
- 15.6 Describe typical victim emotional responses
- 15.7 Discuss at least six lessons for emergency managers.

### **Scope:**

This session introduces students to research conclusions regarding victim responses to disaster with an emphasis on goal directed behavior. Social factors that constrain such responses are reviewed, as are various myths including images of mass panic and the so-called “disaster syndrome”. Also included are the social factors that constrain victim death rates, typical emotional responses by victims, and lessons for emergency managers.

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### **Readings:**

#### *Student Reading:*

Larson, Erik. 2000. *Isaac’s Storm*. New York: Vintage Books. (Introduction entitled: “The Beach: September 8, 1900”, pp. 3-16 and the first sections of Part IV entitled “Cataclysm”; “The Telegram,” p. 175; “The East Side: Louisa Rollfing,” pp. 176-178; “Avenue P ½” Parents and Their Choices,” pp. 179-187; and “25<sup>th</sup> and Q: Isaac Cline,” pp. 188-192.

#### *Professor Readings:*

Feinberg, William E. and Norris R. Johnson. 2001. "The Ties That Bind: A Macro-Level Approach to Panic." *International Journal of Mass Emergencies and Disasters* 19:269-295.

Deason-Howell, Lucinda M. and RaJade M. Berry. 2002. "Citizens' Abuse and Misuse of the City of Akron's Emergency and Non-Emergency Phone Lines." *Journal of the American Society of Professional Emergency Planners* 9:85-95.

Goltz, James D., Lisa A. Russell, and Linda B. Bourque. 1992. "Initial Behavioral Response to a Rapid Onset Disaster: A Case Study of the October 1, 1987 Whittier Narrows Earthquake." *International Journal of Mass Emergencies and Disasters* 10:43-69.

*Background References:*

Ono, Yuichi. 2002. "Risk Factors for Death in the 8 April 1998 Alabama Tornadoes." (Quick Response Report #145). Boulder, Colorado: Natural Hazards Research and Applications Information Center, University of Colorado.

Cornwell, Benjamin, Wendy Harmon, Melissa Mason, Brian Merz, and Mike Lampe. 2001. "Panic or Situational Constraints? The Case of the M/V Estonia." *International Journal of Mass Emergencies and Disasters* 19:5-25.

Johnson, Norris R. 1988. "Fire in a Crowded Theater: A Descriptive Investigation of the Emergence of Panic." *International Journal of Mass Emergencies and Disasters* 6:7-26.

Drabek, Thomas E. 1986. *Human System Responses to Disaster: An Inventory of Sociological Findings*. New York: Springer-Verlag. (Chapter 5, entitled "Post-Impact Emergency Actions, pp. 132-199).

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**General Requirements:**

Overheads (15-1 through 15-8 appended).

Student Handout (15-1 appended).

See individual requirements for each objective.

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**Objective 15.1 Describe disaster victim responses as active goal directed behavior.**

**Requirements:**

Start this session with the student exercise and proceed with lecture material specified below.

Use Overheads 15-1 and 15-2.

**Remarks:**

I. Introduction.

A. **Exercise.**

1. **Remind** students of exercise procedures.
2. **Divide** class into four groups and assign roles.
  - a. Chair.
  - b. Reporter.
  - c. Timer.
3. **Announce** time limit: 5 minutes.

B. **Display** Overhead 15-1; “Workshop Tasks”.

1. Group 1 – How would you describe Galveston, Texas in 1900?
2. Group 2- According to Larson (2000), how did parental choices during the hurricane reflect goal directed behavior?
3. Group 3 –According to Larson (2000), how did the actions of Issac Cline reflect goal directed behavior?
4. Group 4 – According to Larson (2000), why did the Weather Bureau ban the use of the word “tornado”? How do the responses documented by Larson question the basis for this policy?

