AN EXPLORATORY STUDY OF VICTIM REACTIONS
TO TWO DISASTERS

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

By

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CHAPTER I

DISASTERS AND DISASTER RESEARCH

Introduction

Throughout history mankind has been subjected to floods, hurricanes, earthquakes, epidemics, explosions, and wartime bombardment. Any great catastrophe leaves behind it some record of its passing. These records may be in the stories told, letters and diaries, newspapers and official records. When any disaster strikes, with the human impact felt long after, the record becomes "...woven into histories, novels and plays that anchor it in a durable context of personal and social meaning."¹

Although man's concern to know what happens in disasters is neither novel nor new, it was during World War I that systematic studies by social scientists began to test social and behavioral science concepts. Prince,² in his study of the Halifax explosion of 1917, offered the pioneering example of the social study of a disaster. Perhaps the first


Theoretical description of a disaster pattern was that of Carr. At the beginning of World War II, in 1940, Cantril's study of the "invasion from Mars" contributed greatly to the psychological analysis of human behavior under the simulated threat of terrifying disaster.

After World War II, programs for systematic studies of human behavior in disaster situations developed primarily from the implications of atomic and thermonuclear weapons. Fritz points out that there were two interrelated needs for these studies:

... first, to secure more adequate protection of the nation from the destructive and disruptive consequences of potential atomic, biological and chemical attack; and second, to produce the maximal amount of disruption to the enemy in the event of war.

The goal of such studies as Air War and Emotional Stress

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and others was to advance understanding of human beings in situations of acute stress, understanding which became applicable to both wartime and peacetime disasters.

In 1952, a Committee on Disaster Studies (reorganized as the Disaster Research Group in 1957) was appointed within the National Academy of Sciences - National Research Council. Through federal and foundation grants, the Committee endeavored to advance communication and planning among students of disasters and encourage research on human problems in disasters. Most of these studies have been field studies after the impact of tornadoes, floods and other catastrophic events. These studies have not only reported research on the socio-psychological problems of people in disasters, but have provided theoretical formulations and methodology for further disaster research.9

Time Dimension in Disasters

Powell, Rayner, and Finesinger10 developed the first major descriptive categories of events that take place in

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disasters. Their model divided disaster time into seven stages, each stage distinguished by predominant characteristics of the disaster-related behavior of those persons involved.

1. **Warning**: The warning period begins when information is received that a disaster may occur or apprehension is based on possible danger becoming probable danger. One observer has described behavior in this period as characterized by either a marked repression of anxiety or an overactivity by those receiving the warning. These reactions tend to influence changes in the person's interpretation of the warning, causing many people to deny or disbelieve the information. Those who have experienced disasters are usually able to accept the warning and take protective action. Others seek more information to confirm or deny the warning, continuing to interpret the situation optimistically until it is too late for precautions.

2. **Threat**: When the danger is perceived as unmistakable, imminent, and personal, the threat phase has begun.

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11 Other time and space models of disaster have been developed. See, for example, Anthony F. C. Wallace, *Tornado in Worcester: An Exploratory Study of Individual and Community Behavior in an Extreme Situation*, No. 3 (Washington, D.C., 1956).


Research on this phase has been on the "psychological conditions under which warnings are well identified, accepted, and acted upon, as well as the effects of the timing, source, and content of such messages." The same perceptual ambiguities that existed in the warning phase still exist in the threat phase but must be solved with more urgency.

3. Impact: This is the phase during which the physical destruction is being accomplished by the disaster agent. Fear is the most common experience during impact but still persons in the disaster situation are concerned for others, and try to take adaptive action to the situation. As stated by Marks and others in their study of an Arkansas tornado:

... There was no hysterical breakdown, no panic flight, and no affective immobility. Nearly all persons tried to do something to protect themselves and individuals with small children or elderly persons around them attempted to protect them. Most of the actions taken appear to have been adaptive to the particular situation with which each individual found himself faced. The low rate of deaths and serious injuries would seem to support this.

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4. **Inventory**: This is the time during which those persons involved in the disaster begin to extricate themselves, if they are able, and take stock of their situation. Contrary to the common conception, research has shown that many of the most immediate acts of rescue and relief are performed by the survivors themselves rather than being completely dependent on outside help.\(^1^8\) Each person believes that only he and his immediate companions are victims; he experiences feelings of abandonment. However, he learns that others were involved and survived, and

... he experiences feelings of gratitude at being alive and of concern for others. ... he has a powerful need to know the fate of his family. ... his search for his family may be interrupted. ... to rescue strangers under the pressure of sudden appeals or demanding situations.\(^1^9\)

Role conflict, where family loyalties are concerned, has also been the subject of disaster research. Killian points out that

... when catastrophe strikes a community, many individuals find ... that they are faced with the dilemma of making an immediate choice between various roles ... In all the communities there were individuals, such as policeman, fireman, and public utilities workers, whose loved ones were threatened by the same disaster that demanded their services as "trouble-shooters." Even persons who had no such definite role to play ... were confronted with the

---

\(^{1^8}\) Charles E. Fritz, "Disaster," p. 672.

\(^{1^9}\) Dwight W. Chapman, "A Brief Introduction to Contemporary Disaster Research," p. 15
alternatives of seeing after only their own primary groups or assisting in the rescue and relief of any of the large number of injured persons, regardless of identity. 20

5. Rescue: The rescue phase is considered to begin once people start taking action to cope with the situation. A combination of the impact area survivors, unorganized spontaneous volunteers, and organized security units begin work within the impact area. Particularly important are the roles of the police, fire departments, and often military units who work on a 24-hour basis. However, "convergence action" on the part of spontaneous volunteers often presents a severe problem in rescue work. 21 Convergence on the impact area creates traffic problems, which hinder the rescue operations. Too, the cornucopia phenomenon — goods and services and well-intentioned individuals flooding the disaster area — so often reported in research studies presents problems to the receiving community. As Moore states:

American generosity is perhaps nowhere shown so dramatically as in spontaneous donations to areas and persons visited by disasters. Foodstuff, clothing, blankets, supplies of all kinds from drugs to bulldozers appear in stricken communities as if by magic; and often in such large quantities as to constitute


a real embarrassment of riches.

Persons, organizations, and groups . . . often send sums of money . . . In some cases these sums run so large as to make their expenditure a very real problem requiring years of careful planning on the part of committees charged with the responsibility of carrying out the wishes of the donor . . . 22

6. Remedy: This period involves extensive welfare and reconstruction through long-term measures of recuperation. There is no time limit usually ascribed for the remedy period as some areas are so completely obliterated that many years may be required to recover. Rehabilitation organizations such as government relief agencies, Red Cross, insurance companies and others begin to help restore personnel, insofar as possible to their pre-impact physical and emotional status, and repair and rebuild the damaged material culture to its pre-impact status. 23

7. Recovery: Remedy and recovery tend to blend together as the group begins the establishment of a social adaptation. Little is known of the long-term effects on individuals. Most of the studies on mental illness, as a result of the tension and crises that follow a disaster, have pointed out that there is no wave of psychological illness. However, there have been no long-term studies


of individuals following impact and therefore very little is known about whether disasters contribute to psychiatric disorders that may be delayed in their appearance.\textsuperscript{24}

Summary

This chapter has surveyed the time sequence of a disaster and has indicated some of the findings on human behavior in each phase.

The following chapters report an exploratory study of reactions to two disasters, a tornado and floods, which struck Dallas, Texas, in the spring of 1957. Although the findings and discussion are presented in the context of a somewhat shortened version of the time sequence described above, the major emphasis is on the differential impact of the two types of disaster agents and on the reactions of victims to disaster situations.

\textsuperscript{24}Dwight W. Chapman, "A Brief Introduction to Contemporary Disaster Research," p. 19.
CHAPTER II

DISASTERS IN DALLAS

During the months of April and May, 1957, Dallas, Texas, experienced two distinct types of disasters. On Tuesday afternoon, April 2, "a tornado, watched by agonized thousands," cut a path through the Oak Cliff area, West Dallas, toward Love Field, and northwest out of the city. A second disaster occurred twenty-four days later (April 26) when, after almost a month of a series of rains, one of the heaviest rainfalls in Dallas' history put the Trinity River at flood stage. An officially estimated five-hundred families had to flee their homes in the residential areas near the river bottom. Two subsequent floods on May 2 and May 12 forced the residents to evacuate their homes a total of three times in almost as many weeks. These two disasters, the floods and more particularly the tornado, had rather extensive coverage by the news media.

Tornado warnings had been broadcast throughout the day on April 2. Shortly before 4 p.m. a report was received from the Dallas County Sheriff's office by the Police

2. The Dallas Morning News, April 27, 1957, Sec. 1, p. 2.
Office of tornado clouds beginning to develop some thirty miles southwest of the city. By 4:15 P. M. the characteristically shaped tail began forming. The funnel was reported to have touched down in an Oak Cliff area near Ledbetter Drive and Highway 67 in the southwest part of the city. For some forty-six minutes, the tornado skipped up and down across the western part of Dallas (see Figure 1), leaving in its sixteen-mile trail wrecked homes, businesses, and the injured or dead (see Table I).

TABLE I

A COMPARISON OF THE ESTIMATES OF TOTAL PHYSICAL DAMAGE AND DAMAGE OF WEST DALLAS AND RECORD CROSSING RESULTING FROM THE TORNADO*

<table>
<thead>
<tr>
<th>Type of Damage</th>
<th>Total Damage**</th>
<th>West Dallas - Record Crossing Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persons Killed</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Persons with Injury</td>
<td>183</td>
<td>***</td>
</tr>
<tr>
<td>Homes Destroyed</td>
<td>131</td>
<td>115</td>
</tr>
<tr>
<td>Homes with Major Damage</td>
<td>111</td>
<td>68</td>
</tr>
<tr>
<td>Homes with Minor Damage</td>
<td>287</td>
<td>***</td>
</tr>
<tr>
<td>Apartment Houses Destroyed</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Apartment Houses Damaged</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Small Business:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destroyed</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>With Major Damage</td>
<td>***</td>
<td>8</td>
</tr>
<tr>
<td><strong>Institutions:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Churches Destroyed</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Churches Severly Damaged</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

*Source: The Dallas Morning News, April 4, 1957, Sec. 1, p. 3.

**Total damage estimated at $4,000,000. ***Unavailable.
FIGURE 1
PATH OF TORNADO THROUGH DALLAS, TEXAS*

*Shading indicates area hardest hit by the tornado.
As indicated in Table I, the hardest hit areas were the vicinities of Riverside and Record Crossing, and West Dallas. Navarro Street, in the West Dallas area, was almost a complete line of rubble. Nine of the 10 persons killed were in the West Dallas area; the other was at Edgefield and Stewart Streets in the Oak Cliff section. One hundred fifteen of the 131 homes and five of the nine apartment houses destroyed were located in the West Dallas area.

Twenty-four days after the tornado, the first of three floods in the southeast area of Dallas occurred (see Figure 2). Rains had been almost continuous throughout the month of April, with 5.10 inches falling on the 26th. Under the impact of this downpour, the Trinity River was expected to crest at 44 feet, putting the lowland area six feet under water.

The residents of the flood area of Roosevelt Heights had no more than returned to their homes when, on May 2, the threat of a new flood forced them to evacuate. Nine days of cleaning mud and debris, salvaging furniture, and starting repairs passed before - for a third time - the residents fled from the rising waters of the Trinity.

