

For wave:

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Community Response to the January 17, 1994,
Northridge Earthquake

Questionnaire Specifications

This is a telephone survey utilizing Computer Assisted Telephone Interviewing (CATI) at the Institute for Social Science Research , Survey Research Center Computer-Assisted Studies. The survey was to identify and assess Southern California residents' experiences in and responses to the Northridge earthquake of January 17, 1994. The survey was conducted using a list-assisted method of random digit dialing (rdd). The sample was drawn and provided by Genesys Sampling System. A total sample of 2,100 was utilized to obtain the final total of completed interviews. A total of 506 residents of Los Angeles County and eleven zipcodes in Southeastern Ventura County were interviewed. Zipcodes in Ventura County include 90265, 91360, 91361, 91362, 93015, 93021, 93063, 93065, 91301, 93010, and 93012.

Once eligible households were identified, a respondent was selected from within the household through one of two methods. A split ballot experiment was conducted within the survey whereas one half of the sample was randomly assigned to the "next birthday" and one half to the "Kish" methods of respondent selection. Only one household member was selected from each household. A household member was eligible to be a respondent if he or she was currently a permanent member of the household and lived in the survey area at the time of the Northridge Earthquake. If more than one eligible respondent lived in a household, the respondent was selected using one of the above mentioned methods. Overall distribution of gender in the study was 53.4% female and 46.6% male. Similar distributions were found in both the Kish and next birthday methods of respondent selection: Kish 55% female and 45% male; Next birthday 53% female and 47% male.

The overall adjusted response rate was 51%. This rate is calculated by dividing (506) completed interviews by (991) the number of eligible households in the sample (including estimates of percentage of eligible households in undetermined and no answer telephone numbers). No contact cases were called a minimum of 12 times and attempts were made to convert refusals.

Data were collected between August 10 and December 6, 1994. The average interview length was 48 minutes.

STUDY
OBJECTIVES

This study has multiple objectives. First, we want to find out about Southern California residents' experiences after the earthquake on January 17, 1994; where they were, how they reacted, where they obtained information, whether their property was damaged or they experienced injury, what agencies they were in contact with, etc. Second, this study allows us to compare Southern California residents' earthquake-related knowledge,

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experience, and behaviors in 1994 with those of Bay Area residents following the 1989 Loma Prieta earthquake and Los Angeles County residents following the Whittier Narrows earthquake of October 1, 1987. Of interest is the extent to which Bay Area and Southern California residents differ in their level of preparedness and knowledge of agencies involved in post-earthquake assistance and the change in level of preparedness, etc. in Southern California between 1987 and 1994. Third, this questionnaire includes both the Brief Symptom Inventory (BSI), a well-tested measure of psychological functioning designed for use in community studies and two measures of Post-Traumatic Stress Disorder (PTSD) that are currently under development by Terence Keane, Fran Norris and their colleagues. These items were also included in the Loma Prieta study and will allow us to draw conclusions about post-disaster psychological sequelae. Questions about perceived emotional distress from the earthquake were also included in this questionnaire. Finally, this questionnaire provides information about the impact of the damage to the transportation system as a result of the earthquake.

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INTERVIEW

Many of the items in this questionnaire are identical to or minor modifications of questions used in the survey of Los Angeles County residents following the Whittier Narrows earthquake of October 1, 1987 and the survey of Bay area residents after the Loma Prieta earthquake of October 17, 1989. Many of those items were, in turn, adapted from the Los Angeles Metropolitan Area Survey (LAMAS) conducted after the 1971 Sylmar earthquake, interviews conducted by Bourque in 1971 at California State University, Los Angeles, in Sylmar and under the Van Norman Dam, or by Turner as part of his study of earthquake prediction in the late 1970s. (See: Ralph H. Turner, Joanne M. Nigg, Denise Heller Paz, Waiting for Disaster, Earthquake Watch in California, University of California Press, 1986; Linda Brookover Bourque, Leo G. Reeder, Andrew Cherlin, Bertram H. Raven, and D. Michael Walton (1973) "The Unpredictable Disaster in a Metropolis: Public Response to the Los Angeles Earthquake of February, 1971." Los Angeles: Survey Research Center, University of California, Los Angeles; Linda Brookover Bourque, Andrew Cherlin, Leo G. Reeder (1976) "Agencies and the Los Angeles Earthquake." Mass Emergencies 1:217-228; Linda Brookover Bourque, Lisa Ann Russell, Gloria L. Krauss, Deborah Riopelle, James D. Goltz, Marjorie Greene, Scott McAfee, & Sarah Nathe (1994) Experiences During and Responses to the Loma Prieta Earthquake, Governor's Office of Emergency Services.)