C. **Start** discussion.

D. **Stop** discussion.

E. **Explain** that the report from Group 4 will occur later in the session.

II. Session overview.

- A. **Display** Overhead 15-2; “Session No. 15 Overview: Victim Responses to Disaster.”
  - B. **Review** points listed and comment as required to demonstrate integration of the session.
    - 1. Goal directed behavior.
    - 2. Constraints.
    - 3. Panic.
    - 4. Disaster syndrome myth.
    - 5. Death rates.
    - 6. Empirical responses.
    - 7. Lessons for emergency managers.
- III. Goal directed behavior.
- A. **The case study.**
    - 1. **Location:** Galveston, Texas.
    - 2. **Event:** Hurricane.
    - 3. **Date:** September 8, 1900.
    - 4. **Unique aspect:** highest death toll from a hurricane in U.S.A. history; 6,000 deaths.
  - B. Group 1 report: 2 minutes.
  - C. **Supplement** as required and highlight examples like these from the assigned reading (Larson 2000).
    - 1. **Leading city** in Texas; ahead of closest rival (i.e., Houston); known as “New York of the Gulf” (p. 12).
    - 2. **Largest cotton port** in U.S.A. (p. 13).
    - 3. **Modern technology**, i.e., electric lights and streetcars, local and long distance telephone service, concert hall, 20 hotels, etc.

4. **Wealth**, e.g., “. . . more millionaires per square mile than Newport, Rhode Island.” (p. 13).

D. Group 2 report: 2 minutes.

E. **Supplement** as required and highlight examples like these from the assigned reading (Larson 2000).

1. **Buggy driver** takes Louisa Rollfing and children to home of sister-in-law (p. 177).
2. **Louisa Rollfing** instructs buggy driver to tell husband of their location (p. 178).
3. **Mrs. Hopkins** uses ax to chop hole in floor (p. 182).
4. **Mrs. Hopkins** uses big drum of lard and cloth to make a lamp (p. 184).

F. Group 3 report: 2 minutes.

G. **Supplement** as required and **highlight** examples like these from the assigned reading (Larson 2000).

1. “The brothers herded the refugees into a bedroom on the windward side, reasoning that if the house fell over, they would all be on top, not crushed underneath.” (p. 189).
2. Refugees in Cline home, about 50, begin to sing, while others “. . . knelt in panic-stricken prayer” (p. 192).

IV. Case study methodology.

A. **Ask students:** “How do you think Larson could write his account of these behavioral responses? Did he just make it all up like a novel writer?”

B. **Explain.**

1. **Elaborate “Notes” chapter** (pp. 275-305): specify resources consulted, including, photographs, maps, letters, subsequent articles published by Cline, his brother Joseph, and dozens of other source materials. These are listed by the page number on which a quotation or inference was used.
2. “I approached the problem the way a paleontologist approaches a collection of bones.” (p. 275).

3. **Example:** Rollfing, Louisa Christiana. *Autobiography*, (unpublished manuscript, vols. 1-5), Rosenberg Library Collection, Manuscript Galveston, Texas: Rosenberg Library Collection, Manuscript Collection (83-0054) (as listed by Larson, 2000, p. 312.)

V. Additional study examples.

A. **Ask students:** “How did the reports from the survivors of the 911 attacks, parallel the goal directed behavior documented by Larson (2000)?”

1. **Reference** required reading for Session No. 2; “What is a Disaster?”, i.e., Adler (2002). See Section 2.1, III.B.

2. **Examples:**

- a. Judy Wein: decision to **search for escape** route despite her own injury and confronting many dead bodies, debris, and visible flames (Adler 2002, p. 24).
- b. Richard Fern: decision **to go down** stairway A despite encountering numerous blockages (Adler 2002, p. 27).

B. **Earthquake study.**

1. **Researchers:** James D. Goltz, Lisa A. Russell, and Linda B. Bourque, (1992).
2. **Event:** Whittier Narrows Earthquake.
3. **Location:** Los Angeles, California (15 km northeast of downtown area).
4. **Date:** October 1, 1987 (7:42 a.m.).
5. **Method:** representative sample (n = 690) of Los Angeles County; 30 minute telephone interview.
6. **Findings:** (adapted from Goltz et al., p. 49).
  - a. **Response varied** by location at time of quake, i.e., at home (72%), work (22%) or driving (6%).
  - b. Most **people at home** took cover (43%) or remained in place (19%).

- c. Most people **at work** took cover (40%), remained in place (20%) or went outside (18%).
- d. Most people on **the road** pulled to a curb/stopped (46%) or continued driving (43%).

**C. Quarantelli (1960) analysis.**

- 1. **Method:** based on research data from National Opinion Research Center, University of Chicago and literature reviews.
- 2. **Conclusion:** “Disaster victims react in an active manner, not passively as implied in the dependency image. They do not wait around for offers of aid by organizations.” (p. 73).