There were no deaths recorded but unofficial estimated damage to homes in the flood area was high.

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FIGURE 2
DALLAS FLOOD DISASTER AREA, 1957

*Shading indicates flood area.
Purpose

Two disasters had occurred in the Dallas area, both having a major effect upon Negro areas of residence in that city. Furthermore, a rapid, impressionistic survey of the two areas made by Doctor Harry E. Moore of the Department of Sociology of the University of Texas and Doctor H. J. Friedsam of the Department of Sociology of North Texas State University, suggested that the two areas were also homogeneous in income level and possibly in other ways. Hence, the situation presented an opportunity to study and compare the residents' reactions to two different disaster agents. More specifically, it was felt that an exploratory study to determine whether or not there was a difference in the responses of the victims to the tornado and floods could be undertaken.

Several guide questions were to be answered:

1. Did the respondents have advance warning of impending danger?

2. If warning was received, how did the respondents react to it?

3. Did the families (particularly those in the flood) move from their homes? If so, who helped them to do this?

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5This study was part of a North Texas State University and The University of Texas disaster research project supported by the Hogg Foundation for Mental Health of The University of Texas. For another result of the investigation, see Harry E. Moore and H. J. Friedsam, "Reported Emotional Stress Following a Disaster," Social Forces, XXXVIII (December, 1959), 135-139.
4. Who received help and from whom? To whom did they give help?

5. Did they have help in cleaning their homes and moving back into them?

6. What problems, emotional and/or physical, did they have?

7. What were their opinions on the future of their families and neighborhood?

Method

Interview schedules (see Appendices A and B) were devised by Dr. Harry E. Moore and Dr. Hiram J. Friedsam. The schedules were based on ones used previously in the Waco-San Angelo disaster study directed by Moore. The schedules were pre-tested on a sample group in the flood area, and minor modifications were made.

As described above, the areas most severely affected by the tornado and floods were West Dallas and Record Crossing and Roosevelt Heights, respectively. The samples drawn from these areas were made up entirely of Negroes who were from a very low socio-economic level. Three advanced students in the Sociology Department at North Texas State University, including the writer, were employed on a part-time basis as interviewers. The sampling methods

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6Harry E. Moore and Fred R. Crawford, "Waco-San Angelo Disaster Study."
used in the two areas differed due to the nature of the disasters. The vortex of the tornado was estimated to have varied between fifty and two hundred feet, and cut a path twelve blocks long from Singleton Boulevard through thickly settled Navarro and Vilbig Streets (see Figure 1). The sample was drawn from those houses which were in the high impact zone and in the innermost part of the fringe impact area. This gave high representation of those families most affected by the tornado. Interviewing in this area was begun some three months after the tornado and required seven weeks to complete the sample of one hundred forty-two persons.

The flood sample was limited primarily to the area in which the families had to evacuate their homes on all three floods. The sampling was begun in the extreme southern part of Roosevelt Heights, which was closest to the Trinity River. From that point every other house was taken up to the area in which the occupants did not have to move out or leave their homes. Houses vacant prior to the floods were considered as vacant lots. Occupied houses next to the vacant ones were then used in the sampling procedure. The interviewing began three to four weeks after the crest of the third flood, and required approximately three weeks to complete the sample of fifty-two people.

The data were coded on IBM cards for computation. The statistics used in reporting the data consist primarily
of percentages. Statistical tests of significance were not employed since this study was exploratory in nature and not a testing of hypotheses.

Family Characteristics

As previously mentioned, the respondents for this study consisted entirely of Negroes of whom approximately three fourths of those interviewed in the tornado sample and almost two thirds in the flood sample were women.\(^7\)

There was also a similarity in the age distribution of the two samples with 50 per cent of both the "T" and "F" groups falling within the age range of 17-40 years (see Table II). However, the "F" respondents did show

### TABLE II

**AGE COMPOSITION OF TORNADO AND FLOOD VICTIMS - BY PERCENTAGE**

<table>
<thead>
<tr>
<th>Age</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-28</td>
<td>20.4</td>
<td>19.2</td>
</tr>
<tr>
<td>29-40</td>
<td>30.3</td>
<td>30.9</td>
</tr>
<tr>
<td>41-52</td>
<td>18.3</td>
<td>19.2</td>
</tr>
<tr>
<td>53-64</td>
<td>14.1</td>
<td>11.5</td>
</tr>
<tr>
<td>65-76</td>
<td>14.8</td>
<td>15.4</td>
</tr>
<tr>
<td>77 and over</td>
<td>0.7</td>
<td>3.8</td>
</tr>
<tr>
<td>No Answer</td>
<td>1.4</td>
<td>3.8</td>
</tr>
</tbody>
</table>

\(^7\)Hereafter, the tornado sample will be referred to as "T" and the flood sample as "F."
a slightly higher average age than did the "T" sample. The mean average age for the former was 43 years, and for the latter, 41 years. Approximately one sixth of each sample was 65 years of age or over.

The mean average family size of the flood respondents was higher than that of the tornado respondents. The "F" families contained a total of 220 persons with an average family size of 4.23. A total of 505 persons were in the families of the "T" group, giving an average family size of 3.55. The difference in family size of the two victim groups is reflected in Table III. Fifty-one per cent of the "T"

TABLE III

SIZES OF FAMILIES BY PERCENTAGES IN TORNADO AND FLOOD DISASTERS

<table>
<thead>
<tr>
<th>Family Size</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Member</td>
<td>21.8</td>
<td>11.5</td>
</tr>
<tr>
<td>2 Members</td>
<td>29.6</td>
<td>28.8</td>
</tr>
<tr>
<td>3 Members</td>
<td>9.9</td>
<td>1.9</td>
</tr>
<tr>
<td>4 Members</td>
<td>9.9</td>
<td>7.9</td>
</tr>
<tr>
<td>5 Members</td>
<td>12.0</td>
<td>20.4</td>
</tr>
<tr>
<td>6 Members</td>
<td>7.0</td>
<td>3.8</td>
</tr>
<tr>
<td>7 Members</td>
<td>3.5</td>
<td>5.8</td>
</tr>
<tr>
<td>8 Members</td>
<td>1.4</td>
<td>9.6</td>
</tr>
<tr>
<td>9 Members or Over</td>
<td>4.9</td>
<td>9.6</td>
</tr>
</tbody>
</table>

families were composed of 2 members or less. About 11 per cent fewer "F" families fell into the 2 members or less category.

*The term family is used here even though significant percentages in each group were persons living alone.*
The second highest percentages of "F" families were in the four-member category with 20 per cent, and in the eight or more members category with 19 per cent. The "T" families had 8 per cent fewer in the four-member and 13 per cent fewer in the eight or more members categories than did the "F" families. Thus the "F" families were generally a little larger than the "T" families.

The larger size of the "F" families may be related to the fact that they appeared to be more stable, as measured by marital status, than did the "T" families (see Table IV).

**TABLE IV**

MARITAL STATUS OF FAMILIES AFFECTED
BY DISASTERS — BY PERCENTAGE

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living with Spouse</td>
<td>67.6</td>
<td>80.7</td>
</tr>
<tr>
<td>Widowed</td>
<td>12.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Separated or Divorced</td>
<td>7.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Single</td>
<td>9.9</td>
<td>5.7</td>
</tr>
<tr>
<td>No Answer</td>
<td>2.1</td>
<td>-</td>
</tr>
</tbody>
</table>

Thirteen per cent more of the "F" families were living with their spouses than was the case in the "T" families. Where 13 per cent of the "F" families had experienced disruption through death, separation or divorce prior to the disaster, 20 per cent of the "T" families had similar disorganizing experiences.
Large percentages of both groups of families reported having relatives in the Dallas area. Ninety-one per cent of the "T" and 93 per cent of the "F" families had relatives living in the city. In most cases these were close consanguine relationships with 56 per cent of the "T" and 62 per cent of the "F" families reporting fathers, mothers, sisters or brothers living in Dallas.

The physical proximity of the relatives of the "F" families was much greater than that of the "T" relatives. Seventy-five per cent of the "F" relatives lived nearby or within the disaster area proper whereas more than one third of the "T" relatives, as compared to only 6 per cent of the "F" relatives, lived in another portion of the city.

Church Membership and Attendance

There appeared to be little difference between the two groups in reported church attendance and membership. Table V indicates that approximately three-fourths of the "T" and "F" respondents reported that they attended church twice a month or more often. Of this percentage, 58 per cent and 56 per cent of the "T" and "F" groups, respectively, attended church weekly or more often. On the other hand, almost 24 per cent of the "T" and 23 per cent of the "F" respondents attended "once a month or less often," or "seldom, if ever."
TABLE V
REPORTED CHURCH ATTENDANCE BY DISASTER AFFECTED RESPONDENTS - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Church Attendance</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly or more often</td>
<td>57.7</td>
<td>55.7</td>
</tr>
<tr>
<td>Twice a month, about</td>
<td>16.9</td>
<td>21.1</td>
</tr>
<tr>
<td>Once a month or less often</td>
<td>6.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Seldom, if ever</td>
<td>17.6</td>
<td>17.3</td>
</tr>
<tr>
<td>No Answer</td>
<td>1.4</td>
<td>-</td>
</tr>
</tbody>
</table>

Some 63 per cent of both the "T" and "F" groups who attended church twice monthly or more often indicated an affiliation with a Baptist church. Eighteen per cent of the "F" and 7 per cent of the "T" families were Methodist, and about one fifth of each group of families expressed affiliation with small religious sects - mainly the Church of God in Christ.

Employment Status of Disaster Affected Families

More "F" families had at least one member or more employed than did the "T" families (see Table VI). Eighty-eight per cent of the first group as against 77 per cent of the second group reported one or more members employed. In 57 per cent of the "F" families the father was the only employed person, and in 19 per cent the father and mother were both employed. The "T" group had 14 per cent less "fathers only" employed and had about the same percentage
as the "F" in the "father and mother" employed category.

Unemployment was higher in the "T" group with 19 per cent.

TABLE VI

EMPLOYED MEMBERS OF DISASTER AFFECTED FAMILIES

<table>
<thead>
<tr>
<th>Members Employed</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father only</td>
<td>43.0</td>
<td>57.7</td>
</tr>
<tr>
<td>Mother only</td>
<td>12.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Father and Mother</td>
<td>18.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Children</td>
<td>1.4</td>
<td>-</td>
</tr>
<tr>
<td>Father, Mother, Children</td>
<td>2.8</td>
<td>-</td>
</tr>
<tr>
<td>No member employed</td>
<td>19.0</td>
<td>11.5</td>
</tr>
<tr>
<td>No answer</td>
<td>3.5</td>
<td>-</td>
</tr>
</tbody>
</table>

reporting no member employed as compared to 12 per cent of the "F" group. In both groups most of the families with no member employed were receiving Public or Old Age Assistance. In addition, a few families in the "T" group with "no member employed" reported irregular gifts from friends and relatives and a few more reported that they had no income of any kind. No attempt was made to probe those who reported no income of any kind.

Length of Time at Address and Property Ownership

About two thirds of the "T" group interviewed had lived at that address for more than three years, and 61 per cent of the "F" families interviewed had also lived in that
particular house for more than three years (see Table VII).