CSID Generated by CATI - the unique ID number for each case

Telephone Number

Random Number for Kish selection of Respondent Number utilized to identify respondent from household list.

PLNG This question is asked only of interviews in the Spanish queue. All persons who are in the Spanish queue are asked if they prefer to answer in English or Spanish to reflect respondent's language preference not interviewer's.

V9-V10 Only residents of Los Angeles County and 11 zipcodes in southeastern Ventura County were eligible for the study. These questions screen for residence in the eligible area.

V11-V11A Eligible respondents needed to reside in the eligible areas at the time of the earthquake. These questions screen for residence at the time of the quake.

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- V94 V94 screens for whether or not R felt the January 17, 1994 earthquake. Those who felt the earthquake are skipped to V99. For those who did not feel the earthquake continue with V95 - V97 and are then skipped to V126.
- V99-V113 These questions ask about the experiences of respondents who felt the earthquake. These questions repeat many of the questions asked in the Bay Area after the Loma Prieta earthquake and in Los Angeles after the Whittier Narrows earthquake. They are modifications of the more extensive questions designed for use by Turner had there been a substantial earthquake during the period of his study.
- V99-V101A Asks where R was when the earthquake struck. V100-V101A are asked only of those who were not at home. Given the time of this earthquake, most people will report that they were at home.
- V102 - V2C1 This question was asked in Loma Prieta as a series of questions with a predetermined coding frame. Many of the answers were outside the coding frame and had to be post-coded as "others". In this survey, an open-ended question followed by a probe about moving about during the earthquake was utilized to assess respondents' first actions during the earthquake. V02C and V2C1 are asked to identify movement immediately following the initial shock of the earthquake.
- V104-V113 These questions assess whether other people were present and who those people were. Much of the disaster literature focuses on the behavior of people as it relates to the presence of other people, separation from families and particularly children, and the needs of other people.
- Y114-B118 Loss of utilities was of great interest during the Northridge earthquake as this represented the first time in history that the entire City of Los Angeles was "dark" for any period of time. Also of interest was the number of individuals who shut off gas service to their residence in the absence of any gas leak. Unfortunately, A118/B118 which ask about boiling of water were restricted to only those respondents who reported having lost their water.
- V123 - I124 A major objective of this study is to find out how people get information about earthquakes and their use of public media such as the radio, television, and

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newspapers.

This series of questions is an important part of this objective and focuses on respondents' use of television and radio for information on the day of the earthquake as well as the type of information sought from those sources. This section also explores sources of information since the time of the quake. Questions were also added to this instrument which assessed respondents' attitudes towards the sensational aspects of the media coverage.

V126-V150

These questions ask about damage that R might have experienced that caused them to need services.

V126

V126 begins the series of questions and asks about damage to structures in the immediate area of R's residence. A frequently used definition of neighborhood is used to define "immediate area" as "within five blocks in any direction." This question differs from that used in Loma Prieta. In Loma Prieta we asked about damage in the area where the respondent was at the time of the quake. The time of this quake led us to restrict this question to the area surrounding the residence as the majority of LA residents were at home at 4:30 am.

