
Campus Crises: Tragedy and Recovery

Potential Crises on Campus

■ NATURAL DISASTERS

- ❑ HURRICANE KATRINA. 08/29/05.
- ❑ EARTHQUAKE. 01/17/94 - CALIFORNIA STATE NORTHRIDGE, MULTIPLE STUDENT DEATHS, ALL 58 BUILDINGS DAMAGED, FINANCIAL TOLL \$690 MILLION
- ❑ TORNADO. APRIL, 2011. TUSCALOOSA, ALABAMA, 41 DECEASED INCLUDING SIX STUDENTS

■ TRANSPORTATION —

- ❑ AIR. 11/11/70. MARSHALL UNIVERSITY FOOTBALL TEAM- 75 DECEASED, 45 TEAM MEMBERS, 70 CHILDREN LOST ONE PARENT, 18 ORPHANED
- ❑ CAR. 4/22/15. GEORGIA SOUTHERN UNIVERSITY — FIVE NURSING STUDENTS DIED WHEN HIT BY A TRACTOR TRAILER

■ CAMPUS ACCIDENTS

- ❑ TEXAS A & M BONFIRE. 11/18/99. 12 DECEASED. 27 INJURED.
- ❑ ELIZABETH SHIN. 4/14/2000.

■ VIOLENCE

- ❑ ~~HOMICIDE/SUICIDE. 4/16/07. VIRGINIA TECH. 49 SHOT OR INJURED, 33 DECEASED.~~

Hurricane Katrina August 2005

- **LOSS OF LIFE. OVER 1,800 DEATHS.**
 - **DIASPORA. OVER 1,000,000 PEOPLE DISPLACED.**
 - **SOCIAL COSTS. DISADVANTAGED POPULATIONS, INCLUDING MANY AFRICAN-AMERICANS WERE UNABLE TO RETURN OR TO REBUILD**
 - **FLOODING. 80% OF NEW ORLEANS WAS UNDER WATER.**
 - **FINANCIAL COSTS. \$150 BILLION**
 - **SEVEN UNIVERSITIES WERE CLOSED FOR FALL/YEAR INCLUDING THREE HISTORICALLY BLACK COLLEGES AND UNIVERSITIES**
-
- **84,000 STUDENTS/ 15,000 FACULTY DISPLACED.**





Virginia Tech

- **SITUATED IN BLACKSBURG ON A PLATEAU BETWEEN THE BLUE RIDGE AND ALLEGHANY MOUNTAINS**
 - **LAND-GRANT INSTITUTION FOUNDED IN 1872**
 - **2,600 ACRES**
 - **16 MILES OF PUBLIC ROADS**
 - **213 BUILDINGS AND AN AIRPORT**
 - **34,000 STUDENTS**
 - **OVER 7,500 FACULTY AND STAFF**
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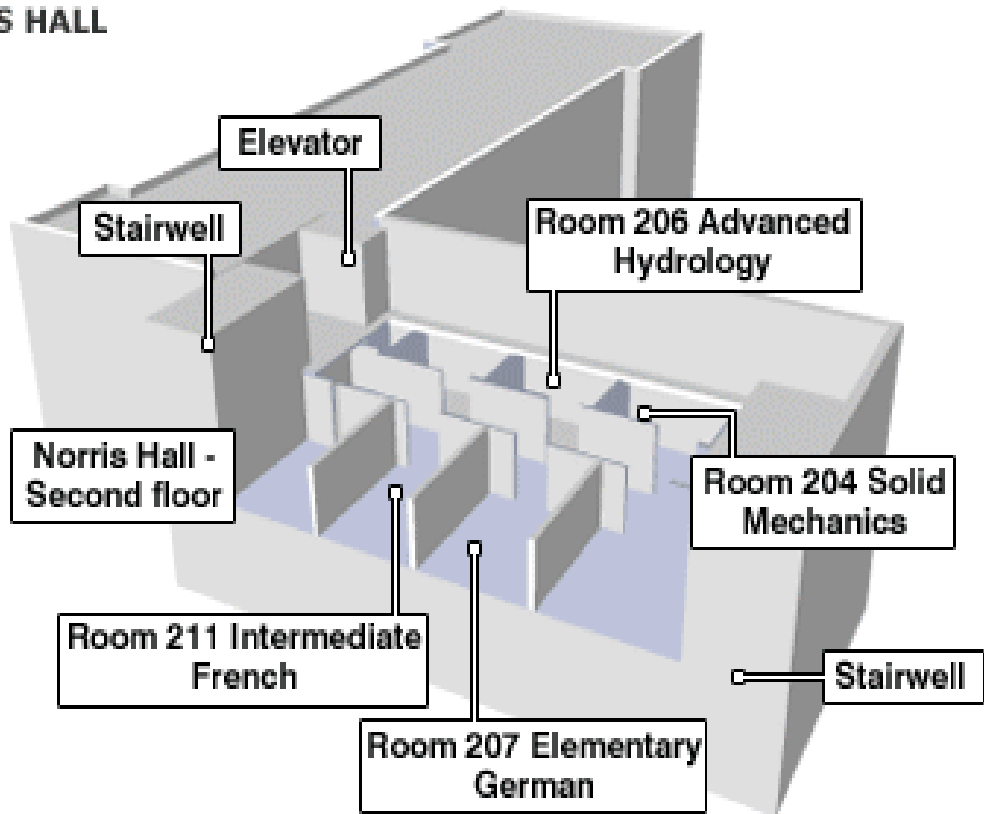


