Introduction

This paper reports on one part of a much larger study we are undertaking on looting in disasters. In that effort we are examining conceptual and theoretical issues with respect to looting, and the empirical findings about the phenomena; essentially we are attempting to bring together the first complete and systematic statement about the topic. However, in this particular report we only discuss an almost unexplored specific question within the larger topic, namely, who are the disaster victims who claim they were subjected to looting. We present some possible answers to the question, bring to bear through a secondary data analysis some previously unexamined research results, and attempt to draw some conclusions from our exercise.

We are aware as anyone else in the research area that while looting is commonly believed to occur in disasters, almost no social or behavioral scientist looking for the phenomena has found much evidence for it. In fact, the supposed widespread existence or prevalence of looting in such situations is frequently cited as one of the more important disaster myths which researchers have uncovered. In a moment, we ourselves will discuss for background purposes the large gap between popular and journalistic beliefs about looting, and the inability of scientists to find much empirical support for the common belief. Now, among the more important scientific conclusions are that looting incidents are typically very rare in community disasters, that the contexts of natural and technological disasters very seldom lead to an increase in anti-social or criminal behavior (including looting) beyond that which prevails in pre-disaster times in affected communities, and that such rare looting incidents as do occur are carried out not by the affected population, but by outsiders including security forces brought in ostensibly
to prevent such behavior.

The particular study we report in this paper partly takes off from a point generally implicit in the just stated conclusions, namely, that however rare, there may be some looting in disaster situations. We also take as a starting point, that whether the common belief is correct or not, some persons impacted by disasters do claim they are victims of looting. Given these two points, we think is is legitimate to ask who are the looting victims? There is no contradiction between accepting the general idea that notions of looting in disasters are primarily myths, and asking the specific question who are the victims of perceived and/or actual looting in disasters.

For our purposes, the term "looting" is defined as both grand and petty larceny of personal property during and after disaster impact. We make no attempt to look at other perceived and/or real losses due to such disaster-related occurrences as profiteering, price gouging, or white collar fraud. Nor are we concerned with other kinds of mass emergencies such as civil disturbances or riots, where Dynes and Quarantelli and others have indicated that the looting patterns are both qualitatively and quantitatively different from looting in natural and technological disaster situations.

Background

Major disasters in American society have frequently generated stories of dramatic looting and its widespread occurrence. Incidents of alleged looting behavior have been vividly described by the press as illustrated in a story published by the Los Angeles Times following the San Francisco earthquake and fire in 1906:

Rape and looting by fiends incarnate made a hell broth of the center of the ruined district.
In the April 24, 1906 issue of the *Chicago American* a similar pattern of looting activities during this disaster was depicted:

Soldiers shot the man, according to the tales, when they found him chewing the earrings off the dead woman's ears.

A more general history by Bronson adds that accounts of the earthquake include stories of:

- looters being wantonly shot in their tracks by Federal troops, miscreants hanged in public squares, and ghouls found cutting off the fingers and ears of corpses for rings and earrings attached...

Similarly, newspaper and magazine stories about looting behavior circulated at the time of the Johnstown flood of 1889, the Ohio floods of 1913, and the Galveston hurricane of 1900. The *Altoona Mirror* of June 3, 1889 reported about Johnstown that:

swift upon the ravage of the elements came a horde of looters and thieves to complete the remnant remaining from the twin catastrophe of water and fire. Early Sunday morning two Italians were caught with the fingers in their pockets upon which were rings, and were shot dead,...One Hungarian, perfect in his greed, was caught in the act of separating a finger from a woman's hand. He was hung on the Kernville hillside... A colored man detected in suspicious acts was saved with difficulty from lynching. The public pulse is too outraged to consider a single moment for inquiring and four other foreigners were run to swift justice yesterday afternoon because of the jewelry found on them.

A survivor of the flood in Dayton was quoted in a magazine article as saying:

...that day, right off, the looters came. There were a lot of strange negroes that drifted into town...a negro. He had been caught cutting a dead woman's hand off at the wrist... marched him to the station-house. And, when they got him there, they said they found fifteen fingers with rings on them in his pocket...All that night--Friday--we heard the militiamen firing at the looters. We counted forty-eight rifle shots.