V127 - V146

This series of questions ask about damage that occurred to R's home or other personal property. Again this sequence of questions has been revised since Loma Prieta because of the CATI format and interest in limiting the time of the interview. Respondents who experienced no damage to the home or personal property were skipped to V173. Respondents who experienced damage were asked to describe the damage a total of 19 variables are available to code for type of damage sustained. A single question about the source of the damage (main shock or aftershocks) is asked about all of the damage described. Due to the widespread damage from this earthquake, we inspection and "tagging" of residences was assessed in this survey through questions A151-A153

V150-V72A

Utilization of disaster-assistance is a major focus of this survey. A great deal of anecdotal evidence is cited both for "disaster-claim fraud" and "under-payment" by agencies to victims. This series of questions attempts to evaluate the level of damage and application for assistance at the population level.

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- V150 These questions have been modified since Loma Prieta. This questions ask R to estimate the total amount of damage in dollars to both his/her residence and personal property. If R was not responsible for financial payment of damages to property (for example, if R is a renter), a best estimate is requested.
- V152-V165 These questions assess application for assistance. We are attempting to identify all of the agencies to whom R applied, the type of assistance applied for and the total dollar amount of assistance requested.
- V167-V168 These questions refer difficulties R perceived in the application process.
- V170-V72A As this survey was in the field 6-11 months after the earthquake, presumably some of the respondents should have already received some of the assistance he/she applied for. This series of questions attempts to identify the time period in which assistance is received and the match between damage estimates, amount of application and amount received.
- V173-V10A This series asks about evacuation and the reasons for it. This question has been slightly restructured quite a bit since Loma Prieta in the interest of time. As in Loma Prieta, we expect that respondents will have left their homes for varying lengths of time for a variety of reasons. First, some respondents do not understand the word "evacuate." The question was originally designed and we are primarily interested in finding out about persons who evacuated because their homes were uninhabitable. Second, a substantial number of respondents after the Loma Prieta earthquake appear to have left their homes for some period of time because of fear or a need to be with other people. This is a secondary interest of this study since we are interested in finding out about psychological distress after natural disasters. Finally, a third group of respondents after Loma Prieta apparently went outside for brief periods of time to ascertain the state of their neighborhoods and to make sure that there were other people around. We expect

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similar reasons for evacuation after Northridge and therefore our coding of responses allows for all of these reasons to be reported.

W220-W231

In this survey, we were primarily interested in injuries to the respondent themselves. We expected more minor injuries than in Loma Prieta and wanted detailed information about the injury and its cause. We were especially interested in the timing of the injury since studies after Loma Prieta suggested a substantial number of minor injuries occurring during the clean-up phase. (Jones et al.....) Few if any respondents will report major injury. As the reported number of injuries in the quake (as extrapolated from reports from hospital officials) is officially around 8000, we are interested in whether or not respondents sought medical care for their injuries.

W238-W241

This section is new to this iteration of the questionnaire and assesses perceived psychological distress as a result of the earthquake. Much discussion and funding is devoted to mental health interventions after natural disasters. Very little however is known about the quantity and quality of emotional distress in the general population after such an incident. After much discussion with other researchers and mental health professionals, the term "emotional injury" was used in the pretest. The term appears to have been positively received and understood in the pretesting and continued in the survey. Again we are interested in details about the injury and when R perceived it to occur. We are also interested in whether or not R sought professional assistance for his/her emotional injury.

V220-A235

These questions address the same issue for members of R's household as W220-W241 do for R. We have however, reduced the amount of information to a single question for each injured household member allowing R to determine the amount of information provided as we are not as interested in this information as baseline data for other studies.

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V243-V245

These questions were moved up from their original location in order to have a break between the injury/emotional injury questions and questions about emotional response to the earthquake. These questions address all of the sources of information to which R availed him/herself both on the day of the quake and since that time.

V239

This question asks R his/her overall feelings about the earthquake during and immediately after it occurred. This is an exact repeat of a question used in the Bay Area after Loma Prieta and in Los Angeles County following the Whittier Narrows earthquake. It is not part of either the Norris or Keane batteries.

V240-V242

These questions were utilized after the Loma Prieta earthquake and are adapted from dimensions suggested by Fran Norris as being important in the study of Post-Traumatic Stress Disorder (PTSD). A number of questions from the Norris scale were eliminated both from the Loma Prieta study and this study. (SEE: Fran Norris, "Screening for Traumatic Stress: A Scale for Use in the General Population," Journal of Applied Social Psychology, in press, 1989.)

