

Resilience in Post-Katrina New Orleans, Louisiana: A Preliminary Study

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Abstract

Background: Much scholarly and practitioner attention to the impact of Hurricane Katrina on the city of New Orleans, Louisiana has focused on the failures of government disaster prevention and management at all levels, often overlooking the human strength and resourcefulness observed in individuals and groups among the worst-affected communities.

Objectives: This preliminary study sought to investigate human resilience in the city of New Orleans, State of Louisiana, eighteen months after Hurricane Katrina struck the Mississippi delta region.

Methods: The Sense of Coherence scale, short form (SOC-13) was administered to a sample of 41 residents of Lower Ninth Ward and adjacent Wards who had been displaced by Hurricane Katrina but were either living in or visiting their home area during March 2007. Study participants were recruited through the local branch of the Association of Community Organizations for Reform Now (ACORN), a nation-wide grassroots organization whose mission is to promote the housing rights of low and moderate-income individuals and families across the USA and in several other countries.

Results: Those who had returned to their homes had significantly higher SOC scores compared to those who were still displaced ($p < 0.001$). Among the latter, those who were members of ACORN scored significantly higher than non-members ($p < 0.005$), and their SOC-13 scores were not significantly different from the scores of study participants who had returned home (including both members and non-members of ACORN).

Conclusions: The findings of this preliminary study concur with previous reports in the literature on the deleterious impact of displacement on individual and collective resilience to disasters. Relevant insight gleaned from the qualitative data gathered during the course of administering the SOC-13 scale compensate for the limitations of the small sample size as they draw attention to the importance of the study participants' sources of social support. Possible avenues for further research are outlined.

Key words: Hurricane Katrina, New Orleans - Louisiana, Resilience, Sense of Coherence.

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Introduction

The government response to the Hurricane Katrina disaster which hit the Mississippi delta claiming many lives and destroying the city of New Orleans, Louisiana in August 2005 has become an ongoing story of delay and neglect which continues to generate both public and professional concern.¹⁻³ Yet for hundreds of thousands of survivors whose lives were affected by the hurricane, the story is one of survival against the odds, as the displaced struggle to get by, and in many cases return to their original homes, neighborhood, and city.² As of August 2006, the had storm claimed 1,464 lives in Louisiana and left 135 missing.³ During the brief period of August-September 2005, Hurricanes Katrina and Rita had caused an estimated \$70-125 billion in property losses,⁴ hence the emphasis on the economic consequences of these disasters, especially Katrina's.

Naturally, after the initial post-hurricane mayhem and struggle to meet residents' basic needs, public and professional attention focused on the mental health concerns of the affected communities.

Researchers and practitioners flocked to New Orleans to investigate the psychosocial aftermath of the disaster; many identifying symptoms of post-traumatic stress disorder (PTSD), depression, and other conditions that called for expanded mental health care services. Understandably, the discourse on the mental and emotional needs of the residents of New Orleans took a pathology-focused approach. As one observer put it, the difficulties arising out of Hurricane Katrina's aftermath constituted a "recipe for suicide."⁵ Clearly, the magnitude of devastation wrought by Hurricane Katrina had caused untold distress for hundreds of thousands of the inhabitants of the Mississippi delta region, and the city of New Orleans still remains the most visible justification for the need to develop and/or improve appropriate mental health care services, especially for the severely and chronically incapacitated. However, it is equally important to recognize that many of the

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symptoms of anxiety and emotional distress reported in the wake of such disasters are part of the normal human response to the inordinate levels of stress that is often exacerbated by the loss of home and subsequent displacement. There is a need to pay equal if not more attention to the social and cultural, health-centered mechanisms that mitigate the worst effects of disaster-induced emotional and mental distress⁶ in order to prevent chronic pathology, disability and dysfunction in individuals and their families and communities. Indeed, in the case of New Orleans, Lower Ninth Ward, the worst-hit, predominantly African-American parish, increased levels of both mild-moderate and severe mental illness were reported in the first few months after the disaster, but suicidal ideation had decreased significantly and there was evidence of resilience and recovery as measured by the post-traumatic growth inventory.⁷