Similar themes about swift retribution for ghoulish behavior by racial and ethnic group members appeared in journalistic accounts of the Galveston
hurricane of 1900. Stories were printed about a number of blacks being shot because they were discovered with pocketfuls of severed ring bearing fingers. For example, part of a contemporary account in Harper's Weekly said:

But the vicious in the community, many of them negroes, were as diligent in evil work as the rescuers were in good. Hundreds robbed the dead bodies of what valuables they could find, even cutting off fingers and ears to get finger-rings and ear-rings. The few United States soldiers stationed in Galveston were called upon to do police duty, and State militiamen were sent to help as soon as possible. Every man caught robbing the dead was shot, and some twenty-five more were tried by drum-head court-martial and shot immediately. The summary execution of these wretches put an end to this phase of the awful situation.

More recent journalistic accounts of disasters no longer describe mutilation acts by looters or attribute them primarily to certain categories of people. (As an aside, if the earlier stories were true, there has been a fascinating change at the present time in who loots and how they loot!) Nonetheless, the theme of widespread looting is still advanced.

Thus, 83 years later, following Hurricane Alicia 1983 which hit the Texas coast, a local radio station broadcast that:

martial law of sorts is being imposed on Galveston Island tonight. At 8:00 p.m. to 6:00 a.m., curfew is being implemented, with authorities requiring proof that people are residents of the island. National Guard troops are being called in, and several looters have been arrested already.

A CBS national radio news broadcast, with reference to both Houston and Galveston, said that "100 looters have been arrested in both cities so far." The lead sentence on the NBC television evening news on August 19 said that Hurricane Alicia was turning into rainy turbulence, "but left in its wake six dead, millions in dollars of damage, power outages, unsafe drinking water, smashed storefronts, and looting."

However, reports and statistics of social control agencies as well as studies of social scientists, gave little credence to both the earlier and
more contemporary journalistic stories of looting. For example, in the wake of the San Francisco earthquake, the 1906 Annual Report of the War Department explicitly stated that:

the terrible days of earthquake and fire in San Francisco were almost absolutely free from disorder, drunkenness and crime.

In fact, the report observes that of the nine deaths that could be attributed to violent behavior, only one was in any way related to possible looting, that the federal troops shot no one and that martial law was never considered nor enacted. In fact, official reports on those disasters mentioned earlier seldom refer to much looting, and certainly they give no credence to any arbitrary shooting of looters. Statistics also fail to support any idea of widespread anti-social behavior. Thus, police statistics for September, the month in which Hurricane Betsy struck New Orleans, showed that burglaries reported to the police fell from 617 to 425 compared with the same time period a year earlier. Thefts of over $50 dropped from 303 to 262, and those of under $50 from 516 to 366. In a major tornado which hit Lubbock, police statistics indicate that in the 48-hour period after impact only four persons were arrested for burglary (three specifically for looting), compared with an average of 13 arrests for burglary during comparable 48-hour normal time periods. In the 1983 Texas hurricane situation, both the police in Galveston and Houston said they had received few reports of looting and that less than 15 persons had been arrested under suspicion of looting.

In general, the social science studies undertaken on the topic continue to agree with the first overall conclusion drawn about the problem by Fritz and Mathewson which stated "that the number of verified cases of actual looting behavior in recent peacetime disasters, both in the U.S. and foreign countries, is small." The National Opinion Research Center survey study of
the 1952 central Arkansas tornadoes, still one of the most systematic
general population studies ever done on any disaster, found that only nine
percent of respondents in the random sample reported that they or someone
in their household had lost property to looters, and more than a third of
these persons were uncertain if the loss had actually occurred as a result
of the tornado. Most of the articles reported stolen were of little value,
and the NORC team in the field could verify only two major items of theft,
including a piano and a safe. However, 58 percent of the sample had heard
stories that other people had suffered looting losses. DRC studies in the
last 20 years have consistently found the same results; little looting and
such looting as happens is not of major value. For example, in its random
sample survey of 961 residents of Wilkes-Barre, only eight percent of those
answering said that their household may have suffered looting, and 39 percent
said that the value was under $100.

It is noticeable that such social scientists who have attended to the
problem of looting have focused on its presence or absence or relative degree,
and there has also been some anecdotal attention to the possible characteris-
tics of looters. Almost no attention has been paid in the literature to the
victim population; who they are, what they lost, and the consequences of such
losses. This is the focus of our paper.