**Supplemental Considerations:**

The **message** of this section is critical, i.e., disaster victims **react quickly** and their behavior is **goal directed**. Some professors may wish to **relate** this section to **Session No. 7**, “Disaster Mythology” by reminding students of the survey instrument used and topics covered. **Additional examples** could be integrated into the section for those wishing to **expand** it slightly. Others may wish to illustrate this **basic principle** through selections from an empirically grounded “docu-drama”, e.g., William Price Fox. 1992. *Lunatic Wind: Surviving the Storm of the Century*. Chapel Hill, North Carolina: Algonquin Books of Chapel Hill (based on Hurricane Hugo, 1989).

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**Objective 15.2 Discuss at least five social factors that constrain initial responses.**

**Requirements:**

Use Overhead 15-3.

**Remarks:**

- I. Introduction.
  - A. **Ask students:** “Given the descriptions of victim responses by Larson (2000), what variations did you note?”
  - B. **Record:** list student responses on chalkboard.
- II. Social factors that constrain.
  - A. **Display** Overhead 15-3; “Constraints”.

B. **Review** and illustrate the concepts listed by integrating examples from the student list, assigned reading and other sources.

1. **Gender.**

a. **Males** respond **more actively** to combat the hazard; **may leave** location to engage in search and rescue.

b. **Example study:** Canter et al. 1980 (fire response research).

- 1) “Females are more likely to warn others and wait for further instruction (for example, if husband and wife are both present).” (p. 120).
- 2) “Male occupants are most likely to attempt to fight the fire. Male neighbors are more likely to search for people in smoke and attempt rescue.” (p. 121).

c. **Example study:** Bourque et al. 1993.

- 1) **Event:** Loma Prieta earthquake.
- 2) **Location:** San Francisco bay area.
- 3) **Date:** October 17, 1989.
- 4) **Method:** representative sample (n = 656); telephone interviews.
- 5) **Finding:** “. . . women were more likely than men to freeze in place (33.4 percent vs. 24.8 percent) or to go to a child (9.6 percent vs. 4.3 percent).” (p. B-11).

2. **Age.**

a. Older persons:

- 1) More frequently are neglected by various help sources such as neighbors or friends (Drabek 1986, p. 210).
- 2) Are less likely to seek out others to provide assistance (Drabek 1986, p. 210).

b. **Example study:** Bourque et al. 1993.

- 1) See above for event and location (15.2, I.B.1.c.).
- 2) **Finding:** “older persons (over 41 years of age) were also more likely to freeze in place (34.6 percent vs. 24.6 percent).” (p. B-11).

### 3. Location.

a. Victims who are at **work** are more likely to **seek protection** than those who are at home.

b. **Example study:** Bourque et al. 1993.

- 1) See above for event and location (15.2,I.B.1.c.).
- 2) **Finding:** more at work sought protection (46%) than did those at home (29%). (p. B-11).

### 4. Fear level.

a. The **higher** the **fear level** the greater the likelihood **victims** will **seek protection** (based on Goltz et al. 1992, p. 52).

b. **Example study:** Goltz et al. 1992.

- 1) See above for event and location (Objective 15-1; Section V; Sub-Section B) (earthquake).
- 2) **Finding:** more victims with a higher fear level took cover than did those with low fear levels (74% vs. 36%) (p. 52).

### 5. Presence of children.

a. **Victims** become more **goal directed** when children are present (see Larson 2000, pp. 179-187).

b. **Example study:** Goltz et al. 1992.

- 1) See above for event and location (Objective 15-1, Section V; Sub-Section B) (earthquake).
- 2) **Finding:** when children were present, more victims took cover (74% vs. 47%) (p. 52).

### 6. Have official responsibility.

- a. A **classroom teacher** who encounters a threat at school with a classroom full of children will respond more adaptively than if at home (see Drabek 1986, p. 135).
- b. **Example study:** Takuma 1972.
  - 1) Unspecified earthquake in Japan.
  - 2) **Finding:** “. . . a teacher of a kindergarten class felt no fear at all during a severe earthquake although she was usually afraid of even a slight one. At that time she was more concerned about the safety of her small pupils than of herself.” (p. 194).

