Disaster Preparedness in the Emergency Department Using *Insitu* Simulation

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Realism of Disaster Threats

* Terrorists still plot their evil deeds, and nature's unyielding power will continue. We know with certainty that there will be tragedies in our future. Our obligation is to work to prevent the acts of evil men; reduce America's vulnerability to both the acts of terrorists and the wrath of nature; and prepare ourselves to respond to and recover from the man-made and natural catastrophes that do occur. The magnitude of Hurricane Katrina does not excuse our inadequate preparedness and response, but rather it must serve as a catalyst for far-reaching reform and transformation.

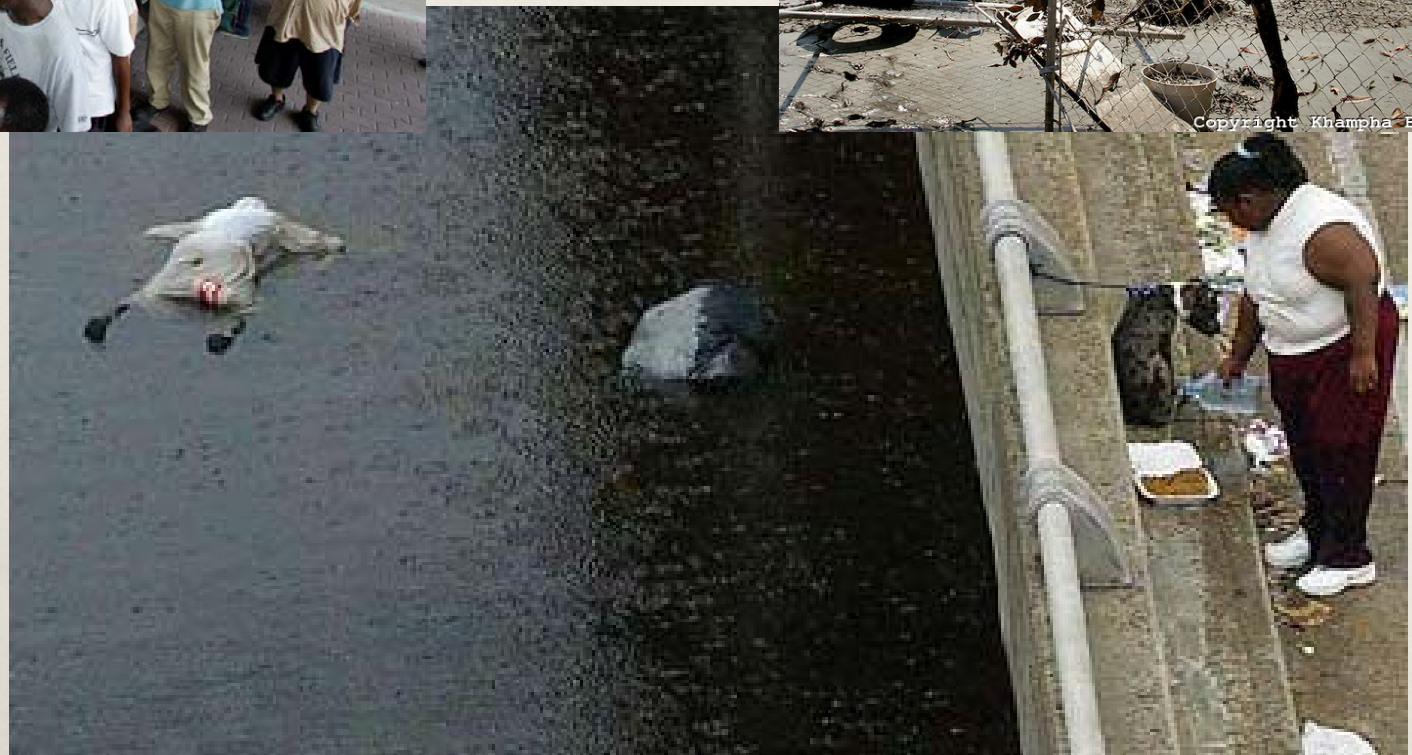
  President George W. Bush 2005

* http://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned/chapter1.html

Why Care About the E.D.