The concept of resilience has been widely used across many disciplines in the social and bio-medical sciences, engendering numerous definitions of the term, often with corresponding methods and tools for its measurement/assessment, and it is clear that resilience is more than the absence of PTSD.⁸ Moreover, resilience is more widespread than pathology and chronic trauma in the wake of disasters as the survival instinct drives positive adaptation.⁹ This paper defines resilience as “the capacity of individuals, families, communities, systems and institutions to anticipate, withstand and/or judiciously engage with catastrophic events and/or experiences; actively making meaning out of adversity, with the goal of maintaining normal function” as presented by Almedom to the International Resilience Workshop – Talloires 2007.¹⁰

Stemming from Antonovsky’s theory of “Salutogenesis” (origins of health) the “Sense of Coherence” scale short form (SOC-13) has been tested and validated in at least 33 languages in 32 countries.^{11,12} With respect to its application in Africa, the concept and corresponding scale have both been examined and adapted for assessing/measuring resilience in nine different African languages spoken in Eritrea.¹³⁻¹⁶ This preliminary study of New Orleans is the first one to apply the SOC-13 scale in a post-disaster American setting.

This study was planned and executed in consultation and collaboration with the local branch of the Association of Community Organizations for Reform Now (ACORN). ACORN is a nationwide American grassroots organization whose mission is to promote the rights of low- and moderate-income individuals and families across the United States of America and in several

other countries. ACORN national and local staff led by Mr Wade Rathke advised and actively collaborated with the third and first authors through telephone and e-mail discussions lasting several weeks in early 2007; and facilitated the first author’s fieldwork during March 2007.

As its operational headquarters of ACORN happened to be in the city of New Orleans anyway, ACORN was prompt to help local homeowners (both members and non-members) in the wake of Hurricane Katrina. ACORN’s disaster response efforts in New Orleans were and continue to be extensive and comprehensive, including for example, mobilizing 15,000 volunteers to help preserve over 2,500 homes; providing lawn maintenance for displaced residents so that they can avoid city fines; launching a lead paint remediation program; organizing a “human levee” along the Monticello Canal to demand fair flood protection for city residents; redeveloping nearly 150 homes in low- and moderate-income neighborhoods and assisting with small, short-term home rehabilitation projects; and advocating for various legal and policy measures to protect homeowner rights and increase financial assistance to displaced residents.¹⁷

The data analysis and interpretation phase of this study was strengthened by the deliberations of the “International Resilience Workshop – Talloires 2007” convened at Tufts University European Center in Talloires, France. The workshop participants’ interdisciplinary and cross-sector discussions of definitions, determinants, and indicators of human, ecological, and institutional resilience helped the first author develop his thinking on the capacity of local community organizations to adapt their normal functions to respond to disasters of Hurricane Katrina’s magnitude, and their role in promoting individual and community resilience. Indeed, the ACORN website had featured a *Los Angeles Times* staff writer’s article about the Lower Ninth Ward in March 2007 in which the writer quotes Nilima Mwendu, a former resident, researcher, and community activist’s analysis and observes that “resilience and a particular community closeness” grew out of isolation and neglect [of the Lower Ninth Ward].¹⁹

Participants and methods

The SOC-13 scale was administered to 41 residents of the city of New Orleans who were displaced by Hurricane Katrina and had either returned and were permanently living in, or only visiting New Orleans during March 2007. About half of the study participants were approached when they came in to the ACORN office on Elysian Fields Avenue in New Orleans for their own reasons – ranging from attending meetings to

seeking information or help. The rest of the study participants were visited at their place of residence by first author accompanied by an ACORN staff member.