The Research Undertaken

For purposes of obtaining some picture of what might be involved, we
are reanalyzing data obtained in two population surveys conducted by the
Disaster Research Center (DRC) after the Wilkes-Barre flood in 1972 and the
Xenia tornado in 1974. Both surveys asked specific questions about looting,
such as whether respondents had heard stories of looting, had themselves
(or their household) suffered looting, and if so, what items had been lost to looters. Only findings from the Xenia survey are presented in this paper insofar as the Wilkes-Barre data have not been completely analyzed yet.

The Xenia study by DRC included two population surveys. One was a seven and a half percent sample of all households in the Xenia area which resulted in 600 useable interviews (72 percent of the original sample); the other was a 15 percent sample of all households done a year later and which included those respondents who had participated in the first survey. The first survey obtained its data mostly from personal face-to-face interviews; the second obtained its data through mail questionnaires.

It is important to note that the Xenia tornado was a major disaster situation. For example, about half of the households in the area had to leave their homes at least for overnight. About 56 percent of all homes in the sample area suffered some damage: 17 percent suffered total loss, 11 percent major loss, and 28 percent minor loss.

Three general hypotheses guided our analyses. We hypothesized that reports of looting to self or household might be related to:

1. Socio-economic characteristics (in general we posited that certain characteristics had some influence upon whether or not an individual will report loss of property due to looting). (This is discussed later as H1.)

2. Psychological or mental health characteristics (in general we assumed that the more depressed and anxious an individual was as a result of the disaster experience, the more likely that looting was reported). (This is discussed later as H2.)

3. Victimization as the result of disaster impact (in general we thought it likely that those who suffered the greatest damage and disruption were more likely to report loss due to looting). (This is discussed later as H3.)

There is no time to explain the theoretical basis of the relationships we hypothesized, but in terms of the three sets of characteristics most are
fairly self evident.

Three techniques, only two of which are reported here, were used to analyze the data. We first performed a univariate analysis on selected responses to a lengthy questionnaire given to the entire sample. H1 and H3 were tested on the basis of these findings. In order to assess the mental health status of interviewees, we used the data from a series of social-psychological scales administered to approximately one-third of the sample. In an effort to insure that responses to these scales effected overall mental health status of the survey population, data gathered 18 months after the disaster event were utilized. It was felt that these data would be less contaminated by situational exigencies and therefore, would provide a more accurate indicator of the citizenry's mental health. These longitudinal data were then used in a simple regression model for purposes of discerning any significant associations with looting occurrence.

Variables which were thought to be relevant to these three hypotheses were selected. Categories were constructed on the basis of three major research dimensions: socio-economic status (SES), mental health status, and disaster impact. Table 1 lists the variables comprising each of these dimensions.

A principal components factor analysis was performed on the 30 variables included in the mental health scale in order to determine if each was a significant indicator of anxiety in general. The results (presented in Table 2) revealed the presence of one strong factor with 27 of the variables loading upon this dimension. Therefore, for purposes of this analysis, only 27 of the original 30 mental health variables were utilized.
Findings

Of the seven variables included in the socio-economic status (SES) category, none were found to be significantly associated with reported looting. Therefore, H1 is not supported by the data.

When the mental health indicators were used as independent variables in a regression model, no significant relationships were found. Statistical information is presented below.

\[
\begin{align*}
\text{Multiple R} & = 0.11671 \\
\text{R Squared} & = 0.01362 \\
F & = 1.36704 \\
\text{Significant F} & = 0.2451
\end{align*}
\]

Due to the fact that these variables had no predictive value for reported looting, H2 may be rejected based on the results of this analysis.

Among the variables comprising the disaster impact block, the ones found to be most significantly associated with reports of looting occurrence were: (1) damage to dwelling unit and (2) need for temporary relocation. This information is presented in Table 3. Given these results, these data were found to support H3.