* Emergency Department (E.D.) visits steadily climb 35%
* Impact of E.D. visits – Overwhelm Institutions
* Hurricane Katrina
* Boston Marathon Bombing
* Philippine Tsunami
* Japan Sarin Subway Attack
* Haiti Earthquake
* Multiple London Attacks

Hurricane Katrina



Boston Marathon Bombing

Significance & Background

* State run drills
* County run drills
* Joint Commission Accreditation
* PPD-8 / HSPD-8

Significance & Background

* Upper Midwest Hospital
* Level I Trauma Center
* Greater than 80,000 E.D. visits annually
* E.D. Disaster Training
* Types of Disasters Prevalent to the Area

Question

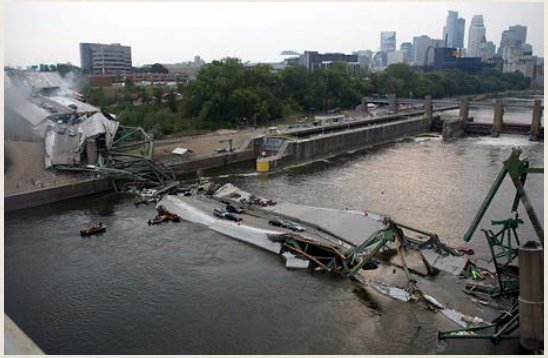
* In E.D. healthcare providers does *Insitu* simulation effectively increase skill, knowledge, and communication levels during an unannounced disaster preparedness training compared to announced disaster drills?

Objectives

* Improve Decision Making

* Strengthen E.D. Healthcare Providers' knowledge, skills, & communication levels

* Facilitate Effective & Efficient Care



Aims

* Examine whether an *Insitu* simulation will increase healthcare providers' knowledge of how to perform during a disaster, improve skills related to those actions, and improve communication regarding the special circumstances inherent to a disaster in the E.D. with the use of *Insitu* simulation.

Barriers

* Cost Associated with *Insitu* Simulation
* Training of Healthcare Providers in the E.D.
* Time
* Overworked Healthcare Providers
* Buy-in From Other Departments
* Local EMS participation
* Local/Regional/State participation
* Ability to perform lateral & outpatient transfers

Design

* A pretest/posttest design to compare the E.D. providers' knowledge, skills, methods of communication and communications during the disaster *Insitu* simulation as measured by the knowledge based questionnaire from FEMA

* Observers will utilize the Johns Hopkins Disaster Tool during the *Insitu* simulation and record actions, skills, and abilities to communicate effectively

Sample

* Convenience Sample of 55 E.D. Healthcare Providers
  * Physicians
  * Residents
  * APRNs
  * Registered Nurses
  * E.D. Techs
  * Paramedics