## 7. Ethnicity.

- a. **Ethnic minorities** are more likely to seek protection (based on Goltz et al. 1992, p. 54).
- b. **Example study:** Goltz et al. 1992.
  - 1) See above for event and location (Objective 15-1, Section V, Sub-Section B) (earthquake).
  - 2) **Finding:** A higher percentage of **Mexican-Americans took cover** than did whites (69% vs. 57%). Goltz et al. relate this action to **higher fear levels** also reported by Mexican-Americans (p. 54).

## 8. Preparedness level.

- a. Victims who are **more prepared** are more likely to **seek protection** (based on Goltz et al. 1992, p. 55).
- b. **Example study:** Goltz et al. 1992.
  - 1) See above for event and location (Objective 15-1, Section V, Sub-Section B) (earthquake).
  - 2) **Finding:** A higher percentage of **more prepared** earthquake victims took cover than did those less prepared (64% vs. 53%). (Goltz et al. 1992, 0p. 55).

## 9. Disaster experience.

- a. Victims with a particular type of **disaster experience** will **respond more adaptively** than those who have not had such experience (based on Goltz et al. 1992, p. 56).
- b. **Example study:** Goltz et al. 1992.
  - 1) **See above** for event and location (Objective 15-1, Section V, Sub-Section B) (earthquake).
  - 2) **Finding:** A higher percentage of victims who had experienced four or more earthquakes prior to the Whittier Narrows jolt, **took cover** than did those who never had felt a quake (65% versus 53%) (p. 56).
- c. **Example study:** Drabek 1996.
  - 1) **Event:** Northridge earthquake.
  - 2) **Location:** Los Angeles area.
  - 3) **Date:** January 17, 1994.
  - 4) **Method:** telephone interviews with transients, e.g., tourists.
  - 5) **Finding:** only 13 percent **took cover**, 33 percent stayed in place, and 15 percent rushed to another room to be with other people (p. 152).
  - 6) **Contrast:** victims at home in the Goltz et al 1992 earthquake study reflected **more protective action**, i.e., 43% took cover, 19% stayed in place, and 8% went to another room (p. 49).
  - 7) **Emergency management implication:** Following the Northridge earthquake, transients reflected goal directed behavior given their definition of the situation. Their **lack of familiarity** with the threat, their physical location, and best actions to take, **placed them at greater risk**.

### Supplemental Considerations:

The **messages** of this section are: 1) disaster **victims behave differently** and 2) social learning reflects **social factors** that **constrain** their **choices** of action. While the **nine social factors** are important, professors are reminded that these messages are essential.

The objective of this section is to **enhance student understanding** of several social constraints, but the two key messages must be highlighted throughout.

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**Objective 15.3 Explain the reasons why there is a lack of panic among disaster victims.**

**Requirements:**

Use Overhead 15-4.

Distribute Student Handout 15-1.

**Remarks:**

I. Introduction.

A. Group 4 report (2 minutes).

B. **Review** and supplement with examples from Larson (2000) (assigned reading) like these.

1. “The bureau had long banned the use of the word *tornado* because it induced panic . . . “ (p. 9).

2. **Remind** students of examples of goal directed behavior.

3. **Remind** students of the mythology, i.e., exaggerated image of all or most disaster victims fleeing irrationally from threats (see Session No. 7; “Disaster Myths”, Objective 7.2, Section II).

4. **Emphasize: public policy** reflective of **myth** will **fail** or otherwise be inadequate.

II. Panic conditions.

A. **Definitional ambiguity.**

1. **Casual use**, e.g., “I heard about the term paper assignment and I just panicked.”

2. **Stampede**, e.g., crowd behavior during sporting or music events.

a. Crowd press results in injuries.

b. **Example:** Hargreaves, 1980.

- 1) **Event:** Rock music concert; “The Who”.
- 2) **Location:** Cincinnati, Ohio.
- 3) **Date:** December 3, 1979.
- 4) **Stampede:** People congregated outside a small door; some were trampled when the crowd rushed to get inside concert upon its start.
- 5) **Consequence:** 11 killed.

c. **Example:** Cohen, 2003 (p. 20A).

