I. INTRODUCTION

Individual and societal costs may be associated with reactions to crime above and beyond those attributed to the direct effects of crime. Among the financial losses associated with crime, and some reactions to crime, are those identified by Ennis' 1966 study of criminal victimization: 1) property losses; 2) medical bills from personal injury; 3) loss of income; 4) "secondary loss and damage incurred as a direct effect of victimization;" 5) costs of increasing personal and property security; and 6) intangible costs due to changes in behavior, attitudes, opinions, and loss of reputation (Ennis, 1967:15). These latter two consequences, in particular, are indirect consequences of crime, and not necessarily related to direct victimization. However, there is little evidence demonstrating behavioral consequences to fear, concern, or other attitudinal responses to crime. The position taken in this paper is that many of the contradictory results arise from: 1) a failure to adequately distinguish among several psychological responses to crime, and 2) a failure to distinguish among behavioral responses to crime. The various attitudinal responses to crime will be discussed in this introductory section, while the range of behavioral responses will be discussed in section II. Section III presents an analysis of the bivariate relationships between measures of fear and indicators of behavioral responses. The effects of perceived probability of victimization, or perceived risk, on individual behavior are examined in section IV ((not here)), while section V presents an analysis of the impact of direct and vicarious victimization. ((maybe section VI on effects of UCR?))

Attitudinal Responses to Crime

Attitudinal consequences of crime which have been examined in previous

research are the following: 1) fear, 2) concern, 3) perception of risk, 4) anxiety, and 5) vicarious victimization. Various students of crime and criminal victimization have failed to make these distinctions. The distinction which is often made is that between fear and concern. Concern usually refers to a broader reaction to the problem of crime in general, and reflects feelings about crime as a social or political issue with no explicit reference to the effects of crime on a particular individual or group. Fear of crime refers to an individual's assessment of the crime problem as it affects himself. The distinction was first made by Furstenberg: "Fear of crime is usually measured by a person's perception of his own chances of victimization, and concern by his estimate of the seriousness of the crime situation in this country. An individual may be troubled by the problem of crime, but not be in the least afraid of being personally victimized." (1971:603). Consern may thus be operationalized by asking an individual, for example, to assess the seriousness of the crime problem as a national issue. A measure of fear, according to Furstenberg, is provided by asking a respondent to estiamte his own chances of becoming a victim. A more recent analysis by Baumer and DuBow has recognized that although there may be conceptual differences between an individual's estimated chance of victimization and fear, it is not possible to separate the effects of perceived vulnerability and more general measures of fear.

Whether or not it is possible to empirically distinguish fear from perceived risk, the conceptual differences are important, and may be best illustrated by the relationship between anxiety and fear as discussed by Fowler and Mangione. These authors suggest four ways of conceptualizing fear and concern:

1) How safe do you feel on the streets?
2) How likely are you to be a victim?

3) How worried are you about being a victim?

4) How big a problem is crime?

The fourth question measures what has been referred to above as concern. The first three concepts are directed at measuring fear. The most direct measure of fear would seem to be the first question which asks the respondent to assess his perceived sense of safety on the streets, although Fowler and Mangione note that this question does not measure the likelihood that one will be exposed to the fear-producing situation on the street. This is measured by the second question which assesses the likelihood that the respondent will become a victim, an individual's subjective probability of victimization. As noted above, Furstenberg states that the problem of perceived safety reflects the probability of being victimized. The concept of fear, however, most likely reflects the intersection of these two questions, and Furstenberg's operationalization assumes that individuals assess their safety in terms of perceived probability of victimization. The third question measures what Fowler and Mangione refer to as anxiety, or the subjective assessment of direct personal threat. They distinguish between "... the perceived threat and the amount of anxiety that the crime situation produces in people." (1974: 11). The intent of this distinction is to differentiate the extent to which an individual fears, say, rattlesnakes from the amount of day to day anxiety which fear of rattlesnakes produces in an urban resident.

The issues discussed so far are nicely summarized in the following table produced by McCabe and Kaplan (1976:3):

	Prediction	Psychological Response
General	Concern	Anxiety
Specific	Risk	Fear

Concern and risk are subjective predictions of the magnitude of the crime problem as it affects society in general and the individual in particular. Anxiety and fear are the general and specific psychological responses to the individual's assessment of the crime problem. Questions which measure perceived chances of personal victimization are asking for estimates of risk, not fear. To the extent that the concepts of fear and risk are independent, it is not appropriate to use measures of risk as indicators of fear. If, However, fear varies directly with risk, then it may be possible to use the latter as an indicator of the former. The factor analysis reported by Baumer (1977) shows that some variables measuring fear and some measuring perceived risk may be arrayed on the same dimension. Furthermore, no uniquely identifiable "fear" or "risk" factor is apparent in Baumer's analysis of some twenty indicators of fear, risk, and general perceptions of neighborhood problems. Rather, the four factors are defined in terms of different types of crime problems, each containing variables measuring fear and risk.

There is no consistent evidence which demonstrates the covariance of indicators measuring fear and perceived risk. For this reason, the analysis reported below examines the behavioral responses to variables measuring perceived risk and fear separately. Also reported are measures of behavioral responses in relation to actual and vicarious victimization ((later?)). The literature on behavioral responses to victimization is more extensive than that relating behavior to attitudinal predispositions, but analysis of these two sets of independent variables together will facilitate direct comparisons of the effects of each on the range of citizen response.

