

The Other Diaspora: New Orleans Student Evacuation Impacts and Responses Surrounding Hurricane Katrina*

Anthony E. Ladd
Loyola University New Orleans

John Marszalek
Xavier University of Louisiana

Duane A. Gill
Mississippi State University

* Paper prepared for the annual meetings of the Southern Sociological Society, March 22-26, 2006, New Orleans, LA.

Acknowledgements

Major support for this project was provided by the Mississippi Agricultural and Forestry Experiment Station (MIS-605270) and the Social Science Research Center (SSRC) at Mississippi State University. Additional support was provided by the SSRC's Societal Risk Unit and Decision Support Laboratory. The Howard Hughes Medical Institute provided funding for a research sabbatical for John Marszalek. The authors would like to acknowledge the contributions of Dr. Art Cosby, Dr. Virginia Fee, Dr. Dennis McSeveney, Angela Maggard, Ann Edwards, and Katie Lynch. This research was approved by Mississippi State University's Institutional Review Board (IRB #05-293).

INTRODUCTION

In September, 2005, an interdisciplinary consortium of social science faculty and researchers from Mississippi State University (MSU), University of New Orleans, Xavier University of Louisiana, and Loyola University New Orleans formed at the Social Science Research Center (SSRC) at MSU to assess the impact of Hurricane Katrina on college students from New Orleans. The storm's massive winds and tidal surges not only devastated much of the Gulf Coast, but contributed to a breaching of the New Orleans levees causing over 80% of the city to flood. One result of this disaster was the largest Diaspora in U.S. history; displacing over one million people from the Gulf Coast region, including over 50,000 students who were forced to evacuate from their New Orleans campuses. In the face of varying degrees of physical damage and destruction, as well as millions of dollars in infrastructure repairs, payroll outlays, and lost tuition funds, every university in New Orleans closed its doors for the Fall semester. As colleges and universities across the U.S. responded to the catastrophe by announcing that they would open their admission doors to any student displaced by the hurricane, tens of thousands of these students relocated to new institutions outside the Gulf Coast region to enroll in classes for the 2005 Fall term. Under these conditions, we developed a study of social impacts experienced by displaced students from three major New Orleans universities – Loyola University New Orleans, University of New Orleans, and Xavier University of Louisiana.

SURVEY DESIGN

Our study was guided by five broad research questions:

1. What were the psychosocial, medical, and mental health impacts of the disaster on students? What steps have they taken to try and reduce the stressors and difficulties in their lives?
2. What were the storm experiences and behavioral patterns of the students (in relationship to their family members and friends) who were forced to evacuate their communities in the face of Hurricane Katrina? What physical and personal impacts/losses did they incur?
3. How satisfied were the students with the emergency responses of government and other major social institutions to the disaster?
4. How did the disaster impact the student's projected educational performance for the 2005 fall semester? What existing university counseling programs and other campus services have the students utilized to help them cope with the disaster and what additional services would they find useful?
5. What do students think their university might have done to better prepare for this disaster? What can the university provide them and other disaster survivors to make their lives less stressful? What events surrounding the hurricane impacted them the most?

We used a web-based questionnaire designed to assess some of Hurricane Katrina's more salient impacts on students, including: storm and evacuation experiences, economic and personal losses, psychosocial changes, service needs, educational performance, and levels of trust in and satisfaction with responses by government and other social institutions. Our survey instrument was patterned after a

concurrent survey of Mississippi State University students (see Fee et al. 2006), but included items developed specifically for displaced students from New Orleans.

THE SAMPLE

Approval to conduct our web-based survey of the student populations was granted by each school's respective Institutional Review Board (IRB) in November, 2005. The sampling frame for each university consisted of all the undergraduate and graduate students who had been officially registered for at least one class for the Fall, 2005 semester when the disaster struck on August 29th. On this date, Loyola University reported a fall enrollment of 5,644 students, Xavier University reported an enrollment of 4,000 students, and UNO reported an enrollment of 17,250 students.