- 1) **Event:** E2 Nightclub.
- 2) **Location:** Chicago Illinois.
- 3) **Date:** February 17, 2003.
- 4) **Stampede:** Mace or pepper spray was used to stop a fight.
- 5) **Consequence:** 21 killed; 57 injured.
- 6) **Description:** “Witnesses described a frenzied scene of some people trying to climb through the ceiling, while others were trampled in the frantic rush for an exit, their faces and bodies flattened against the glass front door.” (p. 20A). Exit doors were found locked, but “. . . the crowd surged down a single front exit in the pandemonium.” (p. 27A).

d. **Example:** Zuckerman, 2003 (pp. 25-26A).

- 1) **Event:** performance by Great White (band) at The Station (concert club).
- 2) **Location:** West Warwick, Rhode Island.
- 3) **Date:** February 20, 2003.
- 4) **Stampede:** fire (apparently) started when band used pyrotechnics.

- 5) **Consequence:** 98 killed (96 initially, 2 injured died within days); nearly 200 injured (35 critically) (as of March 3, 2003; *Rocky Mountain News*, March 3, 2003, p. 32A).
- 6) **Description:** “Many concertgoers were caught off-guard as they slowly realized the fire wasn’t part of the show. Many were badly burned and others were trampled in the rush to escape, in large part through a single door.” Zuckerman, 2003, p. 25A.

e. **Additional stampedes.**

- 1) January 18, 1991; Salt Lake City, Utah; “Three teenagers killed when the crowd at an AC-DC concert rushed on stage.” *Rocky Mountain News*, February 18, 2003, p. 20A.
- 2) December 28, 1991; New York City, New York; “Eight suffocated in pileup of people trying to get into City College of New York gymnasium for charity basketball game played by rappers.” *Rocky Mountain News*, February 18, 2003, p. 20A.

B. **Required conditions.**

1. **Display** Overhead 15-4; “Panic Conditions”.
2. **Emphasize:** If these conditions **are not** present, panic behavior **will not** occur.
3. **Review** and illustrate concepts listed (based on Quarantelli 1977).
  - a. **Pre-crisis definitions**, e.g., most people believe a fire in a crowded theater will produce panic.
  - b. **Absence of social ties**, e.g., strangers, not family members.
  - c. **Perception of possible entrapment**, e.g., escape routes appear blocked.
  - d. **Sense of powerlessness**, e.g., no alternative action plan.
  - e. **Feeling of social isolation**, e.g., no expectation of help from others.

IV. **Additional research examples.**

A. **Distribute** Student handout 15-1; “Selected Studies on Panic Behavior.”

B. **Explain:** Because the **myth of panic** is so accepted, the literature citations may be a **helpful resource**.

1. **Highlight** references to Quarantelli (discussed above).
2. **Highlight** reference to Hargreaves (discussed above).

C. Johnson, 1988.

1. **Event:** Fire in Beverly Hills Supper Club.
2. **Location:** Southgate, Kentucky (across Ohio river from Cincinnati, Ohio).
3. **Date:** May, 1977 (Memorial Day weekend).
4. **Deaths:** 165.
5. **Reports of panic:** One survivor who had looked back upon exiting reported: “It was panic. They were just running and the flames were just everywhere.” (p. 22).
6. **Analysis:**
  - a. Required conditions noted by Quarantelli were not present. (p. 24).
  - b. “Strong evidence that primary groups did not break down permeates the transcripts, although a few people may even have begun to fight . . .” (p. 24).
  - c. “No evidence appears of family members abandoning each other in order to facilitate their own survival.” (p. 24).
  - d. “. . . there are instances of both family members and friends assisting others when to do so constituted a threat to their own lives.” (p. 24).

D. Cornwell et al., 2001.

1. **Event:** Car ferry sank.

2. **Location:** Baltic Sea, ferry departed Tallinn, Estonia enroute to Stockholm, Sweden.
3. **Date:** September 28, 1994.
4. **Death toll:** 851 died (on board: 106 crew; 803 ticket-holding passengers).
5. **Assumption of panic:** Differential survival rates.
  - a. **Gender** (p. 13).
    - 1) Males: 22% rescued alive.
    - 2) Females: 5% rescued alive.
  - b. **Crew vs. passengers** (p. 14).
    - 1) Crew: 23% rescued alive.
    - 2) Passengers: 12% rescued alive.
6. **Analysis and conclusion:** “Available evidence concerning the behavior of people on the *Estonia* does not suggest that panic behavior was as important a factor in the deaths of these people as were situational constraints.” (p. 20).
  - a. **Situational constraints** include obstacles in the path of escape; listing and heeling of ship; falling and flying objects. (p. 20).
  - b. **Physical constraints** include the amount of climbing, crawling, pulling, balancing and swimming required for escape (p. 20).
  - c. “There were several accounts of men fleeing with their mothers, wives, or girlfriends and attempting to stay together as a group.” (p. 21).