II. BEHAVIORAL RESPONSES TO CRIME

As suggested in the introductory section, it is believed that fear of crime has widespread impacts on individual behavior and urban policy-making. The Report of the President's Commission on Law Enforcement and Administration of Justice, and a number of the supporting documents submitted to the Commission, addressed the problem of changes in behavior which alledgedly result from criminal victimization or fear of victimization. Biderman et al (1967) examined the extent to which individuals took protective measures against the dangers of crime. They found the most common response was to effect changes in personal behavior, such as staying off the streets or taking precautions not to venture out alone at night. Other types of responses were those designed to protect or secure property, such as adding locks or installing additional lights. In another report to the Commission, Ennis showed that people were more likely to take strong household security measures when they perceived a compound risk of burglary and robbery, and when they expressed concern over their security.(1967:77-8). Ennis' index of security precautions was based on a number of different types of protective behavior, including locking doors at night, having a watch dog, keeping firearms for protection, staying off the streets, and insuring life and property. Reiss' analysis of two neighborhoods each in Boston and Chicago indicated certain kinds of protective behavior were more common in the neighborhoods with higher levels of expressed fear.

There is, however, no consistent evidence that crime and attitudinal reactions to crime are taking their toll in restricting the behavior of urban residents. Journalistic accounts describing city dwellers as virtual prisoners behind barred windows and steel doors have not received much support from social science research. What evidence exists is often contradictory.

Biderman's analysis of crime and its effects in the District of Columbia did not find the same relationships between fear, concern, and taking security measures that were found in the nationwide study by Ennis. In a study of reactions to crime in Baltimore, Rosenthal asserts that, "... nearly three fourths of those polled have changed their daily lives at least somewhat because of their fear ofcrime, and one fourth have changed their lives considerably." (1969:18). According to Conklin, reactions to fear include 1) a reduction of contact with others, especially strangers; 2) restriction of general mobility; and 3) increased security and target hardening (1975: 105). Conklin presents no evidence, but these types of behavioral responses are commonly assumed to be associated with fear of victimization.

A beneficial first step at sorting out the different types of behavioral responses has been made by Furstenberg (1972) who maintains that there is a basic distinction between avoidance and mobilization measures. Avoidance strategies are those which act to isolate individuals from exposure to threats: "Staying off the streets at night, taking taxis, locking doors, and ignoring strangers are techniques of avoidance frequently practiced by persons attempting to lessen their chances of victimization." (1972:11). Furstenberg characterizes avoidance measures as "retreatist" in contrast with what are called mobilization tactics. These involve more active measures to reduce the probability of victimization such as buying locks, burglar alarms, electric timers, floodlights, and other target hardening devices. Also included here are purchasing a weapon or dog, and hiring private security police. Furstenberg combines these several indicators to form scales of avoidance and mobilization behavior, and examines the effects of fear, concern, and objective crime rate on these indicators using the Harris Poll data for Baltimore. He finds that there is a strong relationship between fear and avoidance, a moderate relationship between objective crime rate and avoidance, but almost

no relationship between fear and security mobilization.(1972:14-22). These findings are attributed to the basic economic realities involved in many of the security mobilization measures, and a more sophisticated economic calculus which Furstenberg calls the "seatbelt syndrome." This refers to the common knowledge among most drivers that use of seatbelts will help protect them from death or serious injury in case of an accident. Despite this knowledge, few drivers take the trouble to regularly use seatbelts; the costs of fastening the belts, and the restricted mobility when they are in use are too great relative to the cognitively remote chance of being involved in an accident. Likewise, despite an individuals expressed general concern and specific fear, the costs of mobilizing to prevent victimization are too great in light of the uncertainty that these measures will pay off. Avoidance measures are cheap relative to the increased likelihood of victimization which increased mobility entails. That is, the costs of not traveling to downtown Baltimaor at night are outweighed by the perceived increased risk of being robbed or assaulted. In contrast, few people are able to justify the expense of installing burglar alarms in similar terms since there may be no significant perceived reduction in the probability of victimization or serious loss. There may be differences between fear of crime in one's own neighborhood and fear elsewhere in the city -- avoidance behavior may be sufficient for those who are afraid of crime in other parts of the metropolitan area, but not too afraid in their own neighborhood. Those who do take mobilization precautions are those who do fear crime in their own neighborhood, or those who estimate the expected utility of increased security precautions as positive; ie, the wealthy with more to lose, despite a relatively low probability of losing it.

In order to elaborate on these and other possible explanations for differences in the behavioral responses to the threat of crime, it is necessary

to further disaggregate Furstenberg's classification. The grouping of restrictions on individual mobility under the heading of avoidance behavior seems appropriate since the costs involved are primarily those of foregone opportunities. Although these knids of costs may have different monetary value for different people, avoidance behaviors act to similarly restrict the willingness of people to move about in certain areas at certain times. There is, however, variation in the degree of monetary cost, inconvenience, commitment of time and energy involved in the several mobilization measures grouped together by Furstenberg. Installing burglar alarms may be very expensive. Getting a dog may involve minimal expense, but a significant measure of inconvenience. Installing lights, extra locks on doors and windows, buying a gun, increasing theft and property insurance, and hiring private guards all involve some direct monetary expense. Arming oneself against invaders may, additionally, involve a philosophical or moral commitment that some individuals are not willing to make. Home or tenant insurance against theft of personalproperty is unavailable or available only at high cost from private insurors in certain high crime areas. In this case, those most fearful, with a high objective and subjective probability of victimization, may be unable to protect their home with insurance.

It is suggested that these several types of behavioral responses to crime be examined individually with some thought as to the degree of financial, temporal, and psychological commitment which each entails. The present study examines behavioral responses to fear, subjective probability of victimization, and direct and vicarious victimization ((maybe UCR too?)) for three ((maybe more?)) cities: Portland, Kansas City, and Cincinnati. ((insert description of each survey)). Although not all types of behavioral responses are available for each city, it is possible to examine the differential effects

of fear, risk, and victimization on a more disaggregated set of variables than that used by Furstenberg or earlier analyses.