Insitu Simulation Scenario

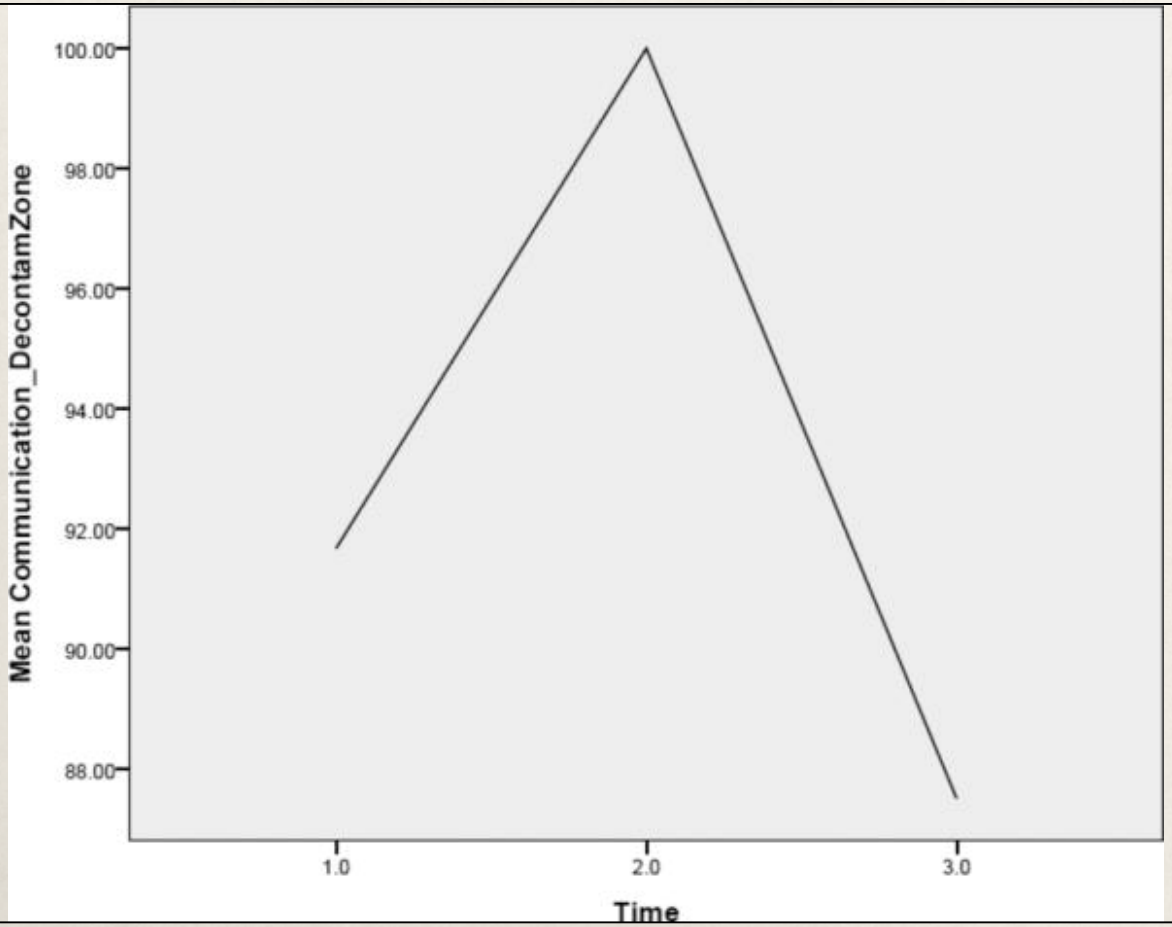
* ◆Small Engine Plane Crash
* ◆In a Rail yard
* ◆Tanker Truck with Hydrochloric Acid
* ◆Approximately 64 Moulaged Victims
* ◆Community College