TABLE VII

LENGTH OF TIME AT ADDRESS BY DISASTER AFFECTED FAMILIES - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Length of Time</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3 Months</td>
<td>0.7</td>
<td>7.6</td>
</tr>
<tr>
<td>3 Months to 1 Year</td>
<td>11.3</td>
<td>15.3</td>
</tr>
<tr>
<td>1 to 3 Years</td>
<td>20.4</td>
<td>15.3</td>
</tr>
<tr>
<td>More than 3 Years</td>
<td>67.6</td>
<td>61.8</td>
</tr>
</tbody>
</table>

Nevertheless, the "T" families seemed to be less mobile than did the "F" families. Eighty-eight per cent of the former had lived at their then current addresses at least one year whereas only 77 per cent of the "F" families had done so.

Although the disaster-affected areas would be classified as slums, the "F" families appear to have a slightly higher level of property ownership. Both groups of families reported a high percentage of home ownership, with 82 per cent of the "F" and 71 per cent of the "T" groups indicating that they owned their homes.

The "F" families also reported a higher percentage of automobile ownership. Sixty per cent of the "F" families owned a car or truck, 11 per cent more than was the case in the "T" families.
Summary

For the most part, the background characteristics of the "T" and "F" respondents were very similar. The respondents were predominantly female Negroes and were about the same in average age. The "T" and "F" respondents were of a low socio-economic status and lived in the two worst slum areas in Dallas. However, both groups indicated a high percentage of home and automobile ownership with the "F" respondents having the higher percentage of property ownership. There were fewer cases of "no member employed" among the "F" families, and more cases in which the father was the only member employed. The "F" families also seemed to have more stability in marital status and had larger and closer families, facts which may not be unrelated. On the whole it may be concluded that the two groups of victims were quite similar with the "F" group being slightly better off and slightly more stable, except in length of residence at the same address, than the "T" group.
CHAPTER III
IMMINENT DANGER

The warning periods in Dallas began when information was received about the imminent danger of a tornado or flood. Certainly there are those disasters such as explosions and flash floods which do not allow warning; but where a warning period is available, people may be able to take precautionary and protective action. However, as suggested in Chapter I, disaster literature indicates that most victims miss or fail to heed warnings.

This chapter is concerned primarily with whether the Dallas victims received warning; and, if they did, how they responded to it. It concentrates on (1) the mass media available to the disaster victims; and, (2) the role of mass media and word-of-mouth warning.

Table VIII shows the availability of various mass media to the two groups of respondents. Over one fourth of the "T" respondents compared to less than 10 per cent of the "F" respondents had access to all three of the mass media. Only 11.5 per cent of the "T" respondents and 9.2 per cent of the "F" respondents lacked access to at least one
medium, and virtually all who had access to any medium actually had access to radio or television.

TABLE VIII
MASS MEDIA AVAILABLE TO DISASTER VICTIMS

<table>
<thead>
<tr>
<th>Media</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>15.5</td>
<td>26.9</td>
</tr>
<tr>
<td>Television</td>
<td>9.2</td>
<td>9.6</td>
</tr>
<tr>
<td>Daily newspaper</td>
<td>2.1</td>
<td>7.6</td>
</tr>
<tr>
<td>Radio and television</td>
<td>30.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Radio and newspaper</td>
<td>4.9</td>
<td>17.3</td>
</tr>
<tr>
<td>Television and newspaper</td>
<td>0.7</td>
<td>-</td>
</tr>
<tr>
<td>All three</td>
<td>28.2</td>
<td>7.6</td>
</tr>
<tr>
<td>None</td>
<td>8.5</td>
<td>1.9</td>
</tr>
<tr>
<td>No response</td>
<td>0.7</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Warnings of tornado clouds developing in the Dallas area were broadcast on radio and television most of the day on April 2. Since the flood stages were even more predictable than the tornado, newspapers as well as radio and television kept the public aware of the expected cresting of the flood on April 20.

Despite the availability of the mass media and the warnings carried, the mass media were not very important as a source of warning (see Table IX). Only 6 per cent of the "T" families reported having been warned of the tornado by radio; however, radio did play a more important role for the "F" families with almost one fifth reporting warnings
of rising water by this means. Television played virtually no role whatever in either disaster. Only one person in the

<table>
<thead>
<tr>
<th>TABLE IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROLE OF COMMUNICATION FACILITIES IN WARNING OF IMPENDING DANGER</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication Facility</th>
<th>Tornado (N=142)</th>
<th>Flood (N=52)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>6.3</td>
<td>19.2</td>
</tr>
<tr>
<td>Television</td>
<td>0.7</td>
<td>-</td>
</tr>
<tr>
<td>Word-of-mouth</td>
<td>15.5</td>
<td>63.4</td>
</tr>
<tr>
<td>No advance warning</td>
<td>73.9</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>0.7</td>
<td>13.4</td>
</tr>
<tr>
<td>No response</td>
<td>2.8</td>
<td>3.8</td>
</tr>
</tbody>
</table>

"T" and none in the "F" sample was warned via television. Not unexpected was the finding that a high percentage of the tornado respondents claimed to have received no warning despite the announcements on radio and television. Seventy-four per cent of the "T" respondents had no advance warning whereas not one person of the "F" group had not received warning to leave the area.

Visual Cues

There is indication, however, that such a large difference in the "no advance warning" categories of the "T" and "F" groups is partly a matter of definition. It is possible that the question, "How did you get the first news that the tornado was coming?" may have structured the question
in such a way that the interviewee interpreted it to mean he had to be informed by someone else, thus preventing him from stating he was warned through his seeing the tornado coming. When asked the question, "What else did you do before the tornado struck?" 58 per cent of the "no advance warning" group made statements which were indicative not only of perceiving the tornado, but reacting to their perception through various activities. The predominant activities of those who stated that they did do something when they saw the tornado were putting children under, in, or on the bed, or lying on the floor. One woman stated: "When I saw it, I put the children to bed and I sat down." Another woman said: "I took my children and sat on the bed waiting for it to pass." A young man saw the tornado, ran into the house and told his grandmother and three small children to lie on the floor. Flight and confused thinking were the next most common reactions of those seeing the tornado. A wife, who had lived in the area for five years, told of her husband seeing the tornado, putting the family in the car, and driving into the only dead-end street in the neighborhood. An elderly woman saw the tornado but was unable to mobilize her thoughts:

I saw it coming but I didn't know what to do. Then my insurance man came driving by and yelled. I ran and jumped in my insurance man's car and we left just before it hit.

---

1Seven persons (13.4 per cent) of the flood families also acted-evacuated on visual cues.
In fact, then, a total of 94 of the 142 persons knew of the tornado and had a brief period of time for action before its impact. Word-of-mouth was the primary channel through which both the "T" and "F" families were warned. As indicated in Table IX (p. 28), nearly two thirds of the "F" and 16 per cent of the "T" families were warned by word-of-mouth.

Official authority was the main source of warning for the "F" respondents but informal warning by word-of-mouth was the major source for the "T" respondents. Table X indicates that of the 63 per cent of the "F" families who

<table>
<thead>
<tr>
<th>Individual Giving Warning</th>
<th>Tornado N=22</th>
<th>Flood N=33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family member</td>
<td>27.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Close friend</td>
<td>45.5</td>
<td>6.0</td>
</tr>
<tr>
<td>Superior on Job</td>
<td>13.6</td>
<td>-</td>
</tr>
<tr>
<td>Official or other Authority</td>
<td>-</td>
<td>91.0</td>
</tr>
<tr>
<td>Other</td>
<td>13.6</td>
<td>-</td>
</tr>
</tbody>
</table>

did receive warning by word-of-mouth, 91 per cent were warned by the police. The police had gone through the Roosevelt Heights addition on the afternoon of April 26 warning the residents to leave the area as quickly as possible. Nine per cent of the "F" families were warned by a family member or close friend. On the other hand, 16 of the 22 "T" respondents, or 72.8 per cent, who received warning by word-of-
mouth were warned by a family member or close friend, a percentage which is eight times as great as the 9.0 per cent of "F" respondents who received warning from the same sources.

There was also some difference between the two groups in the acceptance of warning (see Table XI). The "T" families

TABLE XI

VICTIMS' ACCEPTANCE OF WARNING - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Acceptance of Warning</th>
<th>Tornado N=34</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sure, did not ask</td>
<td>79.4</td>
<td>69.2</td>
</tr>
<tr>
<td>Pretty sure, but asked</td>
<td>11.1</td>
<td>15.3</td>
</tr>
<tr>
<td>Not sure, asked</td>
<td>- -</td>
<td>7.6</td>
</tr>
<tr>
<td>Did not believe it, did nothing</td>
<td>8.5</td>
<td>- -</td>
</tr>
<tr>
<td>No answer</td>
<td>- -</td>
<td>7.6</td>
</tr>
</tbody>
</table>

who had been warned by radio, TV, word-of-mouth or other means accepted the warning with less question than did the "F" families. Sixty-nine per cent of the "F" respondents were sure the warning was true as against 79 per cent of the "T" families. Eleven per cent of the "T" and 15 per cent of the "F" families accepted the warning but were doubtful enough to ask someone else about its validity. Nine per cent of the "T" families denied the warning received and did not attempt to verify it. It is of interest to note that although 91 per cent of the "F" families had been warned by an authority figure, the police, there was some reluctance to accept their warning. About one-fourth of the group did not
evacuate immediately, and attempted to verify the warning by asking someone else.

When asked if they had attempted to warn others, approximately two thirds of both the "T" and "F" families indicated that they had not (see Table XII). The "F" respondents did seem slightly more "others" oriented with

TABLE XII

WARNING OF OTHER PERSONS BY DISASTER AFFECTED FAMILIES - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Warned Others</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>67.6</td>
<td>63.5</td>
</tr>
<tr>
<td>Yes</td>
<td>16.2</td>
<td>26.9</td>
</tr>
<tr>
<td>No Answer</td>
<td>16.2</td>
<td>9.6</td>
</tr>
</tbody>
</table>

about one fourth having attempted to warn someone of the flood danger. Less than one fifth of the "T" respondents warned others. However, this may be related to the fact that the "T" group had very little time to warn others before the tornado struck. Half of those warned by the "F" respondents were family members, whereas 30 per cent of those warned by the "T" group were family members. Two thirds of those warned by the "T" families were close friends as compared to the one third of those to whom "F" families gave warning. These findings are probably a result of the proximity of the relatives to the "F" families, since 75 per cent of their
relatives and only 46 per cent of the "T" relatives lived in or close to the disaster area.

Summary

The major findings presented in this chapter are as follows:

1. Three fourths of the tornado respondents claimed not to have received warning whereas all of the flood respondents were warned.

2. For those who received warning, communication by word-of-mouth was the primary method of warning for both disaster groups. Conversely, warning via the mass media was relatively unimportant.

3. The main source of word-of-mouth warning for the "F" families was the police, compared to friends for the "T" families.

4. The majority of the "T" and "F" groups who were warned accepted the warnings as being true, but few attempts were made to warn others.
CHAPTER IV

PRE-DISASTER HELP

An important dimension of the time period prior to impact of the disaster agent is the question of who helps whom. The help one gives or receives may enhance the ability to protect oneself, family and material possessions. Helping and being helped by others during the pre-disaster phase will vary with the type of disaster agent. This chapter is concerned with the help the "F" and "T" respondents gave and received, and their attitudes toward that help. However, since the time the "T" respondents had for action toward or from others was almost non-existent, no real comparison can be made with the "F" respondents.

Help Given and Received

Twenty five of the 52 "F" respondents had help in getting their families out of the flood area before the Trinity River crested. Of these, four-fifths received help from family members (42 per cent) or friends (37 per cent). The remaining 21 per cent received help from authority sources (mainly the National Guard).