Twenty of the participants were residents of Lower Ninth Ward and the rest had lived in the 8th Ward (6), the 7th Ward (5), the Upper 9th Ward (3), the 3rd, 6th, 12th, Bywater, Algiers, and Gentilly wards (6). The age range of study participants is 24-85, averaging 53.34 ± 12.98 (Mean \pm SD) years. Over half of the respondents are female, and the majority of those who responded to the SOC-13 scale in their home locality were men, as they were more frequently outside working on construction and/or repair of their houses, or talking with neighbors. All of the respondents reported being displaced from their homes as a result of Hurricane Katrina. Seventeen respondents (41.5%) reported that they had returned to their homes permanently, while twenty-four (58.5%) said they were still displaced, housed in temporary accommodation either in Federal Emergency Management Agency (FEMA) trailers (mobile homes), in the homes of family or friends, or some other dwelling. Of the twenty respondents from the Lower 9th ward, sixteen (80%) were still displaced. Nineteen of the participants were active members of ACORN.

The SOC-13 was administered in the English language by the first author who described the study as outlined in the Informed Consent Form (ICF) for participants to sign following the approval of the ICF and SOC-13 by Tufts University's Institutional Review Board (IRB) for research involving human subjects. Out of a total of 57 people invited to participate in the study, 16 declined. Additional participant comments, questions and observations were recorded in a separate notebook as the first author engaged with the study participants before, during and after the administration of the SOC-13 scale. The adapted SOC-13 scale used in this study has already been included in earlier published articles for interested readers' reference.^{15, 16}

Data analysis

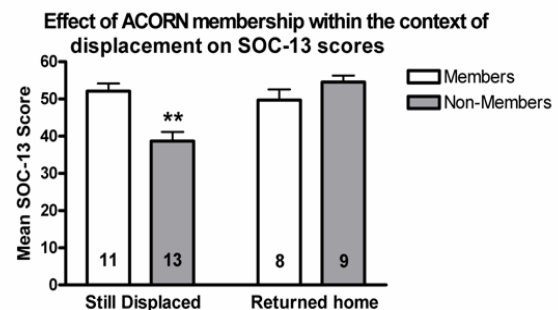
The SOC-13 data were analyzed using the SPSS statistical software package, version 14.0 (Chicago, 2005). Independent samples two-tailed t-tests were used to test for equality of means to compare SOC scores by gender, ACORN membership, pre-Katrina residence in the Lower 9th ward compared to other wards included in the study, and whether respondents had returned home or remained displaced as a result of the Hurricane Katrina disaster. Potential associations between age and SOC scores were assessed using Pearson's correlation. One-way analysis of variance (ANOVA) was used to compare

SOC scores by respondent age category (below 49, 50-59, and 60+ years), pre-Katrina ward residence, and to examine effect of confounding variables. The second author participated in the statistical data analysis and interpretation.

Results

Sense of Coherence scores ranged from 24 to 64 (65 being the highest possible score), with an average score of 47.76 ± 1.56 (mean \pm SE). On average, respondents who had returned home, however fragile their homes scored significantly higher than those who remained displaced: 53.41 ± 1.34 (mean \pm SE) and 43.75 ± 2.16 (mean \pm SE) respectively ($p < 0.001$). ACORN members scored significantly higher when compared to non-members: 50.74 ± 1.84 (M \pm SE) and 45.18 ± 2.34 (M \pm SE), respectively. One-way analysis of variance (ANOVA) revealed a significant co-effect between membership in ACORN and extended displacement ($F = 7.171$, $p < 0.011$, $df = 1$). Post-hoc analysis showed that participants who were still displaced at the time of the study but who were members of ACORN scored significantly higher than displaced non-members on the SOC-13 scale ($F = 5.165$, $p < 0.005$, $df = 2$ - see Figure 1). There were no significant differences in average SOC scores by age category, gender, or pre-Katrina residence in the Lower 9th ward compared to the other wards represented in the study.

Figure 1: Comparisons of mean SOC-13 scores for two nested social variables.



Analysis of SOC scores by sub-scale revealed that respondents scored significantly higher on “meaningfulness” (ANOVA followed by Tukey’s pairwise comparison, $F= 11.121$, all $p < 0.002$, $df= 2$ – see Figure 2). “Meaningfulness” sub-scale scores of ACORN members averaged 4.42 ± 0.167 (mean \pm SD) out of 5, which was significantly higher than the average of 3.95 ± 0.166 (mean \pm SD) for non-members (two-tailed independent samples t-test, $t=2.024$, $p<0.05$, $df = 38.7$). Participants who had returned home permanently had significantly higher “comprehensibility” and “manageability” scores than those participants who remained displaced/in temporary accommodation (two-tailed independent samples t-tests, $t > 3.214$, $p< 0.003$, $df = 39$ – Figure 2).