E. Feinberg and Johnson, 2001.

1. **Additional analysis:**
  - a. Beverly Hills Supper Club fire (Example IV.C. above).
  - b. **Focus** on Cabaret Room (where most deaths occurred).

2. **Conclusion:** “We conclude that the evacuation of the Cabaret Room was dominated by a set of norms and role obligations consistent with the typical social order in which the (socially-defined) weak get help from the (socially-defined) strong, such as women helped by men.” (p. 26).

### **Supplemental Considerations:**

The message of this section is that **widespread panic does not occur** in disasters. Some professors may wish to cover this section **very quickly** using only the student exercise and perhaps distributing the Student Handout with brief remarks. Others may wish to **expand** the section by encouraging additional student discussion or more detailed review of the research examples. Given the **popularity** of the **image of panic**, some may wish to introduce additional examples in recently published novels to underscore the issue. For example, see Jim Moore. 2001. *Island of Ashes: The Fire That Killed Key West*. San Jose, California: Authors Choice Press, pp. 63-64, p. 67, p. 147.

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### **Objective 15.4 Describe the myth of the “disaster syndrome” response.**

#### **Requirements:**

Use Overhead 15-5.

#### **Remarks:**

- I. Background.
  - A. **Display** Overhead 15-5; “Myth of Disaster Syndrome.”
  - B. **Origins:**
    - 1, **Wallace** (1956) study.
    2. **Event:** tornado.
    3. **Location:** Worcester, Massachusetts.
    4. **Date:** June 9, 1953.
    5. **Death toll:** 90.
- II. Image.
  - A. **Disaster victim responses.**

1. Dazed.
2. Stunned.
3. Apathetic.
4. Passive.
5. Immobile.
6. Aimlessly puttering about.

B. **Ask students:** How does the description of victim behavior by Larson (2000) refute this image? (**Answer:** goal directed and highly active).

### III. Restructuring.

A. **After impact**, victims require time to “normalize”.

B. **Activity**, not passiveness is modal response.

C. **Variations** (see Drabek, 1986, pp. 146-151).

1. Some victims require **more time**, but for most the normalization process is rapid if not immediate.
2. **Violence** and suddenness of event, i.e., greater the violence, the longer the time required to normalize.
3. **Worst cases** studied, less than **15 percent** of all victims exhibit temporary dazed or shock responses.

### **Supplemental Considerations:**

This section may be **very brief**. The **message** is to introduce the **myth of the disaster syndrome** and its origins. Some professors may wish to point out that the myth still is **emphasized** by some **medical** and **mental health specialists**. There are other aspects in the **pattern** or **stages** in victim responses according to Wallace. These include, (after the dazed response) such phases as: 1) extreme suggestibility and altruism 2) euphoric identification with the damaged community, and 3) return to normal (see Drabek 1986, p. 147 for a summary).

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**Objective 15.5 Identify two factors that cause differential death rates.**

## Requirements:

Use Overhead 15-6.

## Remarks:

- I. Social constraints.
  - A. **Ask students:** “Based on your reading in this course, what factors might constrain the death rates in disasters?”
  - B. **Record:** List responses on chalkboard.
  - C. **Display** Overhead 15-6; “Social Constraints: Differential Death Rates.”
  - D. **Review** items and **integrate** with student responses.
  - E. **Higher death rates** have been documented for:
    1. Elderly (age).
    2. Poor (socioeconomic status).
    3. Automobiles, mobile homes (high risk locations).
- II. Example research.
  - A. **Age.**
    1. Elderly less frequently warned and hence have **higher death rates** (Drabek 1986, pp. 140-141).
    2. Hutton (1976) documented that more elderly **lived in flood-prone areas** and hence had a higher death rate in the 1972 flood in Rapid City, South Dakota.
  - B. **Socioeconomic status.**
    1. The lower the income, the **higher the probability** of death in disaster (see Drabek 1986, pp. 140-141).
    2. Example studies.
      - a. Bates et al. 1963 (Hurricane Audrey; June, 1957).