Finally, in Xenia we found based on a random sample and consistent with more anecdotal studies, that those who reported looting of their property represented only a very small proportion of the total population, as well as only a small fraction of those who had heard stories about looting. Thus, only about 9.5 percent of the sample reported they were looted while 73 percent said they had heard stories that the property of other's had been looted. (A preliminary examination of the DRC Wilkes-Barre survey data indicates that in the flood disaster about eight percent reported they had suffered looting.) Also, a majority, 56 percent, said that their items which they thought were looted were worth less than a hundred dollars.
Implications

In light of the findings just presented, the only variables significantly related to reported loss due to looting are those included in the disaster impact block. In particular, "damage to dwelling unit" bore the strongest relationship to "reports of looting occurrence." In fact, as Table 3 indicated nearly 75 percent of the reported looting cases arose from those who reported total loss of dwelling. In contrast, only ten percent of those who did not report looting suffered total loss to their homes. Whatever else these figures show, they lend absolutely no support to the idea that hordes of looters break into or enter undamaged homes evacuated by residents.

At this point, two tentative explanations of our general finding can be advanced: situational contingency and displacement. The situational contingency explanation assumes that those who report loss due to looting were, indeed, victimized. Inasmuch as they suffered great damage to their property and almost all of them were forced to leave their homes unprotected, they were more vulnerable to exploitation by looters. Put another way, the contingencies of post-impact disaster situations are such as to allow greater access or to provide more opportunity for looting than in everyday situations.

Alternatively, there is the displacement explanation which assumes that those who report looting of their property are mistaken in their inference about the source of the loss (it is not amiss to note that in our Xenia study no one claimed to have had direct perception of someone looting their property; in fact, such a claim very seldom surfaces in any disaster, at least those studied by DRC). Thus, we might say that reported looting results from a general misperception or wrong inference about what has been the source of the loss as well as what has been lost. It would seem very difficult to be certain that a perceived or believed lost item was not
destroyed or carried away when one's house is impacted by a tornado (and victims do report that personal belongings and tools are the major items that have been looted, but these are items easily destroyed or swept away). In some respects, we are saying that the source of the loss is displaced away from the disaster agent to human agents.

This displacement is probably reinforced by two other aspects. As insurance claim agents can attest, very few people have a good idea of all their possessions, much less detailed lists. In a post-disaster inventory, more items may be assumed to have been present than actually were in the first place. In an effort to explain this discrepancy, one may account for presumed loss by attributing it to looting behavior.

Inasmuch as looting is a pervasive theme in electronic media coverage of disasters, reliance on this explanation of loss may be somewhat normative in this context. That is to say, loss due to looting may have become an expectation among disaster victims in American society. Consequently, those who suffer great damage as a result of a disaster tend to assume that they are further victimized by marauding looters.

In a more sociological vein, we might note that Durkheim somewhere notes that crime is necessary for morality, that it would have to be invented if it did not exist. Without pushing a parallel idea here completely, the persistence of what most disaster researchers call the looting myth, may have the same explanation. In the context of a major disaster, the looting myth serves to partly explain the situation an especially stressed victim (one whose home has been destroyed) has suffered. Wolfenstein in a more psychoanalytical framework, also suggests some functions the looting myth may serve. In any case, our point in that attribution or displacement of property losses to looters rather than the disaster agent or the victim,
might need to be considered in the larger context of what function is served by the looting myth.

In conclusion, we need to note two qualifiers with respect to our study. We focused exclusively on claims of looting residential properties. However, anecdotal stories about looting frequently refer to taking of items from businesses. For example, when Hurricane Frederick hit Mobile, Alabama, a newspaper headline said, "Looters Hit Mobile Stores" and the body of the story reported that "there were hundreds of incidents of looting in Alabama...and that gangs of teen-age looters took TV sets, mattresses, and other good from damaged stores." If there is any validity to such press accounts we can say nothing because our study did not directly address the problem of possible looting of businesses.

Finally, we have dealt with survey data from a major community disaster. By almost any criteria, the Xenia tornado must rank high as a disaster which severely affected a community. The importance of this for our purpose here is that such an extreme case may not be the best situation to use to examine looting behavior. Most theoretical explanations of the low rate of looting in disasters, focus on the collective solidarity engendered by a massive emergency which impacts directly or indirectly on most or all of the citizens of a particular community. As Dynes and Quarantelli note in their comparison of looting in civil disturbances and of looting in natural and technological disasters, the relative absence of looting in the latter kind of mass emergencies is a result of certain solidifying social factors and the existence of certain norms against anti-social behavior which emerge in such post-impact situations. If we looked at less than major disasters, and especially those of a non-community nature (such as most plane crashes and other kinds of transportation accidents), we might have more to study. For example,
a newspaper story about an incident in the state of Washington reported that "looters stole everything from color television sets to light bulbs downstream from where a freight train crashed into rain-swollen waters earlier in the week."