April 16, 2007

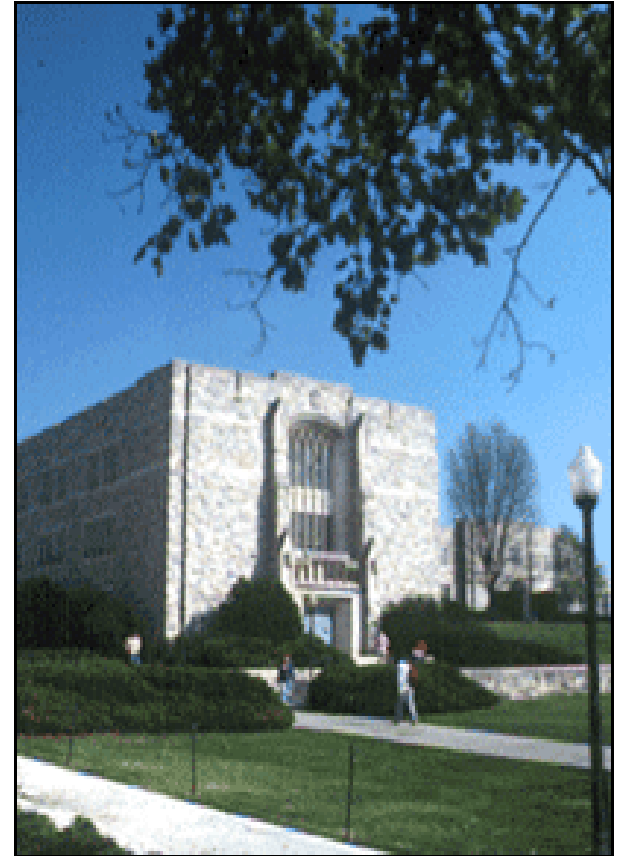
Seung-Hui Cho (1/18/84-4/16/07)



NORRIS HALL



SOURCE: New York Times



Kristina Anderson, Executive Director
Koshka Foundation for Safe Schools



Deceased, 4/16/2007



**ROSS ABDALLAH
ALAMEDDINE**



**CHRISTOPHER
JAMES BISHOP**



BRIAN ROY BLUHM



**RYAN CHRISTOPHER
CLARK**



**AUSTIN MICHELLE
CLOYD**



**JOCELYNE
COUTURE-NOWAK**



**DANIEL PEREZ
CUEVA**



KEVIN GRANATA



**MATTHEW
GREGORY
GWALTNEY**



**CAITLIN MILLAR
HAMMAREN**



**JEREMY
HERBSTTRITT**



**EMILY JANE
HILSCHER**



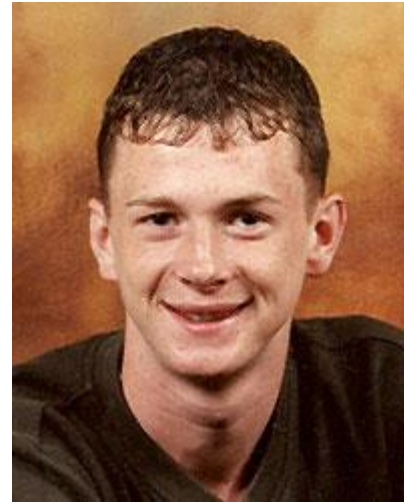
RACHEL HILL



**MATTHEW JOSEPH
LA PORTE**



JARRETT LEE LANE



HENRY J. LEE



LIVIU LEBRESCU



G.V. LOGANATHAN



**PARTAHI MAMORA
HALOMOAN
LUMBANTORUAN**



**LAUREN ASHLEY
MCCAIN**



**DANIEL PATRICK
O'NEIL**



**JUAN RAMON
ORTIZ-ORTIZ**



MINAL PANCHAL



**ERIN NICOLE
PETERSON**



**MICHAEL STEVEN
POHLE, JR.**



**JULIA KATHLEEN
PRYDE**



MARY KAREN READ



**REEMA JOSEPH
SAMAHA**



**WALEED MOHAMED
SHAALAN**



**LESLIE GERALDINE
SHERMAN**



**MAXINE SHELLY
TURNER**



**NICOLE REGINA
WHITE**





Immediate Response

- **UNIVERSITY ON LOCKDOWN AFTER SECOND SHOOTING INCIDENT. ORDER TO SHELTER IN PLACE. UPDATES VIA TELEVISION AND UNIVERSITY EMAIL.**
- **CONCERN – DO YOU LET OTHERS IN TO A BUILDING WHO ARE UNAWARE?**
- **DELAY IN NOTIFYING THE SCHOOL. ROOTS IN THE MORVA INCIDENT. LOCAL YOUTH WAS BEING TREATED IN A HOSPITAL FOR A RELATIVELY MINOR CRIMINAL ACT, BEAT A DEPUTY, TOOK HIS GUN, SHOT AND KILLED A SECURITY GUARD, LATER KILLED A POLICE OFFICER ON TRAIL ADJACENT TO CAMPUS. REPORT OF HIM ON CAMPUS, LARGE POLICE RESPONSE FOR WHICH THEY WERE CRITICIZED.**
- **APPEARANCE OF A DOMESTIC VIOLENCE ACT. FIRST INCIDENT AT 7:15 A.M., CHO LEFT CAMPUS, RETURNED TO NORRIS, 9:40 AM**

