

Community Response to the October 1, 1987,  
Whittier Narrows Earthquake

Questionnaire Specifications

This is a telephone survey of Los Angeles County residents' experiences in and responses to the Whittier Narrows earthquake that occurred one year ago on October 1, 1987. Six hundred adult residents of the County will be selected by random digit dialing (rdd) and interviewed by telephone for this study. Overall, 600 persons will be interviewed: 200 in the high impact County communities of Whittier, Monterey Park, Rosemead, El Monte and South El Monte; and 400 throughout the rest of Los Angeles County.

STUDY  
OBJECTIVES

This study has multiple objectives. First, we want to find out about Los Angeles County residents' experiences after the Whittier Narrows Earthquake on October 1, 1988. 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 Los Angeles residents' earthquake-related knowledge, experience, and behaviors in 1988 with studies conducted by Leo Reeder and Linda Bourque following the Sylmar earthquake in 1971 and Ralph Turner in the late 1970s. Of interest is the extent to which southern California residents have changed their level of preparedness, exposure to earthquake predictions and knowledge of agencies involved in post-earthquake assistance. Third, the sample design allows us to compare the experiences, behaviors, and aftereffects of persons in the high impact area with those of other persons in the county in a modified case-control design. And finally, unlike past earthquake and most disaster surveys, this questionnaire includes both the Brief Symptom Inventory (BSI), a well-tested measure of psychological functioning designed for use in community studies and a general measure of media usage.

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RESPONDENT  
QUESTIONS  
PURPOSE

~~If the respondent questions the purpose of study, explain that this interview asks about experiences and feelings about earthquakes and that the findings will be used to evaluate the adequacy of current efforts to improve earthquake preparedness and post-earthquake assistance procedures.~~

Why This Household?	If you are asked why you are interviewing this particular household, explain that this happens to be one of the representative households picked by random selection from the County and that it is very important that we obtain information about the kinds of people that s/he, this household represents.
Why My Telephone Number?	If you are asked how you got this particular telephone number, explain that the numbers are created randomly by a computer to make a master list of telephone numbers.
Respondent Questions Time Required for Interview	If the respondent asks how much time will be required for the interview, tell him that the usual length is between 20 and 30 minutes. Do <u>not</u> say that the interview will take only a few minutes.
Refusals	Our experience has been that few respondents actually refuse to cooperate. However, if you have difficulty in obtaining an interview, explain the purpose and importance of the survey and <b>STRESS THE CONFIDENTIAL TREATMENT ACCORDED ALL INFORMATION FURNISHED BY THE RESPONDENT.</b> This should be done also at any point during the interview if the respondent should hesitate to answer certain questions.
Your Manner	Your greatest asset in conducting an interview efficiently is to combine a friendly attitude with a businesslike manner. If a respondent's conversation wanders away from the interview, try to cut it off tactfully--preferably by asking the next question on the questionnaire. Over-friendliness and concern on your part about the respondent's personal troubles may actually lead to you obtaining less information.  It is especially important in this survey that you maintain an objective manner.
Spanish Speaking Respondent	<b>NON-BILINGUAL INTERVIEWERS, PLEASE READ:</b> If the respondent is Spanish-speaking, record the telephone number and return it to the ISSR office for immediate reassignment to a Spanish-Speaking interviewer.
Other Languages	If the respondent speaks <b>NEITHER</b> English nor Spanish, find out whether there is an English-speaking resident in the household

who could translate for you.

**NOTE:  
POLICY FOR  
"DON'T KNOWS"**

Whenever the interviewer receives a "don't know" response that is not pre-coded on the questionnaire (alternative answers to questions are not followed by "DON'T KNOW" with separate code number), he must write clearly the abbreviation "DK" immediately following the alternatives listed for the question.

**Use of Cards**

Cards are not used in this survey because it is a telephone survey. Therefore, alternatives must be carefully read to respondents.