VIC1-VIC3

This series of questions is new to the questionnaire and are as a result of information learned in Loma Prieta. Victim theory and disparate results of psychological distress and earthquake experience in Loma Prieta led us to believe that respondents may have differing views of themselves as victims based on their experience both in the quake and in relation to other individuals and agencies. This series of questions attempts to identify how R views him/herself, and how he/she believes others view them.

V246

This is also a new item and attempts to address a current issue in disaster response. There appears to be a view that the general public is dependent on the government for support after a disaster but there has been little study of this issue. This question is a starting point for identifying the extent of this belief in the population.

V252-D256

The behavior of agencies and other organizations after disasters and the reaction of the public to the agencies and their behavior has been a consistent interest of disaster researchers. This area has been

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examined more widely than most others. This section expands on a similar section in the Loma Prieta study. R is first asked to volunteer agencies or groups that s/he remembers having had a role in post-disaster work. Once R has volunteered all the groups s/he remembers he/she is asked about those groups not volunteered. For all groups mentioned--whether volunteered or recognized--R is asked about how helpful he/she believes the agency was whether or not there was contact with the agency. R is then asked about whether or not he/she had contact with the agency. Contact could be either in person or by telephone, but not through radio or television. R is then asked about who initiated contact.

In Loma Prieta, rather than listing the formal names of federal, state, and local groups that might be mentioned, generic categories were used. FEMA however was widely reported as an "other". In this study we decided to list out the names of the most relevant agencies (FEMA, HUD, CALTRANS) as alternatives.

V278-V280

These questions asks R's perceptions of his/her own preparedness as well as the preparedness level of government and the general public. V278 is adapted from or identical to one used by Turner et al and Bourque et al and is identical to a question used in surveying Los Angeles County residents after the Whittier Narrows earthquake and Bay Area residents after Loma Prieta. The other two questions were added in this version.

V311-V344

Flyers, mailers, and newspapers have reviewed the kinds of preparations that should be made for earthquakes. V311-V344 duplicate a question asked after Loma Prieta and Whittier Narrows. They are a modified version of a question used by Turner et al. For this question, we want to find out about earthquake preparations people have made and whether they made them specifically in preparation for an earthquake and whether they were done before January 17, after January 17 or both before and after January 17.

34A1-34C6

This series of questions was included to assess

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ability within the community to respond to disasters by providing emergency medical assistance to others in need. It was adapted from similar questions which were developed by the Disaster Reanimatology Group in Pittsburgh. The questions were developed based on open-ended interviews with survivors, witnesses and health care workers following the Armenia earthquake in 1988. Variation of this series of questions were utilized in studies in Mexico City, Costa Rica, and Japan following major events. (See Pretto, Ricci, et al. "Disaster reanimatology potentials: A structured interview study in Armenia.I-III" *Prehospital and Disaster Medicine* October - December, 1989; April-June, 1991; October-December, 1992).

V346-V398

Although interest in and concern about psychological reactions to disasters frequently has been expressed, little systematic research exists. Most of the existent studies have measured psychological distress using measures unique to the particular study which prohibits comparison across disasters or between post-disaster populations and non-disaster populations. Others have relied on clinical observations rather than systematic testing with standard psychological batteries. (Reviews of the existent literature as well as suggestions for future research are found in E.L. Quarantelli, "An Assessment of Conflicting Views on Mental Health: The Consequences of Traumatic Events," Chapter 9 IN: Charles Figley, Editor, Trauma and Its Wake, Volume 1, pp. 173-215, New York: Brunner-Mazel, 1985; Ronald W. Perry and Michael K. Lindell, "The Psychological Consequences of Natural Disaster: A Review of Research on American Communities," Mass Emergencies 1978;3:105-115; James N. Logue, Mary Evans Melick, and Holger Hansen, "Research Issues and Directions in the Epidemiology of Health Effects of Disasters," Epidemiologic Review 1981;3:140-162; Barbara J. Sowder, Editor, Disasters and Mental Health: Selected Contemporary Perspectives 1985; U.S. Department of Health and Human Services, National Institute of Mental Health, Center for Mental Health Studies of Emergencies, DHHS Publication No. (ADM) 85-1421, 5600 Fishers Lane, Rockville, MD 20857; and Norman L. Farberow and Norma S. Gordon, Manual For Child Health Workers in Major Disasters 1981; U.S. Department of Health and Human Services, National Institute of Mental Health, DHHS Publication No. (ADM)