Response

Nikki Giovanni

Convocation

April 17, 2007



Nikki Giovanni April 17, 2007

- **WE ARE VIRGINIA TECH.**
 - **WE ARE SAD TODAY, AND WE WILL BE SAD FOR QUITE A WHILE. WE ARE NOT MOVING ON, WE ARE EMBRACING OUR MOURNING.**
 - **WE ARE VIRGINIA TECH.**
 - **WE ARE STRONG ENOUGH TO STAND TALL TEARLESSLY, WE ARE BRAVE ENOUGH TO BEND TO CRY, AND WE ARE SAD ENOUGH TO KNOW THAT WE MUST LAUGH AGAIN.**
 - **WE ARE VIRGINIA TECH.**
- **THE HOKIE NATION EMBRACES OUR OWN AND REACHES OUT WITH OPEN HEART AND HANDS TO THOSE WHO OFFER THEIR HEARTS AND MINDS. WE ARE STRONG, AND BRAVE, AND INNOCENT, AND UNAFRAID. WE ARE BETTER THAN WE THINK AND NOT QUITE WHAT WE WANT TO BE. WE ARE ALIVE TO THE IMAGINATIONS AND THE POSSIBILITIES. WE WILL CONTINUE TO INVENT THE FUTURE THROUGH OUR BLOOD AND TEARS AND THROUGH ALL OUR SADNESS.**
 - **WE ARE THE HOKIES.**
 - **WE WILL PREVAIL.**
 - **WE WILL PREVAIL.**
 - **WE WILL PREVAIL.**
 - **WE ARE VIRGINIA TECH.**
-

University Response

- **CLASSES CANCELLED FOR ONE FULL WEEK.**
 - **ACADEMIC COURSES**
 - **DROP ANY/ALL CLASSES**
 - **TAKE THE CURRENT GRADE IN THE CLASS**
 - **FINISH THE CLASS**
 - **RE-OPENING OF SCHOOL (APRIL 23, 2007)**
 - **COUNSELOR IN EVERY CLASSROOM – 225 LICENSED PROFESSIONALS**
 - **HANDOUTS FOR EVERY PERSON IN EVERY CLASS ON COPING WITH TRAUMA**
 - **PSYCHOLOGICAL FIRST AID**
 - **POLICE PRESENCE ON CAMPUS**
-

Media Response

- **1,000 JOURNALISTS ON CAMPUS**
 - **250 MEDIA TRUCKS**
 - **NATIONAL TELEVISION PRESENCE**
 - **NEWS CONFERENCES DAILY**
 - **16,000 UNIQUE NEWS STORIES IN THE FIRST TWO WEEKS AFTER THE EVENTS**
 - **MEDIA STAFFERS AND INTRUSIVENESS**
-

Trauma

Population Exposure Model

FIGURE 1: POPULATION EXPOSURE MODEL



- A:** Community victims killed and seriously injured
Bereaved family members, loved ones, close friends
- B:** Community victims exposed to the incident and disaster scene, but not injured
- C:** Bereaved extended family members and friends
Residents in disaster zone whose homes were destroyed
First responders, rescue and recovery workers
Medical examiner's office staff
Service providers immediately involved with bereaved families, obtaining information for body identification and death notification
- D:** Mental health and crime victim assistance providers
Clergy, chaplains
Emergency health care providers
Government officials
Members of the media
- E:** Groups that identify with the target-victim group
Businesses with financial impacts
Community-at-large

Population Exposure at VirginiaTech

(Hughes, M., Jones, R., et al 2007)

- A. 49 KILLED OR INJURED- 49 SEPARATE FAMILIES LEFT TO GRIEVE AND DEAL WITH TRAUMA TO LOVED ONES.**
 - B. 80 STUDENTS, FACULTY, AND STAFF PRESENT IN NORRIS HALL, PHYSICALLY UNHARMED BUT IN GREAT DISTRESS.**
 - C. FIRST RESPONDERS WERE STUDENT RESCUE SQUAD MEMBERS AND POLICE. EXTENDED FAMILY MEMBERS NUMBER IN THE HUNDREDS.**
 - D. NORRIS HALL IS CENTRAL TO CAMPUS AND NEXT TO THE MAIN ADMINISTRATION BUILDING SO HUNDREDS WATCHED THE POLICE RESPONSE FROM NEIGHBORING BUILDINGS.**
 - 50% OF STUDENTS REPORTED KNOWING ONE OF THE DECEASED.**
 - 80% OF STUDENTS KNOW SOMEONE WHO WAS A FRIEND OF THE DECEASED.**
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Stress and Trauma

- **GRIEF AND BEREAVEMENT, IN AND OF THEMSELVES, ARE NOT CONSIDERED A PSYCHOLOGICAL DISORDER**
- **DEATH BY VIOLENCE, EITHER WITNESSED DIRECTLY OR HAPPENING TO CLOSE FAMILY MEMBERS, IS INCOMPREHENSIBLE, UNIMAGINABLE AND OVERWHELMING TO US EMOTIONALLY, COGNITIVELY, PHYSICALLY.**
- **IN ATTEMPTS TO QUANTIFY LIFE EVENTS AS STRESSFUL, RESEARCH IN THE FIELD RATED THE MOST STRESSFUL EVENT IN LIFE AS THE DEATH OF A CHILD, THE NEXT WAS DEATH OF A SPOUSE.**
- **IN PSYCHOLOGICAL TERMS, THE EXPOSURE TO ACTUAL OR THREATENED DEATH AND SERIOUS INJURY CAN LEAD TO ACUTE STRESS DISORDER - IF YOU EXPERIENCE IT, WITNESS IT OR LEARN ABOUT IT HAPPENING TO A CLOSE FAMILY MEMBER OR FRIEND. IN THE ACUTE STAGE, THERE CAN BE ALTERATIONS IN CONSCIOUSNESS INCLUDING AMNESIA, OVERWHELMING GRIEF AND ABSENCE OF ANY POSITIVE EMOTION, INTRUSIVE MEMORIES OR DREAMS, HYPERAROUSAL AND SLEEP DISTURBANCE, AND AVOIDANCE OF MEMORIES, THOUGHTS, OR EXPOSURE TO REMINDERS OF THE EXPERIENCE. FOR THE ACUTE STRESS DIAGNOSIS, SYMPTOMS CAN LAST FROM THREE DAYS TO ONE MONTH.**
- **WHEN SYMPTOMS PERSIST BEYOND ONE MONTH, THE DIAGNOSIS BECOMES POSTTRAUMATIC STRESS DISORDER.**