The "F" respondents did not give much help to others. Only one fourth of the respondents helped others--generally close friends whom they had helped previously during times
of sickness. The "F" respondents appeared to be concerned mainly with safeguarding their homes and possessions before giving help to others.

Twenty-eight "T" respondents helped other people to leave the area or take precautionary action before the impact of the tornado compared to eighteen respondents who received such help. Close friends gave nine of the "T" respondents the most help; family members helped four, and police or strangers helped the rest. The same pattern existed for those respondents giving help to others. As mentioned previously, the time available for action before the impact of the tornado precluded extensive giving of help to others.

Attitudes toward Pre-Disaster Help

The "T" respondents thought that they had sufficient help prior to the disaster. Eighty-three per cent indicated that they believed they had received sufficient help, and only 12 per cent thought that they had not. When asked what was lacking, the six persons in the latter group stated that they had no help in stacking and/or moving their furniture. Three fourths of the "F" respondents thought that they had received about the same amount of help in leaving the area as had their neighbors.

The number of "T" respondents receiving help was so small that any discussion of their attitudes toward that help would not be relevant.
The Helped and the Unhelped

Since the flood warning period was long enough to allow for help to be extended, and since half of the "F" families had received pre-disaster help and half had not,¹ this question was subjected to special analysis.

This analysis centered on three questions: (1) What, if any, background characteristics differentiate the helped from the unhelped? (2) Was there a relationship between pre-disaster and post-disaster help? (3) Did having been helped or not helped influence attitudes toward the future?

Background Factors

The marital status of the helped and unhelped groups was very similar. However, 84 per cent of the unhelped, or 8 per cent more than the helped group, were married and living with spouse. Sixteen per cent of the unhelped and 8 per cent of the helped group were widowed while 4 per cent of both groups were separated or divorced, and 4 per cent were single. Thus, marital status did not differ greatly in the two groups.

In terms of age the unhelped reported higher percentages of both young and old respondents than the helped. As indicated in Table XIII, almost half of the unhelped were between 20

¹Throughout this section, the "N" for the helped and unhelped groups will be 25 for each group. Two "no answers" were eliminated from this report. The "T" families are not included since the time span for the tornado respondents to take action was almost non-existent and therefore a comparison could not be made effectively with the "F" families.
and 35 years of age compared to the one-third of the helped group in the same age bracket. However, the major difference

**TABLE XIII**

**AGE DISTRIBUTION OF HELPED AND UNHELPED RESPONDENTS - BY PERCENTAGE**

<table>
<thead>
<tr>
<th>Age</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20</td>
<td>4.0</td>
<td>32.0</td>
</tr>
<tr>
<td>20 - 35</td>
<td>36.0</td>
<td>48.0</td>
</tr>
<tr>
<td>36 - 50</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>51 - 64</td>
<td>4.0</td>
<td>20.0</td>
</tr>
<tr>
<td>65+</td>
<td>4.0</td>
<td>12.0</td>
</tr>
<tr>
<td>No answer</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

between the helped and unhelped was in the 36-50 age bracket. The helped group had 24 per cent more in this age bracket than did the unhelped.

There were a total of 67 children among the 19 families of the helped group who reported having children at home (see Table XIV). Eight of these families had 5 or more

**TABLE XIV**

**NUMBER OF CHILDREN PER FAMILY IN HELPED AND UNHELPED GROUPS - BY PERCENTAGE**

<table>
<thead>
<tr>
<th>Number of Children</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.0</td>
<td>16.0</td>
</tr>
<tr>
<td>2</td>
<td>12.0</td>
<td>8.0</td>
</tr>
<tr>
<td>3</td>
<td>20.0</td>
<td>16.0</td>
</tr>
<tr>
<td>4</td>
<td>14.0</td>
<td>8.0</td>
</tr>
<tr>
<td>5 or more</td>
<td>32.0</td>
<td>20.0</td>
</tr>
<tr>
<td>None</td>
<td>24.0</td>
<td>32.0</td>
</tr>
</tbody>
</table>
children. The 17 families of the unhelped group reporting children had a total of 53 with five families having five or more children. The mean number of children of the helped and unhelped was 3.5 and 3.1, respectively. Almost one-fourth of the helped and one third of the unhelped group had no children in the home. Thus there is a slight tendency for the helped to have had larger families. This in turn may be related to the concentration in the 36-50 age bracket referred to above.

Of the families having children, about 50 per cent of the unhelped group had no children in school as against only 16 per cent of the helped group (see Table XV). It is possi-

**TABLE XV**

NUMBER OF SCHOOL CHILDREN IN FAMILIES WITH CHILDREN - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Number of School Children</th>
<th>Helped N=19</th>
<th>Unhelped N=17</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15.7</td>
<td>23.5</td>
</tr>
<tr>
<td>2</td>
<td>15.7</td>
<td>11.7</td>
</tr>
<tr>
<td>3</td>
<td>31.5</td>
<td>11.7</td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>21.4</td>
<td>5.8</td>
</tr>
<tr>
<td>None</td>
<td>15.7</td>
<td>47.1</td>
</tr>
</tbody>
</table>

ble that the helped group, through their children, were more involved in the community. It is also possible that the larger number of children in the helped families made them appear as the families most in need of help.
The extended family patterns in the two groups were very much alike. As shown in Table XVI, 64 per cent of the helped

TABLE XVI

EXTENDED FAMILY RELATIONSHIPS OF HELPED AND UNHELPED GROUP IN DALLAS AREA—BY PERCENTAGE

<table>
<thead>
<tr>
<th>Family Relationships</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Father, mother, sister, brother</td>
<td>64.0</td>
<td>60.0</td>
</tr>
<tr>
<td>2. Cousin, aunt, uncle</td>
<td>16.0</td>
<td>12.0</td>
</tr>
<tr>
<td>3. Related by marriage</td>
<td>4.0</td>
<td>-</td>
</tr>
<tr>
<td>4. None</td>
<td>4.0</td>
<td>8.0</td>
</tr>
<tr>
<td>5. Number 1 and 2</td>
<td>8.0</td>
<td>12.0</td>
</tr>
<tr>
<td>6. Number 1 and 3</td>
<td>4.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

and 60 per cent of the unhelped groups had a father, mother, sister or brother living in the Dallas area. When other relatives such as cousins, aunts, and relatives by marriage are added, only 4 per cent of the helped and 8 per cent of the unhelped group had no relatives whatsoever in the Dallas area. Furthermore, about 80 per cent of the helped and 90 per cent of the unhelped groups had relatives living in or nearby the flooded area who presumably could have been available to help in time of need. Thus, extended family relationships do not appear to differentiate the two groups.

One factor which does appear to differentiate the two groups is church attendance. The helped group attended church more regularly than the unhelped. Sixty-eight per cent of the former as compared to 44 per cent of the latter reported
that they attended church once a week or more often. On the other hand only 8 per cent of the helped group stated that they seldom if ever attended church whereas 16 per cent of the unhelped said that they seldom attended church and another 16 per cent went once a month or less. Twenty-four per cent of each group attended about twice a month. It would seem reasonable to suggest that through their more regular church attendance the helped group had established more contacts through which they could seek help or had built up social relationships with people who were concerned about them. Unfortunately the data available do not permit a test of these suggestions.

Although the unhelped group had a rather high percentage of families in which the father was the only member employed, family members working does not seem to differentiate the two groups. Table XVII indicates that over two-thirds of the

TABLE XVII

<table>
<thead>
<tr>
<th>Family Members Working</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father only</td>
<td>48.0</td>
<td>68.0</td>
</tr>
<tr>
<td>Mother only</td>
<td>20.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Father and Mother</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>No member employed</td>
<td>8.0</td>
<td>12.0</td>
</tr>
</tbody>
</table>

unhelped had the father only working as against 48 per cent of the helped group. The mothers in the unhelped group
evidently were caring for their pre-school age children since only 20 per cent worked outside the home as compared to 44 per cent of the older helped group.

Home ownership and length of time at present address and in the area differed only slightly in the two groups. Ninety-two per cent of the unhelped group and 80 per cent of the helped group reported owning their own homes. Length of time at present address was the same for both groups with 64 per cent having lived there for more than three years and 36 per cent for less than three years. The same pattern existed for length of time in the flooded area, with 76 per cent of both groups having lived for more than three years at or near their then-current address and 24 per cent having lived elsewhere in the city during that period.

In summary, then, there are a few background differences between the two groups. The age of the respondent, and therefore possibly the phase of the family life cycles, the number of children in the family, children in school, and involvement in church activities seem to be the major factors which in some degree differentiate the helped from the unhelped.

Warning and Help

If, as suggested above, families who received help did exhibit some differences from those not helped, it seemed reasonable to suppose that there might also have been differences in their behavior during the warning phase. Virtually all families in both groups received warning,
but, as hypothesized, there were some differences in sources of and in reaction to the warning.

Warning by word-of-mouth was the predominant way in which both the helped and unhelped families learned of the flood danger, but 72 per cent of the helped families, 16 per cent more than among the unhelped, were warned by word-of-mouth. Other family members or friends, however, had relatively no role at all in this word-of-mouth warning, since 89 per cent of the 72 per cent helped and 93 per cent of the 56 per cent unhelped families were warned by the police. Twenty-four and 20 per cent of the helped and unhelped families, respectively, were warned by radio; but, more important, 20 per cent of the unhelped families relied on other means of warning such as "... watching the water..." or "... just knowing we were going to have a flood..." whereas only 1 person in the helped group relied on this form of warning. There is at least an indication that the helped families accepted warning more readily. Over three fourths, compared to 60 per cent of the unhelped group, stated they were sure of the warning and did not ask anyone else about it (see Table XVIII). Approximately one-fourth of both groups were uncertain about the warning and did ask other police officers, friends, and in a very few cases, relatives.

A larger percentage of the unhelped group warned others (32 per cent as against 24 per cent of the helped group), but
those in the helped group who did give warning were more likely
to direct it to family members. Five of the 6 respondents

TABLE XVIII

VERIFICATION OF FLOOD WARNING BY HELPED AND UNHELPED GROUPS - BY PERCENTAGE

<table>
<thead>
<tr>
<th>Verification of Warning</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sure, did not ask</td>
<td>76.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Pretty sure, but asked</td>
<td>12.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Not sure, asked</td>
<td>12.0</td>
<td>8.0</td>
</tr>
<tr>
<td>No answer</td>
<td>- -</td>
<td>12.0</td>
</tr>
</tbody>
</table>

in the helped group who gave warning warned relatives, and
one warned a friend; only 2 of the 8 unhelped group respond-
ents who gave warning warned relatives, 4 warned friends, and
2 stated that they warned persons whom they did not know.

Family members played an important role with the helped
group in getting their belongings out of the flooded area. Of the 16 helped families, 9 were helped by immediate family
members, 3 by friends, and 4 were helped by the police. Only
5 of the unhelped families had help in removing their belong-
ings from the area: 1 by a family member, 2 by friends, and
2 by an official.