The 1974 survey for Portland contains the greatest variety of behavioral indicators, and these data formed the basis for establishing most of the categories of responses which were used, as available in the other cities. The categories of behavioral response are the following:

1) Avoidance - limiting mobility, avoiding certain areas, not going out at certain times, limiting or cahnging activities because of crime.
2) Protective, hardening - adding locks on doors, burglar alarms, outside lighting, modifying design of home or surroundings, watchdog.
3) Weapons - purchasing or carrying weapons including knife, firearms, clubs, Mace, hatpins, or similar weapons.
4) Insurance - purchasing or increasing home, tenant, personal property, or other insurance because of crime threat.
5) Organized collective response - attendance at meetings or participation in organized crime prevention programs.
6) Exit - changing residence because of perceived crime threat.
7) Voice - negative evaluation of local, state, national officials, and police, expressed disatisfaction with quality of police services.

The final category, "voice", refers to an attitudinal response as operationalized, but the link between a negative evaluation of officials and the behavioral response of voting or otherwise pubilcally expressing discontent is inferred. Given evidence from studies of American voting behavior, inferences from issue-based attitudes to vote choice is highly questionable, so this is a suspect indicator of behavior in response to attitudes about crime. Evaluation of police and other government officials is, nevertheless, an important question for decision makers concerned with crime and its consequences; this criterion is perhaps even more significant than that of taxonomical precision. These strategies and the individual indicators which are associated with each, are described in greater detail below, where the simple freakwencies for each individual type of behavior are examined.

Avoidance Reactions

These are responses which directly restrict individual mobility. Persons may avoid certain parts of the city during the day or night, or simply not go out at all during certain times. Other types of avoidance responses include taking taxis instead of walking or using public transit, limiting contact with strangers, and general reports of limited activities requiring one to move about the city. The costs to the individual are indirect, referring to foregone opportunities for recreation, travel, business, entertainment, shopping, etc. Costs of avoidance behavior are also reflected in declines in revenues for those providing goods and services which are no longer patronized. Owners of department stores, theatres, restaurants, art museums, and bowling alleys lose money as a result of declining mobility of individuals. Less obvious but nevertheless important consequences of avoidance behavior include loss of productivity by businesses unable to induce their employees to work late hours, or able to do so only at the increased cost of paying high overtime wages or providing transportation and increased security for workers. There are costs to the municipal infrastructure as well: costly public transit facilities lie idle or under-utilized most of the night and for part of the day as individuals either avoid the areas serviced by transit routes, or prefer the perceived safety of private automobiles. Thus the providers of private, commercial, and governmental services suffer direct losses from restricted mobility of individuals fearful of victimization. Table 1 shows the number of individuals who report taking certain precautions or avoiding particular areas in each of the three cities. Although the questions in this and subsequent tables are not always identical, they do afford some rough comparisons of the frequency of different behaviors in different cities. In each city the most common

Table 1 (% reporting behavior)

	Port	K.C.	Cin
Change activities because of crime	21		42
Afraid to go to certain areas during day	21		19
... during night	45	60	42
Try to stay out of certain parts of town		72	
Try not to go out at night		47	

restriction on mobility is reported during the night. Over 40 percent of respondents in each city said there was some area in the city which they avoided at night because of crime. Fewer people limited mobility during the daytime, about one fifth in Portland and in Cincinnati. The more general question, "Do you ever try to stay out of certain parts of town?", was asked in Kansas City, and almost three fourths of respondents reported such behavior. Twenty-one percent of those in Portland and 42 percent of those in Cincinnati reported changing some unspecified activities because of crime. Although not characteristic of a majority of residents, avoidance behavior is common to a number of residents in each of the three cities.

Protective and Hardening Measures

These reactions are included in Furstenberg's categorization under mobilization measures. Active reimforcement of home or property by use of locks, alarms, and similar devices are characteristic protective measures. Direct costs are incurred by those who purchase these items. Because these are direct, out-of-pocket expenses, in contrast with the indirect costs of limiting one's activitiy, it is likely, as implied by Furstenberg, that protective mobilization responses will not be undertaken by a significant pro-

portion of the population at risk. Only those with a particularly high expected loss, either through high probability of victimization or high value of personal property, or both, are likely to engage in extensive protective behavior. The range of protective measures undertaken by respondents in the three cities is shown in Table 2. The most common protective

Table 2 (% have protective devices)

	Port	K.C.	Cin
Watchdog	36	29	15
Burglar Alarm	6	7	3
Locks/bars on windows		21	3
Extra locks on doors	34	34	39
Outside lights	9	26	
Timer lights		18	
Fences or walls		17	

behavior is installing extra locks on doors; about one third of respondents in each city reported taking this precaution. However, even this comparatively inexpensive and simple measure was not as common as the nighttime avoidance behaviors displayed in Table 1. Other types of protective measures are even less common. Only a very small minority have burglar alarms, and between 15 and 36 percent of respondents have a dog for protection. The Kansas City survey inquired about a greater variety of protective measures than did the other two surveys. Respondents use such protective devices as electric timers, outside lighting, and special locks or bars on windows. Although the data presented in Table 2 do not control for differences in city neighborhoods, it seems clear that protective behaviors are less widespread among respondents in general than are avoidance behaviors. Another way to describe protective behavior which lessens the problem due to differences in the expense of obtaining target hardening devices is to examine the extent to which individuals use the protective devices they already have.

Such things as always locking doors and windows are considered avoidance behaviors by Furstenberg. Table 3 displays the proportions of respondents in the Portland survey who always or usually lock windows, doors, etc.

Table 3 (% always or usually take precautions)

	Portland
Lock doors at night	97
Lock windows at night	85
Indoor Lights	79
Outdoor lights	52

Although relatively few people go to the expense and trouble of adding locks, lights, and alarms, those who have them generally use them. Virtually all respondents lock their doors at night, compared to 35 percent who have added extra locks. The overwhelming majority of individuals report locking windows at night, while less than one fourth of respondents in Kansas City have installed additional locks or bars on windows.