Posttraumatic Stress Symptoms at Virginia Tech

- **HUGHES ET AL (2011) REPORT ON EXPOSURE TO TRAUMA AND SYMPTOMS OF POSTTRAUMATIC STRESS AMONG THE STUDENT BODY ENROLLED AT VIRGINIA TECH ON 4/16/20 WITH 4,639 RESPONDENTS TO INTERNET-BASED SURVEY. THE SURVEY DID NOT INCLUDE THOSE WHO WERE INJURED NOR DID IT INCLUDE FAMILY MEMBERS OF THE DECEASED OR INJURED.**
- **15.4% OF THE RESPONDENTS REPORTED HIGH LEVELS OF POSTTRAUMATIC STRESS.**
- **PREDICTORS OF POST-TRAUMATIC STRESS IN THE STUDENT COMMUNITY INCLUDED:**
 - **MORE DIRECT EXPOSURE TO THE TRAUMA**
 - **KNOWING SOMEONE WHO WAS KILLED OR INJURED**
 - **BEING UNABLE TO CONTACT FRIENDS IN THE IMMEDIATE AFTERMATH OF THE TRAGEDY.**
- **ONE YEAR LATER, STUDENTS AT HIGHEST RISK OF POSTTRAUMATIC SYMPTOMS WERE ALSO AT RISK FOR SEVERE GRIEF REACTIONS MEDIATED BY ALTERED WORLDVIEWS AND LOWERED SELF-EFFICACY.**

Psychological First Aid

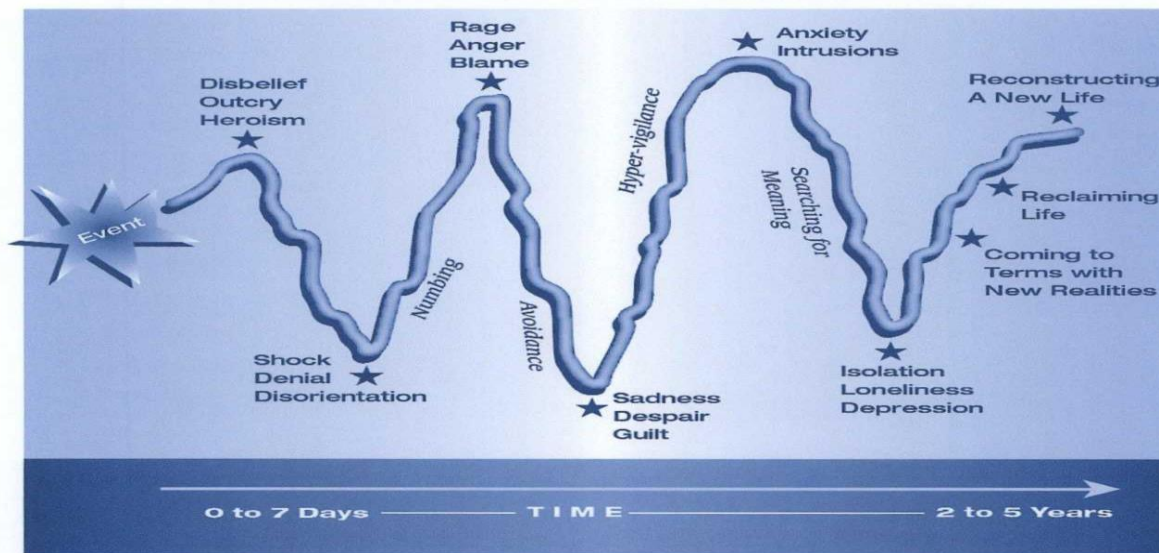
National Child Traumatic Stress Network
(Replaces Critical Incident Stress Debriefing)

- **CONTACT AND ENGAGEMENT**
 - **SAFETY AND COMFORT**
 - **STABILIZATION**
 - **INFORMATION GATHERING OF CURRENT NEEDS AND CONCERNS**
 - **PRACTICAL ASSISTANCE**
 - **CONNECTIONS WITH SOCIAL SUPPORTS**
 - **INFORMATION ON COPING**
 - **LINKAGE WITH COLLABORATIVE SERVICES**
-