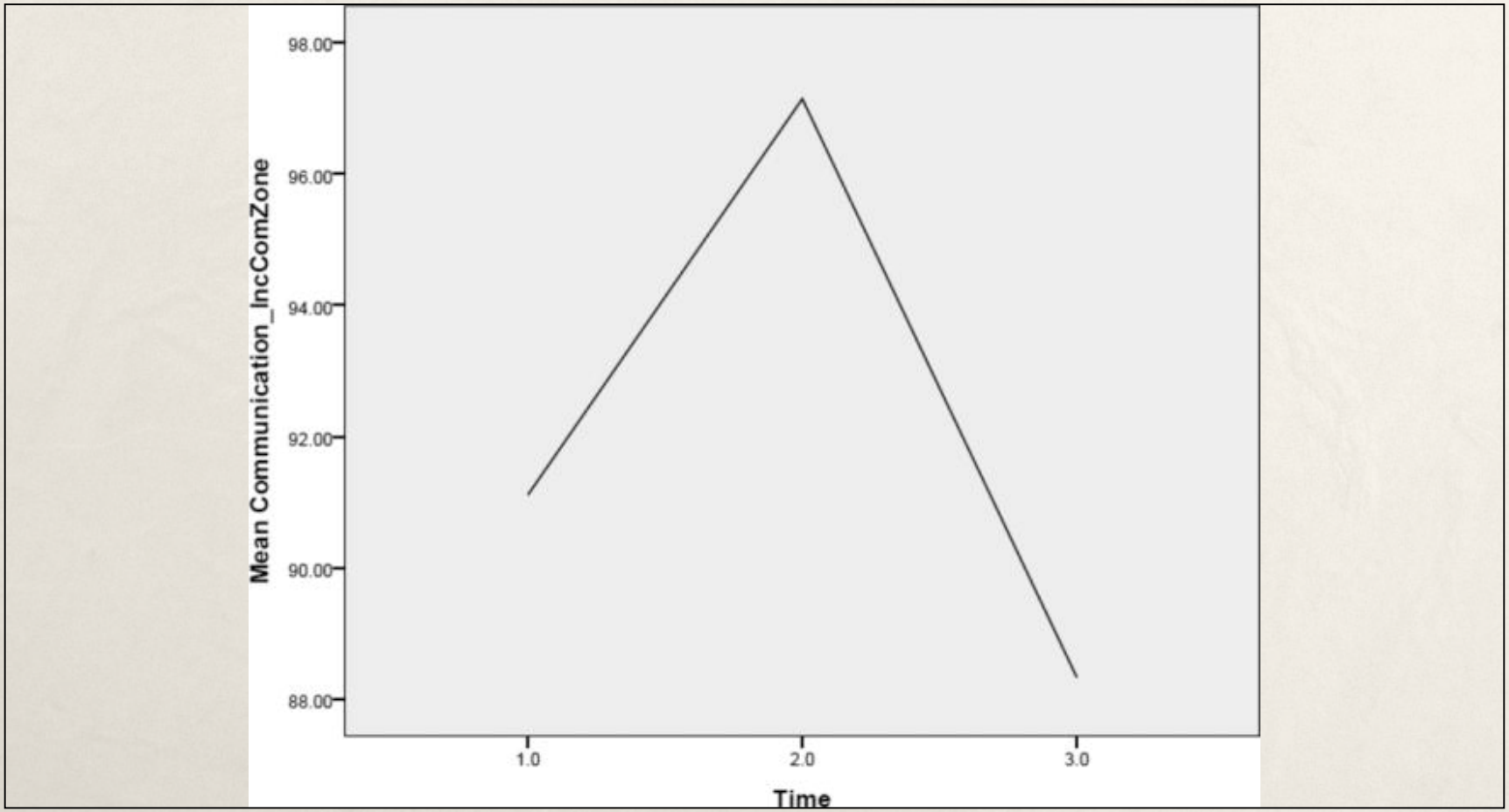
Sustainability

* Buy-in From Other Departments
* Create Provider Satisfaction
* Creates Hands on Learning
* Realism

Data Collection

* Qualtrics for Knowledge Based Questionnaires
* Johns Hopkins Disaster Tool – Observers
* SPSS


Mean Communication_DecontamZone
100.00
98.00
96.00
94.00
92.00
90.00
88.00
1.0
2.0
3.0
Time