Weapons

A special case of protective behaviors involves obtaining and/or carrying weapons for protection. Although the veracity of reports of carrying certain types of weapons must be suspect, it is popularly believed that a number of people keep firearms or other weapons in their homes for protection. The constitutional right to bear arms is loudly debated and supported by appeals from those who insist on their need to maintain guns for protection of their homes and families. As suggested above, maintaining a gun or other weapon for protection involves not only a financial commitment, but a moral one as well. Additionally, there are appeals by police and other officials that keeping guns for protection simply increases the probability that the owner may be seriously injured or killed as a result of ill-advised confrontations

with criminals, or by accelerating the level of violence of domestic quarrels.

Table 4 (% yes)

	Port	K.C.	Cin
Own a gun for protection	34	38	
Other weapon for prot.	26		
Carry a gun		3	
Carry a knife		4	
Carry chemical Mace		10	

According to the data in Table 4 a fairly large proportion, about one third, of residents in Portland and Kansas City own guns for protection. The ques- for Portland asks if respondents own a gun for protection even if it is used for hunting or some other purpose. About one fourth of Portland residents own some other, unspecified, weapon for protection. Kansas City was the only one of the three cities where questions were asked about carrying weapons. Only a very small proportion admitted carrying a gun or knife, but fully 10 percent reported carrying chemical Mace for protection. Although a significant proportion of respondents own firearms, very few report regularly carrying weapons.

Insurance

Insuring one's life and property against injury, theft, or other contingencies is a means of distributing the cost of crime or other misfortune among a large number of other persons. In some ways, having insurance may act to increase careless behavior by reducing the direct cost of theft or injury. To the extent that homeowners' tenant, and other policies cover loss by theft in addition to other mishaps, the costs of this kind of protection may not be directly felt. Clearly, there is minimal inconvenience for homeowners who must insure their property to comply with mortgage requirements.

The proportion of respondents in Cincinnati and Portland who have some kind of insurance against theft is shown in Table 5. The questions are somewhat different for each city: respondents in Cincinnati were asked whether anyone in their household had insurance against theft; those in Portland were asked whether or not they had any kind of insurance (not including auto policies) which covered personal property against theft or vandalism. The

Table 5 (% yes)

	Port	Cin
Have theft insurance	72	28
Have bought or increased theft ins. in past year	22	

second question asked Portland residents whether they had bought theft insurance specifically, or increased insurance coverage in the past year, The second question is perhaps more nearly comparable to the question asked in Cincinnati since the reference to theft insurance was explicit.

Collective Citizen Responses

There is a great variety of organized citizen responses to crime, ranging from neighbors' arrangements to watch each others homes while on vacation, to regular citizen patrols of communities in coordination with police. Such collective responses represent the most active of the behavioral responses to crime which have been discussed thus far. Participation in or knowledge of patrols is likely to vary considerably across cities since most such organizations are community specific. Generally, collective responses are actions on the part of private citizens which supplement the protective function of municipal police departments. This is the case whether groups are adversarial or supportive in their relationships with the police, according to the distinction made by Marx and Archer (1971). There is vari-

ation in the extent of the personal commitment required by citizen participants in community patrols, or in cooperative protection programs, but these programs invariably involve the mobilization of shared interests on the part of individuals. The degree of financial commitment may be less than that required for some of the individual mobilization measures mentioned above, but it is likely that the commitment of other resources such as time is greater than that required for other responses. Two of the three cities, Cincinnati and Portland, asked questions about respondents' knowledge of and participatino in organized community crime control programs. A significant proportion of respondents, 14 percent in Portland and 31 percent in Cincinnati, had heard of organized meetings to discuss crime problems,

Table 6 (% yes)

	Port	Cin
Know of citizen watch in nbhd	7	
Know of meetings for crime prevention	14	31
Attend meeting	9	10
Have special ID on property	27	
Display anti-theft decal	10	
Know of CSA program		19

and about one tenth of respondents had attended such meetings. In Cincinnati these meetings were more or less formal get togethers between police representatives and neighborhood residents. The CSA program in Cincinnati refers to a group of young people called Community Service Assistants who work together with police in neighborhoods throughout the city. In Portland police have promoted a special program urging residents to engrave identification numbers on personal property and to display decals which announce their participation in the program. Over one fourth of respondents report

placing identifying numbers on their property. A smaller proportion, 7 percent, are aware of citizen watch programs in their neighborhood. The relatively high participation in the identification program in Portland and the organized meetings in Cincinnati reflect concerted efforts on the part of police and other officials to involve citizens in crime prevention programs. Citizen watch and neighborhood patrol programs require more active participation. There were no questions in either of the two cities which asked citizens about participation in programs of this type.

Exit

The final two types of behavior in response to fear and crime, exit and voice, refer to the behavioral responses to decline discussed by Albert Hirschman (1970). "Exit" is a mobilizing response where dissatisfied individuals pack up and leave. Conceptualized as a response to perceived threat from crime, exit may be operationalized by examining those individuals who report changing their residence because of crime problems. Table 7 shows the proportion of respondents who have either recently moved or are planning

Table 7 (% reporting behavior)

	Port*	Cin*
Selected this nbhd because safe from crime		1
Most important reason for selecting nbhd - safe from crime		1
Nbhd dangerous enough to make you think about moving		13
Left old nbhd because of crime		2
Most important reason for leaving - crime	3	1
Crime most important reason for wanting to leave	7	

* percent in Cin based on total sample; percent for Portland based only on those who had recently moved or expressed a desire to move.

to move because of perceived crime problems. Only a small proportion of the population apparently considers crime serious enough to change residences, or to consider neighborhood safety from crime as an important criterion in selecting a residence. Moving because of crime would seem to be among the most costly and inconvenient strategies for protecting one's home and property. It is literally a mobilizing strategy, but also the most drastic of avoidance behaviors. Those who move because of perceived threat from crime would seem to be among the most fearful, the most at risk, or both.