University administrators from all three institutions provided an electronic file listing current email addresses for all students. This email file included student's existing New Orleans university email account, a personal email account, and/or newly reported email address from whatever college or university they were attending during the fall term. (Note: many of these personal or new university email addresses were collected through the emergency remote websites of the New Orleans universities while their normal telecommunication systems were down due to storm damage and students were unable to access their regular university email account.) Because we had no way of knowing which university or personal email address was most likely to reach the student in a timely fashion, some students were sent an email to each of their email accounts inviting them to participate in the survey. Despite the necessity of sending out more than one email/survey link to students with multiple email addresses, we checked to ensure that no student returned more than one survey. This email included an informed consent statement contact information for a faculty person from the research team, as well as descriptions of study objective, research procedures, steps taken to protect the participants' privacy. If students chose to participate by clicking on the survey link, they were directly connected from the email message to a web-based survey instrument contained in a separate software program.

Emails with a link to our web-based survey were sent to the student body of all three universities beginning with Loyola University on November 10, 2005, Xavier University on November 17, 2005, and University of New Orleans on November 23, 2005. Emails were sent at different times for each university based on the dates we received IRB and administrative approval. The initial emails were mailed to 7,574 Loyola student accounts, 7,091 Xavier student accounts, and 27,023 UNO student accounts. Following the initial email, two reminder emails were sent at one week intervals for those who had not yet responded to the study. On December 16th, all surveys were officially closed. A total of **7,100 students** from all three universities responded to the survey, resulting in an **effective response rate of 38%**.

RESEARCH FINDINGS

Research findings are divided into eight sections: (1) sample demographics; (2) evacuation and storm experiences; (3) economic impacts and losses; (4) government and institutional disaster response; (5) medical impacts; (6) mental health impacts; (7) academic concerns and relocated university experiences; and (8) the need for university services after returning to the New Orleans university.

Section I: Sample Demographics

- A majority of respondents were female (73%) and White/Caucasian (55.8%) with the second largest racial/ethnic group being African-American (28.6%). Hispanic/Latinos constituted 5.7% of the sample and Asian-American Islanders made up 4.9%.
- Over half of the respondents identified a Christian religion as their religious preference, with the largest group being Catholic (44.6%), which is not surprising since both Loyola and Xavier are Catholic universities.
- Most participants were aged 17 to 22 (58.8%), single (72.5%), and heterosexual (94.6%).
- In terms of socio-economic background, at least 40% of students came from a family where parents had a “white-collar” occupation, a Bachelor’s degree or higher, and made over \$50,000 a year in income.
- Participants were distributed almost equally in regards to undergraduate university classification.

Overall, the sample characteristics were roughly proportionate to those of the demographic profiles of the universities in general.

Section II: Evacuation and Storm Experiences

- Most students discovered that their universities had cancelled classes due to Hurricane Katrina through their university website (59.9%).
- An overwhelming majority (84.4%) of students evacuated before the hurricane landed.
- Almost a third of students (29.8%) had a family member, significant other, or friend who was forced to take shelter from the hurricane in either the New Orleans Superdome or the Convention Center.
- Most students evacuated less than 36 hours before the hurricane (53.2%) in their own vehicle (60.3%) or someone else’s vehicle (34.8%).
- Most students initially evacuated to a family or friend’s home (59.2%).
- The majority of students (61.4%) evacuated or relocated to a new residence/shelter twice and over a third (36%) evacuated three or more times.
- Over one-half of students (52.7%) were affected by a shortage of financial resources or access to cash/credit during their evacuations and over one-fourth (28.8%) were affected by a shortage of gasoline.
 - Over 80% of students (81%) had their on-or off-campus residence damaged and 40.8% said that they were unable to continue living in that place of residence as of November, 2005.
- Over one-fourth of students (26%) had a family member, significant other, or close friend who was missing during or after the hurricane.
- Most students (66.2%) indicated that their universities did not provide any evacuation assistance.
- Most students (75%) relied on their families for basic necessities during their evacuation and for guidance (60%) regarding future plans after their evacuation.
- Almost one-tenth (9.1%) of students had family members, significant others/partners, or close friends who lost their lives and 12.5% had people close to them who were injured.
- Over one-half (53.5%) of students experienced a significant degree of fear from the storm and over one-half (52.2%) felt that the disaster was largely caused by human/technological error, as opposed to natural events.