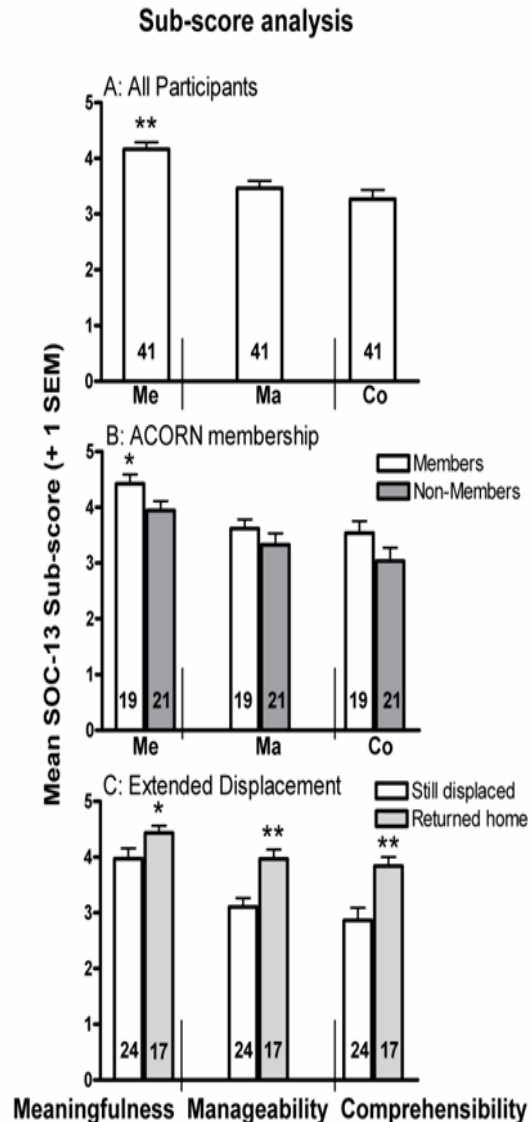
The three items of the SOC-13 on which respondents scored highest related to: i) whether they care about what is going on around them (item 1); ii) the clarity of their life goals and purpose (item 4); and iii) the level of meaning in their daily activities (item 12). The items receiving the lowest average scores across the sample were related to the feeling of being treated unfairly (item 5), being surprised by the behavior of people the respondent thought he or she knew well (item 2) especially during the evacuation from their homes when people were looking for places to stay, and having feelings inside they would rather not feel (item 9).

Respondents often mentioned the people, institutions, beliefs, or attitudes that helped them cope with the myriad stressors they faced when Hurricane Katrina hit in August 2005 and in its aftermath. The most commonly mentioned sources of strength and support were: religion, church, or faith; having a job, whether volunteer or paid; the act of helping others; family and friends; and relying on themselves.

Half of the respondents reported that faith in God was critical for helping them cope with the hurricane and its aftermath. Many people said that when things become aggravating, confusing, or depressing, they found solace in believing that there is, in fact, some greater design behind all the disruption and turmoil in their lives as a result of Hurricane Katrina. People commented that when they do not know what to do and cannot see a resolution to some of their problems, they just believe that God will help them find it. One woman commented on how her faith helped her cope with the problems generated by the Katrina disaster: “I prayed. I put it in God’s hands, and I left it there...”

In many cases, families in New Orleans left the city and moved in temporarily with relatives elsewhere in the country while they tried to get back into a home

Figure 2: Comparisons of mean SOC-13 sub scores for all participants (A) and for the two significant social variables: B) ACORN membership status among participants; C) participants who had versus had not returned home at the time of the study (extended displacement).



of their own. Family and friends were described as both a source of comfort and a source of surprise and distress. Particularly right after the storm, many participants were relieved when they found out their relatives and friends were safe and appreciated having them around to share resources or simply to commiserate. However, when discussing how they have been coping with the myriad snafus left in Katrina’s wake, respondents commonly stated that they ultimately had to rely on themselves to deal with their problems. While most people appreciated having family members around, many echoed one woman’s comment that “you can’t always look to other

people to do things. You have to take initiative and do things on your own.” Although these statements were sometimes delivered with a hint of bitterness, they usually conveyed a sense of pride and determination. Few participants provided specifics about their experiences living with their extended family but many offered simply, “you don’t really know someone until you live with them.”