Voice

According to Hirschman's paradigm an alternative response to decline other than exit is "voice" or protest. Individuals perceiving decline in firms or other organizations may either exit and patronize another firm, or they may voice their dissatisfaction with the deteriorating state of affairs in hopes of improving the declining quality of goods or services. Translation of this approach for studying political phenomena is traightforward, with protest or negative evaluations of officials and government institutions proxying as voice (see Lineberry, 1977, for a discussion of the applicability of Hirschman's paradigm for the study of urban public services.) In the present case indicators of voice are provided by variables which measure dissatisfaction with officials, police, and government institutions in general, and whether or not individuals have tried to contact officials in order to express their dissatisfaction. These data are presented in Table 8. Evaluation of public services is generally favorable, over half of respondents in all three cities evaluated police services as good or very good. Over 60 percent of those in Portland and Kansas City had favorable evaluations of their neighborhood police. The data in Table 8 show the proportion of unfavorable evaluations to suggest the number of people who may be expected to bring

their negative evaluation to the attention of city officials. There were,

Table 8
(% evaluation very bad or bad; very unfavorable or unfavorable)

	Port	Cin	K.C.
Eval police in nbhd	12	14	8
Eval police in general	6		8
Describe relations btwn nbhd and police	7		3
Att towards courts	22		
Att towards nat'l gov't			31
Att toward state gov't			20

unfortunately, no questions which directly asked whether or not respondents had tried to contact police or other officials to complain about law enforcement policies. There were relatively few negative evaluations of police services. Twice as many people in Portland had complaints about their neighborhood police than those who unfavorably evaluated Portland police in general. Nonetheless, only 12 percent of respondents had unfavorable reactions to their neighborhood police. The generally favorable evaluation of neighborhood police is reflected in the data for Cincinnati and Kansas City as well. Fewer than 10 percent of Kansas City residents had negative evaluations of the relationships between police and people in their neighborhood. Thomas and Hyman (1976) have noted the seeming paradox between the generally favorable evaluation of the police despite perceived increases in crime rate and greater concern with crime as an issue. These largely favorable reactions to police services contrast with evaluations of courts in Portland, and the federal and state governments in Cincinnati. The data for Kansas City were collected in 1973 when opinions regarding the national government were on the decline nationwide in the wake of Watergate, but the ratings for state government performance are also less favorable than those for police services. In Portland over one fifth of respondents had unfavorable attitudes

towards the courts. A majority of people thus have favorable attitudes towards police in their neighborhoods and their city in general. As noted above, this does not directly measure expressed dissatisfaction with police or other officials, and the inference from unfavorable evaluation to actually articulating dissatisfaction is often questionable. It should nevertheless be possible to compare the evaluations of those with varying levels of fear, subjective probability of victimization, or actual victimization.

These seven different classes of behavior comprise a range of responses to perceived crime threats. The behaviors vary in terms of the costs in the time, money, and organizational resources which individuals must mobilize. Different strategies involve different types of resources. The strategies of exit, protective hardening, and, in some cases, insurance would seem to require the greatest monetary commitment. Additionally, exit involves considerable inconvenience and time commitment. Insurance, though perhaps costly, probably requires the least amount of inconvenience due to time lost in securing insurance protection, and is probably the most effective strategy for reducing the probability of a net dollar loss due to criminal victimization. Avoidance behavior may require no direct expense, but the costs of foregone opportunities and the multiplier effects of decreased citizen mobility are costly to the community as a whole, and thus indirectly to the individual as well. Voice may involve little or no direct cost to individuals (and the attitudinal indicators used here are certainly costless) , but its effective use is probably restricted to a small proportion of the population affected by the threat of crime. It is not a completely costless approach since organizational resources and time commitments are involved. Similarly, collective responses invariably consume organizational resources, and often require direct capital and operating expenses as well. If a calculus of

costs may be devised, it is likely that collective organized responses will be mosr expensive overall.

As suggested earlier, it may be possible to express a relationship between the costs a particular individual is willing to incur relative to a given increase in protection. This latter concept may be expressed as a function of probability of loss and value attributed to property at risk. Low risk individuals placing a high value on personal property may be expected to incur high costs in mobilizing responses to perceived crime threats. Similarly, high risk population groups with fewer assets to protect may nevertheless be willing to absorb high costs in terms of protective behavior to offset the increased risk, or perceived risk, of victimization. A most difficult task for operationalizing this model is devising comparable indicators ans scales for measuring the various costs and values involved. As a first step towards expressing these complex relationships, it will be helpful to examine the bivariate associations between these behavioral reactions and indicators of fear, perceived risk, and actual or vicarious vistmization.

III. BEHAVIORAL RESPONSES TO FEAR

Much previous research, and the common sense hypothesis, assumes that there should be a positive relationship between perceptions of crime threat, whether these are expressed as fear, concern, perceived risk, or actual victimization, and subsequent behaviors by individuals and groups. This section examines the simple bivariate relationships discussed above.

The indicator of fear used for Cincinnati and Portland is a scale summarizing scores on the following two items:

How safe do you feel or would you feel being out alone in your neighborhood at night (day) ?

Very safe Reasonably safe	=	Safe
Somewhat unsafe Very unsafe	=	Unsafe

The scale was formed by combining the day/night items into three categories: 1) those who felt safe during the day and night; 2) those who felt safe during the day but unsafe at night; and 3) those who felt unsafe during the day and night. About one percent of all cases in each city fell into a residual category of feeling safer during the night than day. These cases were treated as missing data. The use of these particular items as indicators of fear follows their use by Skogan (1977). These indicators are assumed to measure the concept of fear since they are directly asking about the individual's perceptions of safety in a specified spatial and temporal environment. In the McCabe and Kaplan typology of perceptual dimensions these items qualify as indicators of fear since they are tapping a specific psychological response.