- b. Olsen and Olsen 1977 (earthquake in Guatemala; February 4, 1976).

**C. High risk locations.**

1. **Automobiles** (Glass et al. 1980).

- a. **Location:** Wichita Falls, Texas.
- b. **Date:** April 10, 1979.
- c. **Event:** tornado.
- d. **Finding:** Most deaths (60%) and many injuries (51%) occurred in people who went to their cars to drive out of the tornado path.

2. **Mobile homes** (Ono 2002).

- a. **Location:** Several counties in Alabama.
- b. **Date:** April 8, 1998.
- c. **Event:** tornadoes.
- d. **Findings:**
  - 1) Many people in mobile homes died.
  - 2) “Persons would have been saved if seeking a shelter in the car, instead of staying in the mobile home.” (p. 9).

3. **National data base.**

- a. In 2002, 55 people were killed by tornadoes.
  - 1) 37 (67%) were in mobile homes.
  - 2) 12 (22%) were in permanent homes.
  - 3) 4 (7%) were in cars.
  - 4) 2 (4%) were outside.
- b. Data from National Oceanic and Atmospheric Administration (reported in *Rocky Mountain News*, February 12, 2003, p. 47A).

## Supplemental Considerations:

The message of this section is to **enhance** student understanding of the **relationship** between death tolls and social factors. Some professors may prefer to approach this topic from a **social vulnerability** approach. That is, patterns in death tolls **reflect** various aspects of **vulnerability**. The three social factors treated here are aspects of this more **general concept**. Similarly, some may wish to **expand** on the work of Cornwell et al. (2001) wherein the **location of ship passengers, gender, and age** impacted their **probability of escape** and rescue.

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### Objective 15.6 Describe typical victim emotional responses.

#### Requirements:

Use Overhead 15-7.

#### Remarks:

- I. Introduction.
  - A. **Ask students:** “Based on your readings to date in this course, what has been documented regarding the emotional responses of disaster victims?”
  - B. **Record:** Make a list on the chalkboard of student responses.
  - C. **Probe:** If required, **ask students:** “What about the reconstruction of hurricane victim responses by Larson (2000)? What types of responses were documented?” (Add to list on chalkboard).
- II. Emotional responses by victims.
  - A. **Display** Overhead 15-7; “Emotional Response By Victims.”
  - B. **Review** and illustrate the responses listed.
    1. **Normal stress symptoms.**
      - a. Disaster is an abnormal situation, hence stress is experienced.
      - b. Victims respond to the abnormal situation with **normal** stress responses.
      - c. Stress responses are **normal** and **temporary** reactions to the abnormal.

## 2. **Examples.**

- a. Sleep difficulty.
- b. Irritability.
- c. Physical symptoms, e.g., digestive upsets including increased frequency of urination, diarrhea, etc.

## 3. **Symptom patterns vary.**

- a. Intensity, e.g., mild irritability to occasionally “blowing up”.
- b. Duration, e.g., few hours to a week.

## 4. **Constraints** (i.e., social factors related to variation in victim responses).

- a. Disaster terror, e.g., degree of fright.
- b. Proximity to dead and/or injured.
- c. Pre-event mental health status.
- d. Economic recovery capacity, e.g., middle class victims use credit cards to book into a hotel which is covered by home insurance during flood clean-up.

### III. Example study: Flynn and Chalmers, 1980.

#### A. **Event.**

1. Three Mile Island (TMI) nuclear power plant incident.
2. **Date:** March, 1979.
3. **Location:** Middletown, Pennsylvania.

#### B. **Example findings:**

1. Persons living closer to TMI at time of incidence reported high level of stress symptoms, such as (pp. 50-51):
  - a. Stomach trouble.
  - b. Headache.

- c. Diarrhea.
  - d. Constipation.
  - e. Frequent urination.
  - f. Rash.
  - g. Abdominal pain.
  - h. Loss of appetite.
  - i. Overeating.
  - j. Trouble sleeping.
  - k. Sweating spells.
  - l. Feeling trembly and shaky.
  - m. Trouble thinking clearly.
  - n. Irritability.
  - o. Extreme anger.
2. **Response variation:** those who thought incident was a very serious threat were (p. 50):
- a. Younger.
  - b. Female.
  - c. More highly educated.
  - d. Higher income.
  - e. Pregnant: “Pregnant women were much more likely (64 percent) than average to view it as a very serious threat and much less likely to think it was no threat at all.” (p. 50).