Discussion

Reference to hurricane Katrina is still very much a mainstay of daily conversation in the city of New Orleans and the wider Mississippi delta region. While for many Americans “Katrina” has become a one-word expression of frustration with governmental ineptitude at disaster response and a reminder of the nation’s persistent race/class divide, the term has a much more immediate and personal meaning for those whose lives and livelihoods were directly affected by the disaster. Many New Orleanians continue to struggle to find jobs, fulfill basic human needs for themselves and their families, rebuild their homes or find a new home, and seek hope and emotional solace despite a government-funded reconstruction effort that seems to view recovery more in economic than social/human terms.

While this is a preliminary exploratory study involving a small sample of respondents, it has yielded two important findings. Firstly, that long-term displacement has a deleterious effect on human resilience (Figure 1), which is consistent with previous research results from a different country.¹⁵ These findings suggest that the home is an important asset for coping with adversity, as it is at the core of individuals’, families, and communities, rootedness. Fillilove *et al* of the “Root Shock Institute” have argued that in the aftermath of Hurricane Katrina, “the need to reknit social connections at the level of the family, the neighborhood, the city and the region” is critical for the purposes of “mindful re-rooting” which involves “connecting every organization to every organization, ensuring that every citizen has the means to return home, engaging every citizen in envisioning the future”, and making holidays and festivals an active part of recovery/healing.²⁰ With respect to New Orleans, the human cost of maintaining large displaced populations in temporary accommodation such as FEMA trailers should also be taken into serious consideration as government and non-government officials and city planners calculate the purely economic costs of rebuilding vulnerable neighborhoods.

For those participants who continue to be displaced the data presented above suggest that grass-root organizations like ACORN play a very important

role in building and promoting community resilience. ACORN members had higher Sense of Coherence scores than non-members even when they were still displaced and in temporary accommodation eighteen months after the disaster. It should be noted here that ACORN extended its original mission in order to help the worst affected local communities recover from the disaster regardless of individual ACORN memberships. Further analysis of the social/interpersonal versus material benefits gained by ACORN membership is beyond the scope of this study, but the results presented do raise important questions for further investigation: What are the mechanisms whereby civic participation through ACORN membership increase individual and collective resilience mediated through increased social capital? How do those mechanisms build individual and collective capacity to anticipate, prepare for, manage, and recover from complex (natural and man-made) disasters like Hurricane Katrina?

The four most commonly mentioned factors that helped people cope were: faith in God; having a job, whether volunteer or paid; helping others cope; and having family and friends around. Association between these factors and psychosocial resilience has been documented elsewhere. Existing research documents the association between religion/spirituality and resilience to various adverse events such as stress-induced depression,²¹ the death of a parent,²² and coping with Hurricane Katrina specifically.²³ Consistent with the qualitative findings presented here on the participants’ reports that having a job helped them cope with the aftermath of the hurricane, Almedom *et al.* (2005b) observed that women in Eritrea experienced satisfaction from their daily work caring for their children, possibly relating to the inherent sense of agency arising from that role.¹⁶ Greenfield and Marks observed positive associations between psychological well-being and formal volunteering in a study of older adults experiencing role-identity absences (i.e. vis-à-vis a partner, job, or parenting).²³ Social support has also been documented as a source of resilience for various groups, including adult men and women,²⁴ adolescents,²⁵ and low-income families.²⁶

The importance of faith for many participants may not be surprising given the historic prominence of the church in African-American communities²⁷ and the observed efficacy of “religious coping” in other studies.²⁸ This observation suggests that, for disaster-stricken communities with strong religious ties, providing access to places of worship or spiritual reflection may promote resilience. However, as the vast majority of respondents who mentioned faith as a coping mechanism described

their personal relationship or understanding with God and not their church or religion, per se, it may not be necessary to have a facility for each branch or sect of a religion practiced in the community. This reliance on spirituality, although not necessarily church membership, as a source of resilience has been documented previously amongst older low-income black Hurricane Katrina survivors.²² In places where religious facilities have been damaged or destroyed, local officials should consider the provision of temporary interdenominational places of worship with local residents and religious organizations.