The indicators for Kansas City is less satisfactory. The stimulus used here is the following:

In general then, would you say your neighborhood is ...

very safe	slightly dangerous
moderately safe	moderately dangerous
slightly safe	very dangerous

The question seems to ask more for a prediction, and thus qualifies as an indicator of perceived risk. However, mentioning the concept of <u>safety</u>, invites the respondent to <u>evaluate</u> the threat of crime, and thus approximates a psychological response. The response categories were combined as follows;

very safe & moderately safe	=	Safe
slightly safe & slightly dangerous	=	Safe/Unsafe
moderately dangerous & very dangerous	=	Unsafe

The logic of combining the two middle categories into a response approximating the mid-range response for the Cincinnati and Portland indicators simply assumes that if an individual feels slightly safe then he also feels slightly unsafe, and vice versa.

The basic hypothesis is that increases in avoidance, protective, and collective behavior, and increased propensity towards exit and voice with reference to crime issues are consequences of greater levels of fear. Table 9 examines the relationship between fear and the avoidance behaviors described in section II. Each of these measures of avoidance behavior is significantly related to the indicators of fear in each city. The test of significance used in this and subsequent tables is chi square, testing the null hypothesis of no relationship between the three-category fear indicators and dichotomous responses of engaging or not engaging in the specified behaviors. All tests are for significance at the .01 level of probability.

For Portland Table 9 shows that while only 13 percent of respondents who feel safe during the day and night report changing their activities because of crime, over one third of those who feel unsafe at night, and over 60 percent of those who feel unsafe during the day and night have changed their activities. Similarly, in Cincinnati one fifth of those having the lowest level of fear, and over 70 percent of those most afraid report limiting their activities. In Kansas City fully 71 percent of those feeling least safe report not going out during the night at all, while only about 40 percent of those feeling most safe take such drastic avoidance measures. The general relationship between fear and avoidance behavior is positive, monotonic for three levels of fear, and moderately strong judging from a rough evaluation of the proportions in Table 9. This is consistent with the findings reported by Furstenberg (1972). People do tend to take greater

Table 9

Avoidance Behavior (%engage in each behavior)

	Change activities because of crime	Avoid areas during day	Avoid areas at night	Stay out of parts of town	Don't go out at night
Portland					
Safe	13	18	41		
S/U	34	24	50		
Unsafe	62	56	65		
x^2 .01	s	s	s		
Cincinnati					
Safe	22	16	35		
S/U	62	19	48		
Unsafe	72	39	58		
x^2 .01	s	s	s		
Kansas City					
Safe			56	76	39
S/U			66	75	57
Unsafe			67	80	71
x^2 .01			s	ns	s

precautions and limit their mobility as fear increases. Some of the consequences of this increased avoidance behavior were discussed above, including side effects on the municipal economy in general, and individual merchants and businesses in certain areas.

A somewhat different perspective is presented by Table 10. The relationships between fear and indicators of protective responses are inconsistent and generally weak. For example, in Portland those individuals feeling most unsafe are least likely to have a watchdog. The proportion owning a watchdog is about equal for each fear category in Cincinnati. In Kansas City there is a positive relationship between fear and having a dog for protection. In all three cities there is no relationship between level of fear and having burglar alarms. Very few people in the city samples reported taking this very expensive protective measure. The single consistently positive relationship for all the cities is that for installing extra locks on doors. The relationships are significant and in the expected direction in each case, though there is not a great deal of difference in the proportions installing extra locks for each fear category. Relative to buying burglar alarm systems and getting a watchdog, installing extra locks is an inexpensive measure. The inconvenience involved with using extra locks is minimal compared with that of caring for a dog, and probably less than that for using alarm systems: dogs must be fed, walked, taken on trips or boarded; alarm systems must be turned on, and care must be taken not to trip the systems accidentally, particularly with silent alarms ringing at remote locations. There is little or no relationship between installing extra locks or bars on windows and fear. The large differences in the proportion of respondents who use these devices in Kansas City and Cincinnati suggests that there may be differences in the nature of the devices which were coded in each survey. Similarly, there is no relationship between fear and in-

Table 10

Protective Behavior (%have protective devices)

	Have Watchdog	Burglar Alarm	Locks, bars on Windows	Extra Locks on Doors	Outside Lights	Timer Lights	Fences or Walls
Portland							
Safe	39	6		33	8		
S/U	32	7		35	9		
Unsafe	29	10		48	11		
x^2 .01	s	ns		s	ns		
Cincinnati							
Safe	17	3	2	36			
S/U	12	2	3	41			
Unsafe	16	2	5	51			
x^2 .01	ns	ns	ns	s			
Kansas City							
Safe	25	5	23	42	38	23	28
S/U	34	9	36	41	36	15	30
Unsafe	33	10	39	59	44	15	34
x^2 .01	s	ns	s	s	ns	s	ns

stallation of outside lights, fences or walls. Again these are relatively expensive measures when compared to the avoidance behaviors described in Table 9. The relationship between the use of electric timers and fear is not only small, but also negative. Individuals who are least afraid are most likely to have timers. There is no general pattern of relationships between fear and protective behaviors as there was between fear and avoidance behavior. This is again consistent with the findings by Furstenberg that avoidance behavior is associated with fear and perception of risk, but there is a weaker relationship between these variables and protective mobilization.

In contrast, Table 10a shows that fear <u>is</u> related to the <u>use</u> of protective devices in Portland. The differences rae not great, but they are in the expected direction. Those with greater levels of fear are more likely to use the protective devices they have. The only costs involved in this combination of protective and avoidance behavior are those of inconvenience. These findings support those of Furstenberg since he classified the kinds of behaviors listed in Table 10a as avoidance measures.