**Probing**

We have adopted standards on probing to aid our professional interviewing staff. We know this may involve some "relearning" on your part but the result will be a much better interview (and fewer calls to you from the field office).

Unless specified, all open-ended questions require probes to get complete, clear information. Because we also want to know how you are probing, please follow the standards:

1. NEVER USE (P), /, X, i.e. any symbols to indicate you have probed.
2. The probe "anything else" should never be used. Instead use "what else." It is too easy for R to just say "No" in response to this probe.
3. NEVER leave an open-ended question without an ending probe (e. g. W.E.) verbatim answer R gives (e. g. "that's all.")

We want you to record the probe you use; there are several ways of doing this:

1. Repeat the KEYWORD e. g. "Convenient" (convenient) near shops, schools.
2. Underline KEYWORD(S) and follow with / (slash), e. g., "Convenient"/near shops, schools."

3. Record words you use; e. g., "Convenient (mean) near shops, schools," or "Convenient (how) near shops, schools."
4. Appropriate probes: MEAN, HOW, WHY, EXPLAIN, EXAMPLE, WHAT, use of KEYWORD(S). Use a probe that makes sense in the context of the questions and that will elicit clarification of what R means by phrases such as, "convenient," "low" and "order," "inflation," etc.

5. New abbreviations:

- (W.E.) = "What else?"
- (W.O.W.) = "What other ways?"
- (R.) = Repeating keyword(s)
- (R.Q.) = Repeating entire question
- (EX) = Example
- (EXP) = Explain

Bilingual abbreviation: (O.C.) = "Otra cosa?"

**Final Probes**

Unless specified, all open-end questions must have a final probe. This is your way of telling us R has no further information on a subject. Checking for final probes is a part of the editing process so make sure you always use and record them.

The (W.E.) "What else can you tell me about (...)" is a final probe you will probably see most often. If R gives you no new information, record his response to the (W.E.) verbatim, e. g., "(W.E.) I can't think of anything else.

When you have a question that asks R to list things, e. g., problems in Los Angeles and the United States, you can say, "What other problems...?" and indicate this probe with (OTHER). If R has given two problems and says "Nothing else" to your (W.E.) or (OTHER) probe, record the probe and his/her answer verbatim on the next line, a line where R might have thought of another problem. This is very important because it tells us he could not think of any more problems, or whatever the question refers to.

ment. They check the three previous edits, check for inconsistencies, and prepare the questionnaire for data processing. If any errors are discovered, the interview is returned to Quality Control for clarification. Any information that cannot be clarified has to be deleted from the questionnaire and is permanently lost to us.

#### Verification

The SRC Quality Control division has a standard verification questionnaire. We make a random selection from your completed interviews and telephone the respondent to verify that you did conduct an interview with him/her. Verification, like editing, is another way of evaluating your performance as an interviewer.

#### Checklist for Editing

Here are some things to check while editing.

##### A. Call Record and LABEL

1. Your name and ID number wherever needed.
2. All days and dates entered on the Call Record; make days and dates agree.
3. Enter all times of contact and circle "AM" or "PM" in proper places.
4. Be sure that the code explaining the result of your call is properly recorded.

##### B. General Information

1. Make sure you have NO double codes on precoded questions, unless otherwise specified; NOTE: If after you have probed, R still cannot choose one alternative, note his/her choices on the side and DO NOT circle codes.
2. Check that all SKIP instructions have been followed.
3. All open-end questions show a final probe and R's verbatim

## Editing

Editing of interviews is done in four stages. The first edit is done by you as an interviewer. Each questionnaire should be edited carefully as soon as possible after its completion, while it is still fresh in your mind. A thorough edit on your part is essential so that editing at other stages can proceed quickly. The interviewer edit involves the following tasks: checking that handwriting is legible; no questions have been missed; all SKIP directions have been followed; all information in boxes is coded; code numbers, not letters are circled unless otherwise specified. If you have circled the code for "other," check that you SPECIFY exactly what "other" is; all open-end questions must show an appropriate final probe (e.g., W.E.) with R's ending statement verbatim; a check to see that you have interviewed the proper respondent and that their number is circled on the LABEL and on the adult roster; and finally that your name and ID number are on the contract page. Remember, editing is more than "tidying up" the questionnaire. It is your way of giving us a clear picture of the interview situation and the respondent, our way of knowing what went on.