Section III: Economic Impact and Losses

- An overwhelming majority of students (84.6%) reported that they incurred some financial loss, and over one-third (39.4%) indicated that they lost their jobs as a result of Hurricane Katrina.
- About a fifth of students (21.7%) lost a vehicle.
- About two-thirds (67.2%) reported they spent at least \$250 on both transportation/fuel and food/clothing (75.1%) during their evacuations and relocations.
- Almost one-third (30.1%) spent over \$500 on hotels and lodging.
- Most students applied for disaster assistance from FEMA (80.5%) and the Red Cross (62.3%), while 20% applied for unemployment assistance.
- A majority of students (69.1%) received or expected to receive FEMA funds and almost one-half (54.3%) received/expected financial assistance from the Red Cross.

Section IV: Government and Institutional Disaster Response

- A majority of students expressed dissatisfaction with the disaster response of the President of the U.S. (72.6%), FEMA (71.9%), and the Governor of Louisiana (66.1%), while about one-third expressed dissatisfaction with the Mayor of New Orleans (36.4%), local government officials (43.4%), and the national media (44.7%).
- A majority of students were satisfied with the disaster response of the Red Cross (60%) and other charities and private benefactors (61.8%).
- Most students stated that based on their disaster experiences, they did not trust the President of the U.S. (67%), FEMA (61.7%), the federal government (60.3%), or the state government (58.1%).
- Almost one-half (46.5%) reported that they did not trust their local government, nor the national media (49.5%).

Section V: Medical Impacts

- Almost one-fourth (23.6%) of students reported seeing a doctor or health care provider as a result of the hurricane.
- Over one-fourth of students reported experiencing the following physical symptoms more than usual since the hurricane: backaches (27.6%), stomach problems (27.9%), nausea/abdominal distress (32.3%) and joint and muscle pains (27%).
- Approximately one-half of students reported the experiencing the following physical symptoms more than usual since the hurricane: fatigue (51%), headaches (47.1%), and sleeping problems (53.2%).
- Over one-half (51.9%) of students stated that their diets were worse than before the hurricane.
- Some students indicated that they had engaged in the following behaviors more than usual since the hurricane: alcohol consumption (21.2%), caffeinated beverages (35.8%), food consumption (37.7%), and watching television (37.5%).
- Over one-half of students (51.9%) reported that they had not been able to function normally physically or mentally for up to two months after the hurricane.

Section VI: Mental Health Impacts

Mental health impacts were assessed using two standardized measures; the General Health Questionnaire (GHQ) and the Impact of Event Scale (IES) and an unstandardized measure of anxiety used in a previous hurricane study (Riad 1998). The GHQ (Goldberg 1972) measures social dysfunction and depression in community settings and non-psychiatric clinical settings (e.g., primary care or general practice). The IES (Horowitz 1974; Horowitz et al. 1979) measures event-specific psychological stress based on the rationale that highly stressful events are likely to produce high levels of recurring, unintentional, and distressing feelings and thoughts (Intrusive Stress), as well as high levels of intentional efforts to suppress these feelings and avoid reminders of the event (Avoidance Symptoms). The combined subscales serve as a proxy for Post Traumatic Stress Disorder (PTSD).

With regard to the GHQ:

- Almost two-thirds of students (64.9%) reported that over the past few weeks they had been able to concentrate on whatever they are doing less than usual, that they have been able to enjoy their normal day-to-day activities less than usual (63%), feeling reasonably happy less than usual (50%), and that they had felt that they were playing a useful part in things less than usual (45%). This is symptomatic of social dysfunction.
- Almost six out of ten students (57.9%) reported that over the past few weeks they had been feeling constantly under strain more than usual, feeling unhappy and depressed more than usual (55.4%), losing sleep because of worry more than usual (46.2%), and feeling unable to overcome difficulties (35.8%). These are indicators of depression.

A total GHQ scale (ranging from 0 to 12) was calculated based on a graded increase in the number of symptoms reported by respondents. In addition, social dysfunction and depression subscales were calculated. The mean score for the total GHQ was 5.3, indicating that, on average, students reported symptomatic responses to five of 12 questions. Mean scores for the social dysfunction subscale (range = 0 to 6) and the depression subscale (range = 0 to 6) were 2.9 and 2.4 respectively.