In Table 11 the fear scales are related to whether or not individuals own or carry weapons. The relationships in this table are inconsistent. In Portland fear is negatively associated with owning a gun for protection, those who feel least safe are less likely to own guns. Although the chi square test indicates a significant relationship between fear and owning other weapons in Portland, there is no meaningful difference in this behavior for those who feel most and least safe. In Kansas City too few respondents reported carrying guns or knives to permit computation of the chi square statistic. There is no relationship between fear and gun ownership. Furstenberg's analysis did not differentiate between protective behavior and weapon ownership, but the findings here regarding these two responses to

Table 10a

Use of Protective Devices in Portland

	Always	Usually	Sometimes
Lock Doors at night			
Safe	95%	2	3
S/U	99%	0	1
Unsafe	97%	1	2
Lock windows at night			
Safe	83%	9	9
S/U	90%	5	6
Unsafe	92%	3	5
Use indoor lights			
Safe	78%	11	12
S/U	82%	9	10
Unsafe	86%	6	8
Outdoor lights			
Safe	51%	14	35
S/U	53%	12	36
Unsafe	51%	8	41

Table 11

Weapons (% have or carry weapon)

	Own gun for protection	Other weapon for protection	Carry a gun	Carry a knife	Carry chemical Mace
Portland					
Safe	38	28			
S/U	29	22			
Unsafe	30	30			
x^2	s	s			
Cincinnati					
Safe					
S/U					
Unsafe					
x^2					
Kansas City					
Safe	35		3	2	8
S/U	42		2	6	11
Unsafe	45		5	2	17
x^2	ns				

fear are consistent with those reported by Furstenberg. There is a positive relationship between fear and reports of carrying chemical Mace for protection, but the expected cell frequencies in this table undermine the reliability of the chi square statistic. On the whole, more people than initially expected report owning guns and other weapons for protection. However, the expected associations between fear and weapon ownership do not obtain. Popular accounts of fear of crime generating a population armed to the teeth find no support in this analysis.

It was expected that all the behavioral responses examined here would be positively related to fear: as fear increases so should avoidance, protective, etc. responses. This is clearly not the case for use of theft insurance as a protection against loss by crime. Table 12 shows that for the three indicators available in Portland and Cincinnati purchase of insurance decreases as fear increases. Over three quarters of those who feel most safe in Portland report having theft insurance, while 56 percent of those feeling least safe have insurance. Similar relationships are found in Cincinnati, and in Portland when respondents are asked whether or not they recently purchased or increased insurance coverage. This is precisely rhe opposite from what was hypothesized. Two possible explanations come to mind: 1) the implicit causal relationship is in the other direction, (or reciprocal causation) purchase of insurance affects fear - those who have insurance coverage are least afraid of economic loss due to property loss; 2) the alternative explanation is that those who are most afraid of crime are not able to obtain insurance coverage. This latter possibility implies that fear is related to objective crime rate, or whatever other measure upon which actuarial data are based. If this is the case, insurance coverage should be negatively related to UCR, or possibly victimization data. It should be possible to test these alternative explanations by examining the relationships

Table 12

Insurance (% have or have bought insurance)

	Have Theft insurance	Bought or increased insurance in last year
Portland		
Safe	77	24
S/U	69	21
Unsafe	56	15
x^2	s	s
Cincinnati		
Safe	39	
S/U	19	
Unsafe	13	
x^2	s	
Kansas City		
Safe		
S/U		
Unsafe		
x^2		

between fear and purchase of insurance for groups in high crime and in lower crime areas.

Organized collective reactions, attending meetings about the crime problem, participating in neighborhood watch programs, etc., are crosstabulated with the fear scales in Table 13. The hypothesis again is that participation in organizations and programs directed at combatting crime will increase as fear increases. The hypothesis is again not supported by the data in Table 13. There are no consistent relationships between fear and the available measures of collective behavior. In Portland roughly equal proportions of individuals in each fear group knew about a citizen watch program in their neighborhood, have engraved identification numbers on personal property, and display anti-theft decals. Roughly equal proportions knew about and attended crime prevention meetings. The relationships between fear and knowing about crime meetings, and that between fear and use of ID numbers were statistically significant, the latter relationship in the opposite direction. Neither relationship is substantively significant however; they are quite weak as the proportions in Table 13 indicate. In Cincinnati a similar pattern of no pattern obtains. Participation in collective responses does not increase with fear. This finding is similar to that reported Baumer and DuBow in their analysis of data collected in a general phone survey of the Chicago area. Similarly, Furstenberg's finding regarding the relationship between fear and protective mobilization is further supported. The consistent pattern which has thus far emerged is that the least costly behaviors, by a very rough estimate of dollar value and inconvenience, have been most consistently related to indicators of fear. Conversely, reactions requiring a greater commitment of resources appear to be independent of fear.

The final two reactions to fear, exit and voice, are displayed in Tables 14 and 15. It was not possible to compute chi square statistics for the

Table 13

Organized Collective Response (know of program, engage in behavior)

	Citizen Watch in nbhd	Meetings for crime prevention	Attend meetings *	ID on property	Anti-theft decal	Know of CSA program
Portland						
Safe	8	14	58	29	9	
S/U	7	18	52	24	12	
Unsafe	10	21	54	23	12	
x^2	ns	s	ns	s	ns	
Cincinnati						
Safe		36	34			22
S/U		30	33			19
Unsafe		27	30			13
x^2		ns	ns			ns
Kansas City						
Safe						
S/U						
Unsafe						
x^2						

* % of those who knew about meetings and attended

distributions reported in Table 14 because the exit category was only one of over one hundred possible responses to the question, "Why did you move into this/leave your former neighborhood?" In Cincinnati very few people in either fear category felt that crime was one of the more important factors influencing their choice of residential location. Similarly, in Portland there were few people who felt that crime was the most important reason why they left their old neighborhood. However, when respondents were asked to speculate on the possibility of leaving their present neighborhood, those feeling less safe were more likely to cite crime or feelings of danger as a reason for wanting to move. In Cincinnati there were no respondents who simultaneously felt safe and reported that their neighborhood was dangerous enough to make them think about moving, while almost half of those feeling generally unsafe were thinking about moving. In Portland only 5 percent of those who registered safe on the fear scale said crime was the most important reason for wanting to leave their present neighborhood, while over 20 percent of those who felt least safe wanted to leave because of crime. Journalistic accounts of crime emptying the city appear to be in error. The strategy of exit is, by itself, one of the most costly responses to crime threats. Few individuals can afford the luxury of moving to a neighborhood or even a different city solely because of perceived crime problems in their present neighborhood. However, "talk is cheap" and those who are most fearful may be most likely to express dissatisfaction with their present residence because of crime, and to cite crime problems as an important reason for wanting to move and as a criterion in selecting a new neighborhood.