Stage Two is the field edit in which your supervisor checks three items: (1) that the proper respondent was interviewed; (2) all SKIP directions have been followed, and (3) the CALL Record Sheet is completed properly. Errors in respondent selection and/or following the SKIP pattern require sending you back to the proper respondent and/or to gather missing information.

After the field edit, the Quality Control division does a thorough edit of every item in the questionnaire. Every interview you complete is edited so the quality of your interviewer edit becomes particularly important at this stage. Missing, inconsistent or unclear information must be rectified by telephoning the respondent again. Quality Control also prepares rating sheets on the quality of your edit, an important factor in evaluating your performance as an interviewer.

The final edit is done by our Coding Depart-

response.

4. Be sure to get answers to questions as they are worded on the questionnaire; if you feel any question requires additional comments from you, so indicate.
5. Be sure to circle proper codes in all boxes.

**STUDY TIMETABLE  
& DEADLINES**

Briefing in the use of the questionnaire instrument has been planned for October 19, 1988. Interviewing should begin no later than the day after the training session. Time is an extremely important factor in this study! For this reason, a firm closing date for the survey has been set. All questionnaires must be returned to our offices no later than Friday, December 2nd.

SCREENER

The primary purpose of the screener is to find an adult respondent who resided in the area of the study (Los Angeles County) on October 1, 1987, the date of the Whittier Narrows Earthquake. The secondary purpose of the screener is to obtain a roster of persons who live in the respondent's household.

Q1

This series of questions is to ascertain that the proper number was dialed, whether or not it is a residential number and the location of the household. The information in Parts C and D is particularly important since the sample is stratified by location and people's experiences in an earthquake vary with their location relative to the epicenter of the earthquake.

Q1E ascertains that an adult (18+ years) is being interviewed.

Q2

Question 2 generates a standard adult roster of the household residents. Section F is particularly important. Only adults living in Los Angeles County on the day of the Whittier Narrows Earthquake are eligible respondents for this study.

Q3

Question 3 generates a roster of all children (<18 years) that live in the household. This is important because some research suggests that the presence of children or families in a household affects disasters.

INTERVIEW

Many of the items in this questionnaire are identical to or modifications of questions used in the Los Angeles Metropolitan Area (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; Bourque, Linda Brookover, 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;  
Bourque, Linda Brookover, Andrew Cherlin,  
Leo G. Reeder (1976) "Agencies and the  
Los Angeles Earthquake." Mass Emergencies  
1:217-228.

- ID Number                      Please copy the respondent ID number found  
on the front of the corresponding screener.
- Interviewer  
Identification                 Fill in your name and your ID number.
- Time                             Record the time of the beginning of the  
interview. When you have finished the  
demographic questions at the end of the  
interview, record the time here.  
Compute the number of minutes which the  
interview took. Also, if there were  
any interruptions in the interview,  
record the number of minutes R was  
away from the phone.
- Q1                                Question 1 screens for whether or not  
R felt the October 1, 1987, earthquake.  
Circle the appropriate code. For those  
who felt the earthquake, skip to Q2.  
For those that did not feel the  
earthquake, ask Q1A and B then skip to  
Q7 on page 4.
- Q2-Q5                            These questions ask about the experiences  
of respondents who felt the earthquake.  
These questions are modifications of the  
more extensive questions designed for use  
by Turner had there been a substantial  
earthquake during the period of his study.
- Q2                                Asks where R was when the earthquake struck.  
Parts B or C are asked only of those who  
were not at home. Given the time of this  
earthquake, many people will report that  
they were either at home or on their way  
to work. Part C helps assess the extent  
to which people used cars.
- Q3-Q5                            These questions might be considered sub-  
parts of a single open-ended question  
with probes. Some respondents will give  
a very thorough answer in response to  
Q3 with very little further probing.  
Others will give distinct responses to  
each question.