Trajectory of Recovery

Model of Psychological Responses to Trauma and Traumatic Bereavement

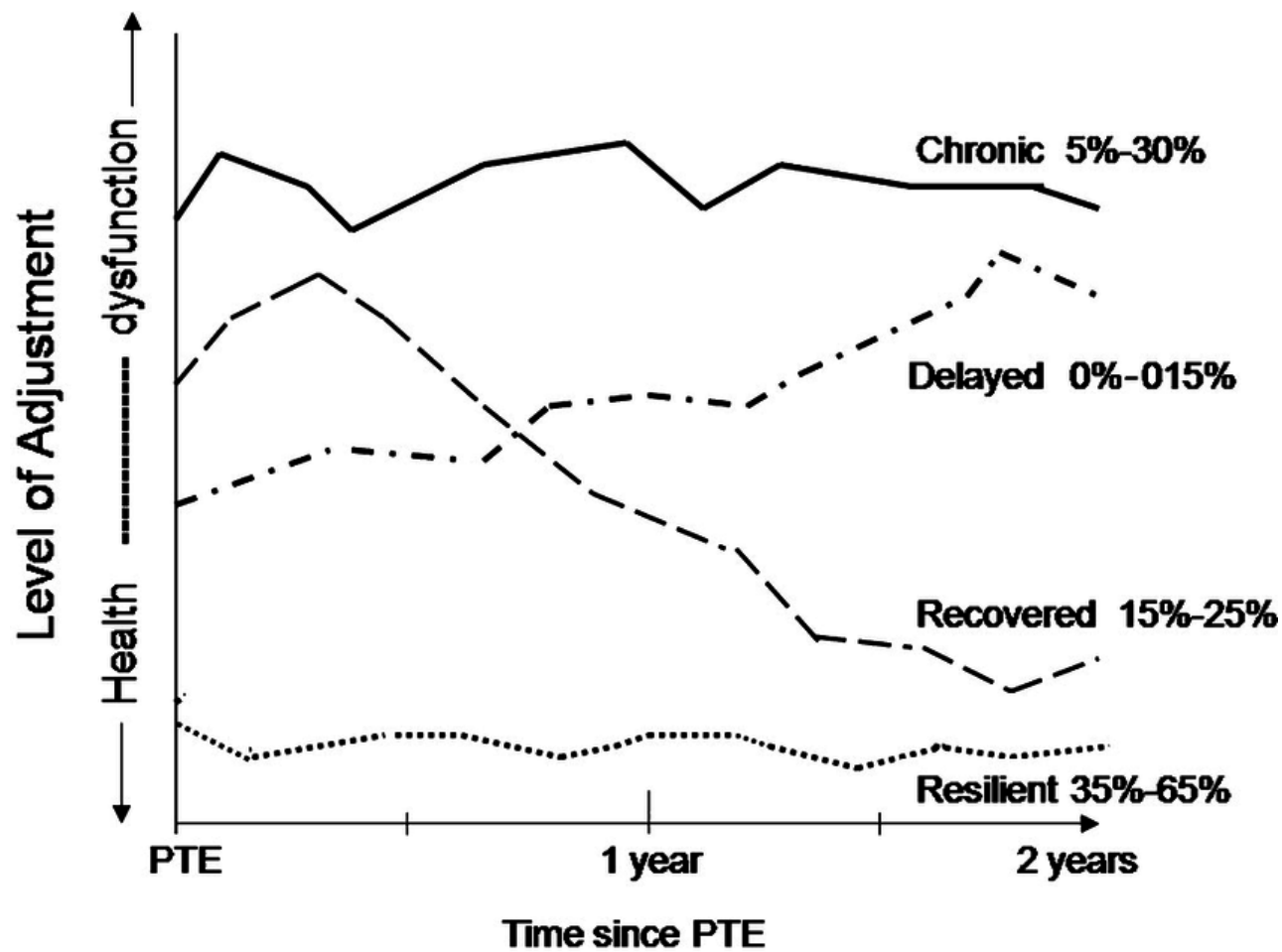
FIGURE 2: MODEL OF RESPONSES TO TRAUMA AND BEREAVEMENT



(Note. Adapted from CMHS, 1994)

Trauma Findings

- The prevalence of posttraumatic symptoms among the families of the deceased and the survivors was not assessed in research.
 - The probability of these symptoms is likely to be very high family members of the deceased continue to grieve deeply and that some survivors were shot multiple times.
 - Despite the prevalence of PTSD noted above, the majority of individuals dealing with the effects of a traumatic event cope and are functional.
 - Reviewing the trauma literature, Bonanno (2010) reports that most (35-65%) individuals have generally uninterrupted functioning over time; 15-25% recover from trauma within a year, while others have delayed reactions, 0-15%, and others have more chronic symptoms, 5-30%. Surveys measure reactions to 9/11, Hurricane Katrina, Vietnam and Gulf War era veterans, Chowchilla kidnapping, prisoners of war.
-



Bonanno GA, et al. 2011.