If talk is cheap, then voice should be a popular strategy. Table 15 shows the effects of fear on indicators of satisfaction with police services, and evaluations of police and other government officials. It is expected that evaluation of police performance should decline as fear increases under

Exit (% reporting behavior or attitude)

	Selected this nbhd because safe	Safe from crime most imp reason for selecting nbhd	Left old nbhd because of crime	Crime most imp reason for leaving old nbhd	Crime most imp reason for wanting to leave present nbhd	Nbhd dangerous enough to make you consider moving
Portland						
Safe				3	5	
S/U				3	13	
Unsafe				9	23	
Cincinnati						
Safe	2	1	1	1		0
S/U	1	1	2	1		22
Unsafe	2	2	2	1		47
	ns					
Kansas City						
Safe						
S/U						
Unsafe						

Table 15

Voice (% expressing bad or very bad evaluation)

	Evaluate Police in nbhd	Eval Police in city	Describe relations btwn nbhd & Police	Att. Towards Courts	Att. towards nat'l gov't	Att. towards state gov't
Portland						
Safe	11	6	12	22		
S/U	16	8	16	25		
Unsafe	31	16	36	34		
x^2	s	s	s	s		
Cincinnati						
Safe	11					
S/U	15					
Unsafe	22					
x^2	s					
Kansas City						
Safe	5	7	1		25	17
S/U	12	11	5		37	24
Unsafe	17	15	16		50	27
x^2	s	s	s		s	s

the assumption that police function to reduce fear of crime as well as the actual incidence of crime. These expectations are generally supported by the data for each of the three cities. Evaluation of city police in general, evaluation of neighborhood police, and perceptions of relationships between neighborhood residents and the police are significantly affected by fear in each city. As noted in section II, relatively few people have negative evaluations of the police, but Table 15 shows that those who fear crime are most likely to be critical of the police. Even among the most fearful group there is less than overwhelming condemnation of the police, however. Thirty-one percent of those feeling least safe in Portland, 22 percent of those in Cincinnati, and 17 percent of Kansas City respondents felt neighborhood police were doing a bad or very bad job. These findings differ from those reported by Thomas and Hyman in their analysis of four cities in Virginia. These authors found no relationship between evaluation of police and a scale purporting to measure fear of victimization, but which included measures of concern and perceived risk (1976). Actually contacting public officials is certainly more costly than expressing dissatisfaction to an interviewer in terms of the resources and commitment involved. Nevertheless, the significance of the data reported in Table 15 is that individuals' perceptions regarding the crime problem are in fact related to their evaluations of police services in these cities. Earlier research suggested that the simultaneous increase in citizens' fear of crime and concern over the crime problem, and the generally favorable evaluation of police services despite perceived growth in crime, indicated that individulas believed the answer to the growing crime problem was in increasing the number of policemen. In other words, the lack of police was blamed for the perceived increase in crime, rather than malfeasance on the part of existing police forces. These conclusions are undermined by the findings reported here which suggest that

evaluation of existing police services deteriorates with rising fear of crime. These conclusions must be qualified somewhat in light of the relationships between fear and evaluation of other government services. In Portland and in Kansas City there are significant negative relationships between fear and evaluation of other officials: attitudes toward the courts, state, and national government decline as fear increases. This indicates either, 1) respondents are blaming courts and non-local officials for crime problems, or 2) additional variables are related to both fear and evaluation of officials. There is some evidence supporting the second view. In Portland there is a negative relationship between measures of political efficacy and fear ((not reported here)). Research in American voting behavior has demonstrated that those with lower levels of political efficacy are likely to have unfavorable assessments of the performance of officials at all levels of government. Although of little help in the present effort, these findings have interesting implications for the study of political efficacy and general integration of individuals into the political system. It may be that fear of crime and the perception that there is little which appears to be effective in combating crime has negative impacts on individual affect for the political system, including police.

Summary - Fear and Behavior

The most consistent set of relationships in accordance with the general hypothesis that behavioral responses increase as fear increases indicate that avoidance behavior and negative evaluation of public officials increase with fear of crime. Simply stated, the most common behavioral response to fear is to stay home and complain about police. This latter statement must be qualified since the absolute level of evaluation of the police is favorable. Few people report elaborate fortress-building in response to fear. What

increase there is in reported fortification of property is generally the less expensive modifications such as installing additional locks. Relationships between fear and ownership of weapons for protection are inconsistent, with some evidence that those feeling safer are more likely to have weapons. Similarly, those feeling most safe are more likely to have their property insured against theft. The more costly protective measures, and participation in a community organization dealing with crime issues are among the most expensive response to crime, and are not consistently related to fear.

The general model which has been implicit throughout this and the preceding section is that behavioral responses are affected by a more complex network of factors than simply fear. It is likely that some interaction between perceived risk of victimization and value of property at risk produces an expected utility function which determines whether or not individuals will commit certain types of resources towards defense against the threat of crime. Thus far this discussion has ignored a fairly simple explanation for the relationship, or lack thereof, between fear and behavioral responses: the population most fearful is the population most at risk -- poor, inner city residents who cannot afford burglar alarms or insurance, are unable to move to a safer area for a variety of reasons, and who limit their behavior because it is their only alternative to reduce the perceived probability of victimization. It would seem that a good way to test these speculations would be to examine the relationships between fear and behavioral responses for different types of neighborhoods, stratified according to some measure of affluence, and some estimate of crime rate. The hypothesis here would be that the more costly responses to crime are more common in affluent areas, and that the less costly responses such as avoidance behavior are more common in lower income areas and in areas where the perceived threat of crime is greater.

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