According to the accounts of the participants, the mechanisms by which having a job and helping others supported their resilience were similar. For each activity, respondents described a feeling of self-worth and meaningfulness that arose from having activities to do each day. Carrying out a specific task – paid or volunteer, for an employer or someone else – provided the doer with a sense of purpose and completing the task conferred a feeling of accomplishment. The individual's perceived agency in effectively responding to a disaster has been described elsewhere as one of the most important determinants of post-disaster mental health – more important than the type of coping strategies used.^{7,29} Furthermore, many respondents stated that staying busy kept their mind off their own problems, thus averting some negative thoughts. This indicated the benefits of supporting local volunteer organizations, engaging members from the affected community in disaster relief efforts and finding employment for displaced community members. If affected residents can receive financial or in-kind compensation for their work in the rebuilding effort, they may gain the double-benefit of material and emotional support through such a program. Greater integration of local organizations into disaster relief efforts may also contribute to a heightened sense of agency, and thus more effective coping, within the affected population.

Another key finding from this study is that money is still important. Those who seemed to be coping the best tended to be the ones who were able to begin rebuilding without having to wait for money from the *Road Home* program, which provides up to \$150,000 in compensation to Louisiana homeowners whose homes were damaged by Hurricanes Katrina or Rita. The program also provides loans and grants to rental property owners who offer affordable rates to home renters and various support resources for building professionals.³⁰ Although a variety of other sources of funding and

assistance were available to hurricane survivors, the *Road Home* program was the only one mentioned by participants. Those who reported having sufficient savings before the storm to cover costs of most of the repairs upfront seemed more optimistic about recovering from the disaster. Many said they were hoping for government reimbursement but that ultimately they were going to get it done with or without support. Interestingly, these people tended not to make as many critical comments about the government or state that they had been treated unfairly. Ostensibly, having a little extra money and a lower perceived dependence on the government helped these people regain a sense of control and normalcy in their lives. As we seek ways to promote resilience in communities, we cannot forget the reality that disasters are often less painful for those with some extra cash.

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References

1. Rosenbaum SJD. US health policy in the aftermath of Hurricane Katrina. *JAMA*. 2006;295(4):437-440.
2. Dewan S. Road to new life after Katrina is closed to many. *New York Times*. 12 July 2007. <http://www.nytimes.com/2007/07/12/us/nationalspecial/12exile.html?ref=nationalspecial> - accessed on 19 July 2007.
3. Louisiana Department of Health and Hospitals. Baton Rouge, LA: Louisiana Department of Health and Hospitals, 2006 Hurricane Katrina – accessed 16 July 2008. <http://www.dhh.louisiana.gov/offices/page.asp?ID=192&FromSearch=1&Detail=5248>
4. Wildason D. (2006) Disasters: issues for state and federal government finances. Working paper No. 2006-2007, Institute for Federalism and Intergovernmental Relations, University of Kentucky, Lexington, KY.
5. Katrina's aftermath tough on mental health. Associated Press. MSNBC. 14 Jan 2007. <http://www.msnbc.msn.com/id/11061910/> - accessed 19 July 2007.