Mean Communication_IncComZone
98.00
96.00
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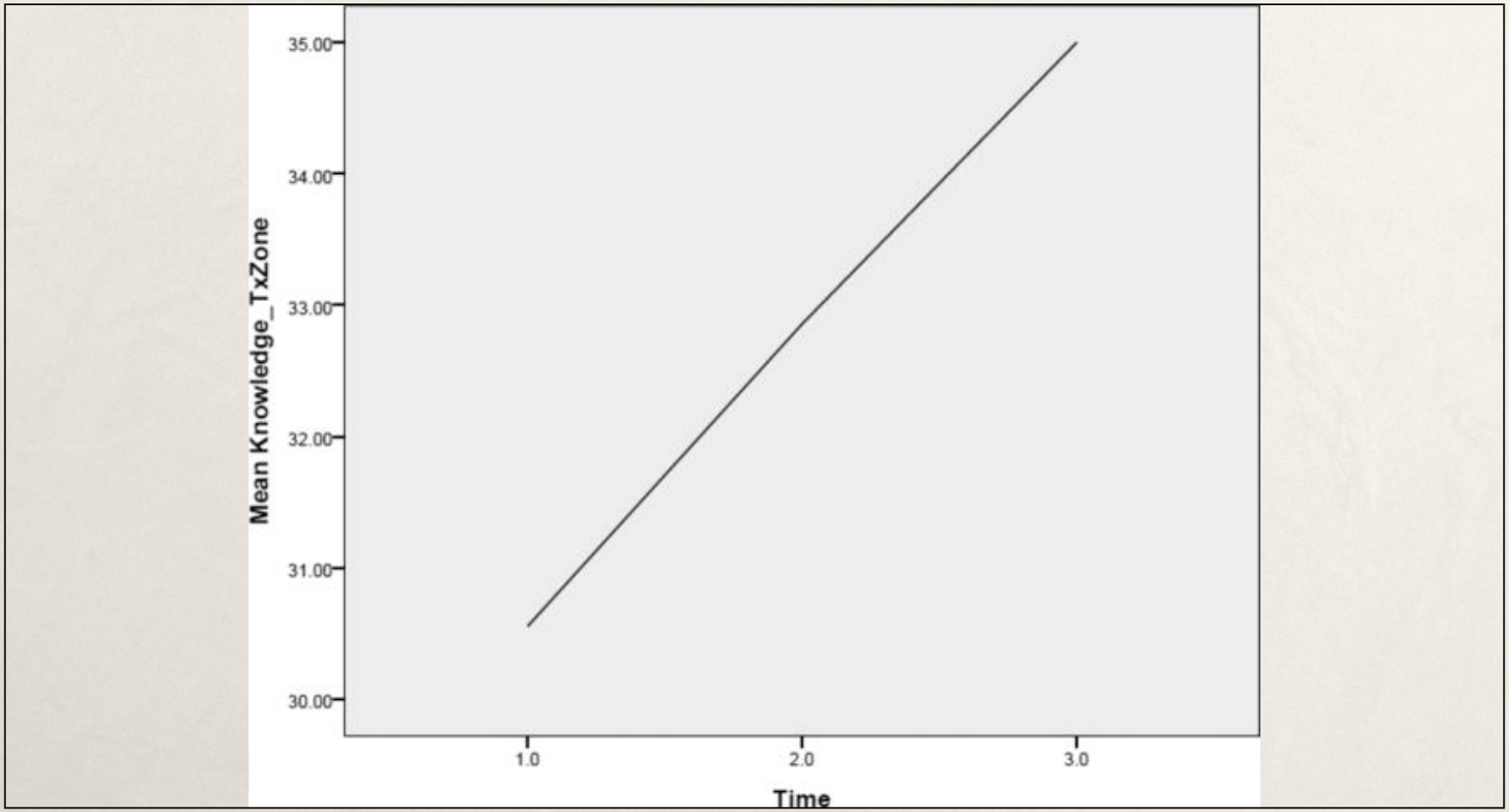
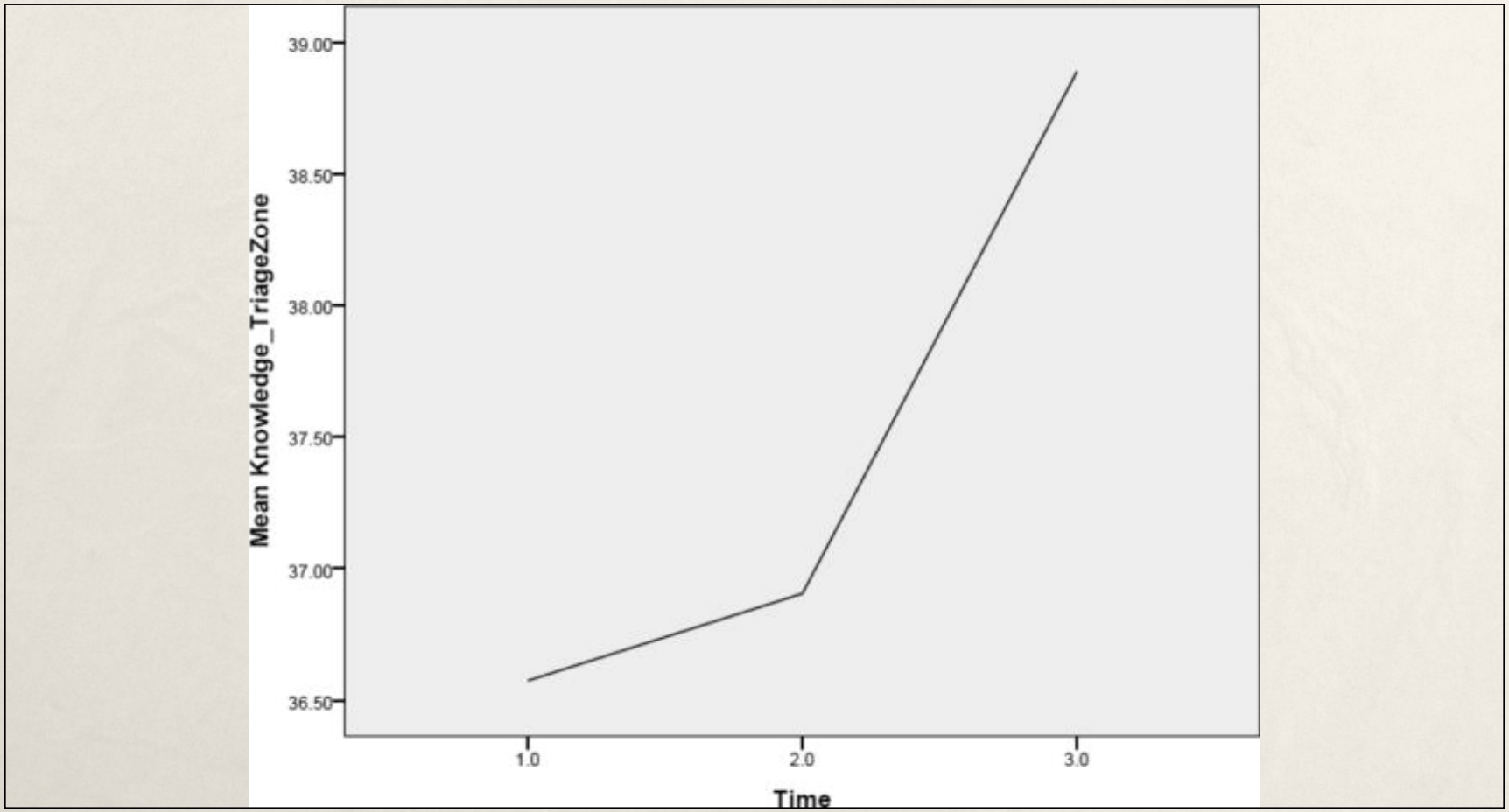
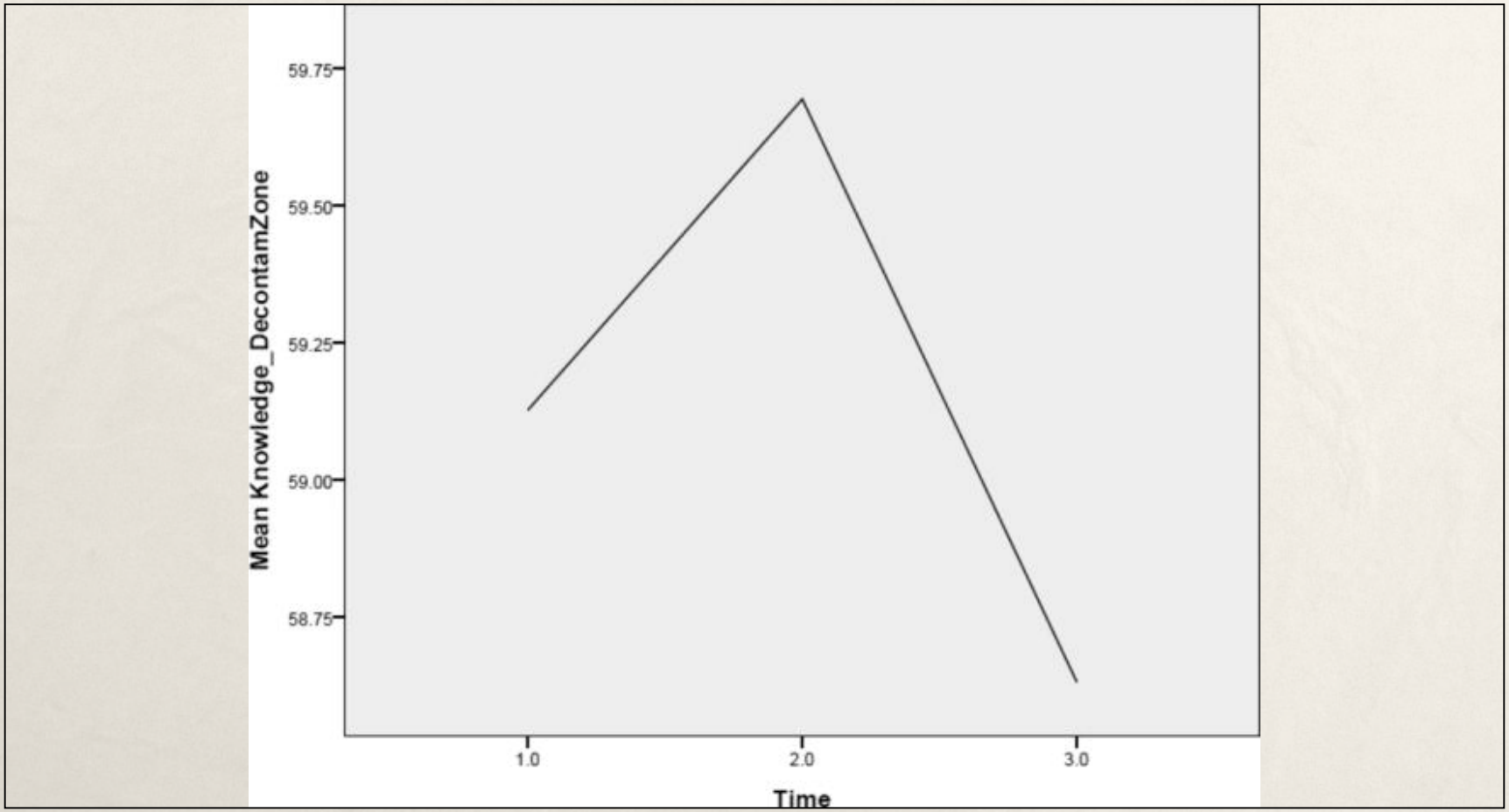
Time