- Q6                    Question 6 assesses whether other people were present. 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.
- Q7                    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 newspapers. This question is an important part of this objective and focuses on respondents' use of television and radio for information on the day of the earthquake. Many respondents may say they don't remember the channel or station. Probe for any information they do remember that might help in identifying it. Others will say they flipped channels or stations. Record those answers as given.
- Q8-10                Some respondents will give you information in answering questions 2-7 that makes these questions redundant. If that occurs, preface the question with a statement that indicates you know the question may appear redundant but . . . and precede to ask the question as written.
- Q8                    Checking for gas and water leaks or problems with electric lines is one thing to do after an earthquake. We would like to know whether respondents did this.
- Q9                    Disaster specialists are concerned about congestion of streets and freeways after disasters. Q9 asks whether R went somewhere in a car in the first 2 hours after the earthquake and the reason for that trip.
- Q10                   Again, specialists are concerned about people using telephones for emergencies immediately after a disaster. This question will help to evaluate the extent of such use.
- Q11-Q16             These questions ask about damage and injuries that R might have experienced that caused them to need services.
- Q11                   Q11 begins the series of questions and asks about damage to structures in the area where the respondent was when the earthquake struck.

- Q12 Q12 asks about damage that occurred to R's home. For respondents that experienced no damage to the home, skip to C and ask about personal property. For respondents that experienced damage, ask them to describe the damage in A and indicate the source of the damage in B.
- Q12D-L These questions ask R to estimate the amount of damage in dollars and whether or not they applied for financial aid. For Part F respondents may remember the formal name of an organization, its location, or an informal name. If you are unsure how to code the answer, record it as given.
- Q13A-K Q13 asks about evacuation and the reasons for it. Most respondents will not have evacuated their home. For those persons who did not evacuate, skip to Q14.
- Q14 Q14 asks about persons that might have stayed with the respondent as a result of the earthquake, the identity of that person, and the length of their stay.
- Q15A-B Q15 asks about injuries. Since there were only some 200 injuries throughout the County, few respondents will know anyone that was injured.
- Q16 This question is primarily included for respondents who do not live in the high impact area. The objective is to find out if these respondents had friends, relatives, or co-workers who experienced damage as a result of the earthquake.
- Q17 This questions asks the respondent their overall feelings about the earthquake during and immediately after it occurred.
- Q18 In Q7, we asked R about their use of radio and television during and immediately after the earthquake. In Q18, we want to find out about the variety of sources of information they have gotten information from, both on the day of the earthquake and since the earthquake. R may have gotten information because they specifically sought it out or because it was volunteered.

This question has 4 parts. First, R is

asked about their sources of information on the day of the earthquake. Second, R is asked about their experiences since the earthquake. For those that mention more than one source of information during either time period, ask which source was the best source.

Q19-27

Questions 19-26 ask about earthquake predictions. Like many other questions, this series is adapted from the questionnaires designed by Turner et al. Q20 asks whether R thinks the Whittier Narrows Earthquake was predicted.

Q19

Q19 asks whether R thinks the Whittier Narrows Earthquake was predicted.

Q20-26

This series of questions ask about predictions that R has heard since October 1, 1987. Please notice that we have given you spaces for 2 different predictions. If R runs a series of predictions together (for example, "There was one made by a guy at Cal Tech, and one by a woman on Merv Griffin, and . . . "), ask R to please list them separately. PROBE once for each mention, "Anything else?" PROBE for no more than 2 separate predictions.

Q19A

Asks R the about the number of predictions heard and to give a brief description of them. If R gives more than 2 predictions, ask R to select the 2 that s/he thought were most important for reference in Q20-26.

Complete questions 20-26 for each of the 2 predictions mentioned or selected.