Perhaps non-community types of disasters would be the more fruitful situations to study for looting behavior. On the other hand, it is possible reports of massive looting in such situations have as much validity as the newspaper and magazine stories we quoted earlier about looting behavior in major community disasters around the turn of the century. Maybe what this point and what we have discussed throughout this paper suggests, is that even on a topic on which most disaster researchers think we have a good picture, there is much yet that requires systematic attention. We know more than we once did, but we still know less than we should.
TABLE 1: Variables used in each set

**Socio-economic status (SES) variables**
- age
- sex
- education
- race
- income
- home—own or rent
- perceived social class membership

**Mental health status variables**
- nervousness and anxiety
- depression (emotional and physical symptoms)
- alienation
- suicide tendencies
- self confidence
- positive outlook on life

**Disaster impact variables**
- degree of damage to dwelling unit
- total estimated dollar loss from disaster
- relative loss (compared with friends and neighbors)
- temporary relocation (evacuation)
- length of stay away from home
TABLE 2: Results of a Factor Analysis on Mental Health Variables, V1 through V30.

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>EIGENVALUE</th>
<th>PCT OF VAR</th>
<th>CUM PCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13.69817</td>
<td>45.7</td>
<td>45.7</td>
</tr>
<tr>
<td>2</td>
<td>3.75709</td>
<td>12.5</td>
<td>58.2</td>
</tr>
<tr>
<td>3</td>
<td>1.82183</td>
<td>6.1</td>
<td>64.3</td>
</tr>
<tr>
<td>4</td>
<td>1.11810</td>
<td>3.7</td>
<td>68.0</td>
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</tbody>
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**FACTOR 1**

<table>
<thead>
<tr>
<th>V1</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
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</thead>
<tbody>
<tr>
<td>V2</td>
<td>0.74877</td>
<td>-0.46842</td>
<td>0.20539</td>
<td>-0.11386</td>
</tr>
<tr>
<td>V3</td>
<td>0.72979</td>
<td>-0.44405</td>
<td>0.20060</td>
<td>-0.10856</td>
</tr>
<tr>
<td>V4</td>
<td>0.79990</td>
<td>-0.15277</td>
<td>-0.12545</td>
<td>-0.38329</td>
</tr>
<tr>
<td>V5</td>
<td>0.52925</td>
<td>0.44400</td>
<td>0.29897</td>
<td>-0.25938</td>
</tr>
<tr>
<td>V6</td>
<td>0.45708</td>
<td>0.53489</td>
<td>0.21474</td>
<td>-0.25938</td>
</tr>
<tr>
<td>V7</td>
<td>0.74840</td>
<td>0.17366</td>
<td>-0.2842</td>
<td>-0.44982</td>
</tr>
<tr>
<td>V8</td>
<td>0.53432</td>
<td>0.45160</td>
<td>0.20322</td>
<td>-0.25972</td>
</tr>
<tr>
<td>V9</td>
<td>0.76141</td>
<td>0.29810</td>
<td>0.27402</td>
<td>0.15063</td>
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<tr>
<td>V10</td>
<td>0.75232</td>
<td>0.31336</td>
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<td>0.18372</td>
</tr>
<tr>
<td>V11</td>
<td>0.55357</td>
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<td>0.19657</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
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<td>0.72070</td>
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<td>0.07959</td>
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<tr>
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<tr>
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<tr>
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<td>0.11813</td>
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<td>0.50798</td>
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* indicates those variables having sufficiently high loadings on Factor 1 (and the only ones used in this analysis).
TABLE 3: Damage to Dwelling Unit

<table>
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<tr>
<th>Looting:</th>
<th>None</th>
<th>Minor</th>
<th>Major</th>
<th>Total</th>
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<tbody>
<tr>
<td>No</td>
<td>257</td>
<td>162</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>41</td>
</tr>
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</table>

\[
\chi^2 = 150.858 \\
\nu = .506 \\
\Rightarrow p = .001
\]

<table>
<thead>
<tr>
<th>Leave Home Occurrence:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leave Home</strong></td>
</tr>
<tr>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Looting</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

\[
\chi^2 = 46.897 \\
\nu = .281 \\
\Rightarrow p = .001
\]