With regard to the IES:

- More than one-half reported that in the past seven days, they either *sometimes* or *often* found themselves thinking about the disaster when they didn't mean to (62.6%), having pictures of the disaster pop into their minds (59.0%), being unexpectedly reminded of the disaster (54.0), and having reminders of it bring back feelings they first felt about it (49.4%). These items indicate intrusive recollections triggered by the disaster.
- Almost one-half reported that in the past seven days, they had either *sometimes* or *often* found themselves having to stop themselves from getting upset when they thought of the disaster or were reminded of it (52.8%), feeling as if it had not happened (50.2%), trying not to think about the disaster by forcing their attention to other things (48.2%), and feeling numb (46.7%). These items indicate avoidance behaviors triggered by the disaster.

In addition to a total IES, two subscales were created from the IES items: Intrusive Stress and Avoidance Stress. The total IES ranges from 0 to 75 and can be interpreted as follows: scores between 0 and 8 are in a subclinical range; scores between 9 and 25 are in a mild range; scores between 26 and 43 are in a moderate range; and scores 44 and above are in a severe range. Among respondents, 26.5% were in the severe range and 25.7% were in the moderate range (see Hutchings and Devilly 2005).

The mean score on the Intrusive Stress Subscale of the IES was 14.3. Comparing with other disasters, Gill and Picou (1998) reported mean scores of 17.2 for individuals in a community adjacent to a superfund site (four years after initial litigation); 16.5 for individuals in a community affected by the *Exxon Valdez* disaster (five months after the spill), and 13.7 for individuals in a community that experienced a train derailment and toxic spill (18 months after the disaster). Comparing in clinical settings, Seidner et al. (1988) reported mean intrusive stress scores of 21.6 for clinical patients with symptoms due to bereavement within three to six weeks after death and 13.8 six months after death, as well as mean scores of 23.8 for rape victims in the initial assessment and mean scores of 11.4 two years after the rape.

The mean score on the Avoidance Behavior Subscale of the IES was 14.4. Gill and Picou (1998) reported mean scores of 16.4 for individuals in a community adjacent to a superfund site (four years after initial litigation); 11.1 for individuals in a community affected by the *Exxon Valdez* disaster (five months after the spill), and 11.4 for individuals in a community that experienced a train derailment and toxic spill (18 months after the disaster). Seidner et al. (1988) reported mean avoidance scores of 26.0 for rape victims in the initial assessment and mean scores of 16.0 two years after the rape.

With regard to Anxiety:

- Over one-half of the respondents reported that in the past seven days, they either *sometimes* or *often* felt depressed (55.3%), felt anxious (54.1%), and cried more easily than usual (52.4%).
- An Anxiety Scale ranging from 0 to 25 was created (mean = 10.3). Although no standards exist for this scale, almost one-third (34.6%) scored over 14 on the scale, which may indicate a substantial number of distressed respondents.

Section VII: Academic Concerns and Relocated University Experiences

- Almost three-fourths of students (74.3%) believed that it was either “somewhat,” “very,” or “definitely likely” that their academic performance had been negatively affected by their disaster experiences.
- Over one-third of students (36.3%) stated they had withdrawn from classes for which they signed up AFTER Hurricane Katrina.
- Overall, students reported the following positive experiences at the universities where they took classes while their original universities were closed: being able to take classes required for students’ majors (80.6%); taking classes that could be transferred back to their original universities (93.9%); taking electives required for their majors/minors (81.3%); taking classes at no additional cost other than the tuition students originally paid (64.8%); being able to obtain adequate housing (78.6%); or being able to meet new friends (68.6%).
- The majority of students (60.5%) appeared to have difficulty obtaining academic advising and 55.2% reported that they were not able to contact their advisors at their New Orleans universities.
- The majority of students did not utilize most of the available campus services at their relocated university.

Section VIII: Returning to Students’ New Orleans University

- A large majority (88.1%) stated they planned to return to their universities when they reopened.
- The majority of students reported that they would find it “somewhat” to extremely useful” for their New Orleans university to provide them with a range of campus services when they returned.