Annu. Rev. Clin. Psychol. 7:511-35

Coping and Recovery

- **FAMILY MEMBERS. TRAJECTORIES OF RECOVERY VARY FOR EACH FAMILY AND EACH FAMILY MEMBER. AT THE TENTH ANNIVERSARY, A PARENT WHOSE CHILD WAS KILLED ON CAMPUS WAS QUOTED IN AN ARTICLE; HE NOTED THAT 3,650 DAYS HAD PASSED AND HE THOUGHT OF HIS CHILD EACH AND EVERY ONE OF THOSE DAYS. FOR BEREAVED FAMILIES, THERE IS NO CLOSURE, LOSS REMAINS IN VARIOUS FORM — GRIEF LASTS.**
 - **SURVIVORS. ACCORDING TO MEDIA REPORTS, EACH OF THE WOUNDED SURVIVORS RETURNED TO VIRGINIA TECH AND EARNED THEIR DEGREES. ONE SURVIVOR REMARKED THAT HER RECOVERY TOOK PLACE OVER THE DECADE AND WAS MARKED BY SURVIVOR GUILT.**
 - **FIRST RESPONDERS. MANY ARE STILL EMPLOYED AT TECH AND IT WAS NOTED THAT SOME HAD DELAYED REACTIONS TO THE TRAGEDY.**
 - **MENTAL HEALTH PROFESSIONALS. COMBINE EMPATHIC LISTENING AND A VIVID IMAGINATION AND YOU GET VICARIOUS TRAUMATIZATION AND/OR SECONDARY TRAUMA. THERAPISTS HAVE NEEDED TO SEEK THEIR OWN ASSISTANCE IF THE WORK BECOMES OVERWHELMING; I WOULD SAY THAT ME AND MY STAFF HAVE UTILIZED ALL RESOURCES INCLUDING HAVING CONSULTANTS COME IN TO WORK WITH US.**
-

Coping and Recovery

- **UNIVERSITY. IN THE AFTERMATH OF THE TRAGEDY, APPLICATIONS FOR ADMISSION TO VIRGINIA TECH ROSE SIGNIFICANTLY. THE UNIVERSITY CONTINUES TO GROW AND DEVELOP.**
 - **COMMUNITY. REMINDERS AND VESTIGES OF THE TRAGEDY ARE EASILY VISIBLE. THE MEMORIAL STONES ARE SET IN THE MOST CENTRAL PLACE ON CAMPUS. THE COMMUNITY PROVIDES SUPPORT AND ENCOURAGEMENT. CONNECTIONS AMONG COMMUNITY MEMBERS CONTINUE AND MAY GROW, E.G., COMMUNITY SERVICE BOARD, ANNIVERSARY EVENTS.**
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Lessons Learned

Leadership

- **WHO IS IN CHARGE?**
- **WHAT AUTHORITY DO THEY HAVE? DO THEY HAVE THE ABILITY TO BYPASS USUAL STRUCTURES AND PROCEDURES?**
- **CROSS BOUNDARIES – ALL DEPARTMENTS MUST RESPOND**
- **NOT THE PRESIDENT/PRINCIPAL SINCE THEY WILL BE TOO BUSY.**
- **FINANCIAL COMMITMENT**
- **CRISIS EXPERIENCE**
- **MANDATORY MEETINGS FOR RELEVANT DEPARTMENTS DAILY**

Communications

Crisis Communications – Lawrence G. Hincker

- **CELL PHONE TRAFFIC WILL EXCEED CAPACITY AND WILL STOP WORKING – TECH’S WAS DOWN FOR 24 HOURS.**
 - **WEBSITE TRAFFIC WILL INCREASE DRAMATICALLY – HAVE A “LIGHT PAGE” SUBSTITUTE SITE. AFTER AN INCIDENT IN 2011, THERE WAS AN 85-FOLD INCREASE IN TRAFFIC.**
 - **CONSIDER HAVING FULL BACKUP FOR ADMINISTRATIVE FUNCTIONS ELSEWHERE, E.G., LOYOLA.**
 - **EMERGENCY NOTIFICATION SYSTEMS- MULTIPLE DISTRIBUTION CHANNELS, E.G., BLAST E-MAIL, TEXT, PHONE MESSAGE, LOUDSPEAKERS, SIGNAGE IN BUILDINGS, SOCIAL MEDIA.**
 - **SATELLITE PHONES? PROTECTED MODES OF COMMUNICATION.**
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Mutual Aid Arrangements

- **PLANNING AND ORGANIZATION PRIOR TO EVENT**
 - **POLICE ACROSS JURISDICTIONS (LOCAL, STATE, FEDERAL)**
 - **EMERGENCY AID**
 - **COUNSELING AND HEALTHCARE**
 - **TRAINING FOR ALL PARTICIPANTS INCLUDING TABLE-TOP EXERCISES**
 - **AVOID UNTRAINED VOLUNTEERS**
-

McCabe, Andrew J. The Threat. New York: St. Martin's Press, 2019.

- **“COORDINATING A CRISIS RESPONSE ON THIS SCALE, INVOLVING ALL THESE RESOURCES, REQUIRES PRIOR EXPERIENCE OF SIMILAR EVENTS. THE JOB IS TEACHABLE IN ONLY ONE WAY – BY GOING THROUGH IT. CRISIS LEARNING CAN’T BE TAUGHT BY A BOOK. NO LINK CHART OR ALGORITHM COULD ACCOUNT FOR ALL OF ITS VARIABLES. CRISIS LEARNING HAPPENS ONLY IN RELATIONSHIP: BY BEING PART OF THE GROUP WHOSE JOB IS TO MANAGE SUCH URGENT, GIGANTICALLY INTRICATE, HIGH-STAKES RESPONSES. THE MAIN REASON I WAS READY WAS THAT I HAD BEEN MANAGING THE RESPONSE TO SUCH ATTACKS FOR YEARS.**
 - **BOSTON MARATHON, APRIL 15, 2013.**
-