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81-1070, U.S. Government Printing Office, Washington, DC 20402; Bonnie L. Green, "Assessing levels of psychological impairment following disaster: Consideration of actual and methodological dimensions," Journal of Nervous and Mental Disease 1982;43:689-699.)

Of the few studies made of psychological response following disasters, those following the Wyoming Valley or Wilkes-Barre (Pennsylvania) flood of June 1972 caused by Hurricane Agnes are among the more sophisticated. A five-year followup study was conducted by mail in March and April 1977. Respondents were 52% or 407 of 784 households from the area flooded and 21% or 166 of 755 households from the surrounding control towns. Included in the questionnaire as measures of mental health were the Zung self-rating depression scale, Langner's 22-item screening instrument, and five scales from the Symptom Checklist (SCL-90). The five indices measured somatization, obsessive-compulsive behavior, interpersonal sensitivity, depression, and anxiety. A number of articles have been published from this study including: James N. Logue, Holger Hansen, and E. Struening, "Emotional and physical distress following Hurricane Agnes in Wyoming Valley of Pennsylvania," Public Health Reports 1979;94:495-502; James N. Logue and Holger Hansen, "A Case-Control Study of Hypertensive Women in a Post-Disaster Community: Wyoming Valley, Pennsylvania," Journal of Human Stress 1980;6:28-34; James N. Logue, Holger Hansen, and E. Struening, "Some Indications of the Long-Term Health Effects of a Natural Disaster," Public Health Reports 1981;96:67-79; Mary Evans Melick and James N. Logue, "The Effect of Disaster on the Health and Well-Being of Older Women," International Journal of Aging and Human Development 1985-86;21:27-38. Also published is a study restricted to men that was conducted 3 years after the flood (see Mary Evans Melick, "Life Change and Illness: Illness Behavior of Males in the Recovery Period of a Natural Disaster," Journal of Health and Social Behavior 1978;19:335-342.

This research group found that victims of the flood 5 years earlier consistently had more mental health symptoms than the non-flood group, "although none of the contrasts were significant, and only two showed a trend" (p. 74, 1981) and were significantly more likely to have more physical health problems.

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Obsessive-compulsive was closest to significant. In a case-control study of women, those who stated they had developed hypertension after the flood were significantly more likely to show symptoms of somatization and anxiety than were nonhypertensive women flood victims matched for age. In contrast, older women victims were less likely than non-victim controls to exhibit symptoms of somatization, anxiety, depression, or interpersonal sensitivity and equally likely to exhibit obsessive-compulsive symptoms.

Green also incorporated the complete SCL-90 into a study of survivors of the Beverly Hills (Ohio) Supper Club Fire of May 1977. Included were all 9 dimensions: somatic complaints, obsessive-compulsive, inter-personal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Subjects, grouped by endangered (nightclub patrons and employees), families of victims or survivors, and rescue workers were interviewed 1 (N = 146) and 2 (N = 88) years after the fire. Persons refusing to be interviewed at 2 years were more psychologically impaired at 1 year as reflected in the global SCL-90 score. Those not at the fire (rescue workers and family) were significantly higher at 1 year than survivors on both the global SCL-90 scale and the hostility subscale. Subjects (both survivors and those not at the fire) were more impaired than comparison groups tested by the same researchers but less impaired than victims of the Buffalo Creek flood and somewhat more impaired than Three Mile Island workers and mothers as measured using the SCL-90.