SUMMARY AND CONCLUSIONS

The preliminary results of this study suggest that Hurricane Katrina and the historic Diaspora that followed created significant psychological, economic, and social impacts for the college students of New Orleans. A majority of students in our survey incurred hundreds of dollars in financial loss and were forced to apply for economic assistance from FEMA and other disaster agencies. Many students lost their apartments, jobs and vehicles, while others lost friends and family members in the tragic aftermath of the storm's devastation and flooding. Moreover, the majority of students reported being unable to function normally, either physically or mentally, for as long as two months after the hurricane hit, with many registering significant levels of psychological stress and anxiety, as well as a variety of storm-related physical and medical symptoms. A majority of students also expressed significant levels of dissatisfaction and mistrust with the way the government and other social institutions responded to the disaster. Consequently, most students expected that their disaster experiences would negatively affect their academic performance for the Fall, 2005 term. Despite these problems, however, most students reported that their scholastic experiences at their relocated university were generally positive and most said they planned on returning to their New Orleans university when their school reopened for spring classes. Finally, the majority of students reported that they would find it useful if their New Orleans university could provide them with a range of campus services to help them cope with their disaster-related needs and issues.

Hurricane Katrina not only impacted the psychosocial health of most New Orleans students, but the institutional health of the university community itself. First, thousands of campus administrators, faculty, and staff were victimized by the Katrina Diaspora and forced to relocate to distant homes, shelters, universities, and hotel rooms across the country for weeks and months after the storm. Unlike most students who were not homeowners, however, the vast majority of university personnel returned home to find their homes and property damaged, if not looted or totally lost, to assorted hurricane-related events. Like other New Orleanians who have been able to "come home," in recent months, they too have found themselves caught up in the financial and emotional nightmare of trying to salvage or rebuild their lives in a devastated city. Facing a drastic shortage of housing, soaring rents, an unpredictable job market, hard-to-obtain loans and disaster assistance, insurance obstacles, and uncertainty about what will happen to their former neighborhoods, the psychological and material toll on university personnel, especially staff, has in many respects been even more pronounced than it was for students (Walsh 2006).

Secondly, the city's campuses collectively suffered more than \$1.5 billion in physical damages, with Loyola, Xavier, and UNO alone accounting for more than \$140 million of these total losses (Mangan 2005; Pope 2006). Despite the fact that 70-90% of the students at these schools returned for spring classes, each of the universities in our sample (and others) are heavily in debt at the present time and face a host of financial uncertainties. In particular, the universities are extremely anxious over whether students from outside the Gulf region will return for the Fall, 2006 semester, or whether their Admissions Office can successfully recruit a new Freshmen class for the coming academic year--just as another hurricane season is getting underway. To deal with their fiscal crisis, every university has had to make draconian reductions in their operating and salary budgets. Curriculum offerings and academic programs, as well as lectures and sporting events, have been cut, and many faculty and staff--including some tenured professors--have lost their jobs. With rumors of even more stringent cuts in the coming

year looming over the city's campuses, many junior faculty are applying for jobs at other institutions, while some aging senior faculty are considering their university's offer to take an early retirement.

Notwithstanding these serious educational impacts, the reopening of most of the city's colleges and universities and the return of their student bodies has constituted an important turning point in the efforts to rebuild New Orleans. Many students enthusiastically returned to their campus this spring, not only to resume their program of study and reunite with classmates and friends, but "to be a part of history," as one student put it, and use their disaster experiences as a living laboratory for applied learning. More significantly, hundreds of students have elected to volunteer for disaster relief work with dozens of non-profit organizations who are busy throughout the city cleaning up storm debris, gutting and rebuilding houses, feeding the hungry, or caring for disadvantaged children and the elderly (Filosa 2006). Joining in with the thousands of other disaster workers from around the country, being involved in the efforts to "ReNew Orleans" has allowed many students not only a way to directly assist local residents who lost homes and loved ones to Katrina, but provide themselves with a way to grapple with their own stress and personal losses. In a depopulated city badly in need of residents with economic resources, housing, job skills, and youthful energy, the return migration of much of its student population has significantly helped to revitalize the spirit and economy of New Orleans.