The Blame Game – Investigations and Lawsuits

Investigations

- **U.S. DEPARTMENTS OF HEALTH & HUMAN SERVICES, JUSTICE, AND EDUCATION (2007). REPORT TO THE PRESIDENT: ON ISSUES RAISED BY THE VIRGINIA TECH TRAGEDY. [HTTP://WWW.HHS.GOV.VTREPORT](http://www.hhs.gov.vtreport).**
- **MASS SHOOTINGS AT VIRGINIA TECH, REPORT OF THE REVIEW PANEL PRESENTED TO GOVERNOR KAINE, COMMONWEALTH OF VIRGINIA. [HTTPS://WWW.VTREVIEWPANEL.ORG/REPORT/INDEX.HTM](https://www.vtreviewpanel.org/report/index.html)**
L
- **OFFICE OF THE INSPECTOR GENERAL FOR MENTAL HEALTH, MENTAL RETARDATION & SUBSTANCE ABUSE SERVICES (2007). INVESTIGATION OF THE APRIL 16, 2007 CRITICAL INCIDENT AT VIRGINIA TECH. REPORT: #140-07.**
- **OFFICE OF THE PRESIDENT. (2008) INTERNAL REVIEW OF THE VIRGINIA TECH TRAGEDY.**
- **381 RECOMMENDATIONS.....**

Financial Costs

Green, A. & Cooper, D. Auditing the Cost of the Virginia Tech Massacre. Center for American Progress, 2012.

VIRGINIA TECH COSTS	
SAFETY AND SECURITY	\$11,401,794
FACILITIES AND EQUIPMENT	\$6,391,451
COMMUNICATIONS	\$2,519,264
LEGAL AND DATA RETENTION	\$4,791,702
ARCHIVING	\$324,258
FAMILY SERVICES	\$2,747,138
CAMPUS HEALTH AND WELLNESS	\$7,426,361
OTHER OPERATIONAL IMPACTS	\$3,172,402
VIRGINIA TECH SUBTOTAL	\$38,774,402
STATE OF VIRGINIA	\$,8,865,650
VIRGINIA LOCAL GOVERNMENT	\$3,581
FEDERAL GOVERNMENT	\$3,661,685
TOTAL	\$48,233, 643

Repercussions

Guns and Mass Shootings

Threat Assessment (& Risk Assessment)

Mental Illness and Violence

Crisis Planning and Management

References

- BONANNO, G.A. ET AL (2011) RESILIENCE TO LOSS AND POTENTIAL TRAUMA. *ANNUAL REVIEW OF CLINICAL PSYCHOLOGY*, 7, 511-35
- HUGHES, , M., BRYMER, M., CHIU, , W.T., FAIRBANK, J.A., JONES, R.T., PYNOOS, R.S., & KESSLER, R.C. (2011) POSTTRAUMATIC STRESS AMONG STUDENTS AFTER THE SHOOTING AT VIRGINIA TECH. *PSYCHOLOGICAL TRAUMA: THEORY, RESEARCH, PRACTICE AND POLICY*. 3 410-411.
- MASTEN, A.S. (2014) *ORDINARY MAGIC: RESILIENCE IN DEVELOPMENT*. NEW YORK: THE GUILDFORD PRESS
- RUTTER, M. (2013) ANNUAL RESEARCH REVIEW: RESILIENCE-CLINICAL IMPLICATIONS. *JOURNAL OF CHILD PSYCHOLOGY AND PSYCHIATRY*, 54, 474-487.
- U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES. (2004) *MENTAL HEALTH RESPONSE TO MASS VIOLENCE AND TERRORISM: A TRAINING MANUAL* (DHHS PUBLICATION NO. SMA 3959). ROCKVILLE, MD: ~~CENTER FOR MENTAL HEALTH SERVICES, SUBSTANCE ABUSE AND MENTAL HEALTH ADMINISTRATION.~~

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Stress and Risk of Cardiovascular Disease

Song, H., Fang, F., Arnberg, F.K. et al BMJ 2019;365:1255. doi:10.1136/bmj.1255

- **SWEDISH PATIENTS WHO RECEIVED A DIAGNOSIS OF ACUTE STRESS, POST-TRAUMATIC STRESS DISORDER, AND ADJUSTMENT DISORDER WERE FOLLOWED (N= 136,637).**
 - **MATCHED FOR UNAFFECTED FULL SIBLINGS, AND UNEXPOSED INDIVIDUALS.**
 - **FOLLOWED FOR CARDIOVASCULAR DISEASE (HEART DISEASE, HYPERTENSION, CEREBROVASCULAR DISEASE, ARRHYTHMIA)**
 - **WITHIN THE FIRST YEAR OF A STRESS DISORDER, RISK OF A CARDIOVASCULAR EVENT WAS TWICE THAT OF FULL SIBLINGS.**
 - **RISK WAS ATTENUATED AFTER THE FIRST YEAR.**
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Virginia Tech Psychological Symptoms and Counseling

- At three months following the shootings, Hughes et al (2007) reported that among students, at least 15% had significant signs of post-traumatic stress and an additional 21% had symptoms consistent with elevated risk for PTSD
 - Among faculty and staff, the numbers were 3% and 17%
 - Over 10% of students had sought counseling since the shootings and 28% felt a need to seek counseling.
 - Use of the Cook Counseling Center increased 56% over a two year period in the aftermath of the shootings.
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Resilience Study Method – Project Competence

(Masten, 1988)

1. Measurement of Adversity/Risk. Fifty item “Life Events Questionnaire” similar to Holmes & Rahe Life Stress Scale which assigns values to negative life events including change measures (even positive change can be stressful). “Most salient of the stressful experiences ...involved chronic family dysfunction, including maltreatment and domestic violence or chronic alcohol or mental health problems in a parent.”
 2. Measure functionality including academic achievement, rule abiding/breaking conduct, social competence with peers - under a broad heading of competence.
 3. Longitudinal studies over course of development.
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Patterns of Resiliency