### **Supplemental Considerations:**

There are two key messages: 1) victims reflect **normal emotional** responses to the abnormality of disaster, and 2) victim emotional **responses vary** in patterned ways. It

should be emphasized that the **research base** in this area is growing, but **remains thin**. Some professors may wish to **expand** this section and carefully relate additional studies to the **key ideas** presented in the prior session, i.e., Session No. 13; “Disaster Research Methods”. Since a later Session, i.e., No. 29; “Disaster Stress” will focus on such matters, most may wish to **keep it brief** here and only remind students of the related research issues and upcoming session later in the course.

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**Objective 15.7 Discuss at least six lessons for emergency managers.**

**Requirements:**

Use Overhead 15-8.

**Remarks:**

- I. Introduction.
  - A. **Ask students:** “From the vantage point of a local emergency manager, why is a firm knowledge of disaster victim behavior important?”
  - B. **Record:** List student responses on chalkboard.
- II. Lessons for emergency managers.
  - A. **Display** Overhead 15-8; “Lessons for Emergency Managers.”
  - B. **Review** and illustrate each point; **integrate** student comments listed on chalkboard.
    1. **Goal directed behavior.**
      - a. **Values** and priorities remain in place.
      - b. **Conflict** with emergency officials may occur when actions recommended conflict with individual or family priorities.
      - c. **Example:** family wants to return home into evacuated area to pick up pet.
    2. **Constraints.**
      - a. Victim responses vary.
      - b. Understanding and anticipating variation can increase planning effectiveness.

3. **Panic.**

- a. False expectation.
- b. Will be the expectation of some in public and emergency personnel.

4. **Disaster syndrome myth.**

- a. False expectation.
- b. Will be expected by some in public and mental health personnel.

5. **Death rates.**

- a. Knowledge of constraints.
- b. Public policy implications.

6. **Emotional responses.**

- a. Normal responses to abnormal situation.
- b. Key information in training.

7. **911 abuse policies:** Example study.

- a. Deason-Howell and Berry, 2002.
- b. **Assessment** of 32,549 telephone calls received during May, 2001.
  - 1) City of Akron, Ohio.
  - 2) Safety Communications Division.
  - 3) 911 emergency phones and non-emergency phone lines.
- c. **The problem:** Delays in response 9-1-1.
  - 1) **Example:** “In May 2002, neighbors called 9-1-1 three times to report that a woman was being attacked by her former husband.” (Dispatch could not relay information to a patrol car, consequently a delay). “In total, 40

minutes had passed before police arrived at the woman's residence." (p. 87).

2) **Consequence:** In the above example, the **victim died**.

d. **Finding:** "... a significant number of calls received by the Safety Communications Division are requests for non-emergency services."

e. **Policy recommendations:**

1) "... educate the public about the proper use of the communication systems . . ." (p. 92).

2) "... issue fines to citizens who repeatedly abuse the 9-1-1 emergency phone line . . ." (p. 92).

3) Allocate "... current staff between the 9-1-1 emergency phone line and the non-emergency phone lines based on emergency and non-emergency demand for services . . ." (p. 92).

4) "... improve communication and coordination between its emergency system staff by requiring police officers to wear their radios at all times while on duty, thereby improving response time . . ." (p. 92).

f. **Ask students:** "How might the use of the 9-1-1 phone line be altered during a disaster event?" (**Answer:** various types of disaster inquiry calls could be re-routed through media announcements of specialized telephone inquiries, e.g., victim status vs. emergency shut-down procedures vs. building inspection scheduling, etc.).

g. **Ask students:** "What does the study by Deason-Howell and Berry (2002) imply about disaster victim behavior?" (**Answer:** disaster victims, like victims of crime or accident, will reflect goal directed behavior. They will seek help from authorities. If not forthcoming in a timely manner, **as they perceive timely**, they will explore alternative courses of action).

### **Supplemental Considerations:**

Additional student input could be incorporated into this section so as to **enhance** the **link** between the social research conclusions and emergency management issues. The **key message** is that an understanding of victim behavior, based on scientific documentation,

is a **prerequisite** for an emergency manager. Those who believe in myth and **misinformation** will be **ineffective**. Consequently, their **community response** to disaster will be **impaired**.

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