Most families in each group gave no help to others, but
of those who did, twice as many were in the helped group (see

2The question used for defining the helped and unhelped
groups was that of the family being helped from the area
whereas belongings are involved in this question.
Table XIX). Of the eight helped families who gave help, three helped relatives and five helped friends. Three of

TABLE XIX
HELP GIVEN OTHERS BY HELPED AND UNHELPED GROUPS -
BY PERCENTAGE

<table>
<thead>
<tr>
<th>Others Helped</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32.0</td>
<td>16.0</td>
</tr>
<tr>
<td>No</td>
<td>60.0</td>
<td>60.0</td>
</tr>
<tr>
<td>No answer</td>
<td>8.0</td>
<td>24.0</td>
</tr>
</tbody>
</table>

the four unhelped families helped friends and one helped a relative. A rather large per cent of the unhelped families
gave no answer to the question of helping others, but it is
not unreasonable to assume that this was because they had
not given help.

Summarizing behavior during the warning period, the
helped group appears to have been a little more consistent
in their concern for family members and other relatives.
More of them engaged in personal interaction with others in
receiving warning of the flood; more accepted the warning
with little need for verification, more warned relatives,
more were helped by immediate family members, and more gave
help than did the unhelped group. It should be emphasized,
however that the differences between the two groups in these
respects are small and would probably not be statistically
significant. Nevertheless, their consistency suggests the desirability of further research on such factors.

Post-Disaster Help

After the flood waters receded, the unhelped families began the cleaning up job with virtually no help from relatives or friends. Only one family, compared to seven of the helped families, had help in cleaning up and moving back into their homes. The same pattern existed where the question of helping others was concerned. Five of the helped families helped relatives, but only one of the unhelped families reported that they attempted to help anyone. Thus, there is the suggestion that for some families the pattern of giving and receiving help was carried through the disaster.

When the respondents from the two groups were asked who was "most important" to them in the disaster, some small differences did appear (see Table XX). Although church groups

<table>
<thead>
<tr>
<th>Most Important Groups</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>24.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Friends</td>
<td>8.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Church</td>
<td>36.0</td>
<td>32.0</td>
</tr>
<tr>
<td>None or Don't Know</td>
<td>32.0</td>
<td>48.0</td>
</tr>
</tbody>
</table>

TABLE XX

MOST IMPORTANT GROUPS DURING FLOODS TO HELPED AND UNHELPED FAMILIES - BY PERCENTAGE
were considered as most important by both groups, this response was very slightly higher in the helped group. Furthermore, the difference was more pronounced for those who replied "Family" with twice as many helped respondents giving this answer. For both groups the percentage of "None or Don't Know" answers was high, but it was considerably higher for the unhelped than for the helped respondents.

In summary, there was very little difference between the groups during the post-disaster period but the differences that did exist are consistent with the earlier comments regarding family and church. The helped received more post-disaster help; they gave more to relatives and other family members; and they considered family and church as the "most important" groups more often than did the unhelped.

Attitudes and Help

One might expect those who had received help in a crisis to be more optimistic about their futures, but very few of the helped and unhelped respondents were optimistic about the future of their families. Table XXI does indicate that fewer of the respondents from the helped families felt that their families would be worse off than was true of the unhelped family respondents, but 60 per cent of the respondents from helped families and 48 per cent of those from unhelped families either had mixed feelings or were un-
decided about the future of their families. The same percentage (16.0) expected their families would be better off. Thus, attitudes about the future of their families do not appear to differentiate the two groups.

**TABLE XXI**

**ATTITUDES OF HELPED AND UNHELPED GROUPS TOWARD THE FUTURE OF THEIR FAMILIES - BY PERCENTAGE**

<table>
<thead>
<tr>
<th>Future of Family</th>
<th>Helped</th>
<th>Unhelped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be better off</td>
<td>16.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Be worse off</td>
<td>20.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Mixed</td>
<td>12.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Undecided</td>
<td>48.0</td>
<td>40.0</td>
</tr>
<tr>
<td>No answer</td>
<td>4.0</td>
<td>-</td>
</tr>
</tbody>
</table>

The helped respondents were quite pessimistic about the future of the neighborhood (see Table XXII). Forty per cent thought that it would be worse off, and another 36 per cent were undecided as compared to only 20 per cent who expected it to be better off. However, the unhelped respondents were
even more pessimistic in that 60 per cent felt the neighborhood would be worse off, and only 8 per cent felt it would be better off. The higher percentage of pessimistic responses in the unhelped group suggests again that at least some families among them were poorly integrated into the neighborhood.

Despite the pessimism on the part of both groups about the future of their families and neighborhood, a very low percentage, 8 per cent of the helped and 16 per cent of the unhelped group, indicated that they expected to move from the area.

Summary

The major findings presented in this chapter are as follows:

1. The number of "F" families receiving help from family members and from friends was almost equal and accounted for approximately four fifths of all of the pre-disaster help the "F" families received.

2. The majority of the "F" families thought they had received sufficient help in leaving the area and that help was about the same as their neighbors received.

The premise of the "The Helped and Unhelped" section of this chapter was that those families who received pre-disaster help would differ in other ways as well from the unhelped. The major findings tend to indicate there is
some validity in this premise so far as the Dallas flood disaster families are concerned:

1. Background factors such as age of the respondent, number of children in the family and in school, and church activities are factors which to some extent differentiate the two groups.

2. There was a relationship between pre-disaster and post-disaster help in that the helped group gave and received more help, primarily from family members and relatives, during both periods.

3. Having been helped or not helped did not seem to have a great influence on attitudes toward the future. Neither group was particularly optimistic about the future of their families and neighborhood, but such differences as did exist were in the direction of greater pessimism on the part of the unhelped.

Care must be exercised in the use of these findings because for many of these characteristics, the differences were quite small and in many instances there were no differences. Nevertheless, there was consistency in the direction of the differences which did occur. It would appear that in the helped group there were a number of "family oriented" families who could account for most of the differences reported. Such a possibility, plus the consistent direction of the differences, suggests the desirability of further research.
CHAPTER V

AFTER-EFFECTS OF THE DISASTERS

After each disaster, people begin to take stock of their situation and their losses. In an attempt to see how the victims had evaluated the disaster experience, they were asked what they thought was the worst thing that had happened to them. One-fourth of the "T" and two fifths of the "F" respondents stated that damage to or loss of their house and/or furniture probably was the most unfavorable event that had occurred (see Table XXIII). The same proportion

<table>
<thead>
<tr>
<th>Worst Event</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>House and/or furniture damaged</td>
<td>25.2</td>
<td>40.4</td>
</tr>
<tr>
<td>or destroyed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member injured or killed</td>
<td>7.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Necessity of leaving area</td>
<td>-</td>
<td>28.8</td>
</tr>
<tr>
<td>Fright</td>
<td>25.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Nothing considered as such</td>
<td>22.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>20.0</td>
<td>21.3</td>
</tr>
</tbody>
</table>

of "T" respondents reported "Fright" as the worst thing that happened to them in the disaster but only two "F" victims gave this response. Not one of the "T" respondents reported
having to leave the area but this would be expected since so little time was available for leaving. On the other hand, 29 per cent of the "F" respondents believed leaving was the worst thing that happened to them. One woman stated that it "... looked like a death when I had to leave home. I was real sad. Like somebody missing out of the family." The home as a value intensely interwoven into the life of the family, as indicated by the feelings expressed by this woman, has been emphasized by Moore: "When the home was intact, the family was intact; when the home was destroyed, the family was in peril."¹

There was a high percentage of miscellaneous responses given by victims of both disasters. These responses ranged from "just the water" to "... trying to keep people from stealing my things." That the families interviewed had experienced few injuries and no deaths is indicated by the fact that only 7 and 2 per cent of the "T" and "F" victims, respectively, reported this as the worst thing that happened.

When asked if they had seen anything good happen during the disasters, 50 per cent of the "F" and 54 per cent of the "T" respondents said they had, and 50 per cent and 46 per cent, respectively, said they had not. Of those making an affirmative response, almost 90 per cent of the "T" group and 92 per cent of the "F" group stated that "people,"

police, Red Cross and other social agencies helping others were the best things they had seen. The majority of the "F" respondents believed that the warning and help given by the police was the best thing they had seen. As one person stated: "I thought the warning was fine, and the police helped people that needed help."

Effects on Health

Although large majorities of both groups reported no increase in sickness due to the disasters, slightly more than one-fourth of the "F" and one-fifth of the "T" group did report that some member or members of the family had an illness which they attributed to the disaster (see Table XXIV).

**TABLE XXIV**

**EFFECTS OF DISASTERS ON HEALTH OF RESPONDENTS**

<table>
<thead>
<tr>
<th>Effects</th>
<th>Sickness</th>
<th>Nervous - Upset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tornado</td>
<td>Flood</td>
</tr>
<tr>
<td></td>
<td>N=142</td>
<td>N=52</td>
</tr>
<tr>
<td>No</td>
<td>78.9</td>
<td>71.2</td>
</tr>
<tr>
<td>Yes</td>
<td>19.0</td>
<td>26.9</td>
</tr>
<tr>
<td>No answer</td>
<td>2.1</td>
<td>1.9</td>
</tr>
</tbody>
</table>

The most common sickness reported among the "F" families was diarrhea and fever; apart from a few minor injuries, the sickness usually reported by the "T" group was headaches. Although the "T" group reported little physical sickness,
a high percentage (70.4) reported being nervous and upset after the disaster.\(^2\) A similar but much less pronounced tendency was also noticeable in the "F" families with 40.4 per cent reporting nervousness.

Of the 100 persons in the "T" group who stated they or a family member were nervous, 88 per cent gave physiological symptoms; 9 per cent reported inability to eat or sleep, and 3 per cent were unable to describe how they acted when nervous. One woman said her heart seemed to bother her, another reported that her children vomited, and one woman stated "I've lost 43 pounds and sometimes I just can't see good." Sixteen of the 21 "F" families who said a member was nervous described their symptoms as being unable to sleep or eat, having headaches, or fright of water. The other five voiced comments such as "I just want to get out - I stay nervous and tense all the time," and "I just have no energy and don't think straight." These expressions are fairly representative of the "F" respondents. However, some persons were more affected, as indicated by one "F" respondent who said "I've never been in a flood before and when I sleep, I梦想 of water everywhere, all over, and wake up scared."

The extent of the emotional effects was brought out more clearly in the responses to the question on how the

\(^2\)See also Harry E. Moore and H. J. Friedsam, "Reported Emotional Stress Following a Disaster."
family had acted toward rainy weather since the disasters (see Table XXV). Three-fourths of the "T" respondents

TABLE XXV

BEHAVIOR OF VICTIMS DURING CLOUDY WEATHER

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scared and upset</td>
<td>74.6</td>
<td>40.4</td>
</tr>
<tr>
<td>More alert</td>
<td>5.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Not concerned</td>
<td>15.5</td>
<td>42.3</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4.3</td>
<td>9.6</td>
</tr>
<tr>
<td>No answer</td>
<td>-</td>
<td>3.8</td>
</tr>
</tbody>
</table>

said they become scared and upset compared to 40 per cent of the "F" families. The "F" families accepted the possibility of other floods much more so than the "T" families did tornadoes. Twenty-seven per cent more of the "F" than "T" families felt that they were not concerned when cloudy weather occurred.

These findings seem to point towards a conclusion that for both groups, the impact of the disasters on mental health was greater than the impact on physical health and that this was much more pronounced among the tornado than among the flood victims. It would appear that the suddenness and the intensity of a tornado are characteristics which do produce psychological effects, at least in the short run, which are more pervasive than those produced by a flood.
Post-Disaster Help

A high percentage of the "T" and the "F" families reported that they received no assistance after the impact of the tornado and the subsiding of the flood waters. Eighty-three per cent of the "F" and 72 per cent of the "T" families were not assisted in cleaning up or moving back into their homes. However, about 28 per cent of the "T" families did have help as compared to 13 per cent of the "F" families.