- Resistance. “patterns of reasonably steady and positive adaptive behavior in the presence of significant threats”.
 - Recovery. An “individual’s adaptive function declines as a result of adversity, then returns to a positive level.....expected in situations of severe continuing adversity of sudden catastrophe.”
 - Normalization. After beginning in adverse environment, when placed in a more supportive situation, there is a pattern of accelerated development.
 - Transformation. “Adaptive functioning improves in the aftermath of adversity...concept of posttraumatic growth.”
-

Project Competence Findings

- Resilient individuals exposed to extremely severe or prolonged adversity fared well on major developmental tasks
 - Resilient individuals resemble those from low adversity backgrounds exhibiting good intellectual functioning, positive self-worth, conscientiousness, agreeableness, and happiness
 - Individuals exhibiting maladaptive patterns of development were more stress reactive, more easily upset, less conscientious, and less agreeable.
 - Protective factors enhancing resilience were (1) global quality of parenting and (2) general intellectual capacity (Masten, 2014, 75-76)
 - Many studies support and replicate findings.
-

“Short List” of Factors Associated with Resilience

(Masten, 2014, pg 148)

Resilience Factors	Adaptive Systems
Effective caregiving and parenting quality	Attachment; family
Close relationships with other capable adults	Attachment: social networks
Close friends and romantic partners	Attachment; peer and family systems
Intelligence and problem-solving skills	CNS learning and thinking systems
Self-control; emotional regulation; planfulness	CNS self-regulations systems
Motivation to succeed	Mastery motivation and reward system
Self-efficacy	Mastery motivation
Faith, hope, belief life has meaning	Spiritual and cultural belief systems
Effective schools	Education systems
Effective neighborhoods, collective efficacy	Communities

Recovery & Resilience

- How do people recover from trauma and loss? There is a great emphasis on resilience but its meaning may have been lost.
 - Resilience research arose from the recognition that, in the face of adversity, some individuals did surprisingly well. Resilience refers to positive adaptation in the context of risk or adversity; includes the capacity for doing well under adversity, the processes of coping with challenges, recovery from catastrophe, posttraumatic growth, and achievement of good outcomes among people at high risk for failure of maladaptation (Masten, 2014). The key piece of this is adversity.
 - Researchers in child development looked for explanatory factors that predicted success when all indicators were that children were vulnerable and at-risk. Norman Garmezy (and students Ann Masten and Dante Cicchetti among others), Sir Michael Rutter, Emmy Werner and Lois Murphy were early leaders in this field of developmental psychopathology.
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The Course of Trauma Recovery

- Time may heal: Individuals tend to do better over time with the majority remaining functional at work and at home although a caution is that some reactions are delayed or may recur with changes or other exposures.
 - Again, Dose Matters: Some of the most seriously affected will continue to experience symptoms for years later.
 - Treatment Matters: Those who seek treatment may recover more quickly. Effective treatments include cognitive-behavioral therapy, cognitive processing therapy, EMDR (Eye Movement Desensitization Reprocessing) therapy.
 - Resources Matter: PTSD and complex trauma with multiple diagnoses take time; if functionality is impaired, costs of living, treatment, trainings requires resources, e.g., the Veterans Administration.
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Qualifiers

1. Dose Matters. The cumulative effect of exposure to adversity and risk has direct effects on functioning in children. The effects may represent a threshold effect that overwhelms coping mechanisms. Loss of life, physical proximity to disaster, greater perceived threat, and loss of a loved one or a friend have greater dose effects. Age of child, gender of child, protective effects of having a close family member affect response.
 2. Resilience is NOT a Trait. “Many resources and systems are involved in adaptive behavior and recovery of children and many are not “in” the child (Masten, pg. 300). Lack of resilience is not a failure of the individual and may be construed as blaming the victim (which may happen regularly with the less privileged in our culture).
 3. Inoculation effects. Gradual exposure or mastery may enable increased coping. Medical model of timed exposure to pathogens, e.g., polio. Having coped with one disaster may enhance later functioning in a disaster.
 4. Potential cost to resilience. Adaptive process to maintain homeostasis in response to stress can take a toll on body, termed “allostatic load”. Despite continued functioning at high level, there may be a biological cost.
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Predictors of Trauma Response from the Literature

- Dose Matters: Higher levels of exposure to traumatic event predicted the likelihood of PTSD so being in immediate physical danger, experiencing physical injury, witnessing death, or undergoing sexual assault increase symptoms.
 - Higher rates of prior trauma including childhood maltreatment predicted increased rates of PTSD
 - A personal history of mental illness, family mental illness and early adversity predicted PTSD. Individuals with PTSD also tend to meet criteria for other disorders; comorbidity may reach 83% with depression, anxiety and substance abuse frequently found.
 - Socioeconomic factors such as emotional support, economic resources, and sense of self-efficacy were protective factors.
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- **SEVEN UNIVERSITIES CLOSED FOR THE ENTIRE FALL SEMESTER.**
 - **84,000 STUDENTS AND 15,000 FACULTY WERE DISPLACED.**
 - **HISTORICALLY BLACK COLLEGES AND UNIVERSITIES INCLUDING XAVIER UNIVERSITY, DILLARD UNIVERSITY AND SOUTHERN UNIVERSITY WERE UNDER WATER**
 - **LOYOLA UNIVERSITY AND TULANE UNIVERSITY WERE LOCATED ON THE MISSISSIPPI RIDGE AND SUFFERED LESS PHYSICAL DAMAGE.**
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