Q20

Q20 asks whether R remembers the name of the person making the prediction. PROBE for name or for more precise information about the predictor's identification.

Q20A

Read all the alternatives and circle appropriate code.

Q21

Q21 asks about date of predicted earthquake. Circle the appropriate answer and record answer as given.

Q22

Q22 asks about the magnitude or destructiveness of the predicted quake. Read the alternatives given and circle the

- alternative selected by R.
- Q23 Q23 asks when R heard the prediction.
- Q23A Q23A asks where R heard about the prediction. Circle the appropriate answer(s).
- Q24 Q24 asks about R's main source of information about the prediction. Circle one answer only.
- Q25 Q25 asks for R's reaction to the prediction. Read the alternatives given and record the one selected.
- Q26 Q26 asks what R did to prepare for the predicted earthquake.
- Q27 Q27 exactly replicates Q30 from the Turner questionnaire. Read all the signs listed and record R's reaction to each one.
- Q28 Many disaster researchers have hypothesized that after disasters people frequently engage in abnormally altruistic behaviors that result, at least in part, from a breakdown in the highly institutionalized (*gemeinschaft*) structure of modern societies. (See Quarantelli for a discussion of community disasters and the "altruistic" and "therapeutic" community.) Yet systematic evidence of such post-disaster behavior remains sparse. These questions are included as a systematic test of whether this sample of respondents engaged in such behaviors after the Whittier Narrows Earthquake.
- Q29 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 examined more widely than most others. In Q29, R is first asked to volunteer agencies or groups that they remember having had a role in post-disaster work. Circle the appropriate type of agency mentioned. If R gives a specific title, ask R to describe it or tell you what kind of agency it is. Once R has volunteered all the groups s/he remembers, ask R about those groups not volunteered. For all groups mentioned--whether volunteered or recognized--ask

whether R had contact with the agency. Contact could be either in person or by telephone but not through radio or television. For only those groups that R had contact with, ask R's opinion of the groups helpfulness, and why R had that opinion.

Rather than listing the formal names of federal, state, and local groups that might be mentioned, generic categories are used. The list was designed to allow comparison with earlier disaster studies and particularly those conducted in Los Angeles by Turner et al and Bourque et al.

Q30-34

Questions 30-34 ask R's perceptions of their own and the community's preparedness. These questions are adapted from or identical to those used by Turner et al and Bourque et al.

Q30

Q30 asks whether victims of the earthquake received enough help. Read the alternatives and circle the one selected.

Q31

Q31 asks R's perception of their own preparedness. Read the alternatives and circle the one selected.

Q32

Q32 asks R's perception of the general public's preparation for the earthquake. Read the alternatives and circle the one selected by R.

Q33

Q33 asks R's opinion about how well prepared public officials and government agencies were for the earthquake. Read the alternatives and circle the appropriate one.

Q34

Q34 is an open-ended question that asks R's opinion about what could have been done to make the public better prepared for the October 1, 1987, earthquake.

Q35

Since the October 1, 1987, earthquake a number of flyers, mailers, and articles in the newspapers have reviewed what people should do in the event of an earthquake. These recommendations generally differentiate between being indoors, outdoors, and in a car. The three parts of Q35 ask R what s/he thinks should be done in each cir-

cumstance. Do not read the alternatives. Use the alternatives only for recording the answer(s) given. Circle all that apply.

Q36

Flyers, mailers, and newspapers have also reviewed the kinds of preparations that should be made for earthquakes. Q36 is a modified version of a question used by Turner et al. First, read through the list of possible preparations and ascertain whether R has done each one or not and, for those done, whether it was done before or after October 1, 1987. Then for only those preparations that R has made and where there might be doubt, ask whether R did it for earthquake preparedness, for other reasons, or for both. For preparedness behaviors such as the purchase of earthquake insurance where it is obvious that the behavior relates to earthquake preparation do not ask the question.