The fact the "F" respondents received very little help may be a result of the perception of what constitutes a disaster. The flood victims had received ample warning about the rising water and had time to evacuate. The flood did not affect a large area of Dallas; there were no deaths resulting from its impact; and damage to houses was not as irreparable as that caused by the tornado. The destructive effect of the tornado was much greater; it affected a more populous area; and it occurred within such a brief span of time that evacuation or precautionary measures were generally unfeasible.

Six of the seven "F" respondents who had help received it from family members; one was helped by close friends. The "T" respondents had less family help and more from close friends. Of the 40 "T" families who received help, almost two-thirds were helped by close friends and 30 per cent by family members. Eight per cent were helped by other persons or by an authority figure.
The victim families received little assistance and gave even less help to others immediately after the tornado and floods. Eighty per cent of the "T" and 87 per cent of the "F" families did not assist anyone. Only 5 "F" respondents helped anyone else, and of these four helped family members. Most of the 24 "T" respondents who gave help extended it to close friends.

Neither victim group received much help from social agencies. When asked if they had received clothes, food, furniture or money, 52 per cent of the "F" and 47 per cent of the "T" respondents indicated no assistance of that kind.

TABLE XXVI
AGENCY ASSISTING DISASTER VICTIMS

<table>
<thead>
<tr>
<th>Agency Assisting</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Cross</td>
<td>27.5</td>
<td>40.3</td>
</tr>
<tr>
<td>Salvation Army</td>
<td>2.8</td>
<td>-</td>
</tr>
<tr>
<td>Other organization or agency</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Two or more agencies</td>
<td>13.4</td>
<td>-</td>
</tr>
<tr>
<td>No help</td>
<td>47.2</td>
<td>51.9</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.8</td>
<td>-</td>
</tr>
<tr>
<td>No answer</td>
<td>2.8</td>
<td>7.6</td>
</tr>
</tbody>
</table>

As indicated in Table XXVI, Red Cross seemed to be the most active agency in giving this type of assistance with 28 per cent of the "T" and 40 per cent of the "F" families reporting that organization as helping them. It is of interest to note
that 13 per cent of the "T" families reported help from two or more agencies whereas none of the "F" families reported such help.

Of those who did receive help from an agency, the source of information about the agency differed considerably between the two groups (see Table XXVII). Fifty-six per cent of the

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Tornado N=75</th>
<th>Flood N=25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacted by agency representative</td>
<td>56.0</td>
<td>36.0</td>
</tr>
<tr>
<td>Radio and/or newspaper</td>
<td>8.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Family member</td>
<td>2.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Friend</td>
<td>21.3</td>
<td>40.0</td>
</tr>
<tr>
<td>Other</td>
<td>12.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

"T" families indicated that they had been contacted by a representative of a helping agency compared to 36 per cent of the "F" group so contacted. In an emergency, such as that created by the sudden impact of the tornado, organized agencies move into the area to meet the emergency needs of the victims. This occurred in the tornado impact area but not in the flood area where the effects were less destructive. The availability of agency personnel in the disaster area would in itself offer a greater opportunity to the victims for contacting them. The flood victims did not have this opportunity
and therefore relied more heavily on mass media and friends to learn where help might be available.

Opinions Concerning Post-Disaster Help

The opinions of the respondents toward the amount of help they had received after the two disasters differ very little (see Table XXVIII). About two thirds of both the

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than others</td>
<td>7.7</td>
<td>7.6</td>
</tr>
<tr>
<td>Less than others</td>
<td>28.9</td>
<td>21.9</td>
</tr>
<tr>
<td>About same amount</td>
<td>62.0</td>
<td>69.2</td>
</tr>
<tr>
<td>No answer</td>
<td>1.4</td>
<td>1.9</td>
</tr>
</tbody>
</table>

"T" and "F" families were of the opinion that they had about the same amount of help as their neighbors. This attitude may be related to the feelings of sympathy and mutual sharing of experience which are widely reported in studies of disaster. Chapman states that after a disaster there is a . . . low level of complaint about loss of property, due to its being viewed as the price of remaining alive or due to deep conflicts between the materialistic and spiritual components in the prevalent protestant ethic; emphasis on the good fortune of survival, with its relation to previous guilt feelings and expectation of punishment; prevalence of warm attitudes toward other survivors, which counteract shameful feelings of abandonment and feelings of hostility aroused by the disaster. This post-disaster warmth may also reflect
the opportunity for the expression of positive feelings inhibited by social convention in the normal state of a community.3

The majority of those who thought they had received more than others attributed it to assistance given by Red Cross, and this may have been a reality-based judgment. Approximately one fourth of each of the disaster groups thought they had less help than others. The major reason given by the "T" families for thinking this was that they did not have as much damage, and this too may have been a reality-based judgment. Curiously, the thinking of the "F" families was just the reverse; the majority thought that they had had greater damage and that no one helped them.

The Red Cross was considered by over 40 per cent of each victim group as having done the best job (see Table XXXIX). When asked why he thought so, one flood victim stated: "Red Cross stuck with us until the end, never closed that door, always said you could come and stay." A tornado victim based her judgment on the Red Cross giving "... food, clothes, and coffee to the people. They helped rebuild some of the houses." The ranking of Red Cross first by the Dallas tornado and flood victims differs from the findings of disaster studies such as those conducted in Waco and San Angelo.4 For example, Red Cross was ranked


4Harry E. Moore, Tornadoes Over Texas, p. 100.
11th and 12th, respectively, in a list of 12 agencies active in those two disasters.

TABLE XXIX

ORGANIZATIONS CONSIDERED BY RESPONDENTS AS HAVING DONE THE BEST JOB

<table>
<thead>
<tr>
<th>Organization</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Cross</td>
<td>42.3</td>
<td>40.4</td>
</tr>
<tr>
<td>Police</td>
<td>7.7</td>
<td>25.0</td>
</tr>
<tr>
<td>Salvation Army</td>
<td>3.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Felt all did good job</td>
<td>26.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Don't Know</td>
<td>13.4</td>
<td>5.8</td>
</tr>
<tr>
<td>No answer</td>
<td>1.4</td>
<td>-</td>
</tr>
</tbody>
</table>

One-fourth of the "F" respondents believed the police had done the best job of any agency concerned. One of three reasons was usually given for this judgment -- the role of the police in warning, help in saving valuables, and standing guard. About one-fourth of the "T" and 10 per cent of the "F" subjects could not or would not single out one agency as having done "the best" job; they reported feeling that all agencies had done good jobs.

This reluctance to single out one agency was even greater when they were asked who did the poorest job (see Table XXIX). Ninety-two per cent of the "T" group either stated they did not know who did the poorest job, wouldn't answer the question, or thought all agencies did a good job. The "F" group was a little less reluctant to criticize with 21 per cent mentioning
some agency or agencies who did the poorest job. However, 10 per cent of this group would not name the specific

TABLE XXX

ORGANIZATIONS CONSIDERED BY RESPONDENTS AS DOING POOREST JOB

<table>
<thead>
<tr>
<th>Organization</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Department</td>
<td>1.4</td>
<td>5.8</td>
</tr>
<tr>
<td>Red Cross</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Police</td>
<td>1.4</td>
<td>-</td>
</tr>
<tr>
<td>All but Red Cross and Police</td>
<td>0.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Salvation Army, Civil Defense National Guard</td>
<td>1.4</td>
<td>3.8</td>
</tr>
<tr>
<td>All did good job</td>
<td>9.9</td>
<td>17.3</td>
</tr>
<tr>
<td>Don't know</td>
<td>73.2</td>
<td>55.8</td>
</tr>
<tr>
<td>No answer</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1.4</td>
<td>5.8</td>
</tr>
</tbody>
</table>

organization they had in mind, stating that all but Red Cross and Police did poorly. The reluctance of these Negro respondents to give negative responses may have been due to the fact that the interviewers were white. However, these people were of a lower socio-economic group and evasion has been well-recognized as a technique of the less powerful. It is also possible that the victims simply were satisfied with the help they received while in a crisis.

Respondents Opinions about Disasters

Both "T" and "F" respondents were asked whether or not

5Harry E. Moore, Tornadoes Over Texas, p. 152.
they thought there are more disasters today than there were twenty years ago, and a large majority of both groups said that they believed there were. Table XXXI indicates

<table>
<thead>
<tr>
<th>More Disasters</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>9.9</td>
<td>13.4</td>
</tr>
<tr>
<td>Yes</td>
<td>77.5</td>
<td>80.8</td>
</tr>
<tr>
<td>Don't know</td>
<td>11.2</td>
<td>-</td>
</tr>
<tr>
<td>No answer</td>
<td>1.4</td>
<td>5.8</td>
</tr>
</tbody>
</table>

that 78 per cent of the "T" and 81 per cent of the "F" families so stated, and the majority based their opinions on not remembering so many before, not reading or hearing of so many, and just thinking there are more. One 70 year old respondent replied he believed there is ". . . a whole lot more because I was here for twenty years and I ain't never seen it like this - outside of 1908." There was very little difference between the "T" and "F" respondents' opinions with the exception of the "Don't know" category. None of the "T" respondents replied in this way, whereas 11 per cent of the tornado group responded in this manner.

As to opinions on why tornadoes and floods occur, 56 per cent of both groups believed it to be "God's will" in one way or another (see Table XXXII). Comments like the
following were prevalent:

That's left up to God. It has come to pass. If man would stop trying to play God, he would be better off.

Just an act of God. I know it's happened for a reason. The sins of the earth would be the logical reason. Something has to be done to start us thinking.

... multiplicities of sin. God's hickory stick of punishment.

TABLE XXXII

REASONS GIVEN BY RESPONDENTS FOR OCCURRENCE OF TORNADOES AND FLOODS

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>God's will</td>
<td>55.6</td>
<td>55.8</td>
</tr>
<tr>
<td>Climatic conditions</td>
<td>2.8</td>
<td>13.5</td>
</tr>
<tr>
<td>Atomic bombs</td>
<td>-</td>
<td>3.8</td>
</tr>
<tr>
<td>&quot;Rainmakers&quot;</td>
<td>2.1</td>
<td>-</td>
</tr>
<tr>
<td>Don't know</td>
<td>28.2</td>
<td>23.1</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>7.0</td>
<td>3.8</td>
</tr>
<tr>
<td>No answer</td>
<td>4.2</td>
<td>-</td>
</tr>
</tbody>
</table>

Other studies have indicated that comments containing elements of punishment are not uncommon among disaster victims. Moore states that

... some explanation for an event of such magnitude is sorely needed, especially by those who suffer from it ... Of these the greatest number, by far, were couched in religious terms--the storm was God's will, his punishment for sins committed, or some other motive attributed to Deity. The indication of a belief in a divinity actively interested in and interfering with worldly affairs is evident.6

6Harry E. Moore and Fred E. Crawford, "Waco–San Angelo Disaster Study," p. 29. See also Martha Wolfenstein, Disaster: A Psychological Essay.
None of the "T" families believed tornadoes and floods were caused by atomic bombs and only two persons of the "F" group reported this as a reason. About 11 per cent more of the "F" families believed the disasters to be caused by "climatic conditions" than did the "T" group. A rather high 40 per cent of the "T" and 20 per cent of the "F" respondents made no attempt to explain why tornadoes and floods occur.