Despite the increasing impact of natural and technological hazards on university campuses (FEMA 2003), sociologists and others have not extensively studied the impacts and disaster-related experiences of college students in the aftermath of a regionally catastrophic hurricane. Existing research, however, suggests that students, by virtue of their socioeconomic resources and social roles, occupy a unique position within university communities which buffers them from many of the direct impacts of natural hazards (Gutierrez et al. 2005; Pickens et al. 1995; Van Willigen et al. 2005). Nevertheless, as survivors of the largest so-called "natural" disaster in the history of the United States, the university student population studied here—like most of the citizenry of New Orleans—will bear the mark of Hurricane Katrina and its massive societal impacts for the rest of their lives. These students will no doubt remember and talk about Hurricane Katrina the way older New Orleanians talk about Hurricanes Camille and Betsy from the 1960s. However, only time and future research can determine whether these impacts will also be felt in the political arena in the months and years to come. Perhaps the most important issue ahead is whether there will be adequate fiscal support for the kinds of environmental policies and disaster preparedness plans which can more effectively protect New Orleans, as well as the wetlands and coastline of the Gulf South, from future devastation.

REFERENCES

- Fee, Virginia, Anthony E. Ladd, John Marszalek, Ann K. Edwards, John F. Edwards, Duane A. Gill, Ginger W. Cross, and Beth Wells-Parker. 2006. *Responding to Disaster: Mississippi State University Student Experiences, Impacts, and Needs in the Aftermath of Hurricane Katrina*. Mississippi State University: Social Science Research Center.
- FEMA. 2003. *Building a Disaster-Resistant University*. Federal Emergency Management Agency.
- Filosa, Gwen. 2006. "University students rally for rebuilding." *The Times-Picayune* (New Orleans), January 14: B-1--B-2.

- Gill, Duane A. and J. Steven Picou. 1998. "Technological disaster and chronic community stress." *Society and Natural Resources* 11: 795-815.
- Goldberg, David P. 1972. *The Detection of Psychiatric Illness by Questionnaire*. London: Oxford University Press.
- Gutierrez, Daniel, Debra Hollister, and Anthony Beninati. 2005. "Hurricane Madness: Teaching, Learning and the Importance of Flexibility in the Wake of Disaster." *The Valencia Forum* 1(1) (online journal).
- Horowitz, M.J. 1974. "Stress response syndromes: character style and brief psychotherapy." *Archives of General Psychiatry* 31: 768-781.
- Horowitz, M.J., N. Milner, and W. Alvarez. 1979. "Impact of event scale: a measure of subjective stress." *Psychosomatic Medicine* 41: 209- 218.
- Hutchings, Estela and Grant J. Devilly. 2005. "Impact of event scale." <http://www.swin.edu.au/victims/resources/assessment/ptsd/ies.html>. Retrieved 3/10/06.
- Mangan, Katherine S. 2005. "Colleges Say Hurricanes Dealt Them \$1.4-Billion in Physical Damage." *The Chronicle of Higher Education*, November 25, Vol. 52 (14): A40.
- Pickens, Jeffrey, Tiffany Field, Margarita Prodromidis, Martha Pelaez-Nogueras, and Ziarat Hossain. 1995. "Posttraumatic Stress, Depression and Social Support Among College Students After Hurricane Andrew." *Journal of College Student Development* 36 (2): 152-161.
- Pope, John. 2006. "Local college students take courses in Katrina." *The Times-Picayune* (New Orleans), February 19: D-1.
- Riad, Jasmin. 1998. *Hurricane Threat and Evacuation Intentions: An Analysis of Risk Perception, Preparedness, Social Influence and Resources*. Unpublished Ph.D. Dissertation. Georgia State University.
- Seidner, A.L., A.E. Amick, and D.G. Kilpatrick. 1988. "Impact of event scale." Pp. 255-257 in M. Hersen and A.S. Bellack (eds.), *Dictionary of Behavioral Assessment Techniques*. New York: Pergamon Press.
- Van Willigen, Marieke, Bob Edwards, Stephanie Lormand, and Ken Wilson. 2005. "Comparative Assessment of Impacts and Recovery from Hurricane Floyd among Student and Community Households." *Natural Hazards Review* 6 (4): 180-190.
- Walsh, Bill. 2006. "Capitol Offensive." *The Times-Picayune* (New Orleans), February 10: B-1—B-2.