Q37-38

Questions 37-38 replicate questions asked by Turner et al, and deal with R's perception that a damaging earthquake will occur in the future. Ask each question as given, read the alternatives given and circle the answer selected.

Q39

Q39 asks about preparedness behaviors. Prior studies consistently show that adoption of preparedness behaviors is predicted by past experience in disasters. Q39 replicates questions asked by Turner et al and Bourque et al, and allows for comparison with these prior studies.

Q40

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. (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; Kathleen J. Tierney. "Disasters and Mental Health: A Critical Look at Knowledge and Practice." Prepared for the Italy-United States Conference on Disasters, Disaster Research Center, University of Delaware, October 5-10, 1986; 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, Maryland 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)81-1070, U. S. Government printing Office, Washington, D. C. 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 Audrey 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: Logue, J. N., Hansen, H., Struening, E., Emotional and physical distress following Hurricane Agnes in Wyoming Valley of Pennsylvania. Public Health Reports 1979; 94:495-502; Logue, J. N., 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; Logue, J. N., H. Hansen, E. Struening, Some Indications of the Long-Term Health Effects of a Natural Disaster, Public Health Reports 1981; 96:67-79; Melick, Mary Evans, 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 M. E. 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 nonflood 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. Obsessive-compulsive was closest to significant. In a case-control study of women 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 Supper Club Fire (Ohio) of May 1977. Included were all 9 dimensions: somatic complaints, obsessive-compulsive, interpersonal-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 posttraumatic stress disorder (PTSD) when measured using the Diagnostic Interview Schedule (DSM) III. (See Murphy S. 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 maximise comparison with other post-disaster studies as well as comparison with non-disaster populations, Q46 contains 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: Psychotism (3, 14, 22, 34, 42, 44, 50, 53), Somatization (2, 7, 23,

29, 30, 33, 37), Depression (9, 16, 17, 18, 20, 35, 50), Hostility (6, 13, 40, 41, 46), Phobic Anxiety (8, 28, 31, 42, 43, 47), Obsessive-Compulsive (5, 15, 26, 27, 32, 36), Anxiety (1, 12, 19, 38, 45, 49), Paranoid Ideation (4, 10, 21, 24, 48, 51), and Anxiety (1, 12, 19, 38, 45, 49). Also included are four global items (11, 25, 39, 52) 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 and Nick Milisaratos, The Brief Symptom Inventory: an introductory report, Psychological Medicine 1983; 13: 595-605; Leonard R. Derogatis, Ronald S. Lipman, 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, Lino Covi, SCL-90: An Outpatient Psychiatric Rating Scale-Preliminary Report, Psychopharmacology Bulletin 1973; 9:13-28.

Q41

This set of questions were developed by Sandra Ball-Rokeach to measure an individual's dependence on the media. Three kinds of media dependencies are postulated and tested using this series of questions.

and tested using this series of questions. They are: understanding dependency with subtypes of social understanding and self-understanding; orientation dependency with sub-types of action orientation and inter-exposure. An individual's propensity to use and depend on one or more media source (newspaper, television, radio, magazines) should relate to their propensity to seek and use information from a media source following an earthquake or other disaster. Furthermore knowledge about the community's general propensity to use media has relevance for the design of disaster-preparedness materials. (See S. J. Ball-Rokeach, M. Rokeach and J. W. Grube, The Great American Values Test: Influencing Behavior and Belief Through Television, New York: The Free Press, 1984.

- Q42-54 The remainder of the questionnaire contains questions on demographic characteristics.
- Q42 We want to know whether the respondent or another member of the household owns or is buying this residence.
- Q43 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.
- Q44-46 Length of residence in California, the present neighborhood and at the present house may all be relevant in assessing reactions to the October 17, 1987 earthquake.
- Q47 Marital status was deleted from the household roster so we need to obtain it here for R.
- Q48 Q48 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
- Q49 ASKS FOR R'S religious preference. Do not read answers and record as given.
- Q54 This question is important for sampling purposes. Please ask as written and record answers reported.