Should another tornado or flood occur, 43 per cent of the "T" and 21 per cent of the "F" families said they would take precautionary measures (see Table XXXIII). Another

TABLE XXXIII

BEHAVIOR INDICATED BY RESPONDENTS IN FUTURE DISASTERS

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing different</td>
<td>21.8</td>
<td>34.6</td>
</tr>
<tr>
<td>Leave or move from area</td>
<td>4.9</td>
<td>34.6</td>
</tr>
<tr>
<td>Take precautionary measures</td>
<td>42.9</td>
<td>21.3</td>
</tr>
<tr>
<td>Don't know</td>
<td>19.0</td>
<td>- -</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>11.3</td>
<td>9.6</td>
</tr>
</tbody>
</table>

5 per cent of the former and 35 per cent of the latter said they would leave or move from the area. Apart from leaving, the precautions most frequently mentioned by the "T" respondents were opening windows and doors, or lying on the ground. The "F" respondents indicated that they would either stack or move their furniture. Over one-fifth of the "T" and
one-third of the "F" respondents stated they would not do anything different the next time. Every "F" respondent had some comment to make about behavior in a future disaster, but 19 per cent of the "T" respondents stated they didn't know what they would do. In general these answers seem rather realistic and appear to reflect to some degree the differing magnitudes and intensities of the two disasters.

The "F" respondents seemed more pessimistic than did the "T" group concerning the effect of the disaster on the future of their families (see Table XXXIV). Twenty-three

<table>
<thead>
<tr>
<th>Future of Family</th>
<th>Tornado N=142</th>
<th>Flood N=52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better home</td>
<td>4.9</td>
<td>- -</td>
</tr>
<tr>
<td>Close to God</td>
<td>14.1</td>
<td>9.6</td>
</tr>
<tr>
<td>Closer together and to neighbors</td>
<td>4.2</td>
<td>1.9</td>
</tr>
<tr>
<td>More aware of weather</td>
<td>9.2</td>
<td>- -</td>
</tr>
<tr>
<td>Worse</td>
<td>4.9</td>
<td>23.1</td>
</tr>
<tr>
<td>No different</td>
<td>12.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Don't know or no comment</td>
<td>37.3</td>
<td>32.7</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>13.4</td>
<td>21.2</td>
</tr>
</tbody>
</table>

per cent of the "F" group believed that their futures would be worse as a result of the disaster as against only 5 per cent of the "T" group. On the other hand, twenty-three per cent of the "T" respondents believed their families would have a better home, be closer to God, be closer
together, and/or to their neighbors compared to only 12 per cent of the "F" group who were "optimistic." Approximately 12 per cent of both the "T" and "F" groups believed their future would be no different. About one-third of each group seemed to have no definite opinions about their family's future. The pessimism of the "F" respondents may be related to the fact that they received little help from organized social agencies, family members or friends; therefore their sense of loss and deprivation may have been reinforced with little hope that their situation would get better.

The pessimism of the "F" respondents also pervaded their opinions on the future of their neighborhood. Forty-eight per cent of the group believed the neighborhood's future would be worse. Only 13 per cent of the "F" group believed the neighborhood would be better as a result of the disaster. Thirty-nine per cent of the "F" group either had mixed feelings, were undecided, or gave no answer to the question about the future of the neighborhood compared to the 5 per cent of the "T" group who felt the neighborhood would be worse off and 35 per cent who had mixed feelings, were undecided, or didn't answer the question. However, 60 per cent of the "T" group were of the opinion that there would be better homes in the neighborhood, and that the neighbors would be more friendly and closer to God. Their optimism was indicated by comments such as "... we are
getting sewage out here. Some are getting homes," and ". . . the people wasn't speaking to one another and now they do. Sure did change the attitude of the neighborhood." It is not unlikely that the "optimism" of the "T" respondents is an expression of their happiness in having survived a much more harrowing experience than that undergone by the "F" respondents.

**Summary**

This chapter has presented data on victims' opinions as to the worst and best things which happened to them, the health effects of the disasters, help received and attitudes toward that help, and opinions of the respondents on disasters and on the future of their families and neighborhood.

The major findings reported are:

1. A greater percentage of both groups reported seeing more good than bad things occur after the disasters.

2. The "F" families reported more physical sickness subsequent to the disasters than did the "T" families.

3. Perhaps more important, the "T" families experienced considerably more emotional stress than the "F" families.

4. More "T" than "F" respondents reported themselves or family members as scared and upset during cloudy weather.

5. Neither group received very much help in cleaning up and moving back into their homes. However, the victims gave even less help to others. Red Cross seemed to be the
most helpful social agency, but close to 50 per cent of both disaster groups received no help whatsoever.

6. Red Cross was considered as having done the best job, but there was reluctance on the part of the respondents to single out one agency who did the poorest.

7. The majority of both "T" and "F" families thought that there are more disasters now than twenty years ago. "God's will" was given as the main reason for the occurrence of tornadoes and floods.

8. The "F" respondents were more pessimistic about the futures of their families and neighborhoods than were the "T" group.
CHAPTER VI

SUMMARY AND CONCLUSIONS

In April and May, 1957, Negroes in West Dallas and the Roosevelt Heights area of Dallas suffered two distinct disasters. A tornado struck West Dallas on April 2 and on April 26 the first of three floods occurred causing hundreds to leave the Roosevelt Heights area. These occurrences presented the opportunity to study and compare the responses of the two Negro groups affected by the disasters. One hundred forty-two persons affected by the tornado and fifty-two persons affected by the flood were interviewed by three advanced students in the Sociology Department at North Texas State University.

The seven guide questions for the study were: (1) Did the respondents have advance warning of impending danger? (2) If warning was received, how did the respondents react to it? (3) Did the families (particularly those in the flood) move from their homes? If so, who helped them to do this? (4) Who received help and from whom? To whom did they give help? (5) Did they have help in cleaning their homes and moving back into them? (6) What problems, emotional and/or physical, did they report? (7) What were their opinions on the future of their families and neighborhood?
Data were analyzed in terms of the general purpose and the seven guide questions. Specific findings associated with the purpose and study questions were:

1. Every one of the respondents in the flood disaster had warning of impending danger compared to three fourths of those in the tornado who had no warning. However, a rather high number saw the tornado coming and had a brief period of time to protect themselves before its impact.

2. Those persons in the tornado disaster who had warning accepted it more readily than did those people in the flood disaster. Neither group attempted to warn others to any great extent but went about protecting themselves or their belongings as best they could. The tornado-affected persons either reacted by lying on the floor or under the bed, or by flight and confused thinking. The flood victims, with time, either stacked their furniture or moved it out of the area when they evacuated.

3. Very few of the people in the tornado area had the opportunity to move from their homes. About one-half of the people in the flood area received help, from relatives and family members predominantly, in moving from their homes.

4. The question of who received help and from whom was subjected to special analysis which is reported below.

5. Neither disaster-affected group had much help in cleaning their homes and moving back into them. However, the victims gave even less help to others. Red Cross
seemed to be the most helpful social agency, but close to one-half of each disaster group received no help whatsoever from social agencies.

6. The families in the flood disaster were affected more by physical sickness after the disaster whereas those in the tornado reported being more nervous and upset. The tornado families reported greater concern with rainy weather and the possibility of another disaster than did the flood families.

7. The flood disaster group was more pessimistic than the tornado group about the future of their families. This pessimism also pervaded their opinion about the future of the neighborhood.

Since the flood disaster families had more time for moving and protecting themselves from the full impact of the flood, this offered the opportunity for a more detailed study which was concerned with characteristics of families receiving or not receiving pre-disaster help. Answers to the question "Did anyone help you get your family out of the flooded area?" were used to determine membership in each group. The two groups, the helped and the unhelped, were evenly divided with twenty-five respondents in each.

Findings indicate that some but not all of the background factors differentiate the helped and unhelped groups. Age of the respondent, the number of children in the family and in school, and church activity did seem to be differ-
entiating factors of these families. There is a further indication that those persons who had help in moving their families out of the flooded area tended to give warning to family members and gave more help before the floods. Although the helped group helped others after the floods, their helping role was not as great as it was before the floods. Having been helped or unhelped did not seem to have an effect on attitudes as neither group was particularly optimistic about the future of their families and neighborhood, but very few planned to leave the area.

None of the data presented in this study are strictly comparable with those of other disaster studies. Yet reading of other studies yields an impression that the victim populations described herein were more passive than those described in other studies. In the White County, Arkansas, tornado, for example, 32 per cent of all persons in the impact area searched for missing persons, 11 per cent became active in rescue, and 35 per cent performed acts of emergency relief.\(^1\) Perry and others state that

\[\ldots\text{many observers have commented on the increased intimacy and solidarity which characterizes populations in the post-disaster period. There seems to be a general reaching out to others and a readiness to share one's resources and experiences that last for a considerable period of time immediately after a disaster.}\]  

\(^1\)Marks and others, "Human Reactions in Disaster Situations," p. 136.

If the victims described in the present study were more passive, it may be attributable to the fact that they were severely disadvantaged members of a minority group and that passivity in the face of adversity is a common reaction in their sub-culture. Some strength is lent to this point of view by the Waco tornado study which did compare Negro and white responses and "... attempted to test the hypothesis that differentials in cultural patterns, as evidenced by membership in either a Negro or white ethnic group, were associated with differentials in reactions to a tornado disaster." The greatest differential between the Negro and white sample was that the Negro was in poorer condition economically and that there seemed to be a close relationship between the economic insecurity of a family and certain disruptive problems resulting from a disaster.

The findings of the present study cannot be regarded as universal to the Negro population, but they may be of some use in providing further information on the reactions of a minority group to a disaster situation and generating hypotheses for other studies in this area.

3Harry E. Moore and Fred R. Crawford, "Waco-San Angelo Disaster Study," p. 23.

APPENDIX A

INTERVIEW SCHEDULE FOR FLOOD VICTIMS

DALLAS DISASTER STUDY

Hogg Foundation for Mental Hygiene
Department of Sociology
University of Texas
Department of Sociology
North Texas State College

Initials of Interviewer

1-2 Interview No.__________

We will need some information about you and your family, please.

Name of respondent______________

Home address (in flooded area)______________

3 Do you own a car or truck? 1-yes 2-no

4 Sex 1-male 2-female 5-6 Age____(Enter years)

7 Are you married? 1-yes, living with spouse

2-Widowed 3-Separated or divorced

4-Single

8-9 How many children are there in your family?____(Enter number)

10-11 How many of the children go to school?____(Enter number)

12 Does anyone who is not a member of your family live with you--grandparents, relatives, roomers or boarders?

1 relative closer than first cousin

2 relative, cousin or more distant

3 roomer or boarder; other non-kin

74
13. Do you go to church often?
   1. weekly or more often
   2. twice a month, about
   3. once a month or less often
   4. seldom, if ever

14. If 1 or 2 above: Which church do you go to?
   1. Baptist
   2. Methodist
   3. Disciples (Christian)
   4. Holiness
   5. Catholic
   6. Other (Write in name)

15. Is your church located in the flooded area?
   1. Yes
   2. No

16. How many people in your family work?
   1. father only
   2. mother only
   3. father and mother
   4. children only
   5. father, mother and child(ren)
   6. no member employed

17. If 6 above: Do you have any regular money coming in?
   1. none
   2. Public pension, OAA, etc.
   3. Pension from private employer
   4. Allowance from close relatives
   5. Support from Church or similar organization
6 Support by privately financed agency
7 Irregular gifts from friends and relatives

18 Do you have relatives living in Dallas?
   1 Yes, father, mother, brother, sister
   2 Yes, cousin, aunt, uncle, more distant relative
   3 Yes, related by marriage
   4 No

19 If yes to above: In what part of town do they live?
   1 In flooded area
   2 Outside flooded area, but nearby
   3 In another portion of the city

20 Do you have 1 Radio in good order 2 TV in good working order 3 Gets newspapers daily

21 How long have you been living at this address?
   1 Less than 3 months 3 One to three years
   2 Three months to one year 4 More than 3 years

22 How long have you lived in this area?
   1 Less than 3 months 3 One to three years
   2 Three months to one year 4 More than 3 years

23 Do you Rent or Own your home?

24 How did you get the first news that the flood was coming?
   I II III
   2. TV 2. TV 2. TV
5. Other (Specify)

If 4 above, from person: How do you happen to know that person?