Murphy and Shore, Tatum and Vollmer included parts of the SCL-90 in their studies of survivors of the Mount St. Helens eruption 11 months and 3.5 years after the disaster. Murphy reports elevated scores on the somatization and depression subscales for those who lost family members or suffered major damage to their residence as compared to controls 11 months after the eruption. In contrast, Shore, Tatum and Vollmer find no differences on four SCL-90 subscales (depression, hostility, anxiety and somatization), between victims and controls 3.5 years post-disaster, but do find a high dose-response association between extent of victimization and evidence of post-disaster single-episode depression, generalized anxiety disorder and Post-Traumatic Stress Disorder (PTSD) when measured using the Diagnostic Interview Schedule (DSM) III.

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(See S. Murphy, "Stress levels and health status of victims of a natural disaster," Res Nurs Health 1984;7:205-215; and James H. Shore, Ellie L. Tatum, and William M. Vollmer, "Psychiatric Reactions to Disaster: The Mount St. Helens Experience," American Journal of Psychiatry 1986;143:590-595).

To maximize comparison with other post-disaster studies as well as comparison with non-disaster populations, V346-V398 contain 53 items from the SCL-90 which have been developed into a Brief Symptom Inventory (BSI). All 9 dimensions of the SCL-90 are represented. The dimensions and their associated items are: Psychoticism (C, N, V, HH, PP, RR, XX, AAA), Somatization (B, G, W, CC, DD, GG, KK), Depression (I, P, Q, R, T, II, XX), Hostility (F, M, NN, OO, TT), Phobic Anxiety (H, BB, EE, PP, QQ, UU), Obsessive-Compulsive (E, O, Z, AA, FF, JJ), Anxiety (A, L, S, LL, SS, WW), Paranoid Ideation (D, J, U, X, VV, YY), and Inter-personal Sensitivity (T, U, V, PP). Also included are four global items (K, Y, MM, ZZ) which measure "important vegetative and other clinical indicators" (Derogatis and Melisaratos, 1983, p. 597). Three global indices of distress are scored in addition to the 9 diagnostic scales. The General Severity Index (GSI) is the "single best indicator of current distress levels and should be utilized in most instances where a single summary measure is required. . . . The Positive Symptom Distress Index (PSDI) is a pure intensity measure, in a sense 'corrected' for the numbers of symptoms. It functions very much as a measure of response style, communicating whether the patient is 'augmenting' or 'attenuating' distress in his/her manner of reporting. The Positive Symptom Total (PST) is simply a count of the symptoms which the patient reports experiencing to any degree" (Derogatis and Melisaratos, 1983, p. 597).

The BSI is a copyrighted psychometric measure developed over a number of years, so please ask the questions as written and record the answer as given by the respondent. Relevant references include: Leonard R. Derogatis and Phillip M. Spencer, Administration and Procedures: BSI Manual I, Clinical Psychometric Research, 1982; Leonard R. Derogatis, Ronald S. Lipman, and Lino Covi, "Factorial Invariance of Symptom Dimensions in Anxious and Depressive Neuroses," Archives of General Psychiatry 1972;27:659-665; Leonard R. Derogatis, Ronald S. Lipman, and Lino

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Covi, "SCL-90: An Outpatient Psychiatric Rating Scale--Preliminary Report," Psychopharmacology Bulletin 1973;9:13-28.

BSI was included in the Loma Prieta study. Replication in Northridge will allow us to examine the relationships between psychological distress at the time of the interview and earthquake experience. The relationships found in Loma Prieta between some of the subscales and experience in the earthquake can be replicated in Northridge. The relationship between self-reported emotional injury and psychological distress at the time of interview will also be possible in this data-set.

V399-V437

V399-V437 constitute the Mississippi Scale--Revised, which measures Post-Traumatic Stress Disorder (PTSD). Originally developed on Vietnam veterans and called the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder, the measure has been revised for use in civilian populations. As currently written, no time window is established for the respondent because the research and clinical communities are not agreed as to what window should be used for each source of trauma and for the variety of symptoms for which information is solicited (John Fairbank, RTI, personal communication, January 11, 1990). Factor analysis of data collected in a series of studies of Vietnam veterans (N = 483) using the 35-item Mississippi Scale for Combat-Related Posttraumatic Stress Disorder identified six potential subscales re-experiencing the trauma, affective/ interpersonal problems, depressive cognitions, memory/concentration problems, aggression, and sleep problems.