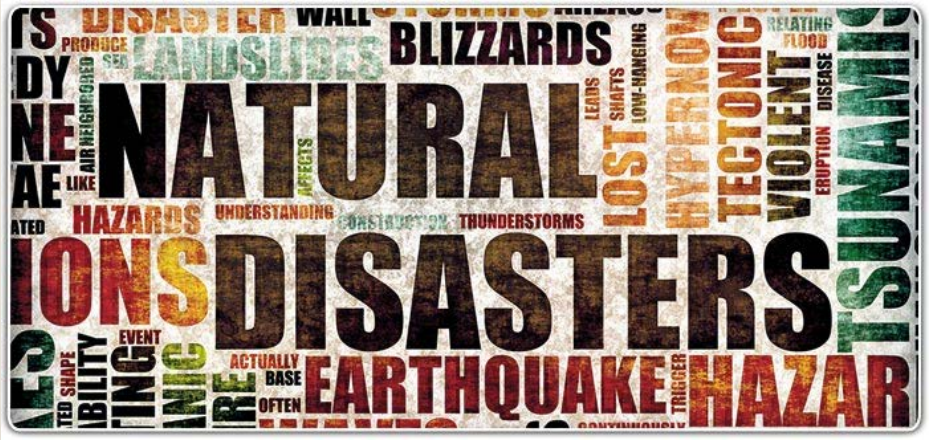

35.00
34.00
33.00
32.00
31.00
30.00
Mean Knowledge_TxZone
1.0
2.0
3.0
Time


39.00
38.50
38.00
37.50
37.00
36.50
Mean Knowledge_TriageZone
1.0
2.0
3.0
Time


59.75
59.50
59.25
59.00
58.75
Mean Knowledge_DecontamZone
1.0
2.0
3.0
Time

Lessons Learned

* Need for additional Insitu disaster drills
* Need for additional disaster training



Thank you

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