I
1. Family member
2. Close friend
3. Co-worker
4. Church member
5. Recreational tie
6. Superior on job
7. Inferior on job
8. Official, or other authority figure
9. Other (Specify)

26 When you first heard the flood was coming, were you pretty sure this news was right, or did you ask someone else to make sure?

I
1. Sure, did not ask
2. Pretty sure, but asked
3. Not sure, asked
4. Did not believe it, did nothing

27 If asked: Who was it you asked if a flood was really coming? (Enter code for relationship - see 25 above - for each flood)

I

28 Do you often ask this person for advice?

I
1. No

II
1. No

III
1. No
2. Yes, real often  
3. Now and then  
4. Just when something important comes up  

29-30 When did you decide that you really would have to leave home? (Enter hours before each flood)  

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After you felt sure that your home was going to be flooded, did you try to get in touch with anyone to tell them about it?  

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

32 Yes_______ Yes_______ Yes_______  
(Enter code for relationship for each yes answer)  

33 Who was it that did most to convince you that you had to leave? (Enter code for relationship for each flood)  

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

34-35 How long before the flood hit did you get out? (Enter hours for each flood.)  

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

36 When you look at your friends and neighbors who were flooded out, do you think your loss was 1 greater 2 less than 3 or about the same as theirs?  

37 Did anyone help you get your family out of the flooded area?  

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Did anyone help you get your belongings out?

1. No
2. Yes

(Enter code for relationship for each yes answer)

Had these people ever helped you before?

1. No
2. Yes

(If yes, briefly describe)

Did you help any other folks get themselves and their belongings out?

1. No
2. Yes

(Enter code for relationship for each yes answer)

Had you ever helped these people before?

1. No
2. Yes

(If yes, describe circumstances briefly)

Did the people who helped you get out help other folks too?

1. No
2. Yes

2. Yes
46 Did you have enough help in getting your family and belongings out? If NO, what was lacking?

I
1. Yes
2. No

II
1. Yes
2. No

III
1. Yes
2. No

(Write in brief description for each no answer)

47 Do you think the help you had was 1 more 2 less 3 or about the same as your neighbors had?

If 1 or 2 above, why do you think this was true?
(Write in brief description)

48 Where did you go when you first left your home?

I
1. Public shelter, Red Cross, e.g.

II
1. Public shelter, Red Cross, e.g. (Use code as for I)

III
1. Public shelter, Red Cross, e.g. (Use code as for I)

2. Private home of friends

3. Private home of relatives

4. Private home arranged by friends or relatives

49 Did all of your family get to stay together?

I
1. No
2. Yes

II
1. No
2. Yes

III
1. No
2. Yes

50-51 3. No, but re-united within ___ hours

3. No, but re-united within ___ hours

3. No, but re-united within ___ hours

52 If 1 or 3 above: Who wasn't able to stay with you?

I
1. Child only
2. Spouse only
3. Spouse and child

II
1. Child only
2. Spouse only
3. Spouse and child

III
1. Child only
2. Spouse only
3. Spouse and child
4. Other relative only
5. Spouse, child and relative

53. With whom did they stay?

I. Public shelter, Red cross, e.g.
II. Private home of friends
III. Private home of relatives

4. Private home arranged by friends or relatives

54. During the floods, did you see anything happen you thought should not have been allowed to happen?

1. No
2. Yes (specify)

55. During the floods did you see anything you thought was especially fine?

1. No
2. Yes (specify)

56. Did anyone help you clean up after the flood?

I. No
II. No
III. No

57. Yes__ Yes__ Yes__
(Enter code for relationship for each yes answer)

58. Did you help anyone clean up or move back in after the flood?

I. No
II. No
III. No
59 Yes____ Yes____ Yes____  
(Enter code for relationship for each yes answer)

60 Had you ever helped these people before?
   I II III
1. No (Enter code number as in I)
2. Yes, often
3. Yes, now and then
4. Yes, long ago

61 Did you get any clothes, food, furniture, money, or any help like that from
   I II III
1. Red Cross
2. Salvation Army (Use same code as for I)
3. Your boss
4. People who work with you
5. Other organizations or agency
6. Other person(s)

62 If 6 above: Who was this?____ (Enter code for relationship)

63 How did you find out about getting help from__(source)
   1. They came to me 2. Read it in newspaper
   3. Radio 4. TV

64 (If more than one source, give second source and code number for "find out" below)

65 Was told about it by____ (Enter code for relationship)

66 Where were you when you first began talking__(source) about helping you?
   1. In shelter, 2. at home, 3. in home of friend,
   4. in office of____(source)
When was this?______(Enter days after flood)

Do you think you had 1 more, 2 less, 3 or about the same help in getting your home going again as your neighbors had?

If difference is stated, Why do you think this happened? Write in comments:

Has there been any sickness in your family since the floods?

1. No 2. Yes

If YES, will you tell me about it? (Write in comments)

Has any member of your family been nervous or upset because of the floods?


If YES to above: Would you describe how they act when they are upset?

How has your family acted toward rainy weather since the floods? (Write in brief description)

Had you ever been in a flood, tornado or other disaster before this one? If YES, did that experience help you in the floods?

1. No 2. Yes (Write in comments)

What do you think was the worst thing that happened to you during the time of these floods? (Write in comments)

Who do you think did more to help you than anyone else?

____(Enter code for relationship-write in comments)
Who else do you think helped a lot?

(Enter code for relationship) (Write in comments)

Of all the groups you belong to which do you think was the most important to you in this flood? Write in comments:

Of all the organizations--police, Red Cross, Fire Department, Salvation Army, and so on--that helped in this flood situation, which do you think did the best job?

Why do you think so? Write in comments:

Who do you think did the least?

Why do you think so? Write in comments:

If there were to be another flood, what would you do that you did not do this time? Write in comments:

Do you think we have more disasters now than we did 20 years ago?

1. No 2. Yes

Comments here are valuable:

Why do you think disasters like floods and tornadoes happen? Write in comments:

What do you think this flood will mean to the future of your family?

1. Be better off 2. Be worse off


Write in comments:
What do you think this flood will mean to the future of your neighborhood?

1. Be better off
2. Be worse off
3. Mixed
4. Undecided

Write in comments:

Do you plan to move away from the flooded area?

1. No
2. Yes

If respondent is permanently settled outside flooded area: What was it that finally caused you to move away? (Write in comments)

What do you think should be done to prevent floods like this in the future? Write in comments:

Who do you think should do this? Write in comments:

Do you think this will be done?

1. No
2. Yes

Write in comments:
INTERVIEW SCHEDULE FOR TORNADO VICTIMS
(REVISED FLOOD SCHEDULE)

DALLAS DISASTER STUDY

Initials of Interviewer

Hogg Foundation for Mental Hygiene
Department of Sociology
University of Texas
Department of Sociology
North Texas State College

1-3 Interview No._____

We will need some information about you and your family, please.

Name of respondent____________

Home address (in tornado area)______________

4 Sex 1-male 2-female 5-6 Age___(Enter years)

7 Do you 1-rent 2-own your home?

8 Do you have a car or truck? 1-yes 2-no

9 Are you married? 1-yes, living with spouse 2-widowed
3-separated or divorced 4-single

10-11 How many children are there in your family?___(Enter no.)

12-13 How many of the children go to school?_____

14 At the time of the tornado, did anyone who was not a member of your family live with you--grandparents, relatives, roomers or boarders?

1 relative closer than first cousin

2 relative, cousin or more distant

3 roomer or boarder; other non-kin
15 Is (he) still living with you? Yes No

16 Do you go to church often?
   1 weekly or more often
   2 twice a month, about
   3 once a month or less often
   4 seldom, if ever

17 If 1 or 2 above: Which church do you go to?
   1 Baptist
   2 Methodist
   3 Disciples (Christian)
   4 Holiness
   5 Catholic
   6 Other (write in name)

18 Was your church located in the path of the tornado?
   1 Yes
   2 No

19 How many people in your family work?
   1 father only
   2 mother
   3 father and mother
   4 children
   5 father, mother and child(ren)
   6 no member employed

20 If 6 above: Do you have any regular money coming in?
   1 none
   2 Public pension OAA, etc.
   3 Pension from private
   4 Allowance from close relatives
   5 Support from Church or similar organization
   6 Support by privately financed agency
   7 Irregular gifts from friends and relatives

21 Do you have relatives living in Dallas?
   1 Yes, father, mother, brother, sister
2 Yes, cousin, aunt, uncle, more distant relative  
3 Yes, related by marriage  
4 No  

22 If Yes to above: In what part of town do they live?  
1 In impact area  
2 Outside impact area, but nearby  
3 In another portion of the city  

23 Do you have  
1 Radio in good order  
2 TV in good order  
3 Gets newspaper daily  

24 How long have you been living at this address?  
1 Since the tornado  
2 Less than one year  
3 One to three years  
4 More than three years prior to tornado  

25 How long have you been living in the area? ________  

26 Where were you when the tornado hit?  
1 At home  
2 In impact area, but not at home or work  
3 At work in impact area  
4 At work outside impact area  
5 Other._____________________________(specify)  

27 Who else was at home?______________________________  

28 How did you get the first news that there might be a tornado?  
1 Radio  
2 TV  
3 Newspaper  
4 Word-of-mouth  
5 Other._____________________________(specify)  
6 No advance warning
If 4 to above, from person: How do you happen to know that person?

1. Family member
2. Close friend
3. Co-worker
4. Church member
5. Recreational tie
6. Superior on job
7. Inferior on job
8. Official, or other authority figure
9. Other _____ (specify)

When you first heard that there might be a tornado, were you pretty sure this news was right, or did you ask someone else to make sure?

1. Sure, did not ask
2. Pretty sure, but asked
3. Not sure, asked
4. Did not believe it, did nothing

If asked: Who was it you asked? __________ (Enter code for relationship)

Do you often ask this person for advice?

1. No
2. Yes, real often
3. Now and then
4. Just when something important come up

Did you try to get in touch with anyone to tell them about the tornado coming?

1. No
2. Yes __________ (Enter code for relationship for each yes answer)

What else did you do before the tornado hit?
35 When you look at your friends and neighbors whose homes were hit, do you think your loss was
   1 greater  2 less than  3 or about the same as theirs?

36 After the tornado hit, did anyone help you get your family out of the area?
   1 No

37 2 Yes____(Enter code for relationship for yes answers)
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