The Mississippi Scale was developed for use as a self-administered measure and has not been modified, as of this date, for interview administration. When pretested for the San Francisco Bay Area survey, one item elicited laughter from respondents in a telephone interview. That item has been eliminated from the current instrument. The eliminated item read: "If something happens that reminds me of the past, I get so anxious or panicky that my heart pounds hard; I have trouble getting my breath, I sweat, tremble or shake; or feel dizzy, tingly, or faint."

The combat version of the Mississippi Scale was translated into Spanish for use in a national study of

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Vietnam veterans conducted by the Research Triangle Institute (RTI). This translation is used in this study. Questions added to the civilian version were translated into Spanish by staff of the Institute for Social Science Research at UCLA. (SEE: Terence M. Keane, Juesta M. Caddell, and Kathryn L. Taylor, "Mississippi Scale for Combat-Related Posttraumatic Stress Disorder: Three Studies in Reliability and Validity," Journal of Consulting and Clinical Psychology 1988;56:85-90; Terence M. Keane, Jessica Wolfe and Kathryn L. Taylor, "Post-Traumatic Stress Disorder: Evidence for Diagnostic Validity and Methods of Psychological Assessment," Journal of Clinical Psychology 1987;43:32-43; Richard A. Kulka, William E. Schlenger, John A. Fairbank, B. Kathleen Jordan, Richard L. Hough, Charles R. Marmar and Daniel S. Weiss, "Validating Questions Against Clinical Evaluations: A Recent Example Using Diagnostic Interview Schedule-Based and Other Measures of Post-traumatic Stress Disorder" in Floyd J. Fowler, Jr. (ed.), Conference Proceedings: Health Survey Research Methods, National Center for Health Services Research and Health Care Technology Assessment, Public Health Service, U.S. Department of Health and Human Services, DHHS Publication No. (PHS) 89-3447, 1989; and Richard A. Kulka, William E. Schlenger, John A. Fairbank, Richard L. Hough, B. Kathleen Jordan, Charles R. Marmar and Daniel S. Weiss, "Executive Summary: Contractual Report of Findings from the National Vietnam Veterans Readjustment Study," Research Triangle Park, NC: Research Triangle Institute, 1988.)

The Civilian Version of the Mississippi-Post Traumatic Stress Disorder Scale was utilized in this survey in the same format as in Loma Prieta. No modifications were made even though pretesting of the Spanish version revealed some confusion. The maintenance of the scale as administered in Loma Prieta allows comparisons across two earthquakes. Loma Prieta also revealed some problems with 10 items in the scale in which the wording was reversed. Preliminary analyses indicate that a similar trend is occurring in this data-set indicating a potential methodological error in the civilian version (Inkelas, Bourque, & Widawski, 1995).

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V438-E444

After Loma Prieta, it was found that the most significant relationship with psychological distress (as measured by M-PTSD and BSI) was the association with non-earthquake traumatic events. This series of questions replicates questions asked after Loma Prieta about other traumatic events which R may have experienced in the year preceding the interview. They ask R if s/he has experienced other events within the last year that might result in symptoms of Post-Traumatic Stress Disorder. R is asked about six events: robbery, physical or sexual assault, automobile accidents, accidental, homicidal or suicidal deaths, and other significant life events. In addition to the questions asked in Loma Prieta, respondents were asked if they thought the event was related to earthquake and how. It is often reported in the press that violence and crime increase after a natural disaster and that the incidents that occur are somehow related to the earthquake. These questions attempt to quantify this experience.

V449-INTC

The remainder of the questionnaire contains questions on demographic characteristics and the effect of the disruption of roads on R's transportation to and from work. The majority of the demographic questions mimic those asked of respondents after the Whittier Narrows and Loma Prieta earthquakes.

V449

Home ownership has been believed to be associated with certain types of preparedness activities and the ability to apply for certain types of assistance.

A449

In Southern California illegal sub-letting and multiple families occupying a single residence is common. Ability to undertake certain earthquake related activities may be related to formal leasing of property.

V450

In assessing any damage that may be reported by R earlier in the interview, it is important to know the kind of residence R lives in.

W452-X452

Due to the great deal of widespread damage to residential property in this earthquake, we are interested in finding out about possible displacement due to the earthquake.

Y452-Z452

Knowledge about one's residence and the age of housing stock may be associated with motivation and/or ability

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to undertake certain preparedness activities.

- V453 Length of residence in California may be relevant in assessing reactions to the January 17, 1994 earthquake. It may also serve as a proxy for length of time in the US for immigrants.
- W453-B454 This series of questions asks about place of birth for the respondent and his/her parents. Immigration to this country may be related to knowledge, attitudes and practices in regards to earthquakes as well as ability to access services.
- C454 Foreign language utilization may be related to ability to access information and services.
- V455 Asks for current marital status.
- V456-V460 This is the standard set of occupation questions used. Read all alternatives. Remember that all of the questions that follow refer to R's present employment or to "usual" or "last" employment for those currently not working.
- V459 Records the type and description of business or industry R is/was employed in. Please indicate if wholesale, retail manufacturing, etc. If employed by the military (e.g., Army, Navy), indicate whether a member of the service or a civilian employee.
- V460 Here, we want to know what R actually does/did on the job; i.e., major duties or tasks. Answers such as "sell" are not acceptable without probing what s/he sells; or for "nurse in hospital," probe to see type of nurse (LVN, Vocational, etc.). PROBE for

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a clear, complete description of duties or tasks.

W460-X460

These questions assess the disruption to businesses due to the earthquake and their effect on respondents.

W461-M461

This series of questions assesses the effect of the freeway damage on the respondents. This series was adapted from an LA Times Poll conducted January 22-23, 1994 (LA Times, January 26, 1994 Rich Connell and Richard Lee Colvin) Questions W461, X461 and Y461 directly replicate the Times questions. The remainder of the questions in this series attempt to quantify the type and quality of changes made by commuters due to the damage to freeways due to the earthquake.

V461-V463

Standard questions on education completed/degrees received. Mimics questions utilized in the Loma Prieta and Whittier Narrows studies.

ETH6

This question has been changed since the previous studies. Verbatim responses from the respondents are recorded. More than one race/ethnicity may be mentioned and are recorded in the order mentioned. For respondents who did not understand the question PRBE was asked which is similar to the question asked after Loma Prieta and Whittier with a category added for Hispanic.

V467-V468

These questions mimic questions about ethnic background asked in Loma Prieta and Whittier Narrows.

V469-V477

This series asks about family income for related individuals living in the same household as R. This replicates the income question asked in the Loma Prieta study. First record the number of related persons in the household who received income of some kind in 1993. If the roster is different, clarify the reason and continue. Note that we ask about income received, before taxes, in four parts rather than the more typical two parts. The four parts are: if the total income received, before taxes, was over or under \$25,000 (V470); over or under \$50,000 (V472); over or under \$75,000 (V474); or over or under \$100,000 (V476). Once you have ascertained the general category that R's household income falls into, read the specific categories in V471, V473, V475 or V477 that correspond to the answer(s) given in V470, V472, V474, or V476 that correspond to the category selected by R.

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V478-V479 V478 asks for the number of adults and V479, children (<18) who were dependent on the income reported in Q39. Responses should reconcile with the roster.

V480 V480 asks for R's religious preference. Response categories were read to respondents in this survey unlike in Loma Prieta. Additionally a category was added for Mormons which represent 3-5% of the state population and are encouraged to have emergency supplies on hand for one year.

A480 This is a question added to be asked only of Mormons, and assesses whether or not they had a year's supply on hand.

V482-V483 We are asking whether there is more than one phone number at the residence. This question is important for sampling purposes. Please ask as written and record answers reported. V483 is asked only if more than one number.

INTC This question is for the interviewer and is not asked of the respondent. This variable indicates if the interview was conducted in English or Spanish.