6. Almedom, A.M. Factors that Mitigate the effects of war-induced anxiety and mental distress. *J Biosoc Sci.* 2004.
7. Kessler RC, Galea S, Jones RT, Parker HA. Mental illness and suicidality after Hurricane Katrina. *Bull World Health Organ.* 2006;84:930-939.
8. Almedom AM, Glandon D. Resilience is not the absence of PTSD any more than health is the absence of disease. *J Loss Trauma.* 2007;12:127-143.
9. Prati G. (in stampa). Adattamento positivo ad eventi critici: Una rassegna sulla resilienza nell'età adulta. *Rassegna di psicologia.*
10. See Almedom's Editorial (this volume) for an updated definition of resilience (2008).
11. Antonovsky A. The structure and properties of the Sense of Coherence scale. *Soc Sci Med.* 1995;36(6):725-733.
12. Eriksson M, Lindstrom B. Validity of Antonovsky's sense of coherence scale: a systematic review. *J Epidemiol Community Health.* 2005;59:(460-466).
13. Almedom, AM. Resilience, hardiness, sense of coherence, and posttraumatic growth: all paths leading to "light at the end of the tunnel"? *J Loss Trauma.* 2005;10(3):253-265.
14. Almedom AM, Tesfamichael B, Mohammed ZS, Mascie-Taylor CGN, Alemu Z. Use of "Sense of Coherence (SOC)" scale to measure resilience in Eritrea: Interrogating both the data and the scale. *J Biosoc Sci.* 2007;39(1):91-107.
15. Almedom AM, Tesfamichael B, Mohammed Z, Mascie-Taylor N, Muller J, Alemu Z. Prolonged displacement may compromise resilience in Eritrean mothers. *Afr Health Sci.* 2005;5(4):310-314.
16. Almedom AM, Tesfamichael B, Mohammed ZS, Muller J, Mascie-Taylor N, Alemu Z. "Hope" makes sense in Eritrean Sense of Coherence, but "loser" does not. *J Loss Trauma.* 2005;10:433-451.
17. Association of Community Organizations for Reform Now (ACORN) New Orleans, LA ACORN: Two years after Katrina, still fighting and winning. <http://acorn.org/?9703> Updated 2007; accessed on 15 July 2008.
18. Southwick SM, Vythilingam M, Charney DS. The psychobiology of depression and resilience to stress: Implications for prevention and treatment. *Annu Rev Clin Psychol.* 2005;1:255-291.
19. Simmons, A. M. "Bringing back home in New Orleans" Los Angeles Times, 28 March 2007. http://www.acorn.org/index.php?8228no_cat=1&cat=5&print=0&cat=5&showid=6D=46 accessed 22 July 2008.
20. Fullilove, M *et al.*, Assisting Cities During Post-Hurricane Diaspora. Gulf Coast Recovers. www.rootshock.org/html/gulf_coast_recovers.html accessed 22 July 2008.
21. Greeff AP. Spirituality and resilience in families in which a parent has died. *Psychol Rep.* 2007;100(3):897-900.
22. Lawson EJ, Thomas C. Wading in the water: spirituality and older black Katrina survivors. *J Health Care Poor Underserved.* 2007;18(2):341-354.
23. Greenfield EA, Marks NF. Formal volunteering as a protective factor for older adults' psychological well-being. *J Gerontol B Psychol Sci Soc Sci.* 2004;59(5):S258-S264.
24. Volanen S, Lahelma E, Silventoinen K, Suominen S. Factors contributing to sense of coherence among men and women. *Eur J Public Health.* 2004;14(3):322-330.
25. Marsh SC, Clinkinbeard SS, Thomas RM, Evans WP. Risk and protective factors predictive of Sense of Coherence during adolescence. *J Health Psychol.* 2007;12:281-284.
26. Orthner DK, Jones-Sanpel H, Williamson S. The resilience and strengths of low-income families. *Fam Relat.* 2004;53(2):159-167.
27. Taylor RJ, Thornton MC, Chatters LM. Black Americans' perceptions of the sociohistorical role of the Church. *J Black Stud.* 1987;18(2):123-138.
28. Prati G. Fattori che promuovono il processo di crescita post-traumatica: una meta-analisi. *Psicoterapia Cognitiva e Comportamentale.* 2007;13(1).
29. Norris FH. Psychosocial consequences of major hurricanes and floods: range, duration, and magnitude of effects and risk factors for adverse outcomes. National Center for PTSD, Dartmouth University.
30. The Road Home Program. The Road Home [homepage on the Internet]. Baton Rouge, LA: The Road Home Program; [updated 2007; cited 2008 Jul 16]. Available from: <http://